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DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT—INDEPENDENT AGENCIES APPROPRIATIONS FOR 1982

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HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

NINETY-SEVENTH CONGRESS

FIRST SESSION

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PART 5

ENVIRONMENTAL PROTECTION AGENCY

Printed for the use of the Committee on Appropriations

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U.S. GOVERNMENT PRINTING OFFICE

79-248 O WASHINGTON : 1981

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DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT—INDEPENDENT AGENCIES APPROPRIATIONS FOR 1982

WEDNESDAY, APRIL 1, 1981.

ENVIRONMENTAL PROTECTION AGENCY

WITNESSES

WALTER C. BARBER, JR., ACTING ADMINISTRATOR
ROY N. GAMSE, ACTING ASSISTANT ADMINISTRATOR FOR PLANNING AND MANAGEMENT
EDWARD F. TUERK, ACTING ASSISTANT ADMINISTRATOR FOR AIR, NOISE, AND RADIATION
DR. RICHARD M. DOWD, ACTING ASSISTANT ADMINISTRATOR FOR RESEARCH AND DEVELOPMENT
JAMES N. SMITH, ACTING ASSISTANT ADMINISTRATOR FOR WATER AND WASTE MANAGEMENT
EDWIN H. CLARK, ACTING ASSISTANT ADMINISTRATOR FOR PESTICIDES AND TOXIC SUBSTANCES
RICHARD D. WILSON, ACTING ASSISTANT ADMINISTRATOR FOR ENFORCEMENT
C. WILLIAM CARTER, DEPUTY ASSISTANT ADMINISTRATOR FOR RESOURCES MANAGEMENT
C. MORGAN KINGHORN, COMPTROLLER

OPENING STATEMENT

Mr. BOLAND. The Committee will come to order.

We are delighted to have the Environmental Protection Agency with us this morning. We are pleased to welcome Walt Barber, EPA's Acting Administrator. Of course, EPA programs and problems are not new to you—you have had considerable experience in this Agency. I am sure the Agency has been in good hands since Mr. Costle's departure. Incidentally, Doug Costle was one of my most favorite Administrators of this Agency or of any Agency appearing before this Subcommittee.

This is a very complex budget. I want to compliment the Agency for setting up the justification the way it has. I know how difficult it has been as a result of the March tenth budget amendments which changed the January budget substantially. It is not an easy thing to do.

Where is Mr. Kinghorn? You look like you have all the books there; are you responsible for preparing the budget?

Mr. KINGHORN. Everyone is responsible for it.

Mr. BOLAND. Who helped you, Morgan?

Mr. KINGHORN. Everyone you see.

Mr. BOLAND. We are delighted to have all of you here, and would like to thank all of you for your willingness to stay on to do the job. Yours is a very difficult and controversial mission, but one that is very important for the preservation of our natural resources, and the health and welfare of the people of this Nation.

So, Walt, we are glad to have you with us today. Roy Gamse, how long have you been with the Agency?

Mr. GAMSE. Since 1972.

Mr. BOLAND. Have you been to these hearings before?

Mr. GAMSE. This is my first trip.

Mr. BOLAND. You will not mind it. All of the witnesses who come here like it; I am not sure they feel the same on the way out.

Ed Tuerk, you have been here before.

Mr. TUERK. Yes.

Mr. BOLAND. Dr. Richard Dowd; glad to have you with us, Doctor.

We wish to welcome James N. Smith, Water and Waste Management; Ed Clark, Pesticides and Toxic Substances—you have the soft job in this Agency, don't you; Dick Wilson, Enforcement; and William Carter, Resources Management.

Thank you all for coming. We will have an interesting few days here. We will insert the Acting Administrator's biographical sketch in the record at this point.

[The biographical sketch follows:]

WALTER C. BARBER

Walter C. Barber is presently the U.S. Environmental Protection Agency's Acting Administrator.

Prior to being named to this acting position, Mr. Barber has served as the Deputy Assistant Administrator for Air Quality Planning and Standards for five years. As the Deputy Assistant Administrator, he directs the development and implementation of national standards and programs applicable to industrial sources of air pollution. In 1980, he was the recipient of the President's Distinguished Executive Award for developing and implementing management and regulatory reforms.

Previous to this appointment as Deputy Assistant Administrator, Mr. Barber served as Director of the Standards and Regulations Evaluation Division in the EPA headquarters office. As Director, he managed the review of all major EPA regulatory actions.

Prior to being the Standards and Regulations Evaluation Division Director, he was the Director of EPA's Energy Policy Staff. In this capacity, he directed EPA's first major study of the impact of environmental regulations on the electric utility industry.

He graduated from Syracuse University magna cum laude in 1967 with a B.C.E. in civil engineering. He received his M.P.A. from Syracuse in 1967. In 1971 he received an M.S.E. from Catholic University.

Mr. Barber, 39 makes his home in Raleigh, North Carolina.

COMPARISON OF BUDGET SUBMISSION

Mr. BOLAND. Those are the players.

I will insert several tables in the record, which detail President Reagan's proposed rescissions for 1981 and revisions for 1982, and which compare the original January submission to the March revisions.

[The tables follow:]

JANUARY SUBMISSION

	1980 actual	1981 current estimate	1982 request	Difference
Operating programs	$1,269,415,000	[1] $1,378,870,000	$1,376,271,000	−$2,599,000
Superfund		78,000,000	250,000,000	+172,000,000
Construction grants	3,400,000,000	3,304,837,000	3,700,000,000	+395,163,000
Total	$4,669,415,000	$4,761,707,000	$5,326,271,000	$564,564,000
Permanent workyears	10,639	11,205	11,674	+469
Full time equivalency	13,078	13,817	14,449	+632

MARCH REVISION

	1981 rescissions	1981 revised plan	1982 budget amendment	1982 revised request
Operating programs	−$1,402,000	[2] $1,357,699,000	−$184,824,000	$1,191,447,000
Superfund		68,000,000	−50,000,000	200,000,000
Construction grants	−1,700,000,000	[3] 2,304,837,000	−3,700,000,000	
Total	−$1,701,402,000	$3,730,535,600	−$3,934,824,000	$1,391,447,000
Permanent workyears		10,621		10,387
Full time equivalency		13,130		12,861

[1] Includes $25,934,000 in proposed supplemental pay costs.
[2] Includes $6,165,000 in proposed supplemental pay costs.
[3] Excludes $700,000,000 in rescissions of 1980 and Talmadge-Nunn funds.

Mr. BOLAND. Walt, please proceed with your full statement. It is a nice, short one, and we appreciate that.

Mr. BARBER. All right, sir.

ADMINISTRATOR'S STATEMENT

The President is requesting 10,387 workyears and $1.4 billion for EPA's budget in 1982. This includes 9,884 workyears and $1.2 billion for our operating programs and 503 workyears and $200 million for implementation of Superfund.

When comparing EPA's 1981 operating and Superfund budgets with our request for 1982, we have a reduction of approximately two percent in dollars and about two percent in the amount of workyears available.

Before we begin to review each program in detail, I would like to comment on three major elements of our 1982 budget.

Parenthetically, I would like to insert my own observation, which is we have a tight budget mark but I think we have been successful in isolating the best environmentally significant programs and protecting them and finding some of the lower-priority items for deferral. I think the sense of the Agency professionals, which is the group which put this budget together, is that we can, in fact, implement a good and workable program in 1982, notwithstanding some pain in trying to get from where we are to there.

SUPERFUND

The superfund program is the most important new element of the 1982 budget.

Superfund responds to a major environmental challenge. The funds requested by the President will provide badly needed resources to deal with the control of hazardous substance spills and

the containment and mitigation of releases from hazardous waste sites. The improper and illegal disposal of hazardous waste remains one of this Nation's most serious environmental threats. The new legislation will permit the establishment of a comprehensive and uniform system of notification, emergency response, long-term mitigation, enforcement, and liability.

The President's request reflects a State/Federal strategy that includes:

Reliance on the States as the primary mechanism in meeting the challenges of hazardous waste releases;

Maximum utilization of the enforcement tools to bring effective pressure to promote cleanup by a responsible party; and

Concentration of Federal resources—personnel and dollars—on those actions most critical to public health where responsible parties cannot be identified or refuse to act.

The Superfund program is financed over a period of five years through a combination of taxes levied against chemical manufacturers and Federal appropriations. President Reagan's 1982 budget requests 503 workyears and $200 million to support the program in its first full year of operation. We are also requesting a 1981 supplemental of $68 million for development of the program and initial implementation activities.

If I may insert an additional observation, we have requested that a portion of that $68 million be considered as expeditiously as practicable, because of the diminished state of the current Superfund for dealing with emergencies.

CONSTRUCTION GRANTS REFORM

Another major element in this budget is the redirection and scaling down of our funding for the construction of municipal wastewater treatment plants. We intend to propose legislation that will target funding to those projects which would most significantly improve the environment.

In this period of austerity, we cannot afford to finance projects that provide only marginal environmental improvement. We must develop a system that will give us the most cleanup for the limited dollars we have available.

Presently, we are requesting no new 1982 budget authority for construction grants, and with this budget we are proposing to rescind $1.7 billion in budget authority from 1981 and prior years. Those would be unobligated balances. We do plan to request $2.4 billion once our proposed legislative changes are enacted by the Congress.

CHANGING PRIORITIES IN OPERATING PROGRAMS

Finally, we have taken a hard look at our priorities in operating programs. We have had to eliminate some programs and reduce spending across the board. We have made some tough tradeoffs between programs to ensure that we fund only those programs which meet our most critical national environmental goals.

It is important to note that we have placed a high priority on maintaining adequate funds for the key State program grants which are critical to the implementation of the air, water, and

drinking water programs. These grants will not be reduced from 1981 levels, and the hazardous waste grants to States will be increased. The States are an essential element in the implementation of effective environmental programs, and this grant package will assure their continued strength.

Although it has been a difficult task to identify the areas where we should reduce funding consistent with the overriding economic needs of our country, we strongly support the President's efforts to bring Federal spending under control.

Despite the reductions, I am confident that we will be able to move ahead with the most important of our environmental programs. We will continue to see progress and address the major threats to our natural environment. We will not be able to satisfy everyone, but this budget does give us the tools needed to carry out our major missions.

Mr. Chairman, this concludes my summary statement. I would like to submit a brief statement for the record on the changes in our operating programs. My colleagues and I will now be happy to answer questions that you and other committee members may have.

Thank you very much.

[The prepared statement follows:]

ADMINISTRATOR'S PREPARED STATEMENT

I would now like to review with you the major changes in our operating programs.

AIR

In 1982, EPA's Air program will continue to focus its attention on those areas of the country requiring extensions until 1987 to attain air quality standards. New initiatives will be undertaken in controlling toxic emissions and ensuring that sources remain in compliance on a continuing basis. We will be reducing our mobile source effort to reflect our completion of most of the mandatory mobile source emission standards and a reduction in technical support to states in our inspection/maintenance program.

On the whole, our 1982 Air program will decrease slightly by 22 workyears and $7.4 million for a program level of 1,766 workyears and $239.1 million.

WATER QUALITY

In 1982, our Water Quality programs will emphasize the implementation stage of programs authorized and established by the Clean Water Act. The regulations and planning establishing the foundation for control programs will be largely in place by 1982. Accordingly, our 1982 water quality request reduces resources by 363 workyears and $90.3 million to a program level of 2,426 workyears and $247.3 million.

The biggest change in the Water Quality program is the termination of the section 208 State and areawide planning program. This is a reduction of $34 million in grant support and $7.8 million and 127 workyears in resources that manage this program. Similarly, in construction grants, progressive State delegation of the program and lower obligation projections are reflected in the reduction of 96 workyears and $5.3 million for management of this program. The clean lakes program has matured to the point that States are now able to integrate the restoration of lakes into their total water quality management process. Therefore, we have terminated this $11 million grant program. The industrial effluent guidelines effort is reduced by $12.1 million and 23 workyears reflecting the completion of most of the major regulatory development work. Additionally, our water quality research program will decrease by $14.8 million and 65 workyears primarily due to the completion of much of the effluent guideline efforts and the termination of our Chesapeake Bay and Great Lakes research programs.

Two areas in our Water Quality program will increase in 1982—enforcement and ocean disposal. An increase of $500 thousand and seventeen workyears will support a continuous compliance program for municipalities. An additional $2.6 million will

support the study and survey of ocean dumpsites that are being considered for designation.

DRINKING WATER

Our request for the 1982 Drinking Water program would increase that program by $4.8 million for a total program of $87.7 million and 514 workyears. Our emphasis will be on nationwide implementation of the underground injection control program and increased research related to the transport and fate of pollutants affecting sources of drinking water.

HAZARDOUS WASTE

The 1982 hazardous waste program will have resources totalling 658 workyears and $119.8 million. This program will go through some major changes this next fiscal year. The uncontrolled waste site activities will now be absorbed, expanded, and supported by superfund. The Agency will accelerate the shift towards State control of programs for non-hazardous waste disposal and resource recovery by reducing Federal financial assistance by $12 million and program management by 50 workyears and $8.5 million for these two programs. The enforcement program will expand by 39 workyears and $2.9 million to ensure that all applicable facilities comply with the standards established under the Resource Conservation and Recovery Act (RCRA). The research program will increase by 40 workyears and $1.7 million to support RCRA regulation development for landfills, land treatment, and thermal destruction.

Finally, States will receive an additional $11.7 million in financial assistance to develop and implement hazardous waste management programs.

PESTICIDES

EPA's Pesticides program will decrease by $7.6 million and 67 workyears for a 1982 program level of $62.1 million and 818 workyears. The majority of this reduction will be taken in registration standards where decreases of 34 workyears and $4.8 million reflect the decision to reassess the efficiency of this program and the outcome of court rulings concerning the constitutionality of the basic data use and disclosure provision in the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). The registration program will be reduced in anticipation of productivity improvements.

Other reductions include an eleven workyear and $3.6 million reduction in pesticides research for integrated pest management and a $500 thousand reduction to pesticides certification and training grants.

There are two increasing programs in pesticides. Pesticides enforcement grants will increase by $782 thousand and the RPAR program will increase by $1.9 million for exposure and benefit analysis as well as other analysis associated with risk/benefit assessments of suspect chemicals.

RADIATION

Our 1982 request for the Radiation program includes $12.9 million and 160 workyears reflecting a decrease of $4.3 million and 26 workyears. Decreases in this program reflect deferral of Clean Air Act regulations development. Efforts to date have centered on characterizing the hazards of airborne radionuclides and on establishing regulatory priorities. Other reductions include the assumption of the radiation policy council responsibilities by its member organizations. The current capability of the agency to respond to radiological emergencies, such as Three Mile Island, will be maintained.

NOISE

In 1982 we are revising our policy with resepct to the Federal effort to reduce noise exposure. We plan to phase-out the EPA Noise Control program by the end of 1982. This decision results from our determination that the benefits of noise control are highly localized and that the function of noise control can be adequately carried out at the state and local level without the presence of a Federal program. Therefore resources for noise in 1982 will decrease by 60 workyears and $10.8 million.

INTERDISCIPLINARY

The President's 1982 budget requests 134 workyears and $15.3 million for the Interdisciplinary program which will provide for an increase of 14 workyears and $4.7 million. Energy facility review and permitting receives an increase of 24 work-

years and $4.5 million primarily to enable the Agency to accelerate the issuance of its permits for energy projects and also to aid other Federal agencies in their preparation of environmental impact statements for new energy projects. Other environmental impact statement preparation and review will continue at the 1981 levels. Although research workyears decrease by 11, research that will develop methods for predicting and measuring benefits of environmental controls will continue.

TOXIC SUBSTANCES

In 1982 our Toxic Substances program will total $98.2 million and 738 workyears. This reflects an increase of ten workyears and a decrease of $5.8 million from our 1981 levels. An increase of 18 workyears will support the high priority given to the assessment of new chemicals, with the premanufacture review process receiving the majority of that increase. The Agency will also give high priority to the development and implementation of the toxics integration strategy that it is developing now.

An increase in the number of rules promulgated under the Toxic Substances Control Act (TSCA) that require enforcement in 1982 requires an increase of 26 workyears for toxics enforcement. An additional $2.5 million in toxics research will support the establishment of a quality assurance program and additional health effects studies in neurotoxicology and genetic toxicology.

A reduction of $4.6 million will eliminate intervenor and public participation grants and reduce record-keeping and reporting rules as well as scientific data base development.

ENERGY

In 1982, the President's Budget decreases the Energy program by $34.8 million, for a program level of 145 workyears and $70.1 million. EPA will continue to examine the environmental effects of new energy technologies and to recommend compatible pollution controls. Acid rain research will continue at the 1981 levels, addressing the efforts to understand causes of acid precipitation and its effects on lakes, soil, groundwater and forest ecosystems. Emphasis will also be placed on oil spills research in support of Clean Water Act actions and Superfund.

The decrease eliminates small energy-related research efforts in toxics, drinking water, and solid waste in lieu of on-going research in base programs aimed at these problems.

MANAGEMENT AND SUPPORT

Our 1982 Management and Support program increases by $19.5 million and decreases by 60 workyears. In the office of enforcement, an increase of 21 workyears and $1.2 million will be targeted to expand policy analysis, strategy development, and criminal investigation capabilities in order to further the Agency's efforts to develop a multi-media enforcement strategy and integrate enforcement information. We will be increasing our planning and evaluation resources by 28 workyears and $7.4 million. Most of this is for continued develpment and implementation of an integrated toxic substances strategy to ensure consistent coordinated prioritization and regulation of toxic substances in all EPA programs. The rest will enhance our statistical and program evaluation.

We will also be directing our efforts toward strengthening our ability to work with states by centralizing our management of the State/EPA agreement process. That process involves development of a common management agenda which expresses the high priority concerns and commitments of both EPA and the States.

Support services will increase by $8 million primarily to offset costs increases for office and building services and space.

A total of 67 workyears will be eliminated in the office of planning and management by merging budget control, budget process, and analytic activities currently split between two divisions, and by reducing contracting, personnel, and facility management. These personnel reductions are allied to agency-wide reductions in contract dollars, training, counseling services, and other in-house services.

Mr. Chairman, this concludes my statement.

Mr. BOLAND. Thank you very much.

Mr. Green?

CONSTRUCTION GRANT FUNDING IN 1982

Mr. GREEN. I am concerned about the fact that I see a zero sitting out there in 1982 until the issues involving the construction program are resolved. The city I come from, New York City, like a lot of other municipalities is under a court order regarding clean water, and I believe has a deadline of 1987.

I was wondering whether under those circumstances it might not make more sense to have a deferral rather than a rescission of the existing funds so that if the legislative process should be a little slower than you and I might wish, we have some funds available so those municipalities facing these kinds of deadlines could go ahead with their deadlines and not risk violating court orders.

Mr. BARBER. I believe the sense of the OMB and the Administration is that we do need to scale the program down as opposed to maintain it and sort of roll it over and try to manage a bigger pot of money over a longer period of time. There is a strong commitment within the Administration to try to refocus the program so, in fact, the dollars will be available for projects such as you point out, which have major water quality impacts.

We are hopeful that legislative changes can be enacted quickly. There obviously will be dislocations which will cause delays in the agency funding.

My sense is that the Administration is sufficiently committed to this, that despite the dislocations they will want to adhere to the strategy and will try to work with the Congress in getting the changes made.

Mr. GREEN. Since the amount you are proposing to rescind is less than the amount you are proposing to request next year, what harm would you see in a deferral as opposed to a rescission? We could simply rescind next year or appropriate the difference of the amount of the deferral or the amount you propose next year, could we not?

Mr. BARBER. I would certainly not like to close the door on any alternatives for the Administration. We have, in fact, discussed similar options. The initial preference was the proposal that has come forward, and I think the Administration will want to work in that direction before it starts to look at other alternatives.

Mr. GREEN. I gather from what you have said, the changes in the statute and regulations you are proposing would not be likely to require changes in waste treatment plants already under construction; is that correct?

Mr. BARBER. To the extent we have obligated the funds, we would not contemplate any deobligation. I am not sure we are taking a position on plants partially funded.

Jim Smith?

Mr. SMITH. In the case where a plant is already under construction, where it has been sized and designed, there would be nothing served by stopping the eligibility for that design. It would slow down the process, and inflation would overtake it. These changes are for new grants at which the eligibility reductions would be aimed.

Mr. BOLAND. I understand then, that if you got to the design stage, there would be no effort to hold back funding?

Mr. SMITH. No, Mr. Chairman, the design stage is step a, and funds would be held back. What we would fund would be those portions of the project termed as eligible, such as in instances where they were building the actual facility. There would be no attempt to change the eligibility for Federal funding in that case.

Mr. GREEN. How many cities are under court orders similar to New York? I understand Phoenix, Los Angeles, Orange County, and Memphis are in that category.

Mr. SMITH. There are 26 that are under court order.

Mr. GREEN. Please supply that for the record. Also, let us know what stage in construction each of the municipalities has reached.

[The information follows:]

CONSTRUCTION STAGE OF CITIES

The projects under Federal court order follow:

STATES UNDER COURT ORDER AND STAGE OF CONSTRUCTION

State and municipality	Total grant amount (thousands)	Status
Arizona:		
Duncan	225	Construction.
Goodyear/Avondale	75	Facility planning.
Nogales	225	Design.
Payson Sanitary District	75	Do.
Pima County	750	Construction.
California: Los Angeles	137,274	Design and construction (37 segments).
District of Columbia: District of Columbia	3,065	Construction.
Idaho: Sandpoint	132	Design.
Illinois: West Chicago	22,000	Construction.
Maryland:		
Anne Arundel County	24,751	Design and construction.
WSCC	44,561	Design and construction (6 segments).
Michigan: Detroit	80,000	Facility planning.
Montana: Bozeman	3,250	Design.
Nevada:		
Clark County	2,849	Construction (3 segments).
Douglas County	2,250	Construction.
Las Vegas	766	Do.
New York: New York	352,770	Design and construction (8 segments).
Oklahoma: Broken Arrow	424	Design and construction.
Pennsylvania: Philadelphia	182,700	Construction (14 segments).
Tennessee: Memphis	6,000	Construction.
West Virginia:		
Deckers Creek	1,965	Construction.
Franklin	3,000	Do.
Granville	642	Do.
Monongalia	8,903	Design and construction (3 segments)
Westover	1,253	Construction.
Wisconsin: Milwaukee	304,050	Design and construction.
Total grant amount	1,183,955	

OCEAN DUMPING VERSUS LAND DUMPING

Mr. GREEN. If I could turn to another subject, I understood that you have a report now in draft which calls into question some of the previous assumptions with respect to ocean dumping, as to whether that is necessarily worse than some form of on-land dumping. Is that correct?

Mr. SMITH. Mr. Green, there is a report that has been prepared in the Agency in the waste water management area. Frankly I have not seen that report yet. It has been prepared at the staff level, and looks at possible options as we approach the date at the end of this calendar year where municipalities are prohibited from further dumping in the oceans. It is a very tentative staff draft. I have not been briefed on it and I have not had a chance to read it. It is not Agency policy yet.

Mr. GREEN. New York City is committed to end ocean dumping by 1981. If there should be a turnaround in policy in the Agency, it would be nice to know before that date comes.

Mr. SMITH. Absolutely, I appreciate that.

Mr. BOLAND. Mr. Sabo.

COORDINATION OF COURT SUITS WITH PROPOSED SUITS

Mr. SABO. Just a couple of questions to follow up on the relationship of your funding request and the grant program with the court cases. I am curious about how you are coordinating that with proposed law suits in the Agency.

Mr. BARBER. I would like to offer a general observation. As the funding gets tighter and tighter, and considering the statutory requirements, I expect there will be more and more attention focused on urban areas that are faced with litigation or enforcement which do not have a grant in hand for constructing a facility. That is a likely outcome, and barring some major philosophical change which I do not see——

Mr. SABO. So EPA will reduce the funding and sue more?

Mr. BARBER. I do not believe we will be suing more in the sense the statute never contemplated the Federal government to assume the full responsibility for consturction. Let me have Dick speak to the enforcement role.

Mr. WILSON. For water sources, 94 percent of the industrial sources are meeting their requirement; only about 32 percent of the municipal facilities are. Some involve plants where treatment facilities are well along, but there are holdups of one sort or another in finishing them. Municipal compliance is a major priority for our water enforcement program this year and last year. However, the number of problems we have compared with the resources are such that it is unlikely we will be to the point of having to address the problem of whether we have enforcement actions against the municipalities where there is not sufficient funding available.

Mr. SABO. Historically, doesn't this usually go hand in hand, Federal programs and substantial funding?

Mr. WILSON. Yes, we have a strong program. We have not yet nor do we expect in the next year or two to run into the problem of non-compliance occurring where we want to take enforcement action and the Federal government has not provided sufficient funding.

TRANSFER OF FUNDING OBLIGATIONS TO STATE AND LOCAL GOVERNMENT

Mr. SABO. One other question: what is the total transfer of funding obligations in your budget from the Federal government to State and local government? As I read through the statement, we find the judgment is made that the Clean Lakes program is ready to be incorporated in State programs; people might quarrel about that. I do not recall details now, but as I read through your statement, I regularly found the statement that this obligation is now being transferred back to State and local government.

What are the total dollars in your budget involved in this basic assumption?

Mr. BARBER. I think the Great Lakes program is the biggest piece where we are saying the Federal government is not intended to fund, and to the extent States wanted to, they could do it.

Mr. SABO. And the Noise program.

Mr. BARBER. We are not contemplating transferring responsibility to the States in terms of you have to do it and you have to pay for it; we are saying to the States, to the extent you want to do it, you can.

Mr. SABO. What are the total dollars involved? Here I am not speaking of the basic grant program, which includes Federal costs to State and local government. I would like what your assumption is there. If you do not have it, we would like it for the record.

Mr. BARBER. We would have to develop a response for you. We do provide about $2 million in grants in the Noise program to the States to execute these programs. For the most part States are asking for more authority from us, with fewer strings attached. So to this extent, in an air program, we are saying we are authorizing the States to issue PFD permits, to the extent we have not delegated the program, we issue the permits.

Mr. SABO. I just want to know the number of dollars involved. But it is not only dollars, you also eliminate Section 208 planning funds.

Mr. BARBER. I think we would be best to develop a more complete response to that.

Mr. SABO. I would appreciate that. Not limited simply to where there is a requirement that you do this, but there is a sense in every budget we hear, there is a basic assumption involving substantial transfer of funding from the Federal government to State and local government, and we are saying this does not necessarily mean we are going to spend less money for government services.

Mr. BARBER. The big pieces are where we have reduced the Federal budget and suggest that should be picked up by the State and local areas. They tend to be in the Clean Lakes area, waste area—we will develop those.

PLANNING FUND COSTS

Mr. SABO. Also the planning fund, I would assume we will continue to do that.

Mr. BARBER. We will continue to do some, but there is question as to the need to do it at that scale in the future.

Mr. SABO. Provide that for the record.

[The information follows:]

ENVIRONMENTAL PROTECTION AGENCY
STATE AND LOCAL GRANT PROGRAMS
(DOLLARS IN THOUSANDS)

	1980 BUDGET AUTHORITY	1981 REAGAN CURRENT ESTIMATE	1982 PRESIDENT'S BUDGET	1982-1981 DIFFERENCE
AIR				
SECTION 105.....	$82,825	$87,673	$87,735	$+62
WATER QUALITY				
SECTION 106.....	48,792	51,230	51,200	-30
SECTION 208.....	37,530	33,823	---	-33,823
CLEAN LAKES.....	15,000	11,000	---	-11,000
DRINKING WATER				
PUBLIC WATER SYSTEMS PROGRAM GRANTS.....	29,347	29,450	29,450	---
UNDERGROUND INJECTION CONTROL PROGRAM.....	4,277	6,575	6,575	---
SPECIAL STUDIES & DEMOS.....	900	1,550	1,500	-50
HAZARDOUS WASTE				
SOLID WASTE MANAGEMENT.....	10,000	8,000	---	-8,000
HAZARDOUS WASTE MANAGEMENT.....	18,600	30,000	41,700	+11,700
RESOURCE RECOVERY.....	6,695	4,000	---	-4,000
PESTICIDES				
PESTICIDES ENF. GRANTS.....	8,750	7,920	8,702	+782
TOXIC SUBSTANCES				
TOXICS ENF. GRANTS.....	---	1,000	500	-500
CONSTRUCTION GRANTS.....	3,400,000	2,304,837	---	-2,304,837
TOTAL.....	$3,662,716	$2,577,058	$227,362	-2,349,696

Mr. BOLAND. Mr. Coughlin.

Mr. COUGHLIN. First I will ask one of Mr. Sabo's favorite questions. May I have a show of hands as to how many are employed by the Agency?

FINANCING OF SUPERFUND

In the Superfund, it is my understanding that the contributions to the $1.6 billion Superfund come from, as you state in your testimony, a combination of taxes levied against chemical manufacturers and Federal appropriations. The fund is financed 87.5 percent manufacturers and 12.5 percent Federal appropriations.

Your supplemental request and the fiscal year 1982 request comes to $268 million. Could you tell me if this amount is in administrative support costs, or does it entail a contribution to the response trust fund?

Mr. BARBER. All of it goes into the Fund. The administrative support costs are charged against the Fund as well as the direct site construction. I suppose you are looking at how much is construction and how much is construction work.

I think it would be better for us to provide that for the record.

Mr. SMITH. I would hazard off-hand it is about one-quarter for overhead and the rest for remedial actions. But I would like to do some calculations.

Mr. COUGHLIN. Approximately one-quarter for overhead, which will be paid out of the Response Trust Fund, itself?

Mr. BARBER. That is right. But we will include, for example, enforcement actions which are either to recover Funds or include using the Fund by getting private-party responses, which are an important part of this exercise. To the extent the site is there and we can put five years of enforcement action there and get it cleaned up rather than spend Fund dollars, I think all the parties to the Fund are favorable to that.

[The information follows:]

BREAKDOWN OF SUPERFUND RESOURCES

The Agency estimates that taxes levied against chemical manufacturers and importers will contribute $129 million in fiscal year 1981 and $290 million in fiscal year 1982 to the Hazardous Substance Response Trust Fund. In addition, the Agency has requested appropriations from general revenues to the Fund of $9 million in fiscal year 1981 and $28 million in fiscal year 1982. All of the Agency's pending request for the implementation of Superfund—$68 million in fiscal year 1981 and $200 million in fiscal year 1982—is to be appropriated out of this Fund.

Section 111(a)(4) of the Act authorizes charging the Fund only for those administrative costs "reasonably necessary for and incidental to the implementation" of Superfund. Accordingly, we have included in our request only those administrative costs necessary for and devoted to implementing the program. No workyear overhead (i.e., charges for the time and effort of senior agency managers, such as the Administrator and Regional Administrators whose full-time responsibilities involve more than assisting and guiding program personnel in the implementation of Superfund, spent assisting and guiding direct program personnel in the implementation of the program) has been charged to the Fund.

Shown below is a breakout of our fiscal year 1981 and fiscal year 1982 requests by Direct Response, Direct Research and Development, and Administration, along with a brief explanation of what is included in each category.

	Fiscal year 1981		Fiscal year 1982	
	In millions	Percent	In millions	Percent
Direct response	$52.7	77.5	$143.7	71.8
Direct R & D	4.5	6.6	11.9	6.0
Administration	10.8	15.9	44.4	22.2

Direct Response—This category is composed of funds requested for contracts for the investigation, assessment, evaluation, enforcement, and cleanup of actual sites and spills; the payment of claims for clean-up costs and assessing and replacing natural resources damage; health and safety training; equipment; and necessary laboratory relocations and constructions. It does not include management support contracts or salaries and expenses necessary to support requested personnel.

Direct Research and Development—This category includes only those contract costs directly associated with the development of state-of-the-art techniques and technologies for removal and remedial action, protocols for the handling of hazardous substances, personnel safety equipment, and related research and development activities in support of the program.

Administration—This category includes all administrative costs necessary for and devoted to the implementation of the program. Among these costs are those for all EPA personnel; supplies and materials; studies for Congress; communication; and printing. The request does not include any workyear overhead, i.e., there will be no charges made to the fund for the time and effort spent by senior agency managers. such as the Administrator and Regional Administrator, whose responsibilities include more than Superfund, in assisting and guiding direct program personnel in the implemention of Superfund.

SUPERFUND SPENDING

Mr. COUGHLIN. As you know, I have been very interested over the development of this fund. I also believe we should guarantee that the dollars clean up the worst cases and are not eaten up in overhead and studies. Is this the direction you are taking?

Mr. SMITH. We are very conscious of that and trying to keep that down.

TRANSFER OF POLLUTANTS

Mr. COUGHLIN. Last year during our Subcommittee hearings I expressed my concerns over a problem that impacts greatly upon my State and others in the Northeast region of the Nation. As you know, pollutants from areas to the west of this region travel into my home State and are included in the State's pollution calculations.

At that time, the former Administrator admitted that the current ambient air quality standards do not provide protection against this phenomenon. He stated further that the region is substantially disadvantaged in that its States tend to be predominantly downwind from the Middle West.

Could you comment on this matter and whether or not the Agency has any plans to provide a solution to this problem other than to reduce the total national pollution emissions?

Mr. BARBER. There is not an obvious solution to the transfer problem. I expect it is an issue that will have to be debated in the reauthorization process. The pollutants being transported tend to be sulfur-related. The statute in fact tends to deal with sulfur on a fairly localized basis, so what you have is transported pollutants. So we have a difficult area there. I think it needs a legislative fix.

Mr. COUGHLIN. Are you proposing some legislative fix for this?

Mr. BARBER. The Administration has not made a proposal on clean air yet. It is one of the issues we will bring to the new management when they come on board.

AMBIENT AIR QUALITY STANDARDS

Mr. COUGHLIN. You indicate in your justification, A-18, that part of EPA's 1982 program will include a review of national ambient air quality standards for particulate matter and sulfur dioxide. Has the Agency done any background research on this matter which may be helpful for the Congress to have as it considers the Clean Air Act reauthorization?

Mr. BARBER. There is a comprehensive criteria document which is out for public and scientific review now. In July, we plan to have a clean air science panel to review that. Depending on the outcome of that review we expect to be addressing the standards this summer. We have a substantial amount of scientific work going on.

Mr. COUGHLIN. You expect to address the sulfur matter this summer?

Mr. BARBER. Yes. We are going as fast as we can.

Mr. COUGHLIN. Thank you, Mr. Chairman.

Mr. BOLAND. Mrs. Boggs.

SUPERFUND RESOURCES

Mrs. BOGGS. Thank you, Mr. Chairman.

Pursuing the dialog on the Superfund, it is my understanding that you have various programs for implementing it. I also understand that in order to carry out its purposes, you have to borrow from other environmental sections of the Agency. Is that correct?

Mr. BARBER. We have put a high priority on dealing with the abandoned sites. So, we have borrowed from parts of the Agency to be in position to implement that statute. Once the supplemental appropriations are enacted, then we would expect to be able to put all the pieces in the right place. The budget we have submitted reflects what we think are the pieces in the right place in terms of resources.

Mrs. BOGGS. I noticed that the budget, instead of having $250 million as requested earlier, has only $200 million in it. But you are asking $68 million for setting up the program and so forth. Can you tell me how that will interplay?

Mr. BARBER. The $68 million is a 1981 supplemental. In the Carter budget, it was $78 million. It was reduced to $68 million in the Reagan budget; the $200 million was $250 million in the Carter budget. The $68 million is for the same kind of program and the same purposes as the $200 million; it is just that we expect to be able to use it in this fiscal year as opposed to the next fiscal year. It is not two startup costs and two implementation costs.

OIL AND HAZARDOUS SUBSTANCES SPILL PREVENTION

Mrs. BOGGS. Section 311 of the Clean Water Act of 1977 contains a Congressional mandate for EPA to respond to and prevent spills of oil and hazardous substances. EPA has an environmental response and prevention program which will deal only with the oil spills.

Does the fiscal year 1982 decrease of $3.5 million for abatement, control and compliance in this program reflect only the removal of hazardous waste from the program, or is there a further reduction of EPA's ability to respond to oil spills in navigable waters?

Mr. BARBER. Jim.

Mr. SMITH. Mrs. Boggs, the amount there is not a decrease, but it is simply a transfer of hazardous spill response accounts into the Superfund budget. They will all be handled under the Superfund account. So what appears to be a reduction is simply a transfer from one account to another. So to answer your question, no, there is no decrease in our capacity to respond to oil spills.

Mrs. BOGGS. Even though they would be separated from the hazardous waste spills?

Mr. SMITH. They will be separated, but all handled under one program.

Mrs. BOGGS. I notice that you have great emphasis on the States assuming responsibility for spills of oil and hazardous wastes. We have had a situation where Louisiana citizens have been terribly concerned about a State agency being able to make satisfactory arrangements for waste disposal. But I did notice that you had an increase of $2.4 million in enforcement of water quality guidelines; this increase would support a continuing compliance program for municipalities and would provide for criminal investigations for alleged violations of the Clean Water Act.

How will that interface with any kind of violation of hazardous materials being dumped into the water supply system not within a municipality, but affecting municipalities downstream?

Mr. SMITH. I defer to our enforcement gentleman.

Mr. BARBER. Dick may not be familiar with this project. The issue is a proposed disposal facility on the river and the question of whether we will be in a position to take enforcement actions that might be necessary should that disposal facility not operate properly.

Mr. WILSON. Either under authorities in the Water Act or under authorities in Superfund or RCRA, we have general authority to take enforcement action against that type of problem.

Mrs. BOGGS. Concerning the transport of hazardous materials through the water, are there provisions for certain types of restrictions?

Mr. WILSON. If a disposal site or industrial facility is causing toxic problems in the water downstream and they are substantial, we have authority in most of the statutes to take action against those. In fact, those are the basis for the some 58 hazardous waste cases that we have filed.

Mrs. BOGGS. I hope you can tell me whether the increase in water enforcement would address the problem we had recently, which nobody seemed to have authority to remedy. There was a spill of 21 tons of phenol in the Mississippi River upstream from the water intake of Jefferson Parish, the east bank of the river, and there seemed to be no place to which people could turn for various levels of enforcement action. I was wondering if perhaps this increase to support a continuance compliance program for municipalities would provide proper authority to deal with similar water quality cases.

Mr. WILSON. I am not familiar with that case.

Mrs. BOGGS. Of course you want the States to have their grant programs. But there are areas where I think you should recognize that something has to be done as a superseding authority because you get into these iffy cases of jurisdictions.

Mr. WILSON. We have increases in enforcement resources to deal with that kind of problem. The Superfund cases, the hazardous waste act and water enforcement, for example. So I think we are being responsive.

Mr. BARBER. When we talk about the State role in Superfund, there are a number of States that feel they are positioned to prosecute a cleanup effort either through enforcement or construction more expeditiously than the Federal government could. It is our intent to rely on the States to the extent possible to do that. There are a half dozen States we have met with, including yours, who feel they have sites ready to go and they would rather start up instead of waiting for the Federal government to begin implementation.

An existing source to be permanented is a RCRA issue. We will take that project and give you a description of the authorities that apply and the fallback enforcement on them.

Mrs. BOGGS. That will be very helpful. As you can imagine, it is something of enormous importance to people who are very frightened by hazards from toxic substances.

Of course, typical of New Orleans, some of the bars had little signs saying "Come get a phenol cocktail."

TRANSFER OF RESOURCES TO SUPERFUND

In other parts of the Agency still working on Superfund, it is my understanding some of the personnel and monies will be diverted from the Pesticides program. Is this a correct assumption?

Mr. BARBER. Not to my knowledge, in terms of the interim efforts. If you are thinking about the 1982 budget, the Superfund program is a new program and gets resources; almost every other program in the Agency will suffer some reduction, since the Agency suffers a reduction. The intent was not to take them from Pesticides and put them in Superfund. It was a series of cuts taken across the Agency. We did not attempt to add and subtract.

Mrs. BOGGS. You did take people from these programs?

Mr. BARBER. Yes.

PROPOSED LEGISLATION FOR CLEAN AIR ACT

Mr. BOLAND. As you know, the Clean Air Act requires reauthorization for fiscal year 1982. In addition, although funds are authorized for many of the Water Quality programs, including the Construction Grants program, authorization is required for the formula. Since the new Administration has withdrawn the Construction Grants request, new legislation will be required in 1982 for this program. It is now the first of April. According to the Budget Act, legislative committees are required to report legislation authorizing appropriations by May 15th. That leaves only 45 days, including recesses and weekends, to report legislation. However, the Environmental Protection Agency has not yet submitted proposed legisla-

tion to the Congress for either the Clean Air Act or for the Construction Grants program. Is it true, that legislation reauthorizing the Clean Air Act and legislation for the Construction Grants program quite possibly will not be enacted in this session of the Congress? I presume the Administration will be reluctant to transmit proposals in these two activities before EPA's Administrator and Assistant Administrators are confirmed. Is that a fair statement?

Mr. BARBER. No. I expect to transmit legislation on the Clean Water Act.

Mr. BOLAND. If you were to choose between the Clean Air Act or the Construction Grants program, to which would you place a higher priority?

Mr. BARBER. Budgetarily, the Clean Water Act is more significant; in terms of total environmental and Administration policy, the Clean Air Act may take precedence. In terms of timing, I think we are putting a little higher priority on the timing of the water act.

Mr. BOLAND. I suppose the answer would be that you give them equal priority. I am not sure the Congress would.

Mr. BARBER. Yes. It is pretty close.

RESEARCH AND DEVELOPMENT REDUCTIONS

Mr. BOLAND. The Research and Development program at the Environmental Protection Agency was significantly reduced in the Carter 1982 request and received a further reduction in the Reagan 1982 amendment.

Does this represent a basic dissatisfaction within the Administration with EPA's R&D program?

Mr. BARBER. I do not believe the Carter reductions were looked at by this Administration. The conversation I had concerning the Reagan cuts, is that they were strictly fiscal, not policy-directed.

Mr. BOLAND. What does the future hold for your R&D programs? Is it likely there will be additional reductions in this area?

Mr. BARBER. I have no reason to believe they will be singled out for reductions different from other programs.

Mr. BOLAND. Did this Administration give serious consideration to the idea of closing any of the Agency's research laboratories?

Mr. BARBER. The Agency never discussed the subject. In looking at our alternatives, we looked at all the field studies and laboratories. The budget is such that it has not been necessary to do this beyond very small field station activities.

GRANT TO HEALTH EFFECTS INSTITUTE

Mr. BOLAND. I am sure you are familiar with the Health Effects Institute. This organization received a $1 million grant from the EPA in December 1980. The purpose of the Institute is to perform research funded jointly by industry and the government that deals primarily with the health effects of automobile and truck emissions. The lifetime of the Institute will be at least three years, with peak funding approaching $15 million annually. Do you believe that an entity such as the Health Effects Institute would be in existence if the EPA had performed better research in past years?

Mr. BARBER. That is hard to say. It is difficult for a regulatory agency to take independently derived health-related results and convince the public they are good. So, this represents a small effort to come up with some joint understanding about two research pieces. We would never contemplate an EPA funding of the entire study or even the majority of it. It is to be jointly funded and it is an integral part of that program, but not a substitute. I do not think any one set of health data will be satisfactory to all parties. So there is probably nothing EPA could have done.

OKLAHOMA FACILITY

Mr. BOLAND. The Administration recommended the closing of the Oklahoma facility. That is going to be closed, isn't it?

Mr. BARBER. No, sir.

Mr. BOLAND. Was any thought given to this by either the Carter or the Reagan administration?

Mr. BARBER. That was one of the ones we looked at. This was prior to our actually having a budget mark. Since the budget mark was not so tight as to require closing laboratories, we did not have to proceed.

Mr. BOLAND. What does the Oklahoma lab do?

Dr. DOWD. It is concerned with land disposal of wastes, and the transport, fate and characterization of pollutants in the subsurface, including a major effort in ground water research.

Mr. BOLAND. Are any other areas in ground water research being conducted in any other laboratories?

Dr. DOWD. There is one at Las Vegas. That is the one for monitoring of hazardous waste and ground water. Ground water research there is a small effort—one or two people and a small amount of money. In addition, some of the municipal labs work at Cincinnati includes areas of sludge disposal that affect ground water. So to some extent they are related, but only on site issues. The Ada laboatory will be concerned with primarily, how does the ground water form? How does it move? As a result of the discussions that have come up this spring, we are trying to see if there is some way we can add additional skills to the Ada laboratory to look at some of the kinetics of the subsurface environment.

Mr. BOLAND. The Research and Development budget justification has been restructured to tie in with the work of the Agency's research committees.

Mr. BARBER. Yes, sir.

Mr. BOLAND. Briefly describe the rationale and the anticipated benefits behind the proposed restructuring.

Mr. BARBER. Yes.

[The information follows:]

DESCRIPTION OF RESTRUCTURED BUDGET REQUEST
OFFICE OF RESEARCH AND DEVELOPMENT
APRIL, 1981

Background and Status Summary

During the past several years, EPA's Office of Research and Development (ORD) has been substantially modifying its program planning process. Beginning in 1977, ORD tested the feasibility of joint planning in research committees composed of abatement and control, enforcement and regional representatives, as well as research staff. The goal was to facilitate more effective communication between ORD and its regulatory clients. Based on the pilot project's success, ORD expanded the number of committees from five to thirteen developing the new committee structure in concert with each concerned Assistant Administrator.

Since the spring of 1979, the committee system has been designed and established as a cornerstone of ORD's overall planning process. Guidance to the committees has been published and implementation begun by integrating the committees into the FY 1981 Zero Base Budgeting procedures.

As the next major step in implementing the Research Committee process, ORD consolidated and reformatted its FY 1982 budget request to align with the research committee structure. The remainder of this discussion provides a description of this new structure.

Description

The restructuring establishes a total of 24 Decision Units (DU's) for ORD, rather than the 61 which existed for the 1981 ZBB process. Twenty-two of these DU's covering 93% of ORD's total program correspond on a one-for-one basis to the Research Committees. Sub-programs are structured within each new Decision Unit for clear reporting, tracking and accounting.

The two DU's not aligned with specific committees are in the non-energy portion of the program. Program Management and Support is one of these and is a separate DU in the new structure. Anticipatory research is consolidated into a new Intermedia DU but retained as an identifiable entity in a separate program element. The Environmental Workforce and the MIRS program are also shown as separate program elements under the Intermedia DU, the MIRS program being moved from the program management and support category. The reasons for this are that the MIRS and workforce programs are too small to prorate across Research Committees, neither aligns significantly to one or two particular Committees, and organizationally they are associated with ORD's new exploratory research office, covered in the Intermedia Decision Unit. Scientific assessments and technical information, formerly in the Interdisciplinary media, now are sub-programs interspersed throughout the other DU's.

The new structure reorients ORD's program so that each DU will contain the appropriate mix of research activities at each level to carry out the research committee strategy. In other words, the oxidant decision unit, for example, includes health effects, environmental processes, control technology, and monitoring activities at each level. A decision to fund a 90% program level in

oxidants would produce a balanced research effort for that regulatory subject area, with the least critical 10% of the resources deleted. The sub-programs are structured according to our major scientific disciplines such as "Health Effects" or "Environmental Engineering". They thus correspond directly and uniquely to each ORD Deputy Assistant Administrator's area of responsibility. The new structure displays ORD's program and permits tracking by research committee subject area (at the DU level) as well as by disciplinary or functional area corresponding to ORD's line management structure. In contrast, the former DU structure did not provide a coherent description of program proposals by Research Committee.

In the new structure there are fourteen non-energy DU's, twelve corresponding to twelve established Research Committees, plus the Intermedia and Program Management and Support DU's noted. Ten DU's are established for the energy program. Nine of these would correspond to each of one of the established Committees. The tenth is a multi-media DU which is covered by the Energy Research Committee.

By its very nature, the energy program presents a special and complex case. Among the reasons for this are that the program has a unique focus on a major issue of national concern, it has a strong and actively functioning interagency component, and it has a significant component which brings an integrated, multi-media perspective to bear on current and emerging energy problems.

With these things in mind, ORD has structured the energy program as follows. Three control technology DU's covering nitrogen oxides, sulfur oxides, and fuel extraction, have been combined with their counterparts in the health, environmental, and measurement areas into new DU's. The DU's have separate program element identifications parallel to the non-energy program. This leaves the former Fuel Processing and Environmental Assessment DU's in the control technology area. Portions of these DU's, which are media oriented have been combined as above into DU's corresponding to the established Research Committees. The remaining portions of these DU's which have a strong multi-media perspective, have been combined to form the multi-media energy DU.

Similarly, existing DU's in the health, environmental, and measurement areas have been reoriented along established Research Committee lines. The components of these activities which have a multi-media perspective were included in the multi-media DU.

Thus nine of the proposed ten energy DU's correspond one-for-one to nine of the established research committees. Note that the Pesticides, Mobile Sources, and Radiation Committees do not address areas corresponding to activities in the energy program.

To provide the special energy focus, ORD has established an Energy Research Committee, composed of representatives from EPA's regulatory, Regional, enforcement, and planning offices as well as from the interagency portion of the program. The Energy Committee will be responsible for coordination with the existing Committees in all respects, including program development and resource allocation.

ORD recognizes the need for a mechanism for comparative planning and analysis between energy and non-energy activities in a number of areas. This approach offers the best way to balance this need with the complexities and special features of the energy program.

The basic rationale for, and benefits of, the restructuring are summarized below:

- Research committees are a fundamental feature of ORD's improvments in its planning and oversight processes. Each Committee produces a research strategy which relates the regulatory plans of that program to needed research outputs in specified timeframes. If these plans are to be valuable, they must be linked directly to ORD's and the Agency's planning and budgeting system-i.e., the DU's which form the building blocks of the ZBB process.

- The new DU structure permits a cohesive description of the research in each major regulatory subject area. With the FY 1981 structure an attempt was made to identify Research Committee areas of concern within each DU and resources were identified by Committee. Experience with this structure showed that the text of the various DU's together does not provide an adequate description of a given Committee's overall area of concern because each DU was written from a disciplinary, rather than Committee perspective. Such a situation is exacerbated in the air and water quality media, where existing DU's encompass programs of two or more Committees.

- The regulatory offices have indicated that the way in which the Committees' areas of responsibility have been delineated is the most sensible way to partition the research program from their perspective. Consequently, resource allocations made on that same basis in the ZBB process should be better informed and lead to a more balanced research and development program.

- The DU's present a complete proposal for research on a given regulatory subject area, including program description, resource levels, and a description of the Agency research requirements to be addressed in that area. This will facilitate review by the appropriate Research Committee, ensuring that ORD's DU's reflect the priorities they have established in their research strategies.

- Remaining in the former structure would have required each Committee to track its particular areas of interest over a wide variety of ORD DU's, each containing only a fragment of that Committee's program. Cohesive presentations of resources, implementing laboratories, schedules, and outputs within the purview of each Committee could only be developed as special products outside the normal planning and implementing system.

- Remaining in the old structure would mean that Committee influence on ORD plans as expressed in the DU's would not be readily visible. An example of this lies in the relative mix of disciplinary activities. By asking the Committees to rank ORD's DU's during the past two budget cycles, ORD clearly set the precedent for Committee deliberations and advice on the appropriate mix of disciplinary activities for a given regulatory area. However, the former DU structure provided no coherent way of conveying the results to Agency, OMB, or Congressional analysts and decision makers. The new DU structure not only provides a systematic mechanism through which such deliberations can occur, but a vehicle for directly expressing committee consenses as well.

- Sub-programs contained within each DU correspond to ORD's current program categories such as Health Effects and Control Technology. Thus the new structure allows the retention of familiar categories for resource tracking, reporting, and program description to Congress.

- The sub-programs are unique to each of ORD's Deputy Assistant Administrators or staff office directors. This automatically eliminates organizationally shared program elements, which has historically required unnecessary staff effort to solve administrative problems. Even more importantly, they clearly and explicitly align with the disciplinary structure of the ORD management organization, which will continue to implement the program.

- The disciplinary and problem area (Research Committee) orientations are the two main perspectives from which to view ORD's program. If these two perspectives are brought to bear on planning in a complementary way, the result strengthens and enhances planning and resource allocation. The restructuring provides a means for doing this, and its integrative features are one of its more important advantages.

- Analyzing the DU's will be easier, in that the ORD program will be more closely aligned with the structure and function of the other major Agency organizations. The restructuring recognizes that it is easier for ORD to rearrange a regulatory subject area break-out of the program to a disciplinary structure than it is for non-ORD personnel to make the reverse translation. Thus, the restructuring achieves a basic intent, i.e., to simplify the way in which ORD arrays its program plans.

- The establishment of a direct link between research strategies and decision units will contribute to developing an internal ORD planning system that features reduced paperwork and an absence of duplicative documentation.

- The new DU structure reduces the staff time and the cost of impact analysis as program proposals proceed through ZBB. With the former structure, essentially two monitoring tracks were used: one for the

functional or disciplinary areas and one for the Research Committees. The new structure integrates these two ways of displaying the ORD program.

- The restructuring provides for a multi-media perspective in selected areas of the energy program where this can benefit program development.

- The new structure offers a significant improvement over the existing structure in providing an easily understandable format for developing, analyzing, and comparing energy and non-energy programs in the areas where they are complementary.

REGULATORY OVERSIGHT

Mr. BOLAND. The Reagan administration has given considerable attention to regulatory oversight. Last week, Vice President Bush, Chairman of the Presidential Task Force on Regulatory Relief, announced a number of changes concerning regulatory policy. At the same time, the Vice President announced the release of a number of regulations which had been postponed pending additional review within the Administration.

For the record, provide a list of all so-called "midnight" regulations that were caught in the regulatory freeze. Do you know what I am talking about?

Mr. BARBER. Yes, sir.

Mr. BOLAND. Those are the regulations put into effect just before the freeze on regulations was put into effect.

Will you give us the dates?

Mr. GAMSE. I think what is being called the midnight regulations were all those put out in the last months of the previous Administration.

Mr. BOLAND. But everyone lumps them in with the "midnight" regulations.

Mr. GAMSE. There were several kinds of regulations that were affected, and we will give you a list of those.

[The information follows:]

REGULATIONS AFFECTED BY FREEZE

Subject matter	1981	
	Old effective date	New effective date
Executive order:		
E.O. 12114—Implementation of procedures under the National Environmental Policy Act (assessing the environmental effect abroad of EPA actions).	February 13	March 30.
Clean Air Act:		
Approval and promulgation of implementation plans—Indiana (notice of deficiency).	February 26	Do.
Approval and promulgation of implementation plans—Indiana (disapproval—Jefferson County).	do	Do.
Approval and promulgation of implementation plans—Ohio sulfur dioxide control strategy.	do	Do.
Approval and promulgation of implementation plans—5 air pollution control districts in the State of California.	do	Do.
Regional consistency	February 23	Do.
FIFRA:		
Classification of uses of active ingredients for restricted use.	No sooner than 60 calendar days of continuous session of current Congress from date of promulgation (March 20).	Do.
State registration of pesticides to meet local needs.	No sooner than 60 calendar days of continuous session of current Congress from date of promulgation (March 9).	Do.
Clean Water Act:		
Guidelines for specification of disposal sites for dredged or fill material.	March 23	Do.
General pretreatment regulations for new and existing sources.	March 13	Deferred beyond March 30 and is now under reconsideration.

Subject matter	1981	
	Old effective date	New effective date
Effluent guidelines and standards; electroplating point source category pretreatment standards for existing sources.	March 16	Deferred beyond March 30 and is now under reconsideration.
Timber products point source category—provisions establishing best conventional pollutant control technology (BPT and BCT).	March 11	The BCT portion was deferred beyond March 30 and is now under reconsideration. The other portions were effective on or before March 30.

BUBBLE POLICY

Mr. BOLAND. The Vice President also announced an expansion of EPA's Bubble Policy. Elaborate on this change.

[The information follows:]

EPA's Bubble Policy gives owners of existing plants (or groups of plants) the flexibility to relax or eliminate emission controls where the cost of control is high in exchange for compensating increased control where costs are low, so long as air pollution from an imaginary bubble placed over the whole plant does not increase. Because the cost of controlling a pound of the same pollutant at different stacks or vents often varies by more than a hundred to one, this step can save individual firms millions of dollars in control costs with no adverse effects on air quality. The 70 bubbles being developed under our original Policy average savings of $2 million each over the cost of conventional emission controls. Bubbles EPA has already approved for Coors in Colorado, Narragansett Electric in Rhode Island, and Armco Steel in Ohio will save those companies about $20 million in capital and $5 million per year in operating costs.

However, the original policy required each bubble to be submitted as a State Implementation Plan (SIP) revision requiring notice, comment and approval at the State and Federal levels. This double review created delay and uncertainty in bubble approvals, caught many firms between the desire to bubble and their need to be in compliance by statutory deadlines, and gave rise to a perception that the Policy's procedures were unwieldy in practice.

On March 26, EPA responded to these concerns by endorsing a New Jersy rule which will let that State approve individual bubbles for emissions of hydrocarbons—a principal ingredient of smog—without affirmative Federal review. The New Jersey rule will also let chemical plants, refineries, automobile finishing plants, and other major sources of hydrocarbons in areas without fully-approved SIPS bubble across many more industrial processes, increasing the cost savings available from bubbles.

This step will sharply reduce the time and uncertainty involved in getting bubbles approved. It will also reduce unnecessary administrative burdens on EPA while giving States more independence and responsibility for air quality management. And it will become a model which other States can quickly adopt.

According to New Jersey officials, this action will produce over 100 approved chemical-plant bubbles (representing savings of at least $200 million) in that State alone this year. New Jersey is already reviewing over a dozen applications and will soon propose approval of bubbles for DuPont's giant Chambers Works and two Johnson and Johnson facilities, saving those firms $20 million while avoiding closure of one Johnson plant. Maine, Oklahoma, Wisconsin, Illinois, Indiana, Ohio, New York, Pennsylvania, and several other States are actively developing similar rules.

On January 16, EPA announced its intent to take several other steps making the Bubble Policy quicker and easier to use, including extension of the New Jersey approach to other air pollutants and expansion of the Policy to many more industrial nonattainment areas.

RULES REVIEW

Mr. BOLAND. By Executive Order, the Administration also announced plans to provide for a 60 day review of proposed major rules and a 30 day review of final major rules, and ten day reviews for all non-major rules at proposed or final stages. Does this action give you cause for alarm? Is this something new?

Mr. BARBER. It is a new policy.

Mr. BOLAND. Never been there before?

Mr. BARBER. No, it is not dissimilar to something called the quality-of-life review in place in the early 1970s, and it is not terribly dissimilar to the regulatory review we had in the last Administration.

Mr. BOLAND. All of you have been in the Administration long enough to have some idea about whether or not this Executive Order concerns you. Nobody is answering. I suppose I can answer for you, by saying it depends on who the Director of the OMB is.

Mr. GAMSE. I can say a few words on that. The major cause for concern of this type of thing would be if statutory dates or court-order dates were affected, and the executive order does have a waiver provision for the Agency to go ahead where it is bound by statutory or court dates. So, that makes a big difference in how binding it is.

Mr. GREEN. Mr. Chairman, at some point, at least some within EPA have been asserting they are an independent agency in the sense they are a quasi-judicial regulatory agency not subject to Presidential review in some of their determinations.

Mr. BARBER. That has never been my opinion. But my sense is that we are not an independent agency, we are part of the Administration. It has never troubled me to have rules reviewed by anyone who wants to review them. The Administrator has the final say unless the President gives him direction to the contrary.

REDUCTION IN WORK FORCE

Mr. BOLAND. The former Assistant Administrator of the Environmental Protection Agency for Planning and Management recently told a Congressional committee that the Administration's proposal to cut the Agency's work force by 1,500 employees would reduce the EPA staff levels to those which existed before the passage of the Clean Water Act, the Clean Air Act Amendment, the Toxic Substances Control Act, the Safe Drinking Water Act, the Resource Conservation and Recovery Act, the Noise Control Act, and the new Superfund law.

Do you agree with that statement?

Mr. BARBER. No. It does not sound right.

Mr. BOLAND. If that were so, EPA would have to operate on crutches.

Mr. BARBER. We can give you a year-by-year breakdown of the number of people in the Agency and when the statutes were adopted.

[The information follows:]

EMPLOYMENT LEVELS[a]

Fiscal year	PFT	OPFT	Other	Total
1971	5,959	1,174	128	7,261
1972	7,835	1,019	256	9,110
1973	8,270	1,134	482	9,886
1974	9,144	1,015	552	10,711
1975	9,160	1,012	600	10,772
1976	9,481	966	642	11,089
1977	9,779	1,043	517	11,339
1978	10,156	1,004	533	11,693
1979	10,153	2,796	594	13,543
1980	10,678	3,427	610	14,715

[a] Actual on-board on the last day of the fiscal year.

PFT: Permanent full time.
OPFT: Other than permanent full time.
Other: Stay-in-school program, worker trainee opportunity program.

STATUTES

Clean Air Act of 1970, Public Law 91-604, and as amended 1977, Public Law 95-95.

Safe Drinking Water Act of 1974, Public Law 93-523, amended 1980, Public Law 96-502.

Toxic Substances Control Act of 1976, Public Law 94-469.

Noise Control Act of 1972, Public Law 92-574, amended 1978, Public Law 95-609.

Resource Conservation and Recovery Act of 1976, Public Law 94-580, amended 1980, Public Law 96-482.

Marine Protection, Research and Sanctuaries Act of 1972, Public Law 92-532, amended 1980, Public Law 96-572.

Federal Water Pollution Control Act of 1972, Public Law 92-500 amended 1973, Public Law 93-207, 1974, Public Law 93-243, 1975, Public Law 93-592, 1976, Public Law 94-238, 1976, Public Law 94-273, 1976, Public Law 94-558, 1977, Public Law 95-217, 1978, Public Law 95-576, 1979, Public Law 96-148, 1980, Public Law 96-483, 1980, Public Law 96-510.

Environmental Research Development and Demonstration Authorization Act for 1981, Public Law 96-569.

Comprehensive Environmental Response, Compensation and Liability Act of 1980, Public Law 96-510.

Federal Insecticide, Fungicide and Rodenticide Act of 1972, Public Law 92-516, as amended 1975, Public Law 94-140, 1978, Public Law 95-396.

Mr. BOLAND. How much will the work force be reduced by?

Mr. BARBER. The on-board for 1981 is 10,600; and the 1982 ceiling is 10,400, in round numbers.

Mr. BOLAND. Will the proposed employee reductions require the EPA to rely more heavily on consultants and outside experts?

Mr. BARBER. The budget for those activities gets reduced also, so I think that is unlikely. What it forces us to do is reduce some of the activities. The bottom line is that it is a tighter budget both in terms of consultant dollars and personnel. We will try and focus our attention on the highest priority. We have not cut the basic State grant programs, but increased them in RCRA, so we are looking to the States to hold up their end of the deal.

Mr. BOLAND. The January request was 14,449 FTEs and the 1982 revised request for FTE is 12,861 FTEs. That is a decrease of 1,588.

Mr. BARBER. Yes, sir. I was giving you figures in terms of permanent work years. In any event, the January request was for a substantial increase to EPA's budget, well above current employment figures. So much of the reduction between the January submission estimate and current employment are unfilled vacancies,

some of which never existed in the Agency and others which were not filled.

SUPERFUND WORK FORCE

Mr. BOLAND. You are requesting $200 million in the 1982 budget for Superfund. How many workyears are associated with this activity?

Mr. BARBER. There are 503 permanent workyears in the 1982 budget. When we get the supplemental, we will be close to that level in 1981 by reprogramming people within the institution.

EFFECT OF FREEZE ON EMPLOYMENT

Mr. BOLAND. How did the Carter Administration freeze on employment affect the Agency? That freeze applied only to permanent full-time employment: it exempted other-than-full-time permanent employment.

Mr. BARBER. The Agency has in fact been held below its previously authorized workyears by about a thousand. So the effect of the freeze is that we have fewer people on board.

Mr. BOLAND. Did the Agency increase its other-than-full-time employment to compensate for the freeze? Did you hire more part-time employees?

Mr. BARBER. Not as a general matter to compensate for the freeze.

Mr. KINGHORN. In a general sense, yes, however, in terms of gross numbers and within ceiling, the totals went up.

Mr. BOLAND. Have you any idea what the total savings resulted from the freeze?

Mr. BARBER. We will have to provide the details on that for the record.

Mr. BOLAND. All right.

[The information follows:]

EMPLOYMENT FREEZE

If you assume that the entire hiring lapse is due to the Carter freeze, then the $18.9 million which OMB reduced from our pay supplemental can probably be attributed to savings realized.

EFFECT OF JANUARY FREEZE ON AGENCY

Mr. BOLAND. The Reagan administration also implemented a freeze right after the President took office, which was retroactive to November fifth. How did this freeze affect the Agency?

Mr. BARBER. We have not been hiring any people that are from outside the Agency.

Mr. BOLAND. Apparently it has not affected you at all.

Mr. BARBER. To the degree that we have not hired any new permanent employees or any temporaries, for that matter.

We can supply you with our monthly on-board strength total for the record.

[The information follows:]

FISCAL YEAR 1981 EMPLOYMENT

[Our monthly onboard employment is as follows]

Month	Permanent full time	Other than permanent full time	Total
October [1]	10,650	3,393	14,043
November [1]	10,610	3,540	14,150
December [1]	10,600	3,597	14,197
January [2]	10,636	3,603	14,239
February [2]	10,658	3,468	14,126
March [2]	10,623	3,208	13,831

[1] 1980.
[2] 1981.

EFFECT OF BUDGET RESTRICTIONS ON AGENCY

Mr. BOLAND. In addition, the Reagan administration restricted the use of funds for travel, consulting services, and equipment procurement. For the record, indicate the total savings estimated to accrue from these directives. Also indicate the Agency's revised 1981 travel budget, taking the Reagan action into account.

[The information follows:]

The savings which we expect to accrue from the travel, consulting services, and equipment procurement restrictions in fiscal year 1981 are as follows:

Travel	$1,852,700
Consulting services	1,794,200
Equipment	421,000

Our current fiscal year 1981 travel ceiling, as revised, is $15,621,000.

SALARIES AND EXPENSES SUPPLEMENTAL

Mr. BOLAND. The Carter Administration requested $25,934,000 in the Salaries and Expenses appropriation as a 1981 supplemental pay cost appropriation request. In addition, the Carter administration requested the transfer of $7 million from the Construction Grants program appropriation, to be used to defray the costs of the October 1980 pay increase. The Reagan administration eliminated the $7 million transfer language and reduced the 1981 supplemental pay request to $6,165,000.

What was the Agency's total 1981 supplemental pay requirement?

Mr. GAMSE. $30.7 million.

Mr. BOLAND. What amount had been absorbed under the Carter proposal?

Mr. GAMSE. About $7 million was proposed to be transferred (absorbed) from the Construction Grants appropriation.

Mr. BOLAND. What amount is absorbed under the Reagan proposal?

Mr. GAMSE. $24.5 million.

Mr. BOLAND. Is it true that in computing the new 1981 personnel ceiling and the supplemental pay requirement, OMB, in effect took away all dollars associated with those positions?

Mr. KINGHORN. They permitted us to use some of the funding to make up the entire $31 million.

Mr. BOLAND. Will this action result in a reduction-in-force for EPA in 1981?

Mr. GAMSE. In 1981, we do not think overall that it will cause us much of a problem for the permanent ceiling. We are going to have to take some actions for other-than-permanent full-time employees in certain selected areas because of the salaries situation.

TRANSFER AUTHORITY

Mr. BOLAND. The 1981 Appropriation Act allows the Environmental Protection Agency to transfer up to one percent of the amount in an account prior to March 31, 1980, between appropriation accounts, excluding Construction Grants. Last Friday, the Agency provided the Committee with its proposed transfers. Although questioning certain components of the proposed transfers, the Committee understands that rejection of the proposed transfers would require significant adjustment in the Agency's operations in order to accommodate the percentage of pay supplemental requirements assumed to be absorbed.

Due to the one percent limitation, the Agency has proposed two small rescissions in 1981. In the Research and Development account, a rescission of $149,000 is proposed, and $1,253,000 is proposed for rescission in the Abatement, Control and Compliance account. These amounts represent savings due to the consultant and equipment reductions that would have been transferred to the Salaries and Expenses account to defray the supplemental pay costs had that been permissible. Is that correct?

Mr. GAMSE. Yes, sir.

Mr. BOLAND. The Reagan administration is urging that State and local governments assume or re-assume responsibility for many programs currently funded by the Federal government. This is also true in the environmental area, as is evidenced by the construction grants reform proposals, among others.

In general, how do the State grant programs compare in the 1982 Reagan budget submission with the 1982 Carter budget submission?

You may supply that for the record.

[The information follows:]

COMPARISON OF JANUARY VERSUS MARCH STATE GRANT PROGRAM SUBMISSIONS

PRESIDENT CARTER'S FISCAL YEAR 1982 BUDGET VERSUS PRESIDENT REAGAN'S FISCAL YEAR 1982 BUDGET

[EPA grant assistance]

	President Carter	President Reagan	Difference
Air: Section 105	$87,735	$87,735	0
Water quality:			
Section 106	53,300	51,200	−$2,100
Clean lakes	11,500		−11,500
Drinking water:			
Public Water systems program grants	29,450	29,450	0
Underground injection control program	8,575	6,575	−2,000
Special studies and demonstrations	1,500	1,500	0
Hazardous waste:			
Solid waste management	6,000		−6,000
Hazardous waste management	41,700	41,700	
Resource recovery	6,600		−6,600
Pesticides: Pesticides enforcement grants	8,702	8,702	0

PRESIDENT CARTER'S FISCAL YEAR 1982 BUDGET VERSUS PRESIDENT REAGAN'S FISCAL YEAR 1982 BUDGET—Continued

[EPA grant assistance]

	President Carter	President Reagan	Difference
Toxic substances:			
Toxics enforcement grants	500	500	0
Construction grants	3,700,000		−3,700,000
Total	3,955,562	227,362	−3,728,200

Mr. BOLAND. For the record, provide a list for 1980, 1981, and 1982 of all State grant programs, including distribution by State.

[The information follows:]

EPA AIR POLLUTION CONTROL AGENCY SUPPORT FUNDS
SECTION 105 GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982 a/
REGION I	$6,862	$6,654	$6,654
CONNECTICUT	1,693	1,780	1,780
MAINE	421	490	490
MASSACHUSETTS	3,352	2,813	2,813
NEW HAMPSHIRE	596	500	500
RHODE ISLAND	405	611	611
VERMONT	395	460	460
REGION II	9,185	10,035	10,035
NEW JERSEY	1,937	2,200	2,200
NEW YORK	6,813	6,800	6,800
PUERTO RICO	250	845	845
VIRGIN ISLANDS	185	190	190
REGION III	10,229	10,382	10,382
DELAWARE	626	520	520
DISTRICT OF COLUMBIA	696	1,932	1,932
MARYLAND	852	4,600	4,600
PENNYSLVANIA	4,241	1,700	1,700
VIRGINIA	2,253	900	900
WEST VIRGINIA	1,561	730	730
REGION IV	7,852	11,804	11,804
ALABAMA	109	1,500	1,500
FLORIDA	1,709	2,200	2,200
GEORGIA	1,150	1,400	1,400
KENTUCKY	1,386	1,600	1,600
MISSISSIPPI	604	605	605
NORTH CAROLINA	381	1,845	1,845
SOUTH CAROLINA	1,033	950	950
TENNESSEE	1,480	1,704	1,704
REGION V	16,955	17,903	17,903
ILLINOIS	4,373	4,900	4,900
INDIANA	2,286	2,400	2,400
MICHIGAN	3,286	3,503	3,503
MINNESOTA	467	1,250	1,250
OHIO	4,775	3,950	3,950
WISCONSIN	1,768	1,900	1,900

a/ Tentative, based on 1981 allocations. Negotiations are underway with States.

EPA AIR POLLUTION CONTROL AGENCY SUPPORT FUNDS
SECTION 105 GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982 a/
REGION VI	$8,014	$8,587	$8,587
ARKANSAS	235	670	670
LOUISIANA	1,206	890	890
NEW MEXICO	1,564	1,182	1,182
OKLAHOMA	809	1,195	1,195
TEXAS	4,200	4,460	4,460
INDIAN TRIBE	-	190	190
REGION VII	3,852	4,354	4,354
IOWA	900	670	670
KANSAS	1,105	790	790
MISSOURI	1,633	2,320	2,320
NEBRASKA	214	574	574
REGION VIII	3,989	4,535	4,535
COLORADO	1,113	1,115	1,115
MONTANA	788	615	615
NORTH DAKOTA	466	470	470
SOUTH DAKOTA	178	300	300
UTAH	1,058	920	920
WYOMING	386	440	440
INDIAN TRIBES	-	675	675
REGION IX	9,093	8,092	8,092
ARIZONA	953	977	977
CALIFORNIA	7,024	5,880	5,880
GUAM	78	80	80
HAWAII	339	490	490
NEVADA	699	640	640
INDIAN TRIBES	-	25	25
REGION X	4,272	5,327	5,327
ALASKA	908	660	660
IDAHO	773	672	672
OREGON	688	1,650	1,650
WASHINGTON	1,903	2,320	2,320
INDIAN TRIBE	-	25	25
DIR.-AIR QUAL. PLNG. & STDS.	2,456	-	-
UNDISTRIBUTED	-	-	-
TOTAL	$82,759	$87,673	$87,735

WATER POLLUTION CONTROL
SECTION 106 GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION I	$3,743	$3,720	$3,690
CONNECTICUT	746	790	790
MAINE	537	570	570
MASSACHUSETTS	1,378	1,220	1,220
NEW HAMPSHIRE	331	350	350
RHODE ISLAND	509	530	530
VERMONT	242	260	230
REGION II	5,435	5,420	5,420
NEW JERSEY	1,334	1,400	1,400
NEW YORK	2,861	2,820	2,820
PUERTO RICO	853	830	830
VIRGIN ISLANDS	387	370	370
REGION III	6,100	5,950	5,950
DELAWARE	443	430	430
DISTRICT OF COLUMBIA	354	430	430
MARYLAND	1,048	860	860
PENNYSLVANIA	2,782	2,290	2,290
VIRGINIA	1,318	1,290	1,290
WEST VIRGINIA	155	650	650
REGION IV	9,564	9,600	9,620
ALABAMA	1,297	1,360	1,360
FLORIDA	1,255	1,300	1,320
GEORGIA	1,930	1,600	1,600
KENTUCKY	717	750	750
MISSISSIPPI	725	760	760
NORTH CAROLINA	1,789	1,880	1,880
SOUTH CAROLINA	970	1,020	1,020
TENNESSEE	881	930	930
REGION V	9,036	9,180	9,180
ILLINOIS	2,238	1,920	1,920
INDIANA	1,448	1,070	1,070
MICHIGAN	1,752	1,830	1,830
MINNESOTA	502	960	960
OHIO	1,711	1,950	1,950
WISCONSIN	1,385	1,450	1,450

WATER POLLUTION CONTROL
SECTION 106 GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION VI	$4,162	$4,380	$4,380
ARKANSAS	729	760	760
LOUISIANA	677	860	860
NEW MEXICO	388	300	300
OKLAHOMA	542	570	570
TEXAS	1,826	1,890	1,890
REGION VII	2,641	2,770	2,770
IOWA	710	740	740
KANSAS	511	540	540
MISSOURI	860	900	900
NEBRASKA	560	590	590
REGION VIII	1,682	1,770	1,770
COLORADO	457	480	480
MONTANA	334	350	350
NORTH DAKOTA	211	220	220
SOUTH DAKOTA	220	230	230
UTAH	300	320	320
WYOMING	160	170	170
REGION IX	4,432	4,610	4,610
ARIZONA	399	420	420
CALIFORNIA	2,978	3,020	3,020
GUAM	338	380	380
HAWAII	340	360	360
NEVADA	170	180	180
MARIANA TRIBES	141	85	-
PACIFIC ISLAND TRUST TERRITORY	-	85	170
AMERICAN SAMOA	66	80	80
REGION X	2,363	2,500	2,500
ALASKA	143	160	160
IDAHO	380	400	400
OREGON	800	840	840
WASHINGTON	1,040	1,100	1,100
FEDERAL AID PROGRAMS	-	1,330	1,310
TOTAL	49,158	51,230	51,200

WATER QUALTIY MANAGEMENT PLANNING
SECTION 208
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION I	$2,262	$1,571	-
CONNECTICUT	395	478	-
MAINE	854	228	-
MASSACHUSETTS	351	527	-
NEW HAMPSHIRE	92	112	-
RHODE ISLAND	75	101	-
VERMONT	495	125	-
REGION II	4,516	3,375	-
NEW JERSEY	1,026	1,325	-
NEW YORK	3,119	1,150	-
PUERTO RICO	371	425	-
VIRGIN ISLANDS	-	-	-
UNDISTRIBUTED	-	475	-
REGION III	4,748	2,800	-
DELAWARE	222	521	-
DISTRICT OF COLUMBIA	1,324	100	-
MARYLAND	1,890	470	-
PENNSYLVANIA	937	927	-
VIRGINIA	187	500	-
WEST VIRGINIA	188	282	-
REGION IV	4,614	5,375	-
ALABAMA	150	214	-
FLORIDA	1,754	1,536	-
GEORGIA	320	185	-
KENTUCKY	-	-	-
MISSISSIPPI	400	400	-
NORTH CAROLINA	1,032	984	-
SOUTH CAROLINA	608	891	-
TENNESSEE	350	491	-
UNDISTRIBUTED	-	674	-
REGION V	6,120	5,605	-
ILLINOIS	958	944	-
INDIANA	467	335	-
MICHIGAN	3,002	1,154	-
MINNESOTA	58	227	-
OHIO	220	1,080	-
WISCONSIN	1,415	1,290	-
UNDISTRIBUTED	-	575	-

WATER QUALITY MANAGEMENT PLANNING
SECTION 208
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION VI	$3,818	$3,800	-
ARKANSAS	1,446	846	-
LOUISIANA	518	399	-
NEW MEXICO	236	305	-
OKLAHOMA	537	0	-
TEXAS	1,081	1,477	-
UNDISTRIBUTED	-	773	-
REGION VII	1,593	2,620	-
IOWA	199	381	-
KANSAS	457	481	-
MISSOURI	662	1,223	-
NEBRASKA	275	535	-
REGION VIII	2,777	2,595	-
COLORADO	783	525	-
MONTANA	340	418	-
NORTH DAKOTA	126	-	-
SOUTH DAKOTA	591	1,185	-
UTAH	937	218	-
WYOMING	-	98	-
INDIAN TRIBES	-	120	-
UNDISTRIBUTED	-	31	-
REGION IX	4,457	3,027	-
ARIZONA	450	201	-
CALIFORNIA	3,678	1,854	-
GUAM	-	200	-
HAWAII	-	-	-
NEVADA	329	76	-
UNDISTRIBUTED	-	696	-
REGION X	3,073	3,055	-
ALASKA	525	327	-
IDAHO	505	711	-
OREGON	656	1,016	-
WASHINGTON	1,167	986	-
INDIAN TRIBE	220	15	-
TOTAL	$37,978	$33,823	-

CLEAN LAKES PROGRAM GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION I	$2,324	$1,459	-
CONNECTICUT	580	16	-
MAINE	944	330	-
MASSACHUSETTS	417	943	-
NEW HAMPSHIRE	128	70	-
RHODE ISLAND	74	-	-
VERMONT	181	100	-
REGION II	1,179	1,305	-
NEW JERSEY	751	782	-
NEW YORK	328	423	-
PUERTO RICO	100	100	-
VIRGIN ISLANDS	-	-	-
REGION III	912	728	-
DELAWARE	23	5	-
DISTRICT OF COLUMBIA	-	-	-
MARYLAND	299	522	-
PENNSYLVANIA	392	-	-
VIRGINIA	198	200	-
WEST VIRGINIA	-	-	-
REGION IV	991	1,487	-
ALABAMA	-	-	-
FLORIDA	85	1,252	-
GEORGIA	100	-	-
KENTUCKY	200	-	-
MISSISSIPPI	-	57	-
NORTH CAROLINA	70	100	-
SOUTH CAROLINA	436	-	-
TENNESSEE	100	78	-
REGION V	3,278	1,450	-
ILLINOIS	205	164	-
INDIANA	217	158	-
MICHIGAN	301	640	-
MINNESOTA	1,428	149	-
OHIO	152	39	-
WISCONSIN	975	300	-

CLEAN LAKES PROGRAM GRANTS

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION VI	$880	$821	-
ARKANSAS	70	394	-
LOUISIANA	100	100	-
NEW MEXICO	59	-	-
OKLAHOMA	581	266	-
TEXAS	70	61	-
INDIAN TRIBE			
REGION VII	3,186	875	-
IOWA	2,648	319	-
KANSAS	194	496	-
MISSOURI	289	60	-
NEBRASKA	55	-	-
REGION VIII	1,337	663	-
COLORADO	300	200	-
MONTANA	432	-	-
NORTH DAKOTA	8	185	-
SOUTH DAKOTA	393	200	-
UTAH	104	78	-
WYOMING	100	-	-
INDIAN TRIBES	-	-	-
REGION IX	721	1,181	-
ARIZONA	-	87	-
CALIFORNIA	380	977	-
GUAM			
HAWAII	-	-	-
NEVADA	341	117	-
INDIAN TRIBES	-	-	-
REGION X	5,427	1,031	-
ALASKA	-	212	-
IDAHO	100	100	-
OREGON	321	197	-
WASHINGTON	5,006	522	-
INDIAN TRIBE	-	-	-
TOTAL	$20,235	$11,000	-

PUBLIC WATER SYSTEMS SUPERVISION PROGRAM GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION I	$2,381	$1,942	$1,946
CONNECTICUT	480	378	370
MAINE	352	295	295
MASSACHUSETTS	563	385	399
NEW HAMPSHIRE	372	295	294
RHODE ISLAND	352	295	294
VERMONT	262	294	294
REGION II	2,916	2,572	2,543
NEW JERSEY	559	540	549
NEW YORK	1,948	1,640	1,601
PUERTO RICO	231	294	295
VIRGIN ISLANDS	178	98	98
REGION III	1,930	3,113	3,179
DELAWARE	203	295	295
DISTRICT OF COLUMBIA	-	295	294
MARYLAND	467	382	383
PENNSYLVANIA	-	1,092	1,127
VIRGINIA	842	710	741
WEST VIRGINIA	418	339	339
REGION IV	5,419	4,868	4,707
ALABAMA	437	367	362
FLORIDA	1,265	1,064	994
GEORGIA	754	577	580
KENTUCKY	435	348	352
MISSISSIPPI	547	455	458
NORTH CAROLINA	968	1,162	1,098
SOUTH CAROLINA	532	458	441
TENNESSEE	481	437	422
REGION V	5,573	4,824	4,738
ILLINOIS	1,271	1,047	1,014
INDIANA	-	495	471
MICHIGAN	1,228	993	926
MINNESOTA	897	586	579
OHIO	1,145	952	969
WISCONSIN	1,032	751	779

PUBLIC WATER SYSTEMS SUPERVISION PROGRAM GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION VI	$3,597	$3,088	$3,192
ARKANSAS	353	295	304
LOUISIANA	529	465	480
NEW MEXICO	357	306	310
OKLAHOMA	514	445	452
TEXAS	1,844	1,577	1,646
INDIAN TRIBE	-	-	-
REGION VII	2,118	1,720	1,727
IOWA	560	498	499
KANSAS	494	381	382
MISSOURI	705	541	542
NEBRASKA	359	300	304
REGION VIII	1,414	1,882	1,885
COLORADO	479	381	392
MONTANA	352	324	316
NORTH DAKOTA	352	295	295
SOUTH DAKOTA	-	294	294
UTAH	231	294	294
WYOMING	-	294	294
INDIAN TRIBES			
REGION IX	3,455	3,334	3,455
ARIZONA	464	404	387
CALIFORNIA	2,271	1,752	1,889
GUAM	100	98	98
HAWAII	28	295	295
NEVADA	300	295	295
MARIANA TRIBES	-	98	98
PACIFIC ISLAND TRUST TERRITORY	292	294	295
AMERICAN SAMOA	-	98	98
REGION X	1,975	2,107	2,078
ALASKA	635	571	569
IDAHO	449	333	337
OREGON	-	437	434
WASHINGTON	891	766	738
INDIAN TRIBE	-	-	-
TOTAL	$30,779	$29,450	$29,450

GROUNDWATER PROTECTION PROGRAM GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION I	$314	$383	$383
CONNECTICUT	41	73	73
MAINE	40	61	61
MASSACHUSETTS	122	89	89
NEW HAMPSHIRE	38	56	56
RHODE ISLAND	37	54	54
VERMONT	36	50	50
REGION II	132	404	404
NEW JERSEY	60	94	94
NEW YORK	-	206	206
PUERTO RICO	40	67	67
VIRGIN ISLANDS	32	37	37
REGION III	875	557	557
DELAWARE	-	48	48
DISTRICT OF COLUMBIA	28	53	53
MARYLAND	86	77	77
PENNSYLVANIA	485	171	171
VIRGINIA	107	83	83
WEST VIRGINIA	169	125	125
REGION IV	1,126	856	856
ALABAMA	161	124	124
FLORIDA	169	148	148
GEORGIA	129	89	89
KENTUCKY	218	113	113
MISSISSIPPI	83	111	111
NORTH CAROLINA	158	103	103
SOUTH CAROLINA	111	73	73
TENNESSEE	97	95	95
REGION V	1,604	940	940
ILLINOIS	429	205	205
INDIANA	373	139	139
MICHIGAN	404	225	225
MINNESOTA	153	87	87
OHIO	130	197	197
WISCONSIN	115	87	87

GROUNDWATER PROTECTION PROGRAM GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION VI	$3,050	$1,212	$1,212
ARKANSAS	219	106	106
LOUISIANA	649	281	281
NEW MEXICO	366	159	159
OKLAHOMA	732	208	208
TEXAS	1,084	458	458
REGION VII	543	509	509
IOWA	110	87	87
KANSAS	280	246	246
MISSOURI	75	93	93
NEBRASKA	78	83	83
REGION VIII	899	725	725
COLORADO	108	155	155
MONTANA	163	91	91
NORTH DAKOTA	37	88	88
SOUTH DAKOTA	42	62	62
UTAH	227	137	137
WYOMING	322	192	192
REGION IX	772	670	670
ARIZONA	215	119	119
CALIFORNIA	497	286	286
GUAM	-	32	32
HAWAII	60	67	67
NEVADA	-	69	69
MARIANAS ISLANDS	-	31	31
PACIFIC ISLAND TRUST TERRITORY	-	35	35
AMERICAN SAMOA	-	31	31
REGION X	407	319	319
ALASKA	63	92	92
IDAHO	106	63	63
OREGON	78	79	79
WASHINGTON	160	85	85
FEDERAL AID PROGRAMS	101	-	-
TOTAL	$9,823	$6,575	$6,575

SOLID WASTE MANAGEMENT
FINANCIAL ASSISTANCE TO STATES
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION I	$836	$482	$-
CONNECTICUT	196	112	-
MAINE	70	40	-
MASSACHUSETTS	368	210	-
NEW HAMPSHIRE	70	40	-
RHODE ISLAND	62	40	-
VERMONT	70	40	-
REGION II	1,888	1,079	-
NEW JERSEY	464	265	-
NEW YORK	1,179	674	-
PUERTO RICO	175	100	-
VIRGIN ISLANDS	70	40	-
REGION III	1,570	897	-
DELAWARE	50	40	-
DISTRICT OF COLUMBIA	64	40	-
MARYLAND	254	145	-
PENNYSLVANIA	640	436	-
VIRGINIA	449	172	-
WEST VIRGINIA	113	64	-
REGION IV	2,060	1,177	-
ALABAMA	223	127	-
FLORIDA	439	251	-
GEORGIA	297	169	-
KENTUCKY	208	119	-
MISSISSIPPI	143	82	-
NORTH CAROLINA	328	188	-
SOUTH CAROLINA	168	96	-
TENNESSEE	254	145	-
REGION V	2,880	1,628	-
ILLINOIS	1,019	411	-
INDIANA	336	192	-
MICHIGAN	638	328	-
MINNESOTA	25	140	-
OHIO	492	394	-
WISCONSIN	370	163	-

SOLID WASTE MANAGEMENT
FINANCIAL ASSISTANCE TO STATES
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION VI	$1,319	$754	-
ARKANSAS	200	71	
LOUISIANA	240	134	-
NEW MEXICO	-	40	-
OKLAHOMA	166	95	-
TEXAS	713	414	-
INDIAN TRIBES	-	-	-
REGION VII	$685	$415	-
IOWA	183	104	-
KANSAS	104	83	-
MISSOURI	302	173	-
NEBRASKA	96	55	-
REGION VIII	$493	282	-
COLORADO	131	82	-
MONTANA	70	40	-
NORTH DAKOTA	82	40	-
SOUTH DAKOTA	70	40	-
UTAH	70	40	-
WYOMING	70	40	-
INDIAN TRIBES	-		
REGION IX	1,784	1,003	-
ARIZONA	201	66	-
CALIFORNIA	1,290	737	-
GUAM	69	40	-
HAWAII	61	40	-
NEVADA	70	40	-
PACIFIC ISLAND TRUST TERRITORY	-	40	-
AMERICAN SAMOA	23	40	-
MARIANNA ISLANDS	70	-	-
REGION X	496	283	-
ALASKA	90	40	-
IDAHO	76	40	-
OREGON	186	77	-
WASHINGTON	144	126	-
INDIAN TRIBES	-	-	-
TOTAL	$14,011	$8,000	-

79-248 O—80——4

HAZARDOUS WASTE MANAGEMENT GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION I	$1,018	$1,643	$2,283
CONNECTICUT	396	358	498
MAINE	93	150	209
MASSACHUSETTS	222	639	888
NEW HAMPSHIRE	93	150	208
RHODE ISLAND	121	196	272
VERMONT	93	150	208
REGION II	1,795	2,895	4,024
NEW JERSEY	554	893	1,241
NEW YORK	1,043	1,682	2,339
PUERTO RICO	105	170	236
VIRGIN ISLANDS	93	150	208
REGION III	1,976	3,283	4,563
DELAWARE	84	150	209
DISTRICT OF COLUMBIA	53	150	208
MARYLAND	230	409	569
PENNSYLVANIA	1,028	1,637	2,275
VIRGINIA	271	383	532
WEST VIRGINIA	310	554	770
REGION IV	2,728	4,401	6,117
ALABAMA	362	585	812
FLORIDA	483	780	1,084
GEORGIA	317	511	711
KENTUCKY	323	520	723
MISSISSIPPI	127	205	285
NORTH CAROLINA	365	589	818
SOUTH CAROLINA	273	440	612
TENNESSEE	478	771	1,072
REGION V	3,284	6,123	8,511
ILLINOIS	775	1,403	1,951
INDIANA	682	924	1,284
MICHIGAN	705	1,229	1,708
MINNESOTA	285	360	501
OHIO	385	1,638	2,276
WISCONSIN	452	569	791

HAZARDOUS WASTE MANAGEMENT GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION VI	$2,857	$4,609	$6,406
ARKANSAS	125	203	282
LOUISIANA	610	984	1,368
NEW MEXICO	93	150	209
OKLAHOMA	173	279	387
TEXAS	1,856	2,993	4,160
INDIAN TRIBE	-	-	-
REGION VII	722	1,164	1,618
IOWA	174	280	389
KANSAS	165	266	369
MISSOURI	290	468	651
NEBRASKA	93	150	209
REGION VIII	694	1,118	1,555
COLORADO	189	304	423
MONTANA	107	172	239
NORTH DAKOTA	93	150	209
SOUTH DAKOTA	93	150	209
UTAH	119	192	267
WYOMING	93	150	208
INDIAN TRIBES	-	-	-
REGION IX	2,227	3,505	4,873
ARIZONA	265	380	529
CALIFORNIA	1,650	2,375	3,301
GUAM	104	150	208
HAWAII	-	150	209
NEVADA	104	150	209
PACIFIC ISLAND TRUST TERRITORY	104	150	208
AMERICAN SAMOA	-	150	209
REGION X	781	1,259	1,750
ALASKA	84	258	359
IDAHO	116	166	231
OREGON	275	396	550
WASHINGTON	306	439	610
INDIAN TRIBE	-	-	-
TOTAL	$18,082	$30,000	$41,700

URBAN POLICY RESOURCE RECOVERY GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION I	$1,080	$300	-
CONNECTICUT			-
MAINE			-
MASSACHUSETTS			-
NEW HAMPSHIRE			-
RHODE ISLAND			-
VERMONT			-
REGION II	3,192	450	-
NEW JERSEY			-
NEW YORK			-
PUERTO RICO			-
VIRGIN ISLANDS			-
REGION III	524	425	-
DELAWARE			-
DISTRICT OF COLUMBIA			-
MARYLAND			-
PENNSYLVANIA			-
VIRGINIA			-
WEST VIRGINIA			-
REGION IV	1,910	850	-
ALABAMA			-
FLORIDA			-
GEORGIA			-
KENTUCKY			-
MISSISSIPPI			-
NORTH CAROLINA			-
SOUTH CAROLINA			-
TENNESSEE			-
REGION V	2,260	600	-
ILLINOIS			-
INDIANA			-
MICHIGAN			-
MINNESOTA			-
OHIO			-
WISCONSIN			-

URBAN POLICY RESOURCE RECOVERY GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION VI	$828	$300	-
ARKANSAS			-
LOUISIANA			-
NEW MEXICO			-
OKLAHOMA			-
TEXAS			-
INDIAN TRIBE			
REGION VII	690	450	-
IOWA			-
KANSAS			-
MISSOURI			-
NEBRASKA			
REGION VIII	451	375	-
COLORADO			-
MONTANA			-
NORTH DAKOTA			-
SOUTH DAKOTA			-
UTAH			-
WYOMING			-
INDIAN TRIBES			
REGION IX	1,485	-	-
ARIZONA		-	-
CALIFORNIA		-	-
GUAM		-	-
HAWAII		-	-
NEVADA		-	-
INDIANA TRIBE		-	-
REGION X	921	250	-
ALASKA			-
IDAHO			-
OREGON			-
WASHINGTON			-
SOLID WASTE MGMT. PROGRAM	558	-	-
TOTAL	$13,899	$4,000	-

PESTICIDES ENFORCEMENT GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION I	$377	$328	$364
CONNECTICUT	90	62	68
MAINE	38	50	56
MASSACHUSETTS	100	81	89
NEW HAMPSHIRE	15	46	52
RHODE ISLAND	63	45	50
VERMONT	71	44	49
REGION II	1,246	457	505
NEW JERSEY	270	119	128
NEW YORK	619	220	235
PUERTO RICO	305	93	102
VIRGIN ISLANDS	52	25	40
REGION III	625	526	570
DELAWARE	-	45	51
DISTRICT OF COLUMBIA	51	39	44
MARYLAND	272	82	89
PENNSYLVANIA	210	158	169
VIRGINIA	92	134	142
WEST VIRGINIA	-	68	75
REGION IV	1,155	1,244	1,334
ALABAMA	-	121	130
FLORIDA	535	196	210
GEORGIA	-	182	195
KENTUCKY	110	183	196
MISSISSIPPI	97	119	128
NORTH CAROLINA	268	176	188
SOUTH CAROLINA	-	90	98
TENNESSEE	145	177	189
REGION V	1,575	1,156	1,236
ILLINOIS	595	297	315
INDIANA	241	163	174
MICHIGAN	174	138	149
MINNESOTA	502	172	185
OHIO	-	202	216
WISCONSIN	63	184	197

PESTICIDES ENFORCEMENT GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION VI	$1,080	$918	$982
ARKANSAS	116	108	117
LOUISIANA	74	145	156
NEW MEXICO	168	96	104
OKLAHOMA	172	140	150
TEXAS	550	429	455
INDIAN TRIBE			
REGION VII	302	765	818
IOWA	98	227	242
KANSAS	146	162	174
MISSOURI	58	203	217
NEBRASKA	-	173	185
REGION VIII	806	652	784
COLORADO	-	119	128
MONTANA	602	118	127
NORTH DAKOTA	49	117	127
SOUTH DAKOTA	65	113	123
UTAH	90	67	74
WYOMING	-	78	85
INDIAN TRIBES	-	40	120
REGION IX	1,152	724	849
ARIZONA	24	105	114
CALIFORNIA	797	370	393
GUAM	20	25	25
HAWAII	216	55	62
NEVADA	48	54	60
INDIAN TRIBES (4)	-	40	120
MARIANAS ISLANDS	7	25	25
PACIFIC ISLAND TRUST TERRITORY	15	25	25
AMERICAN SAMOA	25	25	25
REGION X	419	358	390
ALASKA	-	51	57
IDAHO	75	84	92
OREGON	149	106	115
WASHINGTON	195	117	126
INDIAN TRIBE	-	-	-
REGIONAL INCENTIVES	-	792	870
TOTAL	$8,737	$7,920	$8,702

TOXIC SUBSTANCES ENFORCEMENT GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION I	-	$200	$100
CONNECTICUT	-	200	100
MAINE	-	-	-
MASSACHUSETTS	-	-	-
NEW HAMPSHIRE	-	-	-
RHODE ISLAND	-	-	-
VERMONT	-	-	-
REGION II	-	-	-
NEW JERSEY	-	-	-
NEW YORK	-	-	-
PUERTO RICO	-	-	-
VIRGIN ISLANDS	-	-	-
REGION III	-	200	100
DELAWARE	-	-	-
DISTRICT OF COLUMBIA	-	-	-
MARYLAND	-	200	100
PENNSYLVANIA	-	-	-
VIRGINIA	-	-	-
WEST VIRGINIA	-	-	-
REGION IV	-	-	-
ALABAMA	-	-	-
FLORIDA	-	-	-
GEORGIA	-	-	-
KENTUCKY	-	-	-
MISSISSIPPI	-	-	-
NORTH CAROLINA	-	-	-
SOUTH CAROLINA	-	-	-
TENNESSEE	-	-	-
REGION V	-	400	200
ILLINOIS	-	-	-
INDIANA	-	-	-
MICHIGAN	-	200	100
MINNESOTA	-	-	-
OHIO	-	200	100
WISCONSIN	-	-	-

TOXIC SUBSTANCES ENFORCEMENT GRANTS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION VI	-	$-	$-
ARKANSAS	-	-	-
LOUISIANA	-	-	-
NEW MEXICO	-	-	-
OKLAHOMA	-	-	-
TEXAS	-	-	-
INDIAN TRIBE	-	-	-
REGION VII	-	-	-
IOWA	-	-	-
KANSAS	-	-	-
MISSOURI	-	-	-
NEBRASKA	-	-	-
REGION VIII	-	-	-
COLORADO	-	-	-
MONTANA	-	-	-
NORTH DAKOTA	-	-	-
SOUTH DAKOTA	-	-	-
UTAH	-	-	-
WYOMING	-	-	-
INDIAN TRIBES	-	-	-
REGION IX	-	200	100
ARIZONA	-	-	-
CALIFORNIA	-	200	100
GUAM	-	-	-
HAWAII	-	-	-
NEVADA	-	-	-
INDIAN TRIBES (4)	-	-	-
REGION X	-	-	-
ALASKA	-	-	-
IDAHO	-	-	-
OREGON	-	-	-
WASHINGTON	-	-	-
INDIAN TRIBE	-	-	-
REGIONAL INCENTIVES	-	-	-
TOTAL	-	$1,000	$500

CONSTRUCTION GRANTS FOR WASTE WATER TREATMENT WORKS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION I	$279,940	$152,674	-
CONNECTICUT	81,758	25,166	-
MAINE	31,929	17,036	-
MASSACHUSETTS	91,652	67,146	-
NEW HAMPSHIRE	40,474	20,024	-
RHODE ISLAND	21,552	11,938	-
VERMONT	12,575	11,364	-
REGION II	738,262	350,110	-
NEW JERSEY	207,337	81,177	-
NEW YORK	482,094	241,403	-
PUERTO RICO	47,532	26,671	-
VIRGIN ISLANDS	1,299	859	-
REGION III	463,073	270,244	-
DELAWARE	19,253	11,364	-
DISTRICT OF COLUMBIA	1,748	11,364	-
MARYLAND	102,268	63,135	-
PENNSYLVANIA	181,148	99,135	-
VIRGINIA	85,479	44,554	-
WEST VIRGINIA	73,177	40,692	-
REGION IV	597,610	322,672	-
ALABAMA	79,130	29,189	-
FLORIDA	120,462	87,203	-
GEORGIA	92,244	44,135	-
KENTUCKY	99,498	33,226	-
MISSISSIPPI	32,185	21,956	-
NORTH CAROLINA	84,973	45,022	-
SOUTH CAROLINA	46,420	26,743	-
TENNESSEE	42,698	35,198	-
REGION V	1,009,993	508,622	-
ILLINOIS	135,431	118,062	-
INDIANA	172,539	62,910	-
MICHIGAN	265,189	93,884	-
MINNESOTA	70,699	42,483	-
OHIO	284,745	146,955	-
WISCONSIN	81,390	44,328	-

CONSTRUCTION GRANTS FOR WASTE WATER TREATMENT WORKS
$(000)

	FY 1980 ACTUAL	FY 1981	FY 1982
REGION VI	$390,520	$177,401	-
ARKANSAS	45,196	17,076	-
LOUISIANA	61,395	28,695	-
NEW MEXICO	16,065	11,364	-
OKLAHOMA	52,130	21,090	-
TEXAS	215,734	99,176	-
REGION VII	318,074	118,686	-
IOWA	72,590	29,441	-
KANSAS	64,851	20,008	-
MISSOURI	147,510	56,725	-
NEBRASKA	33,123	12,512	-
REGION VIII	137,433	77,701	-
COLORADO	44,048	20,881	-
MONTANA	19,650	11,364	-
NORTH DAKOTA	16,374	11,364	-
SOUTH DAKOTA	16,192	11,364	-
UTAH	20,327	11,364	-
WYOMING	20,842	11,364	-
REGION IX	591,085	234,307	-
ARIZONA	23,401	17,631	-
CALIFORNIA	512,811	180,723	-
GUAM	1,327	1,691	-
HAWAII	33,176	18,020	-
NEVADA	13,063	11,364	-
MARIANAS ISLANDS	40	314	-
PACIFIC ISLAND TRUST TERRITORY	4,922	3,164	-
AMERICAN SAMOA	2,345	1,400	-
REGION X	147,021	92,420	-
ALASKA	25,095	11,364	-
IDAHO	24,048	11,364	-
OREGON	36,816	29,489	-
WASHINGTON	61,062	40,203	-
TOTAL	$4,673,011	$2,304,837	-

AIR PROGRAM

Mr. BOLAND. We will begin the detailed examination of the budget estimates with the Air program, which begins on page A-1.

The revised 1982 request is a total of $239,123,000. This represents a $16,098,000 or 6.3 percent reduction from the Carter January estimate of $255,221,000. The number of permanent work years for the Air program decreases to 1,766 in the revised 1982 budget. The Carter budget had assumed 1,912 work years in 1982, and 1,827 in 1981.

The reduction from the 1980 actual to the 1982 Reagan estimate is more than $50 million, or 17.5 percent less, not including inflation. With the Clean Air Act due for mid-course amendment this year, can you assure the Committee that the revised 1982 budget request is adequate?

Mr. BARBER. I think the Air budget is adequate. I think the principal reduction that you have pointed to from the 1982 actual was in the Section 175 grant area, with respect to the $50 million. So, in essence, I believe from 1981 to 1982, the Air program is basically intact showing a net change of about 22 permanent people and about $7 million. My sense is that is manageable for us.

AIR QUALITY AND STATIONARY SOURCE PLANNING

Mr. BOLAND. On page A-13, the Air Quality and Stationary Source Planning and Standards program, the 1982 revised request is $25,180,000. As page A-16 indicates, this is a decrease of $4,336,000 and 14 permanent positions from the Carter January request. However, I notice that the 1982 plan of 23 New Source Performance Standards and 21 promulgations is identical to the original Carter request which is contained on page A-10 of the January submission.

Mr. TUERK. Those numbers are not right. The 23 should have been changed to 16 and 21 promulgations should likewise have been changed to 16.

Mr. BOLAND. Fine.

CARBON MONOXIDE AND HYDROCARBON STANDARDS

Page A-17, under the Energy and Pollutant Strategies Development activity, indicates: "The revised carbon monoxide standard will be promulgated and the hydrocarbon standard rescinded."

Isn't the revised carbon monoxide standard being issued much later than it should have been?

Mr. TUERK. We have been running behind on all the ambient standards. We proposed the carbon monoxide standard about four months ago.

Mr. BOLAND. Why are you running behind?

Mr. TUERK. The main cause for delay is related to the revision of the criteria document which summarizes the current state of knowledge on a pollutant. That has taken somewhat longer in all cases than we originally allowed for.

Mr. BOLAND. Why are you rescinding the hydrocarbon standard?

Mr. TUERK. That was promulgated in 1971. It was really a reference standard, saying that this amount of hydrocarbon in the air contributes to this level of ozone. Since that time, we have devel-

oped more sophisticated modeling techniques to relate the hydrocarbons in the ambient air to the ozone standard, and the hydrocarbon standard itself did not prescribe any given harmful effect. So there were no implications for public health.

IN-USE VEHICLE TESTING STANDARDS

Mr. BOLAND. Turn to page A–22, the Mobile Source Standards and Guidelines activity. Page A–21 indicates that the tests of in-use vehicles since 1973 have indicated that between one-half and three-quarters of vehicles failed to meet standards. The justification indicates: "Much of this failure appears to be attributable to in-use maladjustments or disablements of vehicle engines or emission control systems."

The Environmental Protection Agency has spent a considerable amount of money and required more from industry to meet these standards. That is correct, isn't it?

Mr. TUERK. Yes, sir.

Mr. BOLAND. So, I suppose one could say, the efforts in this area have been rather unsuccessful.

Mr. TUERK. I would not put it that way, but they certainly have been less successful than they would have been had we not had the problems of maladjustment.

The basis in part for our Inspection Maintenance program has been to provide a system whereby cars that are in use can be detected and corrected.

Mr. BOLAND. Has prior funding in this activity been ineffectual?

Mr. TUERK. No. I think it has been a very successful program.

REDUCTIONS TO MOBILE SOURCE STANDARDS AND GUIDELINES

Mr. BOLAND. Page A–23 lists the 1981 changes in the Mobile Source Standards and Guidelines activity. I notice that $120,000 of the $3.8 million agency-wide consulting service reduction was applied to this element. This equates to three percent of the total consulting reduction.

In addition, $554,000 of the $7.5 million general reduction to the Abatement, Control and Compliance appropriation was applied to this activity. This equates to seven percent of that total general reduction and equals 27 percent of the appropriation request in this activity. That is why we wonder whether or not prior funding has been ineffectual in this area. You indicated it was not.

Why were the percentages of these general reductions so great in this activity?

Mr. TUERK. I would like to supply that for the record.

Mr. BOLAND. All right.

[The information follows:]

PERCENTAGE OF REDUCTIONS TO MOBILE SOURCE STANDARDS AND GUIDELINES

Simultaneous reductions totaling $2,680,900 were made across the Office of Air, Noise and Radiation programs for 1981 operating plan Congressional reductions, OMB reductions and the one percent transfer authority to meet PC&B costs. The Mobile Source percentage of the overall OANR reduction was 39.6, which is generally consistent with its percentage of overall OANR available funds.

MOBILE SOURCE REPROGRAMMINGS

Mr. BOLAND. There have also been numerous reprogrammings in the Mobile Source activity, as the last paragraph on page A-23 indicates. For the record, explain the $1,109,000 transferred from Mobile Sources in-use emission assessment and the $652,000 from Preproduction Compliance Verification.

[The information follows:]

FUNDING FOR MOBILE SOURCE IN-USE ASSESSMENT

At the time the original budget for fiscal year 1981 was submitted, we anticipated full funding of 1981 in-use emission assessment testing activities with fiscal year 1981 funds. However, it has proved possible to fund much of this testing with fiscal year 1980 funds. That is why $1,109,000 less is required in Mobile Source In-Use Assessment during fiscal year 1981.

Contract funds in Preproduction Compliance Verification were earmarked for analytical and technical support to improvements in the certification and fuel economy data collection programs. But the changes that have already been implemented in the certification program freed up staff who had previously been engaged in routine data review. As a result it has been possible to provide the bulk of the required analytical support in-house, with a reduction of $652,000 in contract funds.

These available funds have been applied to Mobile Source Standards and Guidelines. The reason why additional funds were required in this program element is that a need arose to fund a number of unanticipated contracts during fiscal year 1981, either because funding during fiscal year 1980 proved impossible or because of an urgent programmatic purpose. These unanticipated contracts are:

National Academy of Science diesel study (additional funding).
Economic analytical support contract.
Assessment of in-use fuel economy.
Methanol vehicle demonstration/characterization.
Analytical support on hazardous pollutant health effects.

INSPECTION AND MAINTENANCE PROGRAM

Mr. BOLAND. Page A-24 indicates that part of the 1982 plan will be to provide support to all States implementing Inspection and Maintenance (I & M) programs.

What form does this support take?

Mr. TUERK. There are 29 States required to have inspection and maintenance programs. The nature of the support in this budget subactivity has been first of all to develop the analysis to indicate the effectiveness of various types of I&M programs.

Secondly, it has been related to helping the States develop specifications for the type of equipment they will be using, helping them establish the contractual basis to the extent they are looking toward the vendor to supply that equipment. It involves establishing a type of quality assurance that is needed to be sure that inspection-type equipment is operated adequately in the inspection lanes. Also, administrative advice is supplied to States and local agencies in the best way of structuring the program.

Mr. BOLAND. Supply for the record the amount of funds given to each State implementing an I & M program.

Mr. TUERK. Certainly.

[The information follows:]

FUNDING OF INSPECTION/MAINTENANCE PROGRAM

[Summary of Inspection and Maintenance Funding for Fiscal year 1979–81 in thousands of dollars]

Region	State	1979	1980	1981	Total
I	Massachusetts	260	250	216	726
	Connecticut	209	120	111	440
	Rhode Island	170	80	148	398
II	New York	300	500	210.5	1,010.5
	New Jersey	400	400	85.5	885.5
III	Pennsylvania	400	200	221.8	821.8
	Delaware	100	100	86.8	286.8
	Maryland	150	150	86.8	386.8
	District of Columbia	200	200	111.8	511.8
	Virginia	168	250	86.8	504.8
IV	Georgia	200	300	86.8	586.8
	Tennessee	150	600	173.6	923.6
	North Carolina	25	300	86.8	411.8
	Kentucky	300	120	111.8	531.8
V	Ohio	383	250	174.8	807.8
	Indiana	365	67	111.8	543.8
	Michigan	270	150	191.8	611.8
	Illinois	256	150	136.8	542.8
	Wisconsin	138	52	106.8	296.8
VI	Texas	332	1,242	185.5	1,759.5
	New Mexico	130	137	85.8	352.8
VII	Missouri	40	250	205.5	495.5
VIII	Colorado	100	200	125.5	425.5
	Utah	110	195	125.5	430.5
IX	Arizona	0	75	86	161
	Nevada	0	75	86	161
	California	600	300	161	1,061
X	Washington	50	200	136	386
	Oregon	0	75	86	161
Total		5,806	6,988	3,828.8	16,622.8

Note—1979 and 1980 funding includes grants to agencies other than State agencies within each State. 1981 funding is a projection based on allocations.

EMISSION STANDARDS

Mr. BOLAND. The "Change From the January Request" paragraph reveals that the $1,323,000 reduction reflects the completion of most of the emission standards and reduced assistance to State and local agencies for in-use vehicle compliance programs.

Has the completion occurred since January?

Mr. TUERK. I have with me Mike Walsh, Deputy Administrator for Mobile Source Air Pollution Control.

Mr. WALSH. The emission standards for passenger cars have largely been completed. Within the last several months we have adopted a high-altitude regulation for 1982-83 cars. The low-altitude vehicles have statutorily set CO, HC, and NOx standards, and we have adopted a particulate regulation for diesel light-duty vehicles.

Mr. BOLAND. Why did you request the change in the January budget?

Mr. WALSH. We still have tasks left to be done in heavy-duty vehicles, fuels, and fuel additives. We will continue to do that work, but at a somewhat slower pace than originally envisioned.

Secondly, with regard to I&M programs, we expect that many of the States will have their programs coming on line early in the 1982 model year. As to the technical support that we were plan-

ning to provide in that area, we will still provide significant support, but a little less than originally envisioned.

STATE PROGRAMS RESOURCE ASSISTANCE

Mr. BOLAND. The State Programs Resource Assistance activity is described beginning on page A-28. The 1982 estimate of $88,778,000 reflects a basically steady program level. Let's look at the 1980 actual column for a moment.

The Section 175 program, Grants for Planning Control of Carbon Monoxide and Photochemical Oxidants in Nonattainment Areas, experienced obligations of $38,089,000 in 1980. The 1980 estimate had been zero. Page 451 of the 1981 hearing volume indicates that the funds in this program were transferred to the Department of Transportation for obligation.

Since funds were transferred to Transportation, why do we see $38 million in Section 175 obligations for the EPA?

Please provide your answer for the record.

[The information follows:]

SECTION 175 FUNDS TO DOT

These funds were not transferred to the Department of Transportation (DOT) in the sense that they were no longer EPA's responsibility. The funds were allocated to DOT on the basis of an interagency agreement. Although the DOT obligated the funds, they remain in EPA's base for reporting and responsibility purposes.

NORTHEAST CORRIDOR REGIONAL PROJECT

Mr. BOLAND. The next element, the Northeast Corridor Regional Project, experienced obligations of $1,500,000 in 1980. The 1981 justifications reveal no estimate for this activity under State Programs Resource Assistance.

What is the reason for this difference?

Please respond for the record.

[The information follows:]

NORTHEAST CORRIDOR REGIONAL PROJECT

In fiscal year 1979, $1.5 million of Section 175 funds was allocated for the Northeast Corridor Regional Project. However, it was decided not to maintain a separate program element for this Project. For this reason, it did not appear in the fiscal year 1981 budget estimate. Subsequently, a decision was made to identify the Project separately.

STATE PROGRAMS ASSISTANCE PERMANENT POSITIONS

Mr. BOLAND. The number of permanent positions for the State Programs Assistance is six in both the 1981 and 1982 Carter submission and the 1981 and 1982 Reagan submission. However, full-time equivalency in the Carter submission was 65 in both the 1981 current estimate and the 1982 request. The Reagan estimate for full-time equivalency for Control Agency Resource Assistance is 48 in the 1981 current estimate and zero in the 1982 request.

What is the significance of those changes?

Mr. TUERK. They reflect a termination of a program of assigning persons to State programs to carry out various air pollution control tasks.

Mr. BOLAND. How will this affect State programs?

Mr. TUERK. The funding for those positions has always been included in the State grant item. States will continue to have the same amount of funding. What will change will be the ability to use that funding for State assignees.

Mr. BOLAND. I have a question to be answered for the record at this point.

[The question and answer follows:]

STATE AIR GRANTS—SECTION 105

Question. Last year the Committee recommended the entire $87,673,000 requested for State Air Grants under Section 105 of the Clean Air Act. The Committee directed, however, that the $4,873,000 increase above the 1980 level be provided to the States in the general allocations rather than be designated for specific activities.

Has the Agency complied with the Committee's directive?

What amount of the $87,735,000 requested for 1982 is intended for designated use allocations?

Answer. The Agency has complied with the directive. The funds earmarked for designated use allocations in 1981 were decreased by $4,945,000. In 1982, none of the $87,735,000 requested is intended for designated use allocations.

AIR QUALITY STRATEGIES IMPLEMENTATION

Mr. BOLAND. The Air Quality Strategies Implementation activity is summarized on page A-33. The 1982 Reagan estimate is $9,227,000, a decrease of $420,000 from the 1981 current estimate. The Carter January budget had requested $12,705,000 and 338 full-time equivalencies for this activity. Page A-37 indicates that the decrease reflects simplified State Implementation Plan (SIP) review procedures.

Mr. BARBER. There was an increase in the Carter budget of some contract dollars that we had not previously had in our regional offices, which we have subsequently taken back out of the budget, as a function of fiscal restraint. In the review process, we are trying to find ways to expedite our handling of State plans, which has been a problem to both us and the States and basically translates into a less detailed Federal review of State detailed submissions.

Mr. BOLAND. What effect will these reductions have on this strategy?

Mr. BARBER. Hopefully, it will speed up the process of approving State projects. To a degree it could translate into further disparity between States and hopefully minor inconsistencies with some saving of Federal employees and dollars.

MOBILE SOURCE PREPRODUCTION COMPLIANCE

Mr. BOLAND. The Mobile Source Preproduction Compliance Verification element appears on page A-38 of the justification. This Committee has taken special interest in this activity in prior years, and has added funds and positions in certain years. The 1982 program of $4,161,000 reflects a reduction of nearly $1 million from the Carter January budget request of $5,004,000. In addition, there have been significant reprogrammings in this area in 1981. These are listed on page A-41.

Please explain the reason for the proposed reprogramming of $252,200 to Emission Testing, Analysis, and Data Support.

Mr. TUERK. Mike Walsh.

Mr. WALSH. We need to provide that for the record, Mr. Chairman.

Mr. BOLAND. You may do that for the record.

[The information follows:]

REPROGRAMING OF MOBILE SOURCES FUNDS

The original fiscal year 1981 budget estimate for Mobile Source Preproduction Compliance Verification contained funds for two in-house contracts: one providing typing and other non-technical assistance, and the other providing ADP programing. (ADP programing which directly contributes to projects in this program element is charged to Preproduction Compliance Verification; routine computer operations, maintenance, and coordination are funded in Emission Testing, Analysis and Data Support for Preproduction Compliance Verification).

This has enabled us to transfer $252,200 to Mobile Source Standards and Guidelines to fund intramural support activities which could not be postponed. This includes replenishment of supplies for our laboratory testing operations, and funding of our basic ADP timesharing agreement with the University of Michigan (which was not renewed in fiscal year 1980 as we had expected).

PREPRODUCTION COMPLIANCE VERIFICATION

Mr. BOLAND. The 1982 budget reflects a reduction in full-time equivalency from 110 in the Carter budget to 82 in the Reagan submission. The permanent positions declined from 87 to 60. The majority of the decrease is in Preproduction Compliance Verification.

Page A-41 indicates:

Decreased workyears are required as a result of simplification of the certification process and closer interface with SEA [Selective Enforcement Audit] and recall activities, but these program efficiencies require increased contract resources.

Will you indicate for the record the proposed reductions in the present Preproduction Compliance Verification activity?

[The information follows:]

PROPOSED REDUCTIONS IN PREPARATION COMPLIANCE VERIFICATION

	Carter budget		Reagan budget		Difference	
	PFTE	FTE	PFTE	FTE	PFTE	FTE
Certification	35	40	16	20	−19	−20
Fuel economy	18	25	18	25	0	0
Testing and other support	34	45	26	37	−8	−8
Total	87	110	60	82	−27	−28

What is the industry's reaction to the change in the process?

Mr. TUERK. We are referring to the abbreviated certification initiated on a voluntary basis about a year ago. Industry has been enthusiastic. We do very little full certification at the present time.

Mr. BOLAND. Will this proposal require industry to devote additional resources to the certification process?

Mr. TUERK. It should require industry to devote even less resources.

Mr. BOLAND. Will the 1982 proposal have an adverse effect on the amount of time it takes the auto industry to certify automobiles?

Mr. TUERK. It should, if anything, expedite the time.

Mr. BOLAND. That sounds pretty good.

STATIONARY SOURCE ENFORCEMENT

Turn to A-50, the Stationary Source Enforcement program. The 1982 Reagan request of $25,942,000 reflects a decrease of approximately $1 million from the Carter January submission. The last paragraph on the page reveals that a major element of this program is the implementation of section 120 of the Clean Air Act.

Last year's Committee Report suggested:

> . . . noncompliance penalties under section 120 should be imposed only on those stationary sources which are not installing control measures as rapidly as determined feasible.

The EPA was also urged to credit pollution control-related expenditures against noncompliance penalties wherever possible.

How do the Agency's activities under the Stationary Source Enforcement program relate to the Committee's report language?

Mr. WILSON. Mr. Chairman, since that time, the report language——

Mr. BOLAND. Have you complied with the report language?

Mr. WILSON. I believe so. We came out with final regulations implementing the Section 120 program which provided for a delay of the program until January of this year. We had some legal problems in going further than that, but the net effect is that we have had only some eight actions under the 120 program, bein ll sources who had not agreed to come into compliance.

Mr. BOLAND. Page A-54 of the justifications states:

> The Agency will continue to encourage delegation of responsibili vention of Significant Deterioration] permitting and enforcement Source Performance Standards] regulations to the States.

This is one example of many in the 1982 justifications with PSD research or permitting activities. The National sion on Air Quality, in its final report to the Congress, recon ed major changes in the entire PSD process.

If the Congress adopts the Air Quality Commission's recom dations concerning PSD activity, how will this affect the Agen 1982 submission?

Mr. BARBER. Every time we put another revision into the process the States are a little less certain about picking up the program. The direction tends to simplify the program and make it more likely for the States to want to take it on. This is the example I mentioned before where the States are in fact issuing permits to all those sources, then where they do not have a program, we come in and issue another permit over the top. We have had some success in encouraging States to accept a delegation or submit a program to us for formal approval just to get the double permitting out of the system. I think there is a need for changes in the PSD program in terms of its complexity. Directionally, the more we simplify the program, the more the States will be willing to recognize them.

MOBILE SOURCE ENFORCEMENT

Mr. BOLAND. The Mobile Source Enforcement program begins on page A-56. The 1982 estimate of $6,337,000 reflects a million dollar decrease from the 1981 current estimate. However, the 1981 current estimate is $559,000 above the 1981 budget estimate. Comparing the proposed 1981 enforcement activities listed on page A-57

with those contained in the 1981 justifications (page 476 of hearing volume) reveals some interesting changes. For example, last year you were proposing 1,400 fleet tampering/fuel switching inspections. Now you are saying you will do only 525. In addition, the 1,200 new car dealership inspections estimated last year have declined to 350 in the 1981 program listed in the 1982 justifications. There have also been changes in fuel switching observations and warranty investigations. Both of these are increasing in the 1981 current estimate.

Why do enforcement activities vary so much from the 1981 budget estimate to the 1981 current estimate?

Mr. WILSON. Mr. Chairman, I would like to provide a full answer for the record, but one of the activities that is taking place, is that we are trying very hard to use the grant process to get the States to pick up on some of the field activities in the mobile-source area, to adopt their own programs for watching——

Mr. BOLAND. That is par for the course. Don't you have a great deal of difficulty with the States picking up activities where there are costs involved?

Mr. WILSON. Sure, we do. It is a resource impact on the State, and the program relates to large numbers of activities taking place that the State and local government are better set up to handle.

Mr. BOLAND. You are doing less this year than the 1981 budget estimate. The question is, why do you need more money to do less?

Mr. WILSON. I would like to provide that for the record, and also indicate what the increase represents.

[The information follows:]

THE 1981 BUDGET ESTIMATE VERSUS 1981 CURRENT ESTIMATES FOR ENFORCEMENT ACTIVITIES

There is a decrease in the outputs associated with the anti-tampering and anti-fuel switching enforcement effort. This effort began in fiscal year 1979. The first two years were spent primarily conducting inspections of new car dealerships, fleet facilities, and commercial repair facilities and developing litigation reports. As the program has matured, the emphasis has shifted away from inspection activity and toward case preparation and actual enforcement actions in instances of noncompliance. Resources have been devoted to litigation against alleged violators which is more resource-intensive, requiring a decrease in resources devoted to inspection activities.

MOBILE SOURCE ENFORCEMENT

Mr. BOLAND. The Committee's 1981 Report addressed the Stage II Vapor Recovery Issue in some detail. The Committee urged the Environmental Protection Agency to address several unresolved issues before issuing final Stage II regulations.

Bring the Committee up to date on activities in the Stage II Vapor Recovery area in the past year.

Mr. BARBER. We have continued to study the Stage II alternative.

Mr. BOLAND. Exactly what is Stage II activity?

Mr. BARBER. Stage II is shorthand for vapor emission controls at service stations in refueling automobiles as opposed to Stage I, which is vapor controls.

Mr. BOLAND. You did not have much trouble with Stage I—no one seems to disagree with that activity. But there is a controversy over Stage II.

Mr. BARBER. The Agency has reservations about the Stage II program, and we have not proposed or promulgated any rules to implement it.

AIR OXIDANTS NON-ENERGY PROGRAM

Mr. BOLAND. Turn to page A–60 under the Research and Development tab. The Oxidants Non-Energy program is increasing $1,445,000 in 1982. However, the 1981 current estimate is $2,664,000 less than the 1981 budget estimate.

How much of the change in 1981 is due to Congressional action and how much to other factors?

Dr. DOWD. Mr. Chairman, that is one in which we took several reductions throughout the program. I would be glad to provide something directly for the record. I think there is some change due to restructuring, but a good deal of it was due to Congressional direction. I would be glad to provide that for the record.

[The information follows:]

DIFFERENCES IN 1981 TO AIR-OXIDANTS NON-ENERGY

[In thousands of dollars]

1981 Budget estimate	19,292
1981 Current estimate	16,628
Difference	−2,664
President Carter revised 1981 budget estimates	−24
Congressional reductions	−1,362
Proposed pay raise supplemental	+57
Transfer of activities to air mobile sources nonenergy program reflecting accounting change only	−1,110
Reductions to fund personnel compensation and benefits shortfall	−225
Total	−2,664

AREAS OF MAJOR INCREASES

Mr. BOLAND. The major increase in the Air R & D program will be in Health Effects. What major objectives do you have in this area for 1982?

Dr. DOWD. Our assumption is we would be spending more time in looking at nitrogen oxide exposures. Our hope is, it is primarily getting us in position for the next round of criteria document development.

MOBILE SOURCES NON-ENERGY

Mr. BOLAND. Now turn to page A–76, the Mobile Sources Non-Energy activity. The 1982 program decreases $2,576,000 from 1981.

If this activity is viewed as a lower priority in fiscal year 1982, why is there an increase in the 1981 current estimate?

Dr. DOWD. One of the prime reductions in this one was the completion of the Agency's work on the inhalation toxicology for diesel exhausts; that is primarily what is reflected in this major change. There are other small things, but one of the prime differ-

ences is the reduction of the health effects work in that area which will be completed this year.

Mr. BOLAND. Also note that there was an increase in the 1981 current estimate to $8,829,000 from $8,618,000, the 1981 budget estimate for 1981.

Mr. BOLAND. I have some questions to be answered for the record at this point.

[The questions and answers follow:]

INHALABLE PARTICULATE NETWORK

Question. Page A-86 Summarizes the Gases and Particles Non-Energy Element. The 1982 request of $29,333,000 is $1,153,000 less than the Reagan 1981 current estimate and $3,336,000 below the Carter 1982 estimate. Page A-93 indicates that part of the 1982 plan will be to operate 180 stations of the Inhalable Particulate Network.

What is the cost to operate the IP Network?

Answer. $1,210,000.

Question. Are all stations operated on a 24-hour basis?

Answer. Samplers are being operated 24 hours every sixth day.

AIR MONITORING NETWORKS

Question. The change from January request paragraph reveals that the $414,000 decrease will result in fewer quality assurance audits performed on State and local air monitoring networks.

Precisely what effect do you believe this reduction will have?

Answer. Approximately 25 percent of the audits to be performed on the national air monitoring sites will have to be deferred until the next fiscal year. As a result, some of the monitoring data collected at these sites will be subject to less rigorous quality assurance and control. It should be noted, however, that the remaining data collected and audited under rigorous quality assurance and quality control requirements will provide adequate data for agency analyses of national ambient air quality.

INHALABLE PARTICULATES STUDIES

Question. The health effects activity under Gases and Particles Non-energy is decreasing rather significantly in 1982. Page A-96 indicates that in 1982 inhalation studies will continue on human volunteers exposed to fine aerosols. What results can the Agency report from its earlier research in this important area?

Answer. The first inhalation studies on human volunteers exposed to fine aerosols were completed only in 1980. Healthy, normal male subjects were exposed to 0.75 ppm sulfur dioxide while exercising. Approximately half of the subjects demonstrated mild increases in airway assistance, but the other half showed significantly greater increases in airway resistance, indicating a hyperreactivity to sulfur dioxide. All of the observed changes appeared to be reversible, and none were interpreted to indicate significant health hazards to normal, healthy subjects. These findings have been submitted to scientific journals for publication.

Additional studies of fine aerosols are nearing completion and will produce reportable results within the year.

HAZARDOUS AIR POLLUTANTS ACTIVITY

Mr. BOLAND. The Hazardous Air Pollutants activity is summarized on page A-102. The 1982 request is $10,768,000, a small decrease from 1981. The following page contains the positions summary.

It is interesting to note that the Health Effects activity is one of the few areas that received a position increase in the 1982 Reagan amendment. The Carter budget contained six positions for Health Effects under Hazardous Air Pollutants, while the Reagan amendment has 21.

What is the significance of this change?

What will be the major programmatic effort in the Health Effects activity?

Dr. DOWD. It is primarily a redirection. In particular, we notice that one of the issues that is of very great concern as to particulates is not simply that the particulate is itself involved in health effects, but the organic contaminants adhering to the surface of particles are hazardous in and of themselves. So, we decided to redirect this program to a consideration of hazardous pollutants rather than simply particulates.

AIRBORNE CARCINOGEN POLICY

Mr. BOLAND. Page A-104 indicates that the highest priority of the Hazardous Air Pollutants program is to provide assistance in the implementation of the Airborne Carcinogen Policy.

Briefly describe the objectives of this policy.

Mr. BARBER. Maybe I had better take a crack at that.

We have been somewhat unsuccessful as an institution over the last ten years in coming to grips with the toxic and hazardous air pollutant problem when you compare it to some of the progress we have made in water and other media. We have been grappling over the last several years with ways to implement a more rational program to resolve programs of air pollutants. The research part is to provide assessments of various chemicals in the air and characterize the health risks associated with them so the reflection of support of the implementation is their part which is to provide the raw information for the policymakers to make decisions on.

Mr. BOLAND. What portion of the Hazardous Air Pollutants Research budget is devoted to the Airborne Carcinogen Policy?

You may supply that for the record.

[The information follows:]

The Scientific Assessment budget request for fiscal year 1982 in Hazardous Air Pollutants includes approximately $434,000, 8.1 PFTE and 2.5 OPFTE for support to the Air Carcinogen Policy as currently envisioned as of April 1981.

Mr. BOLAND. Mr. Green.

AUTOMOBILE-CAUSED AIR POLLUTION

Mr. GREEN. It has been suggested that your basic strategy for dealing with the automobile-caused air pollution has failed because people do not maintain the devices or they actively destroy them by using leaded gasoline instead of unleaded gasoline. Have you an analysis of how many vehicles are not functioning up to snuff, and how this is affecting your basic strategy?

Mr. BARBER. The program is not failing. The air is the best indicator of progress, and we have had a substantial improvement in ambient air quality over the past few years. What we are saying is that some of the vehicles have been tampered with and are not working as well as they should. If they were, we would have even more improvements. We will provide for the record an analysis of the percentage of cars being debilitated.

[The information follows:]

ANALYSIS OF PERCENTAGE OF CARS BEING DEBILITATED

Based on our most recent survey, tampering is occurring at a rate of approximately 18 percent.

Mr. BOLAND. Mrs. Boggs.

ACID RAIN REGULATIONS

Mrs. BOGGS. In the area of acid rain, I notice that EPA is more than three years behind schedule in issuing regulations to control polycyclic aromatic hydrocarbons—created when coal and synthetic fuels are burned.

There will be more difficulties involving acid rain than we had previously experienced. If we are already three years behind schedule in issuing the regulations, what can we expect in the near future?

Mr. BARBER. I think we can sort out the question a little bit. The rule you are referring to is 122 on polycyclic organic matter. The biggest source is coal. We have had some problems in that area in assembling a fair characterization of the scientific data that we were ready to regulate.

The acid rain problem is more closely tied to the question of sulfur emissions from a number of sources, but the largest being from steam power generation. The key rule relating to acid rain was the new source requirement for steam power plants, which was issued in a timely manner. That affects the biggest piece of sulfur emissions in the future, as we discussed before, the sulfur emissions from existing plants. To the extent they are a problem it will have to be dealt with as a legislative amendment. The statute as it is now will not give us a handle on those.

In general, on acid rain, my sense is that we need a better assemblage of information and data before we are ready to characterize the problem in a regulatory context. We are working on that now.

Mrs. BOGGS. Thank you, Mr. Chairman.

Mr. BOLAND. Mr. Coughlin.

NORTHEAST REGIONAL OXIDANT STUDY

Mr. COUGHLIN. Last year's justification and hearings discussed a field program, the Northeast Regional Oxidant Study (NEROS) which was investigating the impact of long-range transport of photochemical oxidants and their precursors in the northeast portion of the country. The justification stated that the results from NEROS would be used in the development of air quality models for the predicting and assessing of regional scale air pollution problems.

Could you tell me what the results of this study were?

Mr. BARBER. I will ask Dr. Dowd, if he wants to add. There will not be immediate results of the study. This is a long-term involvement, a multi-year exercise. The 1980 effort was aimed at field monitoring; the 1981 effort is being aimed at model development. We will be going through problem definition for several years. We can provide for you a status report at this point and some of the results to date and some of the prognosis.

[The information follows:]

STATUS REPORT ON NORTHEAST REGIONAL OXIDANT STUDY

As a result of the NEROS field program, we have obtained real time air quality measurement data covering a period of approximately forty experimental days. Most of the effort in the 1981–1982 program will be focused on air quality data analysis followed by model development and evaluation activities. We expect to have some very preliminary results of the regional scale model development program in the 1982–1983 period. If the regional model proves successful in predicting air quality for the Northeast, the model will be further developed and tested for general applicability in other areas of the U.S. At that stage of development the model should have some utility to provide qualitative assessment of regional air pollution strategies. However, due to the current scientific uncertainties, we do not anticipate a fully developed and validated regional model for at least five years.

Mr. BARBER. Do you want to add anything?

Dr. DOWD. The NEROS results are being used to test additional model verifications. We hope by using these in several regions we will have a model applicable to pollutants transported across long distance. The NEROS study is a study of movement of pollutants. We will be glad to present any of the results you would like to hear.

Mr. COUGHLIN. This was listed as one of your accomplishments.

Dr. DOWD. What happened in 1980 was the data gathering. When we think we are about to develop a final model—it turns out to be not final; I suspect this is similar in many areas to other types of model development evalution programs. Hopefully, it is getting better and will be much more useful.

Mr. BARBER. It is a very complex multi-State atmospheric chemical problem that we will be looking into for a number of years. A large part of the Oxidant Research Committee effort is devoted to that exercise.

PROPOSED RULEMAKING

Mr. COUGHLIN. Recently, your Agency issued an advanced notice of proposed rulemaking (October 7, 1980) setting out two alternatives for limiting the production and use of chlorofluorocarbons (CFCs) which are used as refrigerants, in making insulation, and sterilizing hospital instruments. While the proposed rulemaking merely outlines two possible regulatory options, I would like you to comment on these proposals and their status.

Along this line, is the Agency working on any efforts to have other nations throughout the world limit the production and use of chlorofluorocarbons, other than that in aerosol cans, since it is a global issue?

Mr. CLARK. We received a number of comments under our advanced notice. We are looking at them closely. A year ago, I would have said that we intended to put out a proposal. This year we are reconsidering that very carefully. We are also issuing some expansions from the original rule related to aerosols for special situations like this.

Mr. COUGHLIN. So, you do not anticipate there will be any rulemaking in this area?

Mr. CLARK. There may be no need for proposed rulemaking.

HAZARDOUS WASTE IN INDUSTRIAL INCINERATORS

Mr. COUGHLIN. You indicate on page A–37 that you are paying increasing attention to the potential pollution, and particularly the

presence, of hazardous waste in large industrial incinerators. What do you plan to do in that area?

Mr. BARBER. I do not think we have in this area a specific output. The air quality people funded under this account tend to be called on for their expertise, as people tend to site incinerators. This is an exclusion of that responsibility. It is not an initiative, it is a response for technical assistance that generates from a State or municipality or some other source that wants to site and get an air permit.

Mr. COUGHLIN. So, you have no particular program with respect to large industrial incinerators?

Mr. BARBER. There are some which are part of the overall workload at the regional level.

Dr. DOWD. If I can inject, we are carrying on work in onsite industrial boilers. We are looking at some of the process heaters to determine whether or not they could be used as incinerators for hazardous materials. However, I do not believe there is a major program in industrial incinerators per se.

EXEX PLAN

Mr. COUGHLIN. What happened to the so-called EXEX plan, which was an EPA investigation on a variety of topics having to do with how the Agency estimates the impact of powerplants and other major sources of pollution when writing guidelines for States as they develop pollution regulations?

Mr. BARBER. That is still under study. We issued a notice a little more than a year ago indicating that was an area of concern. We are continuing to work with the question of averaging time and modeling for powerplants.

Mr. COUGHLIN. So there has been no action——

Mr. BARBER. Nothing other than a continued analysis.

DIESEL ENGINE EMISSION STANDARDS

Mr. COUGHLIN. With regard to diesel engine emissions, there was some concern expressed at the hearings last year about the direction EPA was taking in that connection. What has transpired in that area?

Mr. TUERK. We have now in effect a regulation which limits the diesel exhaust from light-duty vehicles. This is scheduled to go to a more restrictive number in 1985. We have that still under review with respect to the technology that is available. As far as the assessment of the health effects, Dick, you want to speak to that?

Dr. DOWD. We have had some of the carcinogenic potential. We are looking at studies of bioassays.

As I mentioned earlier, we have essentially completed our animal inhalation study and are looking at other methods in this connection. This one inhalation study will be completed this year, and we will present all the information to the Air office.

Mr. COUGHLIN. On the question of being able to meet the EPA standards for diesel exhausts, is the technical ability there to meet the standards?

Mr. TUERK. We are still going through a re-analysis of that.

ASBESTOS PRODUCTS

Mr. COUGHLIN. You will recall that we discussed the question of asbestos last year, because at that time the lack of a clearer definition in the asbestos area was keeping the entire industry in a state of suspended animation. I urged that attempt be made to identify asbestos products that were safe, so some part of the industry could move ahead. What has been done in that area?

Mr. CLARK. There have been air emission standards for buildings——

Mr. COUGHLIN. I will come back to that.

HYDROCARBON EMISSIONS

Page A-72 says:

Biogenic emissions of isoprene and total nonmethane hydrocarbons from several important deciduous and coniferous trees have been identified. These emission factors will be used in conjunction with regional biomass data to predict regional biogenically emitted hydrocarbons.

Are these killer trees?

Dr. DOWD. Trees do emit hydrocarbons.

Mr. COUGHLIN. Thank you, Mr. Chairman.

Mr. BOLAND. The Committee is adjourned until this afternoon.

AFTERNOON SESSION

WATER QUALITY PROGRAM

Mr. BOLAND. The Committee will come to order.

Turn to the tab for Water Quality. The 1982 request totals $247,333,000. This is $50 million, or 16.9 percent less than the January budget request and $90 million, or 26.8 percent below the 1981 current estimate. Permanent workyears declined from 3,034 in 1980 actual to 2,426 in the 1982 Reagan submission.

Part of the rationale behind the 1982 reductions is that the Federal water pollution control program is maturing and the States are accepting more and more responsibility.

Mr. SMITH. Yes, sir, it is.

Mr. BOLAND. Do you know the total amount the States are devoting to water quality programs in 1981 and 1982?

Mr. SMITH. We have that and I can get it for you for the record.

Mr. BOLAND. All right.

[The information follows:]

AMOUNT DEVOTED TO WATER QUALITY PROGRAMS BY STATES

In a recent Needs Assessment, States reported that they intend to commit approximately $116 million to water quality programs in 1981 and $111 million in 1982. The termination of the Section 208 grants program could be expected to result in some additional reduction in the 1982 State contribution, since State matching for these funds will no longer be required.

SECTION 208 PLANS

Mr. BOLAND. Turn to page WQ-15. The first program level listed is approved Section 208 plans. The 1980 estimate had been to approve 100 plans. However, only 70 plans were actually approved.

In addition, the 1981 budget estimate of 150 has been revised downward to 100 in the current estimate.

What accounts for the slippage in 1980 and 1981?

Mr. SMITH. The 1981 slippages are accountable to slower completion of water quality management plans than anticipated. Revisions had to be made to the areawide plans and that slowed down the completion dates.

The reason for the high estimate in 1982 indicates those studies are almost finished and will be ready to be finally approved, even though the resources are limited in that area, in 1982.

POSITION DECREASE IN STATE PROGRAM REGULATIONS AND GUIDELINES

Mr. BOLAND. Now turn to the Abatement and Control tab, beginning on page WQ–17. The total number of positions for the State Programs, Regulations and Guidelines activity is decreasing from 301 in the 1981 budget estimate to 212 in the 1981 current estimate to 85 in the 1982 request. The comparable figures in the January submission for the 1981 current estimate is 254, and for 1982 is 173. Both former President Carter and President Reagan proposed to eliminating Section 208 grant funding.

Why does the Reagan submission contain considerably fewer positions for this activity?

In other words, both the January and March justifications state that the decrease reflects a reduction in those resources related to the terminated funding of the Section 208 grant program and the transfer of responsibility for overall State-EPA agreement negotiations to another budget activity. Although the justifications read the same, the Carter submission only reduced positions by 81, while the Reagan submission reduces them by 27. Explain that difference.

Mr. SMITH. There is a reduction, sir, in the Great Lakes program in positions.

Mr. BOLAND. Why was there a decrease in the State Programs Regulations and Guidelines activity? The figures I quoted pertain to this program.

Mr. SMITH. We are talking about the permanent positions where the reduction has occurred and why there are considerably fewer positions.

The Reagan program eliminates all those positions associated with the implementation of the 208 plans. The Carter budget had left in a contingency. So, what they did with the Reagan budget was simply remove all the additional 208-related positions.

Mr. BOLAND. I have a question to be answered for the record at this point.

[The question and answer follows:]

PCB STUDY ON THE PINE AND SAGINAW RIVERS

Question. Page WQ–20 indicates that $519,000 was provided for the National Urban Runoff Project in 1981. Page WQ–21 reveals that part of the 1981 activity will be to prepare the preliminary urban runoff project report for the Congress.

When is the report scheduled to be completed?

What are the total resources that the Agency will devote to the runoff project in 1981 and in 1982?

What are the major objectives of the project?

Answer. An Interim Report to Congress is scheduled to be completed by March 1982; the final Report is scheduled for December 1982.

In 1981 grants assistance, through Section 208 funds, total $2,109,000; national technical assistance contract commitments will total approximately $795,000; technical assistance and oversight to the projects in headquarters and Regional Offices will total approximately nine workyears.

The above grant and contractor support funding commitments will provide essential support to completion of these projects and Report preparation through 1982. No additional funding is anticipated in 1982. Because of staffing reductions proposed for 1982, technical assistance and oversight staffing is expected to reduce to approximately four workyears.

The major objectives of the National Urban Runoff Program (NURP) are to: (1) determine the nature, cause and severity of urban runoff problems (defined in terms of denial/restriction of beneficial uses and violations of water quality standards) and the costs/effectiveness of available control measures; (2) monitor additional section 208 funded urban runoff projects (non-NURPs) and provide information/technology transfer between and among NURPs and non-NURPs; (3) examine the adequacy of current dry-weather water quality standards for evaluating storm-dominated pollution problems; and (4) support related programs within EPA and other agencies.

FLATHEAD RIVER BASIN ENVIRONMENTAL IMPACT STUDY

Mr. BOLAND. The Flathead River Basin Environmental Impact Study is being funded at $709,000 in 1981, including $355,000 earmarked in the Appropriations Conference Report.

What is the status of that Environmental Impact Study?

Mr. SMITH. The work on that is about two-thirds finished. We see another year of work on that, probably. We have $410,000 in 1982 that we would allocate to the project. I would assume that by the end of the fiscal year 1982 it would be finished.

Mr. BOLAND. Will the $400,000 earmarked for the plan in 1982 be the final increment?

Mr. SMITH. Could I check that for the record, please?

Mr. BOLAND. Yes.

[The information follows:]

RESOURCES FOR FLATHEAD RIVER BASIN STUDY

Funding for this study since 1978, including our $410,000 request, will total approximately $2,663,000. Based on the progress of the study to date, we now believe that this level of funding will complete the work very effectively in 1982, and we do not intend to request funds in 1983.

SECTION 205(g) RESOURCE SUPPORT

Mr. BOLAND. Page WQ-23 indicates that in 1982 the EPA will permit the use of available Section 205(g) funds in delegated States to support all municipal waste management-related activities previously supported under Section 106. Section 106 assistance priorities will be revised to support emerging State priority activities and State and local non-source priorities previously funded under Section 208. Section 205(g) of the Clean Water Act authorizes States to use two percent or $400,000, whichever is greater, of the amount authorized for Construction Grants program funding for administrative activities.

Since there is no appropriation request currently for the 1982 Construction Grants program, how does the Agency envision providing Section 205(g) support?

Mr. SMITH. That is a good question, Mr. Chairman.

Last year, when the Congress changed the authorization and amended the Clean Water Act, it associated the 205(g) money with

the annual authorization rather than the appropriation. This resulted in an unexpected windfall that accrued to that whole 205(g) account. We have interpreted the amendments to relate to all available 1979, 1980, and 1981 funds. That is, funds available to the States for 205(g) are equal to two percent of the authorization level for 1979, 1980, and 1981. The total comes to almost $90 million in additional funds that would be available to the States for 205(g) purposes, by including 1979 and 1980.

So, to answer the question, there is more money there than originally anticipated for State management. We assume we can carry the program forward in many States if there were to be no appropriation in 1982.

SECTION 106 ASSISTANCE PRIORITIES

Mr. BOLAND. Does the Agency's proposal to revise Section 106 assistance priorities require any legislation?

Mr. SMITH. No, sir.

GREAT LAKES PROGRAM

Mr. BOLAND. Turn to page WQ-24, which contains the justification for the Great Lakes program. For the record, provide a summary table of total Great Lakes funding during the past five years.

[The information follows:]

Great Lakes Funds Available

[In thousands of dollars]

1977	$4,098
1978	2,722
1979	6,554
1980	10,060
1981	9,687

NOTE.—The above includes salaries and expenses, abatement control and compliance, and research and development appropriations.

Mr. BOLAND. We note that this program is being reduced approximately $3 million in the March Reagan budget from the Carter January submission. However, the amount for salaries and expenses doubles in the Reagan 1982 estimate from the 1981 current estimate, although permanent positions and full-time equivalency remains the same from 1981 to 1982. What is the reason for the salaries and expenses increase?

Mr. SMITH. It is for the maintenance of a project ship which was in prior years maintained under a contract. We are cutting back on contract extramural dollars. This would increase that portion.

SECTION 108(a) DEMONSTRATION GRANTS

Mr. BOLAND. Page WQ-26 states that the Reagan 1982 change will eliminate section 108(a) demonstration grants and research vessel operations with contractual scientific crews. Elaborate on the precise effects of the 1982 proposed funding level.

Mr. SMITH. Dick, perhaps you would like to answer that.

Dr. DOWD. In the Great Lakes program we would be carrying out the majority of our effort to look at the toxic pollutants. That work which is funded by the Great Lakes program will come to an end. I will provide a detailed answer for the record.

[The information follows:]

GREAT LAKES WATER QUALITY MONITORING

In order to meet our International Agreement obligations to monitor the Great Lakes water quality, to report on municipal and industrial compliance and to identify new or emerging environmental problems, it will be necessary in fiscal year 1982 to concentrate Great Lakes resources on only the high priority pollution problems facing the Great Lakes, i.e., eutrophication and toxic substance contamination. Hence, at the proposed fiscal year 1982 level no new grants to demonstrate new or innovative wastewater control techniques (as authorized by Section 108(a) of the Clean Water Act) will be awarded. Projects funded through fiscal year 1981 will be continued but no grant increases will be approved.

The Great Lakes International Surveillance Plan prepared by U.S. and Canadian representatives calls for intensive field investigations of Lake Ontario in fiscal year 1982. By prior agreement, the majority of open lake field work required by the plan on Lake Ontario will be conducted by the Canadians. By "laying up" the Great Lakes research vessel during this period, the USEPA will be able to utilize the funds normally used for operation to conduct a reduced number of sediment surveys in major Great Lakes harbors, continue its fish monitoring programs, conduct a joint control program on the Niagara River with the Canadians, and monitor by contract Lake Erie and its tributaries to evaluate the effect of phosphorus control programs. The ship and scientific crew, however, will be needed in fiscal year 1983 if the U.S. is to fulfill its surveillance responsibilities on Lake Superior (as required by the International Plan) and at selected nearshore problem areas on all five Lakes.

CHESAPEAKE BAY PROGRAM

Mr. BOLAND. Page WQ-28 indicates that the 1982 program will complete the integration approach to research in a number of areas.

Is 1982 the final year of proposed funding for a separate Chesapeake Bay program?

Mr. SMITH. Yes, sir.

Dr. DOWD. Excuse me, Mr. Chairman, 1981 will end the research portion of that. It will be translated into implementation translating those results from research into documents that can be used. We anticipate that given this budget, the research end of that will be completed this year and whatever else has to be done, will be done with other funds.

SECTION 208 PROGRAM

Mr. BOLAND. We spoke earlier of the level of effort for the Section 208 program in 1982: 130 plans are expected to be approved in 1982, yet no EPA personnel are devoted to this activity. Who will process those plans?

Mr. SMITH. I would be less than candid if I did not say some of those approvals would probably be pro forma.

EFFLUENT STANDARDS AND GUIDELINES

Mr. BOLAND. Turn to the Effluent Standards and Guidelines activity, beginning on page WQ-30. The revised 1982 request is $16,070,000, a decrease of $12,080,000 below the revised 1981 current estimate. The 1982 request is $3,178,000 below the January

request. Page WQ-32 lists the 1980 accomplishments. In 1980, obligations were $2,019,000 below the plan presented to the Committee last year.

What accounts for this shortfall?

Mr. SMITH. Some of that money, Mr. Chairman, was transferred to the Solid Waste program for specific assessment of industrial categories, and some of it was reprogrammed to cover shortfalls in PC&B.

Mr. BOLAND. How much was the unobligated balance in 1980, or will there be any?

Mr. SMITH. I doubt if there is any.

Mr. BOLAND. What will be the unobligated balance in 1981?

Mr. SMITH. Just a few hundred thousand.

[CLERK'S NOTE: Subsequent to the hearing. The Agency submitted the following correction:]

There were no unobligated funds remaining at the end of fiscal year 1980 in the Effluent Standards and Guidelines program element. It is anticipated that there will be no unobligated funds remaining at the end of fiscal year 1981.

SYNFUELS

Mr. BOLAND. Page 34 discusses 1980 accomplishments, and indicates that the Agency: "Began development of data to define model plants for synfuels in gasohol, high BTU coal gasification, low BTU gasification, direct coal liquefaction, and oil shale synfuel technologies."

What effect will the proposed reduction in 1982 have on activities in this area relating to synfuels?

You may supply that for the record.

[The information follows:]

EFFECT OF REDUCTION ON SYNFUELS ACTIVITIES

The Agency is formulating a multimedia regulatory approach to the synfuel industry. Coordinated data acquisition and analysis of combined air, water and solid waste considerations, as well as an integrated methodology for assessing environmental and economic impacts are primary objectives. Although the effluent standards and guidelines program will continue to play a major role in regulatory development for this industry, the proposed budget reduction will slow progress, but will not delay permit writing in 1982. Specifically, the budget reduction will:

(1) Restrict the scope of field sampling and study of pilot plant operations by 50 percent. Since no historical data base exists in the United States, one must be generated by investing several weeks of intensive study of each plant to define the character of the wastes, treatability, operations, and magnitude and variability of wastes produced. The budget reduction will restrict the level of documentation and coverage of each operation.

(2) Delay for approximately one year the completion of a comprehensive and overall engineering cost manual covering environmental control and treatment technologies for the snyfuels industry.

(3) Reduce the capability for on-site acquisition of data from foreign sources where the synfuel industry is in full-scale operation. Operational data on large scale synfuel industry operations are not available in the United States.

Mr. SMITH. There probably will be a large delay. This is one of the areas I am not particularly familiar with.

LISTING AMMCNIA AS A TOXIC POLLUTANT

Mr. BOLAND. Further down on the page, there is an indication that the Agency initiated further measures to add substances to the toxic pollutant list in 1980. The Committee's 1981 report ad-

dressed the possibility that ammonia might be added to the Section 307(a) list. The Committee directed the Agency to demonstrate beyond reasonable doubt that listing ammonia as a toxic pollutant would yield benefits to human health or the environment commensurate with the costs involved before making a final determination.

Has the Agency made a final determination concerning the listing of ammonia as a toxic pollutant?

Mr. SMITH. Yes, we have, sir.

Mr. BOLAND. What was that decision?

Mr. SMITH. We determined it was not a toxic pollutant.

GENERAL REDUCTION APPLIED TO EFFLUENT STANDARDS AND GUIDELINES

Mr. BOLAND. Page WQ-36 reveals that nearly $700,000, or 9.3 percent of the $7,500,000 general reduction to the Abatement, Control and Compliance appropriation was applied to the Effluent Standards and Guidelines activity. This leads me to believe that this activity could easily withstand a reduction of that magnitude.

Mr. SMITH. There was obviously some slack in the 1981 budget. We feel that the budget that is being submitted this year is substantially reduced in that area and we think it is very bare-bones.

Mr. BOLAND. Why was such a large percentage of the general reduction applied to Effluent Standards and Guidelines?

Mr. SMITH. It was not. Apparently it was prorated against the Agency's totals.

ENVIRONMENTAL MANAGEMENT INSTITUTE

Mr. BOLAND. Page WQ-37 indicates that in 1981, $39,000 was transferred from this activity to program management to fund the Agency's participation in the University of Southern California/ Environmental Management Institute.

What exactly is the Environmental Management Institute?

Mr. SMITH. It is a training program run at the University of Southern California.

Mr. BOLAND. When was it started?

Mr. SMITH. Some years ago, and specifically used at that time for the Air program. I think the Air program has since ceased using it and we have developed it into a general training program partially for State and local employees and partially for EPA employees.

Mr. BOLAND. What is the total level of EPA funding for the institute?

Mr. SMITH. We have reprogrammed within OWWM to sustain it for EPA employees at about $110,000, with the total training and travel for EPA employees at $219,000 for 1981. There is a grant that was given for training costs of $149,300.

Mr. BOLAND. Do other government organizations also contribute to the Institute?

Mr. SMITH. The Department of Transportation does.

Mr. BOLAND. Do you know what its contribution is?

Mr. SMITH. I do not.

Mr. BOLAND. Are there any others besides DOT?

Mr. SMITH. I do not think so.

GRANTS ASSISTANCE PROGRAMS

Mr. BOLAND. The Grants Assistance program is reflected on WQ-39. The 1982 estimate of $51,200,000 is $45,617,000 below the 1981 current estimate. The major reasons for the change are the termination of the Section 208 program and the proposed termination of the Clean Lakes program. Page WQ-42 indicates that the net decrease of $2.1 million from the January submission in the Section 106 program includes a decrease of $7.1 million previously identified with comprehensive ground water program development and an increase of $5 million for other activities.

Elaborate on that statement. Exactly what has changed and why?

Mr. SMITH. There was in the original submission under the Carter budget an amount of $7.1 million that was identified in 106 grants specifically for ground water initiatives, ground water work. That was revised in the Reagan budget to take out any initiatives specifically associated with groundwater activities, and OMB restored a portion of that, making the total $51,200,000 for just the general 106 functions of State management.

Mr. BOLAND. Page WQ-45, describes the termination of the Clean Lakes program in 1982, and indicates:

> The Agency believes that the program has matured so that the States are now able to integrate restoration of priority lakes into their total water quality management program.

What was your original request to OMB for the Clean Lakes program?

Mr. SMITH. Our submission to OMB was $23.5 million.

Mr. BOLAND. Where did this request rank in the ZBB priorities?

Mr. SMITH. I would say, roughly, it ranks fairly low. It usually comes in just a little off the line.

PCB'S IN WAUKEGAN HARBOR

Mr. BOLAND. Turn to page WQ-50, under Water Quality Strategies Implementation. Part of the 1981 effort in this area is to initiate cleanup of PCBs in the Waukegan Harbor in Illinois. Congress added $1,500,000 to the 1981 bill specifically for this purpose.

Bring the Committee up to date on the actions that the EPA has taken in this regard to date.

Mr. SMITH. Okay.

Work is in process on the harbor contamination, using 311 funds plus the money appropriated. Obligations, as of the end of this month are $200,000. Engineering plans have been completed on one of the projects. Altogether, we expect to obligate about a million and a half in 1981 in support of the dredging of the harbor and treatment of the lagoons.

[The information follows:]

STATEMENT ON PCB CLEANUP IN WAUKEGAN HARBOR

APPROPRIATION COMMITTEE DIRECTIVES FOR 1981

Directive: Waukegan Harbor. The Senate Committee on Appropriations directed the Agency to proceed without delay to obligate $1,500,000 in fiscal year 1981 to eliminate PCBs from Waukegan Harbor. The Conference Committee agreed. Status: Work is proceeding on the harbor contamination using Section 311(k) funds and the

$1.5 million appropriation. Obligations as of January 31, 1981, total $200,000. Engineering plans have been completed on one of two treatment lagoons to be used to treat the PCB contaminated materials dredged from the harbor. The Agency expects to obligate $1,500,000 in 1981 to support the dredging of the harbor and construction of the treatment lagoons.

TOTAL COST TO CLEAN UP PCB'S IN WAUKEGAN HARBOR

Mr. BOLAND. Any ZBB priority on this?

Mr. SMITH. I do not believe so; no.

Mr. BOLAND. What would be your best guess of total cost to clean up PCBs in Waukegan Harbor?

Mr. SMITH. I would hate to hazard a guess there, sir, because I am uninformed. I can certainly try to get that for the record.

[The information follows:]

The total cleanup cost for Waukegan Harbor may run as high as $50 million. Work will involve dredging of contaminated harbor sediments (containing an estimated 275,000 pounds of PCBs), diversion of the North Ditch around the contaminated area, construction of dewatering lagoons, and removal and disposal of all contaminated soil and dredge spoils.

Mr. BOLAND. Did the Agency request any funds to continue this effort in 1982?

Mr. SMITH. No, sir. The assumption was that we would pick up with the availability of Superfund and continue to do the containment and necessary work there.

WATER QUALITY STRATEGIES IMPLEMENTATION

Mr. BOLAND. The second item listed under the 1981 changes on page WQ–50 is an increase of $200,000 which was part of the 1981 budget amendment for Hazardous Waste programs. However, the requested amount for the Water Quality Strategies Implementation program in the budget amendment was $1,632,000, all contained in the Salaries and Expenses appropriation account. The Congress provided the Agency with the entire $5,911,000 requested for Salaries and Expenses.

Explain the difference between the $1,632,000 requested and appropriated and the $200,000 which appears on page WQ–50.

Mr. SMITH. Mr. Kinghorn.

Mr. KINGHORN. We are preparing a response for your staff. We will provide a short answer now, and then give a complete crosswalk as to whether the number in the budget request is correct. The Congress did not appropriate this deferred amount, but only appropriated $200,000 under this activity. But we should have that information to your staff today.

[The information follows:]

WATER QUALITY STRATEGIES IMPLEMENTATION FUNDING FOR HAZARDOUS WASTE AMENDMENT

The Hazardous Waste program and Related Activities Amendment requested for fiscal year 1981 was for a total of $27,344,000. Included in this amount was

$12,390,000 for Salaries and Expenses to support 245 permenant workyears. The Agency's request was divided into workyears needed for immediate pre-implementation activities ($7,833,000), and workyears that were to be deferred until the enactment of the then-pending Superfund legislation ($4,557,000). Of the total request, the Agency requested $1,632,000 for Environmental Emergency Response, which was included in Water Quality strategy and implementation activities. Of this amount, $200,000 was to be approved immediately and $1,432,000 was to be deferred. Congress only approved the $200,000, which was for immediate pre-implementation activities. The following chart presents a complete crosswalk between the 1981 base and Congressional action.

Hazardous Waste Amendment
(dollars in thousands)

	1981 Base		1981 Amendment Request		Congressional Action		Current 1981 Justification		Funding* Change
	$	FTE	$	FTE	$	FTE	$	FTE	
Environmental Emergency Response:									
Salaries and Expenses	$4,970	129	$1,632	35	$200	4	$5,060	126	-$110
Abatement, Control & Compliance	4,295	-	...	-	...	-	5,506	...	+1,211
Uncontrolled Hazardous Waste Sites:									
Salaries and Expenses	1,737	19	3,800	70	2,651	40	3,967	62	-421
Abatement, Control & Compliance	16,570	-	5,505	-	5,505	-	21,034	...	-1,041
Uncontrolled Hazardous Waste Sites Enforcement:									
Salaries and Expenses	1,925	53	3,942	100	1,922	39	4,020	95	+173
Abatement, Control & Compliance	...	-	2,340	-	2,340	-	2,271	...	-69
Solid Waste - Non Energy:									
Salaries and Expenses	3,844	69	300	15	300	15	2,536	46	+1,878
Research and Development	22,562	-	5,399	-	...	-	...	...	...
Management and Support	163,692	1,608	2,717	25	838	14	80,671	1,583	+2,134
Contracts Management	(...)	-	(248)	(8)	(205)	(6)	...	-	...
Personnel Administration	(...)	-	(101)	(3)	(38)	(1)	...	-	...
Occupational Health & Safety	(...)	-	(265)	(2)	(239)	(1)	...	-	...
Other Management Services	(...)	-	(30)	(1)	(33)	(1)	...	-	...
Resources Management	(...)	-	(207)	(2)	(177)	(1)	...	-	...
Planning and Evaluation	(...)	-	(30)	(1)	...	-	...	-	...
Facilities and Support Services	(...)	-	(68)	(2)	...	-	...	-	...
Office of General Counsel	(...)	-	...	(2)	...	-	...	-	...
Office of Inspector General	(...)	-	(146)	(4)	(146)	(4)	...	-	...
Laboratory Support	(87,871)	-	1,622	-	...	-	...	-	...
Buildings and Facilities	3,665	-	1,700	-	...	-	...	-	...
TOTAL.....	223,260	1,878	27,335	245	13,756	112	125,065	1,912	+3,755

* (Changes represent reprogrammings specifically resulting from Congressional actions and internal agency-wide adjustments to meet various resource requirements.

Mr. BOLAND. I will insert a question to be answered for the record at this point.

[The question and answer follows:]

PCB STUDY ON THE PINE AND SAGINAW RIVERS

Question. In the Standards and Regulations activity, in 1980 the Agency "Provided Section 115 grant to the State of Michigan to study the feasibility of removing polychlorinated biphenyls and polybrominated biphenyls from the Pine and Saginaw Rivers." As you know, the Committee has been very interested in this activity and has earmarked funds for it in the past. Provide the status of the study and any pertinent details.

Answer. The study was originally to have been completed September 13, 1981. However, a six month extension (to March 13, 1982) was granted at the request of the East Central Michigan Planning and Development Region (ECMPDR). This no cost increase extension was authorized so that necessary sampling and analysis could be finished. In that regard, most of the proposed 1980 fall sampling of polychlorinated biphenyls and polybrominated biphenyls in the Pine and Saginaw Rivers has been completed. Another set of samples will be taken this summer. The samples will be analyzed and a final report on the findings will be prepared by March 1982.

WATER QUALITY CRITERIA

Mr. BOLAND. The Committee's 1981 report addressed the presumptive applicability policy that the Agency had applied in the development and use of criteria for water quality. The so-called red book had such a policy. The Committee stated that it was concerned that if the same presumptive applicability policy were to be extended to the criteria for 65 specified pollutants from the NRDC v. EPA case, that the EPA might be effectively compelling national water quality standards to achieve fishable, swimmable water quality regardless of local environmental variables, economic ramifications, and the responsibilities of States to use their discretion in setting standards.

The Agency has issued criteria for a number of the specified pollutants, has it not?

Mr. SMITH. Yes.

Mr. BOLAND. What is the exact status of that effort?

Mr. SMITH. The preamble to the criteria we have released specifically says they are not considered to be presumptive applications as far as standards. They are merely guidance to the States on the level of toxic control.

There have been 64 water quality criteria documents for Section 302 toxic pollutants published to replace the recommendations previously found in the red book.

ADVANCED WASTE TREATMENT PROJECTS

Mr. BOLAND. Turn to page WQ-73, under Municipal Source Control. The next to the last paragraph on the page addresses the advanced wastewater treatment reviews. The Congress added $300,000 and ten positions to the 1981 Salaries and Expenses account, specifically to provide for the headquarters review of AWT projects with an incremental cost of $3 million or more.

How have the hiring freezes and the new Reagan 1981 ceilings for personnel affected these ten positions?

Mr. SMITH. We have the people on board. I will have a list of the actual individuals as requested by the staff.

Mr. BOLAND. How many are filled?

Mr. SMITH. They are all filled, but we had to reprogram.

Mr. BOLAND. What does the 1982 budget assume for the headquarters review of the wastewater treatment projects?

Mr. SMITH. We are hoping we do not have to do this at headquarters.

[The list follows:]

The following staff in Facility Requirements Division have been assigned to AWT reviews:

1. Robert Foxen, environmental engineer.
2. Shin Huang, environmental engineer.
3. Marie Perez, environmental engineer.
4. Samuel To, environmental engineer.
5. James Wheeler, environmental engineer.
6. John Maxted, environmental protection specialist.
7. John Hall, environmental engineer.
8. Cathy O'Connell, environmental protection specialist.
9. Loretta McMillan, clerk-typist.
10. Linda Jennings,[1] clerk-typist.
11. Alan Hais,[1] supervisory environmental engineer.
12. Myron Tiemens [1] supervisory environmental engineer.

[1] Individuals assigned on a part-time basis.

GREAT LAKES RESEARCH

Mr. BOLAND. Turn to page WQ-93, the Research and Development programs for Water Quality. The total request of $18,054,000 is $5 million below the January amount. The Carter submission had included approximately $2 million for Chesapeake Bay research and $1,600,000 for Great Lakes research. The Reagan amendment eliminates those two efforts. In 1981, the Congress added $2 million specifically for Great Lakes research.

Indicate briefly now and detail for the record, precisely how the $2 million Congressional increase is being used in 1981.

USE OF CONGRESSIONAL INCREASE FOR GREAT LAKES PROGRAM IN 1981

Dr. DOWD. In general, we have been using money on the Great Lakes program to investigate the passage of toxic pollutants, particularly PCBs, through the Great Lakes food chain, both through the biota food chain and in some respects to humans. We have also been looking at source loading of some specific toxic pollutants into the Great Lakes, trying to utilize a geographic approach.

I will be glad to provide the detail for the record, Mr. Chairman, but that is the general approach on that program.

Mr. BOLAND. Are those the activities you plan for 1982?

Dr. DOWD. It was a continuation.

[The information follows:]

The fiscal year 1981 $2 million Congressional add-on for the Great Lakes research program is being spent on several programs. One million of the add-on is being used for cooperative agreements in the following areas: studies of the relationship between consumption of Great Lakes fish laden with PCB (and other organics) to human blood levels and resultant effects; studies of the relationship between consumption of Great Lakes fish laden with PCB (and other organics) to cord blood concentration and infant development, the determination of PCB levels (and other organics) in human blood, breast milk and ecosystem samples; the development of pollutant flux rates for sediment resuspension calculations used in evaluating

dredge spoil site evaluation; the development of mathematical models to determine the fate of toxic chemicals in the Great Lakes; field studies on the adaption of laboratory derived water quality criteria to specific field sites; and field studies for the development of methodologies for waste load allocations of heavy metals.

The remaining one million is designated for the ORD grant program which explores the following areas: collection of field data which relate the common occurrence of organic toxins in atmospheric, sediment and human fluid samples; the role of Great Lakes bacteria in the fate of synthetic organic compounds; absorption and desorption of organics by suspended solids; determination of the mass transfer of organic toxins as related to volatilization of the air/water interface; field studies on the resuspension of nearshore sediments during storm events for the evaluation of long term effect of dredged materials; the development of a mathematical model relating inputs of pollutants to ecological effects in Green Bay, Wisconsin (Lake Michigan); radionuclide research in quantifying toxic substance accumulation in Great Lakes sediments; and field evaluation of copper toxicity to lake ecosystems.

Mr. BOLAND. What specific activities had been planned in 1982 in the Chesapeake Bay and Great Lakes research programs that will not be accomplished if the Reagan proposals are adopted?

Indicate that for the record.

[The information follows:]

CHESAPEAKE BAY AND GREAT LAKES RESEARCH

The following activities, which at an earlier time were projected, cannot be supported within the scope of the President's budget.

Sediment studies in the Patapsco and James (Elizabeth) Rivers to supplement fiscal year 1981 studies were planned. These studies would maximize the outputs of the previous toxic research and provide correlations between flux and availability of toxic materials in the estuary.

Further planned were comprehensive (Baywide) nutrient and hydrodynamic surveys which would quantify spring highflow, summer stormflow and summerflow in order to determine the typtical range of conditions for comparison with the 1980 summer survey. These surveys would be extended into major tributary influences within Bay segments. This would maximize the outputs of the modeling efforts and result in a significantly increased understanding of the Bay estuary and the relationships between the Bay proper and its tributaries.

Also planned was a compilation of available historical data on marine and estuarine fish and shellfish and an analytical comparison of that data with research data on toxic substances, nutrients, and sediment loadings to identify possible correlations and trend patterns. Correlations of this nature would contribute to understanding the relationships between increased pollutant loadings into the Bay and the trends in the Bay's biological resources.

Investigations into impacts that could result from hydrologic modifications within the Chesapeake Bay drianage basin were planned for fiscal year 1982. As industrial and population growth continues and consumption use of fresh water increases, the understanding of resulting impacts of reduced fresh water to the Bay system will contribute greatly to the management of water use.

The Environmental Protection Agency's Great Lakes research program has provided a scientifically credible basis for management alternatives related to the problems of accelerated aging (eutrophication) in the Great Lakes. Currently, the Great Lakes research program is addressing the problem of the impact of persistent toxic organic substances on the Great Lakes ecosystem.

The following activities which at an earlier time were projected, cannot be supported within the scope of the President's budget.

The completion of eutrophication studies. The data from these efforts would be used as a basis for developing nutrient control programs as part of the 1978 Water Quality Agreement between United States and Canada.

The development of techniques for the evaluation of the fate and transport of persistent toxic substances in order to assess the exposure and the health risks to the ecosystem and the human residents of the Great Lakes Basin. Included is the development of methodologies for assessment of the effects of toxic substances in the sediments upon the Great Lakes ecosystem. The Great Lakes sediments serve as the ultimate reservior for toxic pollutants in the ecosystem. With the resuspension of these deposits as a result of both natural processes and dredging of bottom needs, the long term impact is important, particularly when evaluating proper disposal techniques. The Techniques will also be applicable to the evaluation of the dispersion and impacts of ocean dumping.

The development of techniques for more realistic, cost effective, and scientifically credible methodologies for the allocation of discharges of industrial pollutants to Great Lakes tributaries and the subsequent impact on the Great Lakes proper.

ENVIRONMENTAL PROCESSES AND EFFECTS

Mr. BOLAND. Now turn to page WQ-124, which contains the justification for Environmental Processes and Effects. No funds were requested or provided for this research in 1980 or in 1981. The January and March submissions contain a request of $200,000 for this effort.

What are the specific purposes of this request? Why is it such a high priority that you are proposing to begin it in 1982, when numerous research activities are being reduced or terminated?

Dr. DOWD. We began to raise the question of whether in dealing with industrial wastewater there might be a better way of identifying the toxic contaminants not chemical by chemical but rather looking at the impact on living biota. We began a program as to the environmental effect at our industrial lab at Cincinnati to see if there are methods that can be used which take into account the response of biological species to industrial wastewater. It is a question of whether or not this would be an easier and simpler way to begin.

Mr. BOLAND. What potential growth does this project have?

Dr. DOWD. Since it is just beginning, it is very difficult to say. I would presume we would anticipate keeping it at this level for some period of time.

HEALTH EFFECTS RESEARCH EFFORTS

Mr. BOLAND. Page WQ-132 explains the research efforts planned in 1982 in the Health Effects activity. According to the justification:

Major emphasis will continue on the health effects resulting from the use of wastewater and sludge from land treatment.

Are you familiar with the irradiation of sludge treatment plan which uses cesium-137 to kill pathogens in sludge from wastewater treatment plants?

Dr. DOWD. I am not personally familiar with that.

Mr. BOLAND. Has the Agency provided any resources for radiated sludge research in past years?

Dr. DOWD. I frankly do not know. But if it will be all right, I will be happy to provide that for the record.

[The information follows:]

RADIATED SLUDGE SUPPORT SINCE 1975

The sludge irradiation program at the Sandia National Laboratories is a jointly funded, interagency-agreement activity between the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA). This program has actively pursued research in the pathogen inactivation of both wet and dry sludges using cobalt-60 and cesium-137 isotopes. The objective of this treatment is to provide a sludge product that can be used in a reasonably safe manner as a fertilizer/soil amendment.

During the years 1975-1980, the Agency has provided resources up to $340,000 through our Municipal Environmental Research Laboratory (MERL) in Cincinnati.

TREATMENT OF MUNICIPAL SLUDGE

Mr. BOLAND. Are you aware of any negative aspects to the treatment of municipal sludge with cesium-137?

Dr. DOWD. I do not know at the moment. I will provide that for the record.

[The information follows:]

NEGATIVE ASPECTS OF CESIUM-137

The negative aspects of the treatment of municipal sludge with cesium-137 are:
Possibly higher costs compared to other alternative disinfection methods, depending upon the site conditions.
Safety needs to protect personnel.
Questionable availability of ionizing radiation sources.

BENEFITS FROM TREATMENT OF MUNICIPAL SLUDGE

Mr. BOLAND. We understand that after the sludge has been treated with cesium it can actually be used for fertilizing golf courses and other areas. This appears to be a promising treatment method which provides a beneficial use of both radioactive wastes from defense activities and municipal sludge. Do you agree?

Dr. DOWD. There is an interest in making industrial sludge as safe as possible. I will see if we are looking into it and get back to you shortly.

[The information follows:]

BENEFITS OF CESIUM TREATMENT

This method of irradiation disinfection has several advantages. Some of the major advantages are:
Performance is both predictable and consistent.
Intermediate-life radioactive waste isotopes are beneficially used.
The process is versatile and can be used for disinfecting liquid sludges, sludge cake and compost.
Operation is simple.
Energy requirement is about 50 times less than the energy needed for steam pasteurization.
Gamma radiation from cesium-137 is at a very low energy level and therefore does not cause any induced radioactivity in sludge. The sludge treated with cesium-137 is free of radioactivity and the process offers a promising treatment method.

Mr. BOLAND. Do other Members have any questions?

EFFLUENT STANDARDS AND GUIDELINES

Mr. COUGHLIN. Your 1982 program for Effluent Standards and Guidelines mentions the intention to consider the extent to which the environmental benefits of BAT (Best Available Technology) and categorical pretreatment standards are worth their marginal costs. I am pleased with these remarks and would appreciate your expanding on the relationship between the benefits of BAT versus the costs.

Mr. GAMSE. In the Effluent Guidelines program, most of the focus in the past has been on what percent of control you get, how many pounds of the effluent you reduce, and what that costs. I think as we have gotten more experienced with that program and as we have been more and more questioned over the years about how worthwhile the level of control is versus the level of control required in 1977, it brings to mind the cost-benefit question. What

we are trying to do in this area is try to go as far as we can to identify what the environmental improvement will be, not that we will cut the effluent of a particular pollutant 85 percent, but what effect that would have in terms of water quality problems. We would like to say the reduction would have a dollar benefit of X compared to the dollar cost Y. I do not think we will be able to do that, but hopefully by translating the benefits in terms of water quality benefits or effect we will be able to make a meaningful comparison so the Administrator can make much more informed decisions among the levels of control that are possible.

This fits in with the new requirements on regulatory reform which requires both cost and benefit assessments be done.

PHASE II PROJECTS IN CLEAN LAKES PROGRAM

Mr. COUGHLIN. Regarding the elimination of funds for the Clean Lakes program, would you provide for the Committee a breakdown of the projects in phase II of development which will not be completed due to the elimination of funds?

Mr. SMITH. Yes; I have that. I can give it to the Committee now.

[The information follows:]

CLEAN LAKES—PHASE II DEVELOPMENT PROJECTS SLATED FOR NONCOMPLETION

The following projects, listed by State, will be unable to complete restoration activities without additional funding:

California: Gibralter, Tahoe.
Connecticut: Bantam, Waramug.
Illinois: Frank Holton.
Maine: Cobbossee 2, Sabattus Pond.
Maryland: Loch Raven 2.
Massachusetts: Cochituate, Dunn Pond, Lashaway, Nutting.
Michigan: Lansing.
Minnesota: Clearwater, Long Lake, Moore, Phalen.
Tennessee: Fort Loudon.
Virginia: Rivanna Reservoir.
Washington: Ballinger, Moses, Sacajawea, Vancouver.
Wisconsin: Elk Creek, Little Maskego, Marinuka, Upper Willow.

CLEAN LAKES FUNDING

Mr. BOLAND. Following Mr. Coughlin's question, I understand that no money will be provided after 1981 for any program designed to clean up our lakes.

Mr. SMITH. Through the Clean Lakes Grants program.

Mr. BOLAND. Where else would funds be provided?

Mr. SMITH. Through the States: they could obviously direct money that way. The initial treatment system discharging into a lake is eligible for control. But the basic grant program, you are right, is finished in 1982.

DRINKING WATER PROGRAM

Mr. SABO [presiding]. Turn to the tab for the Drinking Water program. The revised 1982 request of $87,666,000 reflects a $4 million decrease below the January request of $91,672,000. Page DW-4 indicates that the Agency has provided funding to the Na-

tional Academy of Sciences to develop quality control standards for chemicals used to treat drinking water.

What is the estimated cost of this endeavor?

Mr. SMITH. The total cost is $140,000. That is being funded out of monies that were available from fiscal year 1979.

Mr. SABO. When is it expected to be completed?

Mr. SMITH. It is a two year study, so I would assume it would be finished in the Spring of 1982.

Mr. SABO. Has the Agency contacted the Academy through its own initiative or in response to Congressional concern?

Mr. SMITH. It was something done with the Academy through the Agency.

GROUND WATER PROTECTION PROGRAM

Mr. SABO. The next page indicates that a coordinated Ground Water Protection program will be a major effort for the Drinking Water activity in the next few years.

What is the total amount EPA is devoting to ground water in 1981 and 1982?

Mr. SMITH. I will have to supply that for the record, sir.

[The information follows:]

RESOURCES DEVOTED TO SUPPORT GROUND WATER PROGRAM

In 1981, the Drinking Water program has devoted $10,911,635 to ground water. This includes the UIC program and $2,467,200 in resources for ground water research. In 1982, Drinking Water will devote $16,013,100 of its resources to ground water. This includes $622,000 for the development of sampling procedures and equipment for ground water analysis and the development of procedures to document pollutant concentration and migration in drinking water sources. $4,959,100 will be devoted to research to improve our capability to describe and predict the behavior of toxic organic chemicals in the subsurface.

DRINKING WATER PROGRAM LEVEL SUMMARY

Mr. SABO. The revised justification does not contain a Drinking Water program level summary. However, page DW–10 of the January submission indicates that one variance or exemption was granted by EPA in non-primacy States in 1980, compared with a planned level of 180.

Explain this significant difference.

Mr. SMITH. I am sorry, sir, I lost you on that.

Mr. SABO. The estimate of one variance and exemption is on page DW–10 of the January submission, and the estimate of 180 is on page 726 from last year's hearing volume.

Mr. SMITH. I would have to furnish that for the record.

[The information follows:]

VARIANCES IN NON-PRIMACY STATES

The original estimate of 180 variances in non-primacy States was based on the estimated number of systems out of compliance at the time. Following that estimate, five States (New Jersey, Puerto Rico, Utah, North Carolina, and Vermont) accepted primacy, thus reducing the non-primacy universe. Additionally, a policy decision to grant variances only after treatment was installed was adopted. That policy decision resulted in no system in non-primacy States being eligible for a variance.

DRINKING WATER REGULATIONS

Mr. SABO. This Committee has expressed interest in the past in the Agency's drinking water regulations, especially those relating to trihalomethanes. Page DW-12 states that the Agency promulgated regulations in November 1979 which addressed trihalomethanes. The following page indicates that during 1980 "EPA devoted considerable attention to defending the THM regulation under the court challenge by the American Water Works Association."

What is the status of this court suit?

Mr. SMITH. We are negotiating with them on a possible settlement. It is true, we have put a lot of resources into that. It is sort of a shifting basis of data and empirical scientific information that keeps us reevaluating.

Mr. SABO. What are the major points in the suit?

Mr. SMITH. I cannot tell you offhand.

Mr. SABO. Please supply that for the record.

Mr. SMITH. Yes.

[The information follows:]

MAJOR POINTS OF AMERICAN WATER WORKS ASSOCIATION COURT SUIT

EPA and AWWA are engaging in settlement negotiations. The court has postponed the trial as the negotiations are continuing. There are four major issues in the AWWA suit. They are 1) the health basis upon which the standards were made, 2) the accuracy of the EPA economic analysis which accompanies the new regulations, 3) whether EPA has the authority to solely regulate community water systems with a population greater than 10,000 and 4) did EPA appropriately consider the availability of technology when establishing the THM regulations.

UNDERGROUND INJECTION CONTROL GRANTS

Mr. SABO. Turn to the State Program Resource Assistance activity on page DW-17. The obligations in 1980 for the Underground Injection Control grants totaled $9,823,000. The 1981 current estimate reflected in last year's justifications included $4,395,000 for these grants. I assume the doubling of the 1981 estimate is due to the obligation of funds provided in a prior year; is that correct?

Mr. SMITH. Yes, sir.

Mr. SABO. Were all the funds which had been appropriated for UIC grants obligated in 1980?

Mr. SMITH. $1.1 million was carried over into 1981 from 1980, in the UIC grants.

PUBLIC WATER SYSTEM SUPERVISION PROGRAM GRANTS

Mr. SABO. The request for Public Water System Supervision Program grants in 1982 is $29,450,000, identical to the 1981 level. Page DW-18 indicates that in 1980, grants were awarded to 49 States that had assumed primacy.

For the record, provide the eight States and territories which have not yet assumed primacy.

Also, indicate which two States you expect to assume primacy in 1981.

[The information follows:]

The eight States and territories which have not assumed primacy are Pennsylvania, Indiana, Oregon, South Dakota, Wyoming, District of Columbia, American Samoa and Northern Mariana Islands.

The two States or territories we expect to assume primacy in 1981 are American Samoa and Northern Mariana Islands.

DRINKING WATER ENFORCEMENT

Mr. SABO. Turn to Drinking Water Enforcement on page DW-27. The 1980 actual column reflects $702,000 and a full-time equivalency of 23. The plan had been $937,000 and a full-time equivalency of 34.

What accounts for this shortfall?

Mr. WILSON. I will supply that for the record.

[The information follows:]

In fiscal year 1980, both headquarters and the regions under-utilized their authorized FTE ceiling for Drinking Water Enforcement. At headquarters, 6.8 FTE were not utilized and in the regions, 4.5. The hiring freeze, which was in effect for one-half of fiscal year 1980, is the primary cause of the reduced amount. In addition, our 1980 estimate of one year ago included a portion of this proposed pay raise supplemental which did not materialize.

DRINKING WATER RESEARCH PROGRAM

Mr. SABO. Turn to the drinking water research program beginning on page DW-31. The total request of $29,713,000 is a $3,369,000 increase above the revised 1981 current estimate. In the monitoring systems and quality assurance activity described on page DW-35, I see that the increase of $622,000 "will accelerate the development of sampling procedures and equipment for groundwater analysis and augment the development of procedures to document pollutant concentration and migration in drinking water sources."

However, on page DW-14 and 15, the following statements are made:

A joint EPA-State groundwater monitoring survey is being undertaken to determine the presence of volatile and aromatic organic chemicals in drinking water derived from groundwater.

Studies and analyses to be conducted during 1982 include the completion of the groundwater monitoring survey directed at the evaluation of the occurrence of organic contaminants in ground water, . . .

This makes me wonder if we have another situation where the necessary research to support programmatic efforts has not been accomplished in a timely fashion. How do you respond to this?

Specifically, how does the research described on page DW-35 relate to the activities mentioned on pages DW-14 and 15?

Dr. DOWD. We have attempted to use the Research Committees again as a method of assessing the needs of the program offices in the areas of research. The Drinking Water committee is one of those that has been successful. I think the research particularly as to ground water has worked out quite well with the Office of Drinking Water. Obviously when one is trying to find methods that are reliable and can be used in the field, there is always a question of improving. In the case of ground water, we have found many of the methods that can be used are not easy to use. There is a desperate need for us to have a good quality assurance program to make sure that is viable over the long haul. I think it is not the case that the research has not been designed with the Office of Drinking Water, but I think it is like everything else, we have to begin putting the measurement methods in place as quickly as we can, and at the same time there is a need for assessing the information we do have at the present. We do have a need to improve our methods of

measurement. We have discovered fairly recently in one case that in a major effort in looking at ground water, initially we went in and drilled two-inch holes trying to figure out the impact of contaminants and discovered the two-inch holes fell in. We had to go back and change the protocol and make a four-inch hole. It does not seem there should be much difference between a two-inch hole and a four-inch hole, but the way you open the well is different, too.

Mr. SMITH. USGS and the Department of Interior have better hydrological information than we have, but very little information on the basic contamination issues. It is an area that really lacks fundamental information.

Mr. BARBER. There is a policy thrust to several questions that came up: the inclusion for research is a recognition that we are not ready to impose a Federally-encouraged State ground water management activity; that we are, in fact, going back to increase our research efforts in this area. There was a policy shift there which is reflected by the combination of the $7 million reduction and the several million dollar increase in research.

Mr. SABO. What would be the effect on the monitoring program if we did not allow the increase in R&D?

Dr. DOWD. We are going ahead and we have a substantial increase in this area. I think we would continue to carry on if we did not get the increase, we would have to carry on at a much lower level in procedures and measurement methods for ground water. We had planned this year for a large increase in our measurement of ground water, but we had planned a large increase of our effort in ground water research for 1981 over 1980.

Mr. SABO. I take it that your water research effort is keyed into your Water Monitoring program?

Mr. SMITH. Yes, sir.

ASBESTOS RESEARCH

Mr. SABO. Page DW-38 indicates that part of the Health Effects Research effort in 1980 dealt with asbestos fibers from cement pipes. We discussed this issue during last year's hearings (page 148). What progress or findings have occurred in the past year in that area?

Dr. DOWD. Mr. Chairman, I do not have that information with me, but I will provide it for the record.

Mr. SABO. Fine.

[The information follows:]

ASBESTOS FIBERS IN DRINKING WATER

Asbestos in drinking water can come from the leaching of fibers from asbestos cement pipe used in some water distribution systems. It can also come from the erosion of asbestos fibers from rock formations which contain asbestos from using water sources polluted with asbestos fibers, from asbestos containing construction materials used in some water treatment facilities, and from airborne asbestos which can contaminate rainfall. Natural erosion and asbestos cement pipe are considered to be the biggest sources of asbestos in drinking water.

Asbestos cement pipe and natural formations contain chrysotile asbestos and a little amphibole asbestos. Eroded asbestos fibers tend to be shorter than those leached from asbestos cement pipe while asbestos fibers in the workplace tend to be even longer.

There are presently three key health research areas which relate to ingested asbestos:

1. Whether certain types of asbestos fibers and particular fiber sizes are more closely associated with increased cancer rates than others.
2. What the relative contribution of asbestos fibers in drinking water is compared to that in food and air for certain populations.
3. What the hazard of ingested asbestos is.

EPA is completing several studies this year which address these issues. The results are described below.

A recently completed cell culture study showed that fibers less than two micrometers had no effect on the cells, fibers between two and ten micrometers had a small deleterious effect, and fibers greater than ten micrometers had a large adverse effect on the cells. (The average size of fibers leached from asbestos cement pipes is 4.5 micrometers). A whole animal study, however, which utilized both rats and hamsters fed two sizes of chrysotile asbestos and three types of amphibole asbestos showed no increased death rates in the animals. The analysis of tumors and histopathology is not complete and may show some impact of exposure, however. This study included fibers of the type and size which come from asbestos cement pipe and larger sizes as well.

We have conducted little research on the relative contributions of inhaled and ingested asbestos to human exposure. However, the University of Illinois has recently received a grant from EPA to study comparative exposure by placing some workers exposed to airborne asbestos on bottled water and studying the difference in the amount of asbestos in their urine. EPA will also try to determine possible exposure to ingested asbestos by determining what parameters cause corrosion in asbestos cement pipe. A recently completed study comparing highly exposed residents in Minnesota to people with less exposure to asbestos did find a difference in asbestos in the urine which indicated ingested fibers do enter the body from the gastrointestinal track.

The hazard of direct ingestion is being addressed through a series of epidemiological studies of populations with significant exposure to asbestos in drinking water and through some animal studies. Unfortunately, the results to date have not clarified the situation. A recently completed epidemiological study in the Pacific Northwest found no association between asbestos content of the drinking water on gastrointestinal cancer as did a study in Escambia, Florida where the exposure is from asbestos cement pipe. Previous studies in California showed a relationship between degree of asbestos exposure and cancer. Similarly, a recently completed study which measured asbestos in the urine of a baboon showed no increase in asbestos despite increased asbestos ingestion. This study's findings are in contrast to a previous baboon study and to human study which found increased asbestos in the urine with increased asbestos ingestion.

ASBESTOS CEMENT PIPE

Mr. COUGHLIN. Mr. Chairman, having had some interest in the subject—can you use asbestos cement pipe now or not?

Mr. CLARK. The use of asbestos pipe would probably take place under the Toxic Substances Control Act. We are investigating that in our program.

Dr. DOWD. Mr. Chairman, if I might interject, we will have approximately three studies we initiated on the use of asbestos that we expect to be concluded this year: a study on feeding of asbestos to animals, a cell culture study, and a census tract study.

I will be glad to make those available to the Committee as soon as they are completed.

DRINKING WATER REGULATIONS AND COST TO SMALL COMMUNITIES

Mr. SABO. The justifications repeatedly mention that EPA is making efforts to assist small communities in complying with the Agency's drinking water regulations.

Do you know the total estimated cost for small communities to comply with the regulations EPA has promulgated?

Mr. SMITH. Off-hand, I do not know.

Mr. SABO. If you have information, will you supply it for the record?

Mr. SMITH. Yes, sir.

[The information follows:]

COST OF SMALL COMMUNITIES COMPLIANCE WITH NATIONAL PRIMARY DRINKING WATER REGULATIONS

For small community water systems (serving 25–2,499 people) an estimated $470,600,000 in additional capital expenditures from 1980–1983 will be requried to comply with the National Interim Primary Drinking Water Regulations.

REDUCING COSTS TO SMALL COMMUNITIES

Mr. SABO. What specific steps is the Agency taking to attempt to reduce these costs?

Mr. SMITH. In terms of our general standard, we have reduced the applications of those to just large cities. We also try to give a lot of assistance through the Public Water Supply grants program to the States, and through the States, to small communities to help them come up to standards. While our small systems strategy does not provide a physical facility, we do try to provide technical assistance and aid to the States in sorting out these systems that can comply with the standards and help them to do so.

Dr. DOWD. In 1981 we initiated a program to help develop systems for small communities including evaluation of pilot studies for small communities. We hope to identify small communities which can use package plans that may be more cost-effective. That effort is projected at the level of about $2.8 million for fiscal year 1982.

TRANSPORT AND FATE OF POLLUTANTS IN GROUND WATER

Mr. SABO. The Environmental Processes and Effects element is described on pages DW–43 and 44. In 1982, this activity is doubling to a new total of $4,959,000. Page 44 states:

This increase is directed toward expanded research on transport and fate of pollutants in ground water.

Elaborate on this statement.

Dr. DOWD. That was one of the two areas which I mentioned we were planning a fairly major research effort on ground water. In that case, we are concerned with how contaminants pass through the subsurface environment. We are planning a major program to look at the movement of the chemicals, the long-term impact on the environment, how they get back to the surface, if you will, and the impact on the human population as well as both the microbiological population in the soil, and secondly, what happens to the system that lives on the same ground as the subsurface environment that might carry contaminants.

Mr. SABO. Would you compare and contrast this research with that to be performed on hazardous pollutants reaching ground water in the Hazardous Waste medium?

Dr. DOWD. It is similar. We are trying to work out from a disciplinary function with a group concerned with movement of pollutants to a subsurface environment and the regulatory programs that need that information, in this case both the Drinking Water and Solid Waste programs with hazardous waste interests.

There is no double counting, but it is a coordinated program which has a piece of it working more to focus to drinking water, but the fact is they are very closely related once you get into the subsurface environment; what is one person's hazardous waste dump may be somebody else's water supply.

Mr. SABO. Do other Members have any questions?

TRICHLOROETHYLENES IN DRINKING WATER

Mr. COUGHLIN. Mr. Chairman.

Some of you will recall that a little better than a year ago we had problems with TCE in drinking water up in my part of Pennsylvania. As I said last year at these hearings, the EPA did an outstanding job of trying to provide information, which was hard to come by. At that time there was further study going on in EPA as to the levels of TCE that were hazardous. I did not know whether those studies had been completed at this point in time or whether——

Mr. SMITH. There are two studies ongoing, Mr. Congressman. We have completed one study for acute and subchronic toxicity of TCE, and a reproductive study is to be initiated this month, April 1981.

Results to date indicate that TCE has low toxicity, both acute and chronic. Exposure at levels found in some contaminated wells, (in Pennsylvania and Virginia) may pose a substantial risk to health, especially if TCE contamination were to continue at those levels for extended periods. Yet, it remains unclear as to whether TCE is expected to persist at those concentrations in the affected water supplies. In addition, it remains unclear as to the extent of TCE contamination in water supplies further removed from unlined or unauthorized waste disposal sites. TCE has also been found to be carcinogenic in one animal test. Ongoing studies are intended to answer these questions and to indicate what regulatory action, if any, is required.

Mr. COUGHLIN. So, you have not taken further action in establishing standards?

Mr. SMITH. No, sir.

GRANULAR ACTIVIATED CARBON

Mr. COUGHLIN. Last year I expressed my concerns over EPA's plans to promulgate a granular activated carbon (GAC) requirement. At that time, I cited several possible health risks discovered by the National Academy of Sciences which could be posed by GAC if it were instituted.

I was informed that EPA would use funds in the fiscal year 1981 budget to investigate the health risks before requiring nationwide GAC installation. My question is, how much money was allocated to this endeavor and what were the results of EPA's investigation?

Mr. SMITH. I will have to supply those for the record, but I can tell you that we withdrew the requirement.

[The information follows:]

INVESTIGATION OF GRANULAR ACTIVATED CARBON-HEALTH RISKS

In the fiscal year 1981 budget $400,000 has been allocated to investigate the health risks of GAC. Based upon EPA's past and current investigation, the results currently do not indicate that use of GAC constitutes a health risk. There is no

evidence of heavy metals or leaching of selinium, mercury, etc. There is no significant leaching of organics from fresh or virgin carbon. A study by the University of Illinois further supports EPA's findings as it pertains to the application of chlorinated water to GAC. EPA continues to study the quality of the GAC effluents through the entire cycle of operation.

HAZARDOUS WASTE PROGRAM

Mr. SABO. Turn to the tab for the Hazardous Waste program. I'm glad to see that you have changed the title of this medium from Solid Waste to Hazardous Waste: this much more accurately reflects the level of effort devoted to hazardous waste activities in relation to more traditional solid waste activities.

The total 1982 request for Hazardous Waste is $119,801,000. This compares with $143,336,000 requested in the January submission. Permanent workyears declined from 812 in the 1981 current estimate to 658 in the 1982 request. The comparable numbers in the Carter submission were 855 in 1981 and 713 in 1982.

The Overview and Strategy section on page HW-3 indicates the enormity of the hazardous waste problems facing the country. The justification states that approximately 500 million metric tons of municipal and industrial wastes are generated each year in the United States. In 1981, an estimated 41 million metric tons or eight percent of total waste, will be classified as hazardous.

How much of the 41 million tons do you estimate will be disposed of properly?

Mr. SMITH. We estimate 20 percent or so will be properly disposed of.

REPORT BY ADAMS AND WOJICK ON INFORMATION BURDEN ANALYSIS

Mr. SABO. Pursuant to the Resource Conservation and Recovery Act, the Environmental Protection Agency has issued a series of regulations to control hazardous waste. Page HW-4 indicates the major regulations that have been published in the past year.

A draft report of the information burden analysis of the Resource Conservation and Recovery Act regulations has been prepared for the Office of Water and Waste Management by the Adams and Wojick consulting firm of Orange, Virginia. Among other points, the study concludes "that the regulations contain many redundancies"; "that much of the recordkeeping and reporting required by the regulations are of unclear utility"; and that the imposing information "burden can be significantly reduced by choosing alternative methods of obtaining information."

How do you respond to each of these findings?

Mr. SMITH. Our response, Mr. Chairman, has been that we feel the firm of Adams and Wojick misunderstood some of our requirements. We were fairly dissatisfied with their report. I can provide you with a copy of a letter we sent to Mr. Clark in the Office of Management and Budget, which specifies our position on the report.

[The information follows:]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

13 FEB 19

Mr. Ed Clarke
New Executive Office Building
726 Jackson Place
Room 3228
Washington, D.C. 20503

Dear Ed:

In response to our meeting on February 9, 1981, I have pulled together some information and materials that were discussed at that time. I have also developed a statement which addresses some basic issues relative to the "Phase I" clearance which you discussed with my staff after I left the meeting on the 9th.

Enclosed with this letter are the following items:

I. Materials Requested at 2/9/81 Meeting

A. A book of all major Subtitle C regulations and amendments promulgated in interim final or final form between February 26, 1980 and January 26, 1981.

B. A copy of summary economic data developed for the Interim Status Standards. Table 1 provides compliance costs for all industries by section of the Act. Table 2 provides compliance costs by industry (in millions).

C. Copies of the Adam and Wojick Coherence Analysis and Information Burden Analysis, and Office of Solid Waste's comments in response to the contractor's recommendations. The enclosed copies include a synthesis of each of the two draft reports and OSW's responses (the OSW response follows the contractor comment/recommendation in small type) and OSW's responses listed separately in the order found in each draft report.

A technical review by the OSW program staff of the Adams & Wojick draft Coherence Analysis and draft Information Burden Analysis indicates that the reports are vague, incomplete,

and sometimes inaccurate. Many of the contractor's conclusions and/or recommendations are biased and unjustified or they have not been explained thoroughly or referenced properly to the regulations.

It further appears that the contractor did not read the background documents which explain why these requirements were imposed. Additionally, many of the comments made by the contractor have been addressed by EPA through regulatory amendment.

In general, EPA's responses indicate whether the Wojick comments and recommendaitons are valid and require investigation, and what priority should be attached to each valid item: LP - low priorioty; MP - moderate priority (try to address over time within our ongoing evaluation); and HP - high priority (address as soon as possible). Invalid comments are so characterized.

As it turns out, none of the contractor's comments require addressing on a high priority basis; only a handful require any further investigation.

The contractor does address, in general terms, the need for ongoing review of all program components and, in specific terms, the need for revisions to the annual report. These are both areas where OSW places a high priority and is, in fact, conducting ongoing efforts. Thus, agreement does exist with the contractor on these major evaluative concerns.

Our next steps with regard to these draft reports will include meeting with and asking the contractor to make changes for the final reports based on our comments. The results of proposed follow-up efforts, as well as the results of the implementation of the RCRA Evaluation Plan, will be made available to OMB on an ongoing basis, as the different components are conducted.

II. Phase I Clearance Issues

As an additional enclosure to this letter, I have asked my staff to list OSW's understanding of the requests made by OMB (via letter from Jim Tozzi) with regard to the information requirements under RCRA. These requests are followed by OSW's actions in reponse to these requests, a listing of clarity problems in relation to OMB's requests and a listing of additional actions taken by OSW to limit the scope of the regulations and reduce the burden on the regulated community.

The status report on the Subtitle C Notification process and results has been delayed somewhat in the internal review process. A copy of this report will be forwarded to you by February 20, if not sooner.

I am prepared to meet with you as soon as possible to ascertin what OMB's specific requests are in relation to the clearance for information requirements under Subtitle C, and to determine what OSW will provide to satisfy these requests. Please let me know when you would like to arrange such a meeting.

Sincerely,

Eileen

Eileen Claussen
Director
Office of Management, Information, & Analysis

Enclosures

TABLE 1

December 10, 1980 5:08 PM Wed

Interim Status Standards
MASTER REPORT
Using Closure Period 5
Including Treatment Costs
Including Surface Impoundments

Total of All Industries

	Tech Reqt	Disposal	Fini Reqt	Rec/Rep	Mon/Test	Admin	Training	Contingency	Non-ded F/R	Row Total
Initial										
3001:					17.613	8.975				26.588
3002:				.320		10.991				11.311
3003:										
3004:					1.906	3.635	4.256	.756		10.553
3005:				1.936		1.469		.560		3.965
Annual										
3001:						.854				.854
3002:				6.170		7.475				13.645
3003:						.185				.185
3004:		109.925		2.180	9.980	19.200	1.386	3.288		145.959
3005:										
Capital										
3001:										
3002:										
3003:										
3004:	.358				46.272			91.130		137.760
3005:										
Closure										
3001:										
3002:										
3003:										
3004:									1,083.682	1,083.682
3005:										
Annualized										
3001:					2.866	2.887				5.753
3002:				10.365		14.316				24.681
3003:						.296				.296
3004:	.058	184.415		3.619	24.660	32.773	3.002	20.639	149.717	418.883
3005:				.281		.204		.070		.555
Initial:				2.256	19.519	25.070	4.256	1.316		52.417
Annual:		109.925		8.350	9.980	27.714	1.386	3.288		160.643
Capital:	.358				46.272			91.130		137.760
Closure:									1,083.682	1,083.682
Annualized:	.058	184.415		14.265	37.526	80.476	3.002	20.709	149.717	490.168

TABLE 2.

December 10, 1980 5:15 PM Wed

Interim Status Standards
CANDIDI PLANT
Using Closure Period 5
Including Treatment Costs
Including Surface Impoundments
(1980)

Industry	1978 Value Added	Cost of Waste Management at the Generator Plant First Year		Annual		Annual Cost of Off-Site Transportation and Disposal	Total First Year Expenditure	Total Annual Cost	Annual Cost as a Percent of Value Added
		Capital	Initial Expenses	Closure Fund*	Operating				
Pharmaceuticals	9,724.00	1.41	0.79	2.17	0.64	1.70	6.73	5.80	0.06
Agricultural services	1,200.30	10.86	14.00	7.46	13.92	27.55	88.81	75.40	6.28
Rubber	8,800.00	2.56	0.67	1.44	0.84	0.73	6.26	4.18	0.05
Paints	3,150.00	3.30	5.10	2.96	1.95	6.24	17.57	16.86	0.54
Special machinery	7,435.00	1.89	2.08	0.46	1.63	6.81	12.09	13.81	0.19
Explosives	439.00	3.12	0.08	8.67	3.21	0.00	12.10	6.89	1.57
Organics	996.00	0.95	0.17	1.90	0.20	0.57	3.81	2.81	0.28
Plastics	2,330.00	7.03	0.67	36.87	0.87	1.05	46.50	29.97	1.29
Inorganics	76.50	0.01	0.00	0.00	0.01	0.02	0.05	0.06	0.08
Pesticides	2,595.30	7.99	1.01	20.03	1.28	2.31	32.64	21.37	0.82
Petroleum re-refining	26.00	2.22	0.37	2.94	0.23	0.05	5.83	2.96	11.39
Electronic components	11,284.00	4.44	2.45	6.42	1.72	8.02	23.05	21.93	0.19
Batteries	1,374.50	1.72	0.51	2.48	0.57	1.64	6.95	5.81	0.42
Drum reconditioning	100.00	0.19	0.16	0.04	0.22	0.40	1.02	1.14	0.38
Chemical warehouses	1,600.00	0.00	0.00	0.00	0.00	1.14	1.14	1.92	0.12
Wood preserving	374.00	1.90	0.39	1.08	0.39	0.16	3.94	2.07	0.55
Petroleum	14,274.20	19.39	4.43	62.92	4.71	11.91	103.37	75.31	0.53
Iron & Steel	25,647.80	5.36	0.75	10.15	0.89	2.13	19.31	13.12	0.05
Ferrous	8,546.99	2.32	1.26	1.43	1.34	1.20	7.56	5.85	0.07
Electroplating	5,757.00	39.69	14.58	11.16	12.12	11.88	89.44	56.96	0.99
Leather Tanning&Finishing	282.27	3.06	1.23	4.14	1.32	10.60	20.37	23.59	8.36
Textiles	7,490.27	10.17	1.77	6.69	3.93	2.20	24.77	16.89	0.23
Organic Chemicals	1,131.58	0.18	0.02	0.80	0.09	2.45	3.55	4.86	0.43
Inorganic Chemicals	719.09	3.10	1.18	16.27	0.66	7.38	28.61	25.46	3.54
Non-Ferrous Metals	2,473.47	4.80	0.64	13.13	0.89	2.47	21.95	15.62	0.63
Total	118,027.18	137.76	52.41	216.73	58.71	109.92	567.55	450.76	0.38

*Sum in "Annual Closure Fund" represents year 1 of 5 years.

INFORMATION REQUIREMENTS UNDER RCRA

Conditional, one-year clearances were given by OMB through May 30, 1981 for the reporting and record-keeping burdens associated with Sections 3010, 3002, 3003, 3005 (May 16, 1980 letter from Jim Tozzi) and Section 3004 (June 17, 1980 letter from Tozzi).

OMB Requests

The following additional points were made in these letters:

May 16, 1980

A. Ongoing evaluation - OMB requested an ongoing evaluation of Sections 3010, 3002, 3003, 3005 during the initial stages of implementation.

- OMB requested a plan for this evaluation by June 30, 1980.

B. Immediate Action to Seek Clearance For All Information - Gathering Activities subject to the Federal Reports Act.

- OMB requested that any information-gathering activities subject to the Federal Reports Act, regardless of Agency position on this, be included in EPA's Information Collection Budget.

- OMB requested EPA to immediately seek clearance for reporting required by EPA regional offices, including HW Task Force information-collection activities.

- OMB requested serious staff efforts in EPA to stop underreporting the burden of EPA programs.

June 17, 1980

A. Review 3004 burdens and Make Adjustments -

- OMB requested EPA to review 3004 burdens by August 30, 1980 and recommend further adjustments to minimize burdens, where feasible.

-- asked EPA to reexamine procedures used in minimizing compliance burdens earlier; procedural review requested before any extension of one-year clearance is asked by EPA.

-- asked EPA to refine average time estimates related to compliance burden in following areas:

- Discrepancy Report (265.72)
- Unmanifested Waste Report (265.76)
- Waste Analysis/Trials (265.73(b)3)
- Monitoring Data (265.73(b)6)
- Inspection Log (265.73(b)5)

- OMB stated agreement that many 3004 compliance costs may not be classifiable as reporting or recordkeeping burdens per se.

- OMB indicated that various details of cost estimates were not then available but had been promised by EPA for later. Specifically, estimates for special facilities had not been made available (e.g., Subparts I-R) and OMB asked that these be developed and quantified for purposes of possible reduction of unnecessary burden.

B. Develop Viable 3004 Evaluation -

- OMB stated that the May 28 draft Evaluation Plan (MDI plan) is too broad and its timing too slow; OMB indicated its willingness to assist in an evaluation design.

- OMB requested that a revised evaluation plan be developed and submitted by July 15; OMB would review by July 30. OMB specifically stated the evaluation should include groundwater monitoring requirements.

C. OMB Review of Final Permitting Requirements During Development

- OMB requested the opportunity to review the final permitting requirements (Phase II), including compliance burden, during various stages of their development.

OSW Actions

In reponse to the requests made in these letters, OSW did the following:

May 16, 1980

A. OSW contracted with Adams & Wojick to do an analysis of the requirements under Section 3010, 3002, 3003 and 3005. It was felt that a full-blown evaluation during the initial stages of implementation would be meaningless due to the lack of program experience. The Wojick analysis was initiated (and agreed to by OMB in a July 11, 1980 letter from Ed Clarke).

B. OSW did submit an Information Collection Budget for FY 1981 that reflects the range of activities subject to the Federal Reports Act. Specifically, recordkeeping burdens were included.

June 17, 1980

A. The Adams & Wojick analysis was contracted to cover Section 3004 as well, with the intent of identifying any unnecessary burden. As a result of this analysis and other internal efforts to review these requirements, OSW did suspend the Annual Report for Calendar Year 1980 (which would have been due March 1981), thereby reducing the burden on the regulated community.

OSW did cost out land-treatment, incinerator, landfill and surface impoundment techniques for the ISS (through which most of the handling occurs). (An updated draft of the cost estimates and economic impact analysis for the ISS, with the "nitty-gritty" on how the costing out is done, will be available next week.)

B. OSW did brief OMB on the RCRA Evaluation Plan (developed by PDI) which is designed to evaluate all components of the Subtitle C program. OSW agrees that the May 28 draft evaluation is not satisfactory.

The Wojick analysis was agreed to as a first step, to be tied into the overall evaluation. Accordingly, the dates for submission in July were foregone in anticipation of the Wojick Analysis later in the Fall and the products of the subsequent, ongoing RCRA evaluation.

C. The final permitting requirements have changed so often that it would not have made much sense to ask for OMB review of them. The preliminary requirements (in brief summary form) were shared with OMB in November, but they did change again after that.

The cost estimates for incinerators, tanks, waste piles and surface impoundments have been developed and were printed in the Federal Register.

Clarity Problems

There were a number of points in the Tozzi letters that are unclear. Clarification of these points (listed below) and what should be done in response to them would aid OSW in terms of complying with OMB requests.

1. Underreporting of burden associated with EPA programs. (We believe that this applies to other than the RCRA program)

2. Confusion over specific evaluations and/or supplementary analyses requested.

Additional Actions

In addition to the above actions, OSW undertook a thorough review of the regulations and took action to clarify and/or amend the regulations to limit the scope of the regulations, and thereby, lessen the burden on the regulated community. These actions are listed below:

Date Promulgated	Target RCRA Sections	Short Description of Amendment/Interprtation
7-16-80	40 CFR 261: 261.31 261.32 Appendix VII Appendix VIII	• Adds 18 wastes to final list of hazardous wastes. • Includes toxic constituents for which these wastes are being listed in Appendix VII. • Adds 3 toxic constituents, deletes 1 from Appendix VIII. ***
10-30-80	40 CFR 260, 261: 261.4 260.10	• Provides that a hazardous waste that is generated in a product or raw material storage tank, transport vehicle or vessel or in a manufacturing process unit is not subject to regulation unitl it is removed from the unit in which it was generated (specific exceptions cited).*** • Modifies the definition of "generator" so that it clearly covers persons who remove hazardous wastes from product or raw material storage tanks, transport vehicles or vessels, or manufacturing process units in which the hazardous waste is generated. • Adds definitions for "transport vehicle" and "vessel".

Date Promulgated	Target RCRA Section	Short Description of Amendment/ Interpretation
10-30-80	40 CFR 261: 261.4	• Temporarily excludes from hazardous waste status wastes which are presently deemed hazardous soley due to the presence of chromium, but contain trivalent chromium exclusively, are generated from processes which use trivalent chromium exclusively, and are managed in non-oxidizing environments. Specific wastes cited (including leather tanning wastes, certain waste water treatment sludges). ***
10-30-80	40 CFR 261: 261.32	• Removes from list of hazardous wastes the wastes from the leather tanning industry and the titanium dioxide production industry which were listed as hazardous in interim final form in the May 19, 1980 Federal Register. ***
10-30-80	40 CFR 265: 265.112 265.116 265.142 265.144	• Allows the owners or operators of all hazardous waste facilities to have up to 6 months after the effective date of these regulations to prepare a written closure plan, post closure plan (if applicable), and cost estimates for closure and post closure (if applicable). ***
10-30-80	40 CFR 261: Appendix II	• Clarifies confusing references to two sets of analytical methods, each of which delineates the same methods insofar as the applicability of the subject section of Appendix II. Therefore, this amendment does not change the substance of Appendix II.
11-10-80	40 CFR 122: 122.4(b)	• Regulatory Interpretation Memorandum which provides official interpretation of one of the sigatory provisions of the May 19, 1980 consolidated permit regulations. EPA will interpret the term "owner" so as to exclude those who own both bare legal title for the purpose of providing security for a financing agreement, and do not exercise any of the effective incidents of ownership or equitable title. ***
11-12-80	40 CFR 261, 262: 261.30 261.31 Appendix VII Appendix VIII 262.32	• Finalizes the listings of 80 hazardous wastes from nonspecific sources and specific sources, which were proposed in in interim form on May 19, 1980. • Deletes 4 wastes from the interim final hazardous waste list. ***

Date Promulgated	Target RCRA Section	Short Description of Amendment/ Interpretation
11-12-80 (continued)		• Defers final action on 2 wastes listed in interim final form on May 19, 1980, and on 3 wastes proposed for listing on May 19, 1980. • Finalizes Appendices VII and VIII to § 261. • Clarifies § 261.30(d) to indicate more clearly that the Agency may in the future establish lower small quantity generator exclusion limits for certain hazardous wastes listed in § 261.31 and 261.32.
11-17-80	40 CFR 122, 260, 264, 265: 122.3 122.21 260.10 264.1 265.1	• Suspends the applicability of the requirements of the hazardous waste regulations to: 1) owners and operators of wastewater treatment tanks where such wastewater are subject to regulation under Sections 402 or 307(b) of the Clean Air Act; and 2) neutralization tanks, transport vehicles, vessels, or containers which are hazardous only because they exhibit the corrosivity characteristic under 40 CFR 261.22 or are listed as hazardous in Subpart D of 40 CFR 261 only for this reason.***
11-19-80	40 CFR 261: 261.4	• Excludes from regulation: 1) solid waste from the extraction, beneficatcn and processing of ores and minerals (inckuding coal), including phosphate rock and overburden from the mining of uranium ore, and 2) cement kiln dust wastes. ***
11-19-80	40 CFR 261, 262: 261.5 262.11	• Clarifies the operation of the special requirements for hazardous waste generated by smal quantity generators.*** • Ensures that small quantity generators determine whether their wastes are hazardous.
11-19-80	40 CFR 262 262.34	• Eliminates the distinction between accumulation of hazardous wastes on the site of generation for on-site and off-site treatment, storage or disposal, provided that, within 90 days, the waste is sent to a hazardous waste management facility that is either permitted or in interim status. ***

Date Promulgated	Target RCRA Section	Short Description of Amendment/ Interpretation
11-19-80	40 CFR 122, 260, 264, and 265: 122.3 122.21 260.10 264.1 265.1	• Makes clear that the requirements treatment and storage are not applicable to actions taken to immediately contain and treat spills of hazardous wastes and materials which, when spilled, become hazardous waste. *** • Adds a definition of spill in § 260.10, and § 122.3.
11-19-80	40 CFR 122: 122.22 122.23	• Clarifies the circumstances under which hazardous waste management facilities may qualify for interim status, specifically addressing cases in which facilities miss the notice and application filing deadlines required for interim status. ***
11-25-80	40 CFR 261, 262, and 265: 261.7 261.33 262.51 265.173	• Modifies § 261.33(c) and adds new section 40 CFR 261.7 to clarify the situations in which residues of hazardous wastes that are contained in drums, barrels, tank trucks or other types of containers must be managed under 40 CFR 261 through 265, and 122 through 124. ***
11-25-80	40 CFR 261: 261.4	• Provides that arsenical-treated wood or wood products which are generated by people who use such wood or wood products for the woods' intended end use, and which wood constitutes hazardous waste solely because it fails the test for the characteristic of Extraction Procedure toxicity, is not subject to regulation until EPA's Office of Pesticide Programs has made further progress in its pending review of arsenical wood preservatives. ***
11-25-80	40 CFR 261: 261.33 Appendix VIII	• Finalizes the list of commercial chemical products, off-specification products, and intermediates that, when disposed of, are considered to be hazardous wastes. These wastes were initially promulgated on May 19, 1980. • Deletes 5 chemicals from the list of generically named chemicals in § 261.33(e) and (f) *** • Makes a number of technical changes in the listing descriptions of other listed, generically-named chemicals. • Appendix VIII amended to relect these deletions, and to add one compound whose name was omitted.

Date Promulgated	Target RCRA Section	Short Description of Amendment/ Interpretation
11-25-80 (continued)		• Removes all trade names from the lists of § 261.33(e) and (f), but clarifies that the scope of § 261.33(e) and (f) includes in addition to the commercially pure grades of the chemicals, all technical grades, and all formulated products in which the listed chemical is the sole ingredient. • Responds to certain questions regarding the interpretation of § 261.33.
11-25-80	40 CFR 261: general	• Temporarily excludes solid wastes generated at several particular generating facilities from hazardous waste status. Exclusions respond to delisting petitions submitted under 40 CFR 260.20 and 260.22, and are granted pursuant to 40 CFR 260.22(m). ***
12-04-80	40 CFR 261: 261.4	• Provides that a hazardous waste that is generated in a product or raw material pipeline is not subject to regulation until it is removed from the pipeline in which it was generated, unless it remains in the pipeline for more than 90 days after the pipeline ceases to be operated for the purpose of transporting products or raw materials.***
12-24-80	40 CFR 262, 263: 262.12 263.11	• Establishes a procedure for rapid issuance of EPA identification numbers to hazardous waste generators and transporters during spills and other unanticipated events. Intended effect is to streamline the transport of hazardous waste to authorized hazardous waste management facilities by reducing procedural delays.
12-31-80	40 CFR 122, 260, 263, 264, 265: 122.3 122.21 260.10 263.10 263.12 264.1 265.1	• Clarifies when a transporter handling shipments of hazardous waste is required to obtain a storage facility permit. • Allows transporter to hold manifested shipment of hazardous waste for up to 10 days without a RCRA permit and without complying with standards applicable to storage facilities. *** • If waste held more than 10 days, a facility permit is required, and all facility standards must be met.
12-31-80	40 CFR 262, 264 and 265: 262.10 264.71 265.71	• Provides that owners or operators of hazardous waste TSD facilities must comply with the requirements of Part 262 (Generator standards: manifest documentation, pre-transport requirements, record-keeping and reporting requirements) whenever a shipment of hazardous waste is initiated at their facilities.

Date Promulgated	Target RCRA Section	Short Description of Amendment/ Interpretation
12-31-80	40 CFR 123, 262, 263, 264, 265: 123.34 123.35 123.128 262.23 263.20 263.22 264.71 265.71	• Allows certain shipments of hazardous waste to be transported by rail transporters without a manifest, provided certain information ordinarily obtained from manifests accompanies such shipments. *** • Requires initial rail transporters to forward copies of the manifest to the next non-rail transporter or the desgnated facility, under certain circumstances. • Clarifies signature requirements for the manifest and shipping paper. *** • Eliminates record-keeping requirements for intermediate rail transporters. ***
12-31-80	40 CFR 260, 261: 260.20 260.22 261	• Temporarily excludes solid wastes generated at several particular generating facilities from hazardous waste status. Effect of action is to temporarily exclude certain wastes generated at particular facilities from listing as hazardous wastes under 40 CFR Part 261, and from the management standards issued under RCRA. ***
1-09-81	40 CFR 122, 260: 122.3 122.22 260.10	• Amends definition of "existing hazardous waste management facility" to make it conform to the Solid Waste Disposal Act Amendments of 1980, and to clarify the term "construction." *** • Adds a definition of the term "Federal, State or local...approvals or permits" to alleviate considerable confusion spawned in its absence. *** • Amends the requirement for a permit prior to construction of new hazardous waste management facilities to allow new management facilities (other than land disposal facilities and surface impoundments) to commence construction before receiving a permit. ***
1-16-81	40 CFR 261: 261.31 261.32 Appendix VII	• Finalizes listings of thirteen hazardous wastes from specific sources that were proposed or promulgated in interim final form on July 16, 1980. • Deletes two wastes from the interim final hazardous waste list, and defers action on and suspends the effectiveness of nine wastes listed in interim final form on July 16, 1980, as well as deffering action on one waste that was proposed on that date. *** • Amends Appendix VII of Part 261 by finalizing the toxic constituents of concern for each listed waste promulgated on this date.

Date Promulgated	Target RCRA Section	Short Description of Amendment/ Interpretation
1-19-81	40 CFR 123: 123.128	* Revises the provision for requirements for enforcement authority to clarify the Agency's State program requirements for public participation in the State enforcement process during interim authorization. * Defines the types of enforcement actions to which such requirements apply.
1-26-81	40 CFR 123: 123.31 123.121 through 123.137	* Changes the schedule and related requirements of Phase II of State interim authorization. *** * Changes the application and effective dates for final authorization. *** * Amendments necessary to reconcile the interim and final authorization programs with changes in the schedule for promulgation of the underlying federal program. ***
1-26-81	40 CFR 123: 123.28	* Revises regulations specifying the type of compliance evaluation program a State must have to qualify for interim authorization to operate a hazardous waste management program in lieu of the Federal RCRA program, to take into account Section 3007(a) of RCRA, which gives States direct direct Federal authority to conduct compliance inspections after after they have received interim authorization.
1-26-81	40 CRF 262, 264 and 265: 262.41 264.75 265.75	* Suspends entirely the annual report requirements for calendar year 1980 for hazardous waste generators and owners and operators of hazardous waste treatment, storage, or disposal facilities. ***

*** Highlights those amendments or interpretations which effectively limit the scope of the original regulations.

Mr. SABO. Have you taken any steps in response to the draft report to clarify and simplify the regulations, or is it your total conclusion that they were wrong?

Mr. SMITH. There are two parts. We feel they misinterpreted and misunderstood our regulations. That is not to say there may be some arduous requirements in connection with the regulations.

Mr. GAMSE. We are going through a review to make sure we trim the requirements back as far as we can, still assuring we get the information we need to carry out the program.

REPORT BY ADAMS AND WOJICK ON COHERENCE ANALYSIS

Mr. SABO. Adams and Wojick Associates prepared another report for EPA concerning RCRA regulations entitled "Coherence Analysis." This report concludes that not unlike most major new rule sets, the RCRA regulations contain numerous coherence problems. According to the authors, the most serious coherence problems are due to:

(1) Lack of fit between various rules;
(2) Ambiguities of fit between certain rules and the industrial system they seek to control, and
(3) Complexity.

Is the Agency seriously reviewing the RCRA regulations based on the comments of the consultants?

Mr. SMITH. We are seriously evaluating those regulations and reviewing them from that perspective, yes. Some of the accusations and allegations are correct. There are areas where they do not fit as properly as they should.

REVIEW OF HAZARDOUS WASTE REGULATIONS

Mr. GAMSE. Last week Vice President Bush announced a series of reviews of existing regulations that will be undertaken by the regulatory agencies. The Hazardous Waste program under RCRA is one of the three programs that EPA has committed to review.

Mr. SABO. When is EPA likely to publish a fine-tuned version of these regulations?

Mr. SMITH. It is hard to estimate that right now. The regulations are something that I think the incoming political appointees would want to look at. If I had to guess, I would say sometime late in the summer.

Mr. SABO. The consultants could not understand these regulations. How do you expect folks to be regulated?

Mr. SMITH. It is a fair question. They are complicated regulations. One explanation for that is that it is a complicated act. It is a particularly perplexing and difficult piece of legislation for which to try to develop a common and effective set of regulations.

Mr. GREEN. Mr. Chairman.

In view of that, do you intend to propose amendments to the other act?

Mr. SMITH. I cannot answer that because I do not know what the disposition of the new Administration will be. Mr. Barber may have some insight into that.

Mr. BARBER. No, I have not discussed this statute.

Mr. SABO. Who writes the regulations?

Mr. BARBER. They are written by each program office in general.

Mr. SABO. Specifically who, and in which office?

Mr. BARBER. You have a Deputy Assistant Administrator for Hazardous Waste programs. He has a staff and does so in concert with other offices. There is a lead program office usually at the Deputy Assistant Administrator program level to whom that is assigned.

Mr. SABO. I often thought the most productive thing to do in government was to have a training school for writers.

Mr. GAMSE. EPA has developed a program for people who are about to write regulations on how to go about doing it. This is something we developed in the last year or so.

Mr. SABO. Do you have a specific office that provides technical assistance?

Mr. GAMSE. In the regulatory reform group and associated parts of the Office of Planning and Evaluation we have some people who have been focusing on how to get more clearly written regulations. Over the last six months or so, we have looked carefully at the regulations that have been coming through and seen some improvement. In fact, just a couple of weeks ago, I specifically noted four or five regulations that I thought were particularly well done and commended the people who were in charge of the working groups who developed those regulations. I think we are seeing some improvement. Obviously we are working in technical areas in many of our programs and there is a natural tendency for people buried in details of the program to create requirements that are quite complicated. We are trying to educate people throughout the Agency to be able to write for the people who have to interpret the regulations.

Mr. SABO. Is there any particular background that you are looking for in terms of people who become rule-writers?

Mr. BARBER. We usually hope to start with someone skilled in the technical area they are working, then combine that staff with the legal and drafting talent. Finding people who write well and also have the technical skills is not easy.

Mr. WILSON. One of the problems, is we go for years ignoring a problem like hazardous waste, and people are then under pressure to get a set of regulations out in a short period of time. Many of the difficulties result from not having time to phase in a program. So that is a problem, as well as having people who can write.

INVESTIGATION OF MIDNIGHT DUMPING

Mr. SABO. Page HW-6 indicates that as part of its enforcement activities, the EPA will identify and investigate suspected criminal activities.

What actions has the Agency taken to date in this area?

Mr. WILSON. We are very concerned about the aspects referred to as midnight dumping in the hazardous waste area, where people properly agree to take waste away then dump it down sewers or in a back lot somewhere.

EPA is working very closely with law enforcement agencies. EPA does not have law enforcement powers. In cases of midnight dumping, frequently you are running into a criminal element that EPA is not able to deal with. So we work very closely with the FBI at

the Federal level and with the State police and other investigatory agencies giving them leads to try to deal with this midnight dumping problem and make sure the hazardous waste goes through the system set up.

Mr. SABO. Have you turned any cases over to the Department of Justice?

Mr. WILSON. No. Frequently Justice, through the FBI, and their investigatory agencies, develop the cases.

Mr. SABO. Have you turned over any State officials?

Mr. WILSON. We have worked with a number of States in the Northeast to man strike forces to follow up on leads as to where dumping is taking place.

HAZARDOUS WASTE PROGRAM LEVELS

Mr. SABO. Once again I notice that the justifications for the EPA contain no Hazardous Waste program level sheet. After last year's hearing in which Mr. Traxler indicated that for the second year in a row in which we had specifically asked for a Solid Waste program level sheet and the Agency had not provided it, I thought certainly we would see one in the 1982 justifications.

Provide such information for the record and insert a Hazardous Waste program level page in the 1983 justification material without fail.

Mr. BARBER. We will try to get it in there.

[The information follows:]

SUMMARY OF HAZARDOUS WASTE PROGRAM LEVELS

HAZARDOUS WASTE

Program levels	Actual 1980	Budget estimate 1981	Current estimate 1981	Estimate 1982	1982 versus 1981
Subtitle C, phase I, regulations promulgated		7	7		−7
Subtitle C , phase II, regulations promulgated		2	2		−2
Subtitle C, interim phase II, regulations promulgated		2	2		−2
Subtitle C, phase II, regulations proposed				2	+2
RCRA section 6002, guidelines proposed			1	1	0
Section 405 CWA sludge, regulations proposed			1		−1
Promulgated RCRA, section 4004, landfill criteria	1				
States assisted in hazardous waste program development	56	56	56	56	0
States achieving phase I, interim authorization	0	30	35	49	+14
Treatment facility permits	0	68	0	160	+160
Storage facility permits issued by EPA	0	0	0	201	+201
Land disposal permits issued by EPA	0	0	0	35	+35
State solid waste management plans reviewed and approved	0	40	35	0	−35
Urban policy grants managed	63	63	60	0	−60
Technical assistance (TA) peer matches completed	124	122	122	0	−122
Regional TA efforts completed	226	349	349	0	−349
States with procedures for conducting land disposal site inventory developed	56	56	56	56	0
Land disposal site [1] inventory classifications complete	0	[2] 43	[2] 4,000	0	[2] −4,000
Municipal landfills	0	21	2,400	0	−2,400
Industrial landfills	0	10	1,200	0	−1,200
Surface impoundments	0	5	400	0	−400
Lands spreading sites	0	7	0	0	0
State solid waste management plans adopted by States	0	40	32	44	+12

[1] Unit of reporting changed from State basis to site basis.
[2] Number of sites.

HAZARDOUS WASTE

Program levels	Actual 1980	Budget estimate 1981	Current estimate 1981	Estimate 1982	1982 versus 1981
Compliance inspections			1,600	2,000	+400
Compliance orders			150	200	+50
Referral to U.S. attorney			6	30	+24
Permits issued				300	+300
Appeals reviewed				150	+150

SITING POLICY COMMITTEE

Mr. SABO. Turn to Abatement, Control and Compliance on page 12, to the Waste Management Regulations, Guidelines and Policies activity. The 1982 request is $26,282,000, an increase of $3,119,000 above the 1981 current estimate. Page 14 indicates that a 1980 activity was the formation of a Siting Policy Committee.

Who are the members of this committee?

Mr. GAMSE. The Siting Policy Committee is co-chaired by the Deputy Assistant Administrator for Solid Waste and Deputy Assistant Administrator for Planning and Evaluation. It also has representatives from the enforcement office, General Counsel's office, and I believe two regional offices.

Mr. SABO. What is the authority for the Committee?

Mr. GAMSE. No authority in a statutory sense. The purpose of the Committee is to try to come to grips with the question of whether there is enough acceptable hazardous waste capacity—disposal capacity—for the amount that is generated and labeled as hazardous waste under RCRA, and if not, to see what EPA can do to bring the supply of needed acceptable capacity in line.

We have been doing several kinds of things. There is an analytical portion of the job literally trying to assess for various parts of the country the capacity versus the need. We have published a report on that. Secondly, there is an effort to come up with ways to acquaint the public with what the characteristics of acceptable hazardous waste sites are to help deal with the problem of siting these facilities. Nobody wants a hazardous waste site in their neighborhood. That is one of the problems here, trying to acquaint people with this. The primary focus of our products is to provide tools the State governments can use. We are looking in part at what some States have done. There are several States out in front in terms of setting up mechanisms to deal with the problem. We are hoping that we can take the best out of all the States that are involved in that and spread information around about it to the other States that are not quite so far along.

IMPACT OF RCRA REGULATIONS ON ECONOMIC SECTORS

Mr. SABO. Page HW-18 indicates that in 1982 an integral component of the Hazardous Waste program will be economic and regulatory analyses of the impacts of the RCRA regulations on various economic sectors in geographic areas.

Do you have any preliminary estimates of the cost to comply with the regulations?

Mr. SMITH. Very preliminary, sir.

Mr. GAMSE. At the time we put out the phase I regulations we estimated we were talking about a billion dollars a year. Because of the requirements under the consent agreement that we are working under for the RCRA program, we have not finished the economic analysis for the phase II commitments, but we are in the process of incorporating that as part of the review of RCRA as required by the Bush regulatory task force.

Mr. SABO. Will these be the most extensive regulations the Agency has ever issued?

Mr. GAMSE. It depends on how you count. You can point to entire programs. The RCRA program is a set of regulations, if you look at the whole set of air or water quality regulations, added together they would be larger.

Mr. SABO. What has been industry's preliminary reaction to the total regulation package?

Mr. SMITH. It is fair to characterize it as mixed. In sectors of the regulated industry, they want the regulations out there, they need them, and they need guidance in that direction. There is a willingness to cooperate with the implementation of those regulations. Clearly, they find some parts of them arduous and expensive, and the rule and recordkeeping aspects are difficult.

Mr. SABO. What kind of technical assistance do you have for smaller companies? I have heard that complaint from smaller businesses about toxic wastes. Smaller businesses might say they want to comply, but they have a difficult time in simply hiring people.

Mr. SMITH. It is a fair question, and it is a real problem I think with the application of many regulations in the Agency to marginal sectors. Outside of general advice we can give the industry and trade associations, we do not have a lot of technical capability. Some of our permit writers can be helpful in assisting the industry and looking at how they can best comply with the regulations they have to implement, but we do not have a strong program of technical assistance in this area.

Mr. SABO. Mrs. Boggs.

TRAINING PROGRAMS IN AREAS OF REGULATIONS

Mrs. BOGGS. I have always wondered why we did not have training programs in these areas, particularly in water quality, where testing can determine compliance in small towns and so on, and hazardous waste disposal. It would seem to me if we simply had some practical training program in vocational schools or high schools, we could provide technical assistants. There could be some way of training and licensing in these areas through either the Labor Department or the Department of Education. I think it would be an absolutely wonderful way of making certain that everyone was able to comply, and then could be inspected and monitored and recognized as being in compliance with environmental standards.

Mr. BARBER. I am afraid that training sits right next to travel, and tends not to survive very well at the Federal level when

spending reductions are necessary. Our response has been to use the Federal government to provide the technical materials and to look to both the States and universities to try to use that material to do the delivery. The Federal government is not a good deliverer of that kind of information. So it is trying to find a mix in something like the Hazardous Waste program. We are trying to add to the Federal government's information. It will never work in having the Federal government train individuals, and hopefully through that process we will get it to happen.

Mrs. BOGGS. That is why I was making the point of the vocational schools, the high schools, the community colleges and so on. This is where the training must occur, but there could be, as you say, supplemental guidelines, informational guides, texts, and so on.

Mr. BARBER. There is no shortage of paper coming from EPA in terms of technical information.

Mrs. BOGGS. Is it directed toward training?

Mr. BARBER. We have some that are directed toward training, but they need to be synthesized and distilled by a trainer to distribute the information.

Mr. SMITH. We have found—this is the municipal treatment systems—we feel there is a large entrepreneurial market for private industry. Our efforts recently have been to try to encourage the private sector to move into that area, and they can provide stable employment for these people who become the technicians and operators. We provide the general use for the system and the enforcement——

Mrs. BOGGS. What the President was saying the other day was so true. We should try to equate the want ads to our training programs. And I do think this is an area where you are already putting out the materials, you are already sharing the technical skills. You are now saying that we must indeed get the States and localities to be more responsive, be more responsible, so most of the monies are going to the State and local programs.

I just feel that all the information we already have, all the tools that are already available, should be geared to the specific needs of training for the smaller operations, the smaller cities and plants. That is what triggered my comments, because certainly entrepreneurial enterprises will exist in the larger areas, and colleges and universities will take this up as well. But you have a vast area of local governments, local entities, smaller firms and concerns who really do not need widely-trained persons who are costly to hire.

Thank you, Mr. Chairman.

WATER QUALITY MANPOWER PLANNING AND TRAINING

Mr. GREEN. While we are discussing training, if I could drop back to WQ-68, the Carter Administration had proposed under manpower training water quality, $1,478,000 for Salaries and Expenses, and $2,625,000 for Abatement, Control, and Compliance. Those figures in the March submission are now zero in each instance. Is that one of the areas where it is contemplated the appropriation request will be set at zero even if the legislation is agreed to?

Mr. SMITH. I think the intention is to keep that at zero, yes, Mr. Green.

DIOXIN RISK ASSESSMENT

Mr. SABO. On page HW-22 is mention of a dioxin risk assessment program which was initiated in 1980, due to the discovery of dioxin contamination in a resource recovery plant.

How much has the Agency reprogrammed from other activities to accomplish the dioxin risk assessment?

Mr. SMITH. I will give you that for the record.

Mr. SABO. Yes, and also what the total estimated cost of the risk assessment is.

[The information follows:]

DIOXIN RISK ASSESSMENT REPROGRAMMING

In fiscal year 1981, the Agency has reprogrammed $364,000 from the Hazardous Waste program and $175,000 from the Solid Waste program for the dioxin risk assessment. The total estimated cost of the risk assessment program is $11 million.

Mr. SABO. How great a problem do you believe this to be? Why shouldn't more plants be sampled before a major risk assessment program is begun?

Mr. CLARK. We are in a process of sampling other plants to find out whether the problem occurs more widely or not. We would like to provide a more detailed answer for the record.

[The information follows:]

The perceived risks from the emissions of dioxin from waste combustion facilities appear high; however, they do not present an unreasonable risk to the populace when the risks of continued land disposal and the benefits of resource recovery are considered.

More plants are being sampled at this time and more analysis will be completed prior to the start of this major program. It is possible that by using existing data the Agency will be in a position to declare the risks from resource recovery and waste combustion in general to be acceptable.

Mr. SABO. Other nations, notably Japan and certain European countries, are far ahead of the United States in resource recovery activities. What evidence have they gathered of dioxin contamination in resource recovery plants?

Mr. CLARK. There has been some evidence from Europe.

INTERAGENCY COORDINATING COMMITTEE ON FEDERAL RCRA ACTIVITIES

Mr. SABO. The same page indicates that the 1980 amendments to the Resource Conservation and Recovery Act established an Interagency Coordinating Committee on Federal resource conservation and recovery activities. As the justification states:

This committee is charged with the responsibility for coordinating all activities dealing with resource conservation and recovery from solid waste and for submitting a five-year action plan for Federal resource conservation or recovery activities to Congress in 1981 and annually thereafter.

Provide for the record the members of the Coordinating Committee.

[The information follows:]

MEMBERSHIP OF THE INTERAGENCY COORDINATING COMMITTEE

Presently, members of the Committee are the Environmental Protection Agency (EPA), the Department of Energy, the Department of Commerce, the Department of Interior, the Office of Management and Budget, and the Department of Treasury. The

first four are members as stipulated in Section 2001 of the Solid Waste Disposal Act Amendments of 1980. The latter two were invited to join by EPA and have accepted.

STATUS OF INTERAGENCY COORDINATING COMMITTEE

Mr. SABO. What action has the Committee taken to date?

Mr. SMITH. We have not requested an appropriation for the Committee. Consequently, the Committee has not met.

Mr. SABO. Are there members?

Mr. SMITH. There were members appointed in the last days of the Carter Administration, possibly the last hour.

Mrs. BOGGS. Do they come under the freeze?

Mr. SABO. Are we sure we are talking about the same one? This is the Interagency Coordinating Committee.

Mr. SMITH. I am sorry. I stand corrected. This is the Interagency Coordinating Committee. We were supposed to have a five year action plan from them on the 1st of March.

Mr. BARBER. Needless to say, that has not been the highest-priority task in that program. We will provide an assessment for the record.

[The information follows:]

INTERAGENCY COORDINATING COMMITTEE ACTIVITIES HAVE BEEN POSTPONED

As result of the uncertainty surrounding Administration policies, committee activities, including the annual five-year action plan, have been postponed but EPA expects to reactivate development of the plan in the near future.

RESOURCE REQUIREMENTS IN 1981 FOR INTERAGENCY COORDINATING COMMITTEE

Mr. SABO. If there are members let us know who they are; if they have acted, let us know.

Mr. SMITH. It is possible there was some confusion in our budget documents.

Mr. SABO. If they have resource requirements in 1981, let us know for the record.

[The information follows:]

To accomplish the Interagency Coordinating Committee objectives, the .3 work-year currently being devoted by EPA staff is adequate.

NATIONAL ADVISORY COMMISSION ON RESOURCE CONSERVATION AND RECOVERY

Mr. SABO. The Solid Waste Disposal Act Amendments of 1980 also established a National Advisory Commission on Resource Conservation and Recovery. The Commission is to be composed of nine members appointed by the President. The Chairman of the Commission shall be designated by the President from among the members. The purpose of the Commission is to prepare a report to the Congress.

I understand that former Deputy Administrator of the Environmental Protection Agency, Barbara Blum, has been appointed the Chairman of the Commission; is that correct?

Mr. SMITH. That is accurate, yes.

Mr. COUGHLIN. These were the midnight appointments.

Mr. SMITH. I have the full list of appointments.

Mr. SABO. Provide for the record the rest of the membership of the Commission.

[The list follows:]

The National Advisory Commission on Resource Conservation and Recovery was established by Public Law 96-482, the Solid Waste Disposal Act Amendments of 1980. The Commission is composed of nine members appointed by the President. The Chairman of the Commission is Barbara Blum, the former Deputy Administrator of the Environmental Protection Agency. The other members are Wayne Owens, former member of Congress from Utah; James Free, former White House Special Assistant for Congressional Liaison; Basil Snyder, Chairman of the Board of Garden State Paper Company; Mary Sheil, Administrator, New Jersey State Recycling Authority; Coleman Young, Mayor of Detroit; Donald Schafer, Mayor of Baltimore; Terry Trumbell, Chairman, California Solid Waste Management Board; and Leonard Steffanelli, President, Sunset Scavenger, San Francisco, California.

RESOURCE REQUIREMENTS IN 1981 FOR THE NATIONAL ADVISORY COMMISSION

Mr. SABO. Section 33E of Public Law 96-482, the Solid Waste Disposal Act Amendments of 1980, states:

From the amounts authorized to be appropriated under the Solid Waste Disposal Act for the fiscal years 1981 and 1982, not more than $1 million may be used to carry out the provisions of this Section.

Does the Environmental Protection Agency intend to devote any resources to the National Advisory Commission in 1981?

Mr. SMITH. We have not requested any, sir. In 1981, no, sir.

Mr. SABO. What about 1982?

Mr. SMITH. We are not requesting it.

Mr. SABO. What is the Agency's position concerning the National Advisory Commission? Does it support the objectives of the Commission?

Mr. SMITH. My feeling would be that it is definitely something that the new incoming Administration has to evaluate and see if it is a committee that they want to sustain. I think it is up to them really.

Mr. COUGHLIN. That's called a sunset, isn't it?

Mr. SMITH. Yes.

Mrs. BOGGS. Can you just do away with it without coming back to us?

Mr. SMITH. No, ma'am. We cannot.

Mr. SABO. I assume if they wanted to meet without any more resources, they could. That's their problem?

Mr. SMITH. That's right.

URBAN RESOURCE RECOVERY GRANT PROGRAM

Mr. SABO. Turn to page HW-24 which contains the resources for the Regulations, Guidelines and Policy activity. The third paragraph on the page indicates:

As orginally envisioned, this program was funded by EPA for three years (1979-1981) to provide the necessary impetus to local governments to plan resource recovery systems appropriate to their communities' needs.

That marks an interesting divergence from the justification materials submitted in January which states:

Funding to the outstanding urban grant projects will be allocated and management of the close-out of the 61 cooperative agreements will begin in order to terminate the Federal role in the grant program in fiscal year 1982.

Obviously it was not orginally envisioned in January that this program would only be funded for three years. When the Reagan Administration indicated the scope of the reductions that would have to be taken, did they specify the Urban Resource Recovery Grant program or did the EPA suggest this area for possible reduction?

Mr. SMITH. My recollection, Mr. Chairman, was that we were directed to cut back on our grant programs generally without specific reference to category and that this was one that suggested itself as being somewhat marginal and almost finished.

I stand corrected. My staff tells me that it was specifically directed by the OMB.

Mr. SABO. This program?

Mr. SMITH. This particular one, yes.

Mr. SABO. How many people throughout the Agency are devoted to this program in 1981?

Mr. SMITH. There are a total of eight people in headquarters and eight to ten people in the regions. Altogether, there are 18 EPA staff who devote some part of their time to urban grants management.

Mr. SABO. In 1981?

Mr. SMITH. Yes.

Mr. SABO. Do you continue working on the 1981 forecast?

Mr. SMITH. No, sir.

FINANCIAL ASSISTANCE PROGRAM STATE ASSIGNEES

Mr. SABO. The Financial Assistance programs are described on page HW-25. The revised 1982 estimate is $41,700,000. No funds have been requested for the Solid Waste Management Financial Assistance to States and for Resource Recovery Local Financial Assistance.

The January budget submission included $6,000,000 for Solid Waste Grants and $6,600,000 for Resource Recovery Grants. The January submission also included a full-time equivalency of 90 to be available as state assignees for the States.

Elaborate on the original objective of these 90 term positions and the reason they were eliminated in the Reagan amendment.

Mr. SMITH. The state assignees are something we have not had too much experience with in the Water and Hazardous Waste programs. They have been used more commonly in the Air program.

They are basically an assignment of a Federal employee to a State, as I understand it, for a term appointment. They do not accrue against the long-term commitments on the part of the Federal government toward employees.

Mr. BARBER. They did not. That is correct.

Mr. SMITH. We felt, originally in the Carter budget that this was a way to help assist the States in getting some professional technical assistance. The intent of the revised budget, the Reagan amendments, was to trim back that personnel level.

Mr. SABO. Was the assumption that these would have been people who worked for you previously and had been reassigned to the field? Were they new people?

Mr. BARBER. In the Air program, we have hired new people, placed them in the States with the goal of having them stay in the States at the completion of their term as a Federal employee. There were two decisions that affected the elimination of this item in the Reagan budget. One was that these people would no longer count as other-than-permanent employees against the Agency personnel ceiling, but they would count against the permanent ceiling. The second was a budgetary decision that this item was a lower priority and that the States could basically hire their own people. So there was a policy decision that the Federal government would cease to hire people to put into the State agencies. The State would then use its own personnel system to hire people.

SUBTITLE D FEDERAL FINANCIAL ASSISTANCE RESOURCES

Mr. SABO. The Administration had proposed a five year phase-out of the subtitle D Federal financial assistance. This phase-out began in fiscal year 1980. The Reagan amendment accelerates this Subtitle D phase-out. What resources are the States providing for Subtitle D activities in 1981?

Mr. SMITH. I would have to get that for the record.

Mr. SABO. For the record, what do you estimate they will provide in fiscal year 1982? In other words, will they pick up the slack that will occur once Federal assistance ceases?

Mr. SMITH. I don't think we anticipate a full one-for-one pickup, no. There is obviously going to be a diminished effort at the State level without the assistance.

[The information follows:]

EXISTING AND FUTURE STATE RESOURCES FOR SUBTITLE D

EPA has no readily available information upon which to base an estimate of fiscal year 1981 and 1982 State resources for Subtitle D activities. In fiscal year 1982, EPA expects some States will assume responsibilities for the RCRA Subtitle D program. However, it appears that many States will forego Subtitle D responsibility without Federal aid.

Mr. SABO. The Hazardous Waste Management Financial Assistance to States program has increased dramatically from $18 million in 1980 to nearly $42 million requested in 1982.

Do you think the Nation's overall solid waste and hazardous waste objectives could be better met by diverting a small portion of the 1982 requested increase in Subtitle C activities to Subtitle D activities?

Mr. SMITH. We feel that the importance of the Hazardous Waste program and the lack of capabilities particularly at the local and State level to take care of this problem really require an infusion of Federal money right now. It is much more of a priority in terms of the Nation's need to focus its attention right now on public health and environmental problems.

URBAN RESOURCE RECOVERY GRANTS

Mr. SABO. For the record please update the table on the Urban Resources Recovery Grants which appeared on page 203 of the 1981 hearing volume.

Mr. SMITH. I will.

Mr. SABO. Provide information reflecting both the January budget submission and the effect of the Reagan budget amendment.

[The information follows:]

URBAN POLICY

Resource Recovery Grants January Request

Following is a list of awards to Urban Policy grantees in FY 79-80 and anticipated in FY 81-82.

Grantee	Obligations ($000) Actual FY79	Actual FY80	Estimate FY81	Estimate FY82 (Carter)
Alabama				
Jefferson County	245.0	---	---	---
California				
Los Angeles	357.0	---	---	200.0
San Francisco	465.0	---	---	200.0
Berkeley	425.0	---	---	100.0
Los Angeles County	75.0	---	---	---
Long Beach	459.0	---	---	150.0
Colorado				
Eagle County	185.0	---	---	150.0
Connecticut				
Con. Res. Rec. Authority	725.0	---	---	200.0
New Britain	77.0	---	---	---
District of Columbia				
Washington	---	477.0	---	200.0
Florida				
Hillsborough County	461.0	---	---	---
Escambia County	122.0	186.0	---	50.0
Daytona Beach	331.0	---	---	100.0
Broward County	245.0	---	---	150.0
Georgia				
Floyd County	134.0	85.0	---	---
LaGrange	316.0	---	---	150.0
Savannah	209.0	---	---	150.0
Hawaii				
Kauai	202.0	---	---	200.0
Illinois				
Chicago	224.0	84.0	---	100.0
Rockford	49.0	---	---	---
Indiana				
Indianapolis	105.0	274.0	---	150.0

Iowa				
Black Hawk County	235.0	---	---	200.0
Kentucky				
Bell County	59.0	271.0	---	50.0
Louisiana				
New Orleans	337.0	348.0	---	100.0
Maryland				
Baltimore County-MES	359.0	278.0	---	100.0
Howard County	41.0	15.0	---	---
Massachusetts				
Pioneer Valley	188.0	---	---	200.0
Central Mass.	213.0	---	---	---
Michigan				
Flint	132.0	305.0	---	150.0
W. Michigan Shore	130.0	300.0	---	250.0
Detroit	278.0	40.0	---	---
Minnesota				
St. Paul	323.0	---	---	100.0
Mississippi				
Hattiesburg	53.0	---	---	---
Missouri				
Bi-State (St. Louis)	336.0	---	---	200.0
Kansas City	336.0	---	---	200.0
New Hampshire				
Claremont	283.0	---	---	100.0
New Jersey				
Port Authority (NY/NJ)	927.0	---	---	200.0
Mercer County	55.0	424.0	---	100.0
Camden County	71.0	425.0	---	100.0
Newark	50.0	---	---	---
Hackensack Meadowlands	73.0	---	---	100.0
New York				
New York City	714.0	---	---	150.0
Utica	215.0	325.0	---	100.0
Brookhaven	56.0	---	---	100.0
Westchester County	60.0	---	---	---
Monroe County	80.0	---	---	---
Port Authority (NY/NJ)		(See New Jersey)		

North Carolina				
Region M COG	86.0	147.0	---	200.0
Ohio				
Cuyahoga County	249.0	350.0	---	---
Toledo	117.0	---	---	---
Montgomery County	118.0	300.0	---	---
Oregon				
Portland MSD	253.0	301.0	---	200.0
Pennsylvania				
Philadelphia	89.0	---	---	200.0
Rhode Island				
State of Rhode Island	526.0	---	---	---
Texas				
Waco	---	98.0	---	200.0
Tarrant County	136.0	139.0	---	150.0
Utah				
Wasatch (Salt Lake)	297.0	46.0	---	200.0
Vermont				
Rutland	317.0	62.0	---	100.0
Virginia				
Southeastern Va.	151.0	171.0	---	50.0
Washington				
King County	282.0	494.0	---	100.0
West Virginia				
State of W. Virginia	109.0	94.0	---	100.0
Wisconsin				
State of Wisconsin	140.0	225.0	---	150.0
Puerto Rico				
San Juan	30.0	21.0	---	---
Virgin Islands				
Virgin Islands	209.0	---	---	---
Subtotals	14,124.0	6,285.0	4,000.0*	6,400.0
Administrative				200.0
TOTALS	14,124.0	6,285.0	4,000.0	6,600.0

*FY81 - The Regions are in the process of distributing the funds among the projects.

URBAN POLICY

Resource Recovery Grants March Request

Following is a list of awards to Urban Policy grantees in FY 79-80 and anticipated in FY 81-82.

Grantee	Obligations ($000) Actual FY79	Actual FY80	Estimate FY81	Estimate FY82 (Reagan)
Alabama				
Jefferson County	245.0	---	---	---
California				
Los Angeles	357.0	---	---	---
San Francisco	465.0	---	---	---
Berkeley	425.0	---	---	---
Los Angeles County	75.0	---	---	---
Long Beach	459.0	---	---	---
Colorado				
Eagle County	185.0	---	---	---
Connecticut				
Con. Res. Rec. Authority	725.0	---	---	---
New Britain	77.0	---	---	---
District of Columbia				
Washington	---	477.0	---	---
Florida				
Hillsborough County	461.0	---	---	---
Escambia County	122.0	186.0	---	---
Daytona Beach	331.0	---	---	---
Broward County	245.0	---	---	---
Georgia				
Floyd County	134.0	85.0	---	---
LaGrange	316.0	---	---	---
Savannah	209.0	---	---	---
Hawaii				
Kauai	202.0	---	---	---
Illinois				
Chicago	224.0	84.0	---	---
Rockford	49.0	---	---	---
Indiana				
Indianapolis	105.0	274.0	---	---

Iowa				
Black Hawk County	235.0	---	---	---
Kentucky				
Bell County	59.0	271.0	---	---
Louisiana				
New Orleans	337.0	348.0	---	---
Maryland				
Baltimore County-MES	359.0	278.0	---	---
Howard County	41.0	15.0	---	---
Massachusetts				
Pioneer Valley	188.0	---	---	---
Central Mass.	213.0	---	---	---
Michigan				
Flint	132.0	305.0	---	---
W. Michigan Shore	130.0	300.0	---	---
Detroit	278.0	40.0	---	---
Minnesota				
St. Paul	323.0	---	---	---
Mississippi				
Hattiesburg	53.0	---	---	---
Missouri				
Bi-State (St. Louis)	336.0	---	---	---
Kansas City	336.0	---	---	---
New Hampshire				
Claremont	283.0	---	---	---
New Jersey				
Port Authority (NY/NJ)	927.0	---	---	---
Mercer County	55.0	424.0	---	---
Camden County	71.0	425.0	---	---
Newark	50.0	---	---	---
Hackensack Meadowlands	73.0	---	---	---
New York				
New York City	714.0	---	---	---
Utica	215.0	325.0	---	---
Brookhaven	56.0	---	---	---
Westchester County	60.0	---	---	---
Monroe County	80.0	---	---	---
Port Authority (NY/NJ)			(See New Jersey)	

North Carolina				
Region M COG	86.0	147.0	---	---
Ohio				
Cuyahoga County	249.0	350.0	---	---
Toledo	117.0	---	---	---
Montgomery County	118.0	300.0	---	---
Oregon				
Portland MSD	253.0	301.0	---	---
Pennsylvania				
Philadelphia	89.0	---	---	---
Rhode Island				
State of Rhode Island	526.0	---	---	---
Texas				
Waco	---	98.0	---	---
Tarrant County	136.0	139.0	---	---
Utah				
Wasatch (Salt Lake)	297.0	46.0	---	---
Vermont				
Rutland	317.0	62.0	---	---
Virginia				
Southeastern Va.	151.0	171.0	---	---
Washington				
King County	282.0	494.0	---	---
West Virginia				
State of W. Virginia	109.0	94.0	---	---
Wisconsin				
State of Wisconsin	140.0	225.0	---	---
Puerto Rico				
San Juan	30.0	21.0	---	---
Virgin Islands				
Virgin Islands	209.0	---	---	---
TOTALS	14,124.0	6,285.0	4,000.0*	---

*FY81 - The Regions are in the process of distributing the funds among the projects.

TECHNICAL ASSISTANCE PROGRAMS

Mr. SABO. Turn to Technical Assistance programs, beginning on page HW-39. The Reagan amendment has eliminated this program in 1982, compared to the Carter request of $6,923,000.

Why shouldn't the Committee rescind the $6,429,000 in 1981?

Mr. SMITH. Well, I think in the hazardous waste area, there are sufficient funds to assist the communities and assist the interpretation of the program associated with that increase in the money for hazardous waste disposal.

In this particular area of solid waste, we feel that there has been sufficient public information available. It is out there. The main thing now is for its more effective utilization. Clearly it is an area that we have some pain about totally cutting out, but in an austere year, it is the kind of thing we have to do.

Mr. SABO. Does it really matter if the program is terminated in 1982 or 1981?

Mr. SMITH. It would probably matter in our overall budget ceiling, yes.

In other words, we would have to take the cuts out of some other places. We felt this was a more dispensable area.

Mr. SABO. How much of the 1981 funds are currently obligated? How much remains unobligated?

Mr. SMITH. We will provide that for the record.

Mr. SABO. Supply those rather quickly.

[The information follows:]

TECHNICAL ASSISTANCE/INFORMATION COMMITMENTS AND OBLIGATIONS

EPA has committed all of its technical assistance/information budget under the Abatement, Control and Compliance appropriation. As of April 6, 1981, preliminary accounting figures reflect total obligations of $3,470,500, with an unobligated balance of $1,418,600.

UNCONTROLLED HAZARDOUS WASTE SITES

Mr. SMITH. Page HW-44 contains the detailed justifications for the Uncontrolled Hazardous Waste Sites activity. In 1982 this function is included under the Superfund tab. The 1981 activity totals $25 million. Page HW-45 indicates that in 1980 "contract funds of $1,000,000 were used for support of emergency response to sites."

Can the Agency continue to use contract funds to respond to emergency sites in 1981 until Superfund monies are appropriated?

Mr. SMITH. Yes, sir.

Mr. SABO. How much has the Agency devoted to support emergency response to sites thus far in 1981?

Mr. SMITH. The total in 1981—I would have to furnish for the record.

[The information follows:]

EXPENDITURES FOR EMERGENCY RESPONSE AT HAZARDOUS WASTE SITES

Thus far in fiscal year 1981 a total of $8.5 million has been spent on emergency response at hazardous waste sites. Of this total, $4.9 million is charged against the $6.7 million transferred from the 311 Fund to the Hazardous Substance Response Trust Fund and $3.5 has been spent by the Coast Guard, primarily at the Chemical facility in Elizabeth, New Jersey.

Mr. SABO. In 1980, the EPA awarded $8 million for the field investigation team contract. Has that contract been funded in 1981 also?

Mr. SMITH. Yes sir.

Mr. SABO. Has the entire contractual amount been awarded to Ecology and Environment, Inc., of Buffalo, New York?

Mr. SMITH. I believe that is correct, but let me clarify that for the record as well.

Mr. SABO. Are you satisfied with their performance in executing the provisions of the contract?

Mr. SMITH. To the best of my knowledge, yes, sir, we are.

[The information follows:]

FIELD INVESTIGATIONS TEAM CONTRACT

The full field investigation team contract was awarded to Ecology and Environment, Inc., in February 1980. E & E has a major subcontract with Fred C. Hart, Inc., for approximately 25 percent of the field activities. E & E also administers other smaller subcontracts under the prime contracts for special technical support such as expert witnesses and ground water monitoring.

HAZARDOUS WASTE PERMITS ISSUANCE

Mr. SABO. Page HW-57 indicates that in 1982, 39 sites are expected to receive interim authorization for managing the Hazardous Waste program. Approximately 400 facilities will receive permits during the year. Is the 7,500 hazardous waste permit estimate provided during last year's hearings still accurate?

Mr. SMITH. Dick, do you know?

Mr. WILSON. Yes.

Mr. SABO. It is accurate?

Mr. WILSON. We think the 7,500 figure for EPA estimated permits is still accurate. The total number of permits is larger than that, but the EPA number is 7,500.

Mr. SABO. For the record, update the table which appears on page 238 of the 1981 hearing volume dealing with the permit schedule.

[The information follows:]

6-YEAR PERMIT SCHEDULE

Permit category	1982	1983	1984	1985	1986	1987
Onsite treatment and disposal	678	565	565	452		
Offsite treatment and disposal	169	169	169	58		
Onsite storage	902	1,804	1,805	1,805	1,804	903
Offsite storage	226	452	452	452	452	226
Total	1,975	2,990	2,991	2,767	2,256	1,129

HAZARDOUS WASTE RESEARCH AND DEVELOPMENT

Mr. SABO. Turn to Research and Development for Hazardous Waste, beginning on page HW-58.

The total 1982 request is $31,045,000. The 1981 budget estimate for Research and Development was $22,674,000 according to page HW-58. However, page 768 of 1981 hearing volume reflects the

figure of $22,562,000, a decrease of $112,000. These figures should be identical.

What accounts for this deviation?

Dr. DOWD. I believe the prime difference there was the Agency's response to the Love Canal episode, as well as restructuring of the budget, and other reprogrammings detailed in our justification submitted to you.

Our Office of Monitoring within the Office of Research and Development has carried out quite an extensive program in dealing with Love Canal. Most of those funds could not be carried in 1980 funds.

That program has cost nearly $5 million for a very extensive program of monitoring of the air, the land, the ground water, streams, internal septic systems, internal air, a monitoring of biota that lived in the area including things like small field mice, oats, silver maple leaves, and a whole lot of things to attempt to get the best idea of the contamination of Love Canal.

That monitoring effort was carried out roughly from August 8, 1980 through November of 1980. It was a very intensive, very short effort. We have now completed the chemical analysis of the data and we are still in the process of trying to do the quality assurance and pull the information together.

That is the prime difference, as I understand it.

LOVE CANAL/THREE MILE ISLAND

Mr. SABO. Page HW-65 indicates that one of the 1981 changes in this activity is a transfer of $4,585,000 to support the efforts of Love Canal and Three Mile Island. Part of the 1980 supplemental request for Hazardous Waste was $5,400,000 for such activities. The Congress denied the supplemental request. Does the $4.6 million represent the same activities for which funds were requested in the 1980 supplemental?

Dr. DOWD. I am not exactly sure, Mr. Chairman. I believe it does not represent the identical activities. We can provide that for the record if that would be acceptable. I believe that answer is no, but we will provide that for the record.

[The information follows:]

LOVE CANAL REPROGRAMMING

A reprogramming of $4,585,300 was made within the Office of Research and Development (ORD) to support activities at Love Canal and Three Mile Island.

This reprogramming is not for work which was included in the proposed 1981 Hazardous Waste Amendment. It is for a contract amendment to a fiscal year 1980 contract. The first portion of the contract was awarded in July 1980 for $1 million. This $4.4 million is to complete the contract award.

EPA needed the contract to conduct a comprehensive environmental monitoring and assessment study at Love Canal, N.Y. as the result of Federal, State, and public concern over the conflicting data being collected at the site, the need to better understand the environmental conditions of the surrounding site area and the opportunity to gain experience in field investigations in anticipation of future Superfund field research needs.

The Agency was directed by the White House to establish a monitoring system for radionuclides at Three Mile Island (TMI) in April 1980. The effort continues. Since no additional funds were provided to cover this work, reprogrammings to redirect funds to the TMI work are necessary.

Mr. SABO. How much can you use the research work that you did at Love Canal and Three Mile Island?

Dr. DOWD. We plan on, particularly in the area of Love Canal, using it extensively. One of the things that is a very fortunate item coming out of a very unfortunate circumstance is that we are able to really push the state of the art in the development of methods to measure organics in air, something that has been a bit of a problem at any hazardous waste site for some time.

Because we had to carry out such an extensive investigation, we are planning a series of meetings this spring and summer to really present within the Agency the kinds of protocols that came from this very intensive investigation so that in the future we will be able to use methods we developed in Love Canal for both air, water and land as well as some of our biological monitoring elsewhere.

I would suspect that we will not see quite such an intensive investigation at very many sites, but the methods we have developed in this process, I think, will be useful for a very, very long time.

INTERVENOR FUNDING

Mr. SABO. Turning back to HW-64 for a moment. I see that part of the 1981 program includes receiving expert testimony on the scientific bases for regional enforcement cases.

Pursuant to Section 410 of the 1981 Appropriation Act, I presume that all of this expert testimony will be presented at no cost to the government, is that accurate?

Dr. DOWD. Mr. Chairman, I don't quite understand the question.

Mr. SABO. Section 410 states:

None of the funds from this Act shall be used to pay the expenses of, or otherwise compensate, non-Federal parties intervening in regulatory or adjudicatory proceedings. Nothing herein affects the authority of the Consumer Product Safety Commission pursuant to Section 7 of the Consumer Product Safety Act (15 U.S.C. 2056 et seq.).

Mr. BARBER. I think we are talking about two different items. Intervenor funding in our mind is somewhat separate from expert witnesses. We wouldn't characterize them under the same domain.

Mr. SABO. Do they serve a different function?

Mr. BARBER. In one case we hire an expert to present our case. In others, we would give money to an outside party to present their case. I think that is a substantially different philosophical direction.

Mr. GAMSE. In an intervenor funding instance, that would be giving money to someone for public participation who couldn't otherwise afford to testify. It is basically funding an outside group to come in and give us their opinions and comments as opposed to having a technical expert witness for our side of the case.

AREA OF RESPONSIBILITY FOR GROUND WATER RESEARCH

Mr. SABO. Page HW-67 reveals that part of this activity will be to conduct laboratory tests on ground water samples to detect traces of hazardous wastes leachates. Earlier we discussed the activities of the Office of Drinking Water concerning ground water research.

Does the Agency have a coherent ground water policy? Who has the primary responsibility for this?

Dr. DOWD. I think there is a shift in regulatory authority that you have to ask Mr. Smith, who heads both of these at the moment.

In terms of the Research and Development efforts, they are really coordinated by the same office, and we try to relate with Jim on both of those programs; so as far as research coordination, I would assume since Jim at the moment heads up both, that they are coordinated there too.

I better let Jim speak to that.

Mr. SMITH. Yes. I am presently responsible for both the Drinking Water program and the Hazardous Waste program. The integration of those has always been a difficult one, but we try to define a coherent approach both for regulation and for protection.

It also has relationships to the problems of disposal of sewage sludge from the municipal Construction Grants program, of which I am also in charge.

VERSATILE DEMONSTRATION COMBUSTION RESEARCH FACILITY

Mr. SABO. Page HW-69, under Hazardous Waste Incineration, indicates that the Agency intends to locate a versatile demonstration combustion research facility in Pine Bluff, Arkansas.

Last August, the Agency advised the Committee of its intention to build this facility. The Committee believes such a facility should be constructed to the Buildings and Facilities appropriation account. The letter did not ask for Committee approval: technically, it was not required since the implication was that the Agency would use fiscal year 1980 funds from the Research and Development appropriation for the facility.

In March, the Agency advised the Committee that it had not yet constructed the facility and the cost had almost doubled to $350,000. Since the August letter indicated that this was a very high priority and needed to be constructed by the fall of 1980, why hasn't the Agency proceeded with the project?

Dr. DOWD. I think the answer to that is primarily through the getting of permits from the local community. Is that correct?

Mr. RONDBERG. There were problems obtaining the siting. We eventually were successful.

It is in connection with the National Center for Toxicological Research in Pine Bluff, Arkansas. I think the only funds being used now are for equipment. The facility will contain a versatile incinerator-type device in which we can attempt to destroy various hazardous substances.

The reason for the delay was the difficulty in siting the facility. It was not considered a good neighbor by several of the places where we wanted to put it. We finally did succeed with the NCTR at Pine Bluff.

Mr. SABO. Why has the cost risen to $350,000?

Mr. RONDBERG. That I do not know. We would have to check.

Mr. SABO. How much is caused by the delay?

Mr. RONDBERG. Given inflation, I would suspect that would be all of it. I would like to furnish that for the record if I could.

Mr. SABO. Did you have problems with the OSHA requirements?

Mr. RONDBERG. Not that I know of, sir. It was strictly siting and local opposition.

Mr. SABO. Do you feel adequate planning and preparation has been devoted to this building?

Mr. RONDBERG. Yes.

Mr. SABO. Why is a $350,000 building referred to as a temporary facility?

Mr. RONDBERG. I think the total cost is not necessarily the enclosure, but the actual scientific equipment for the burn and for monitoring. It is in what I believe is a temporary steel building which was already in existence at the NCTR site.

Mr. SABO. Do you consider it to be one that would have a temporary existence?

Dr. DOWD. I think perhaps the reason it may be called temporary is on the one hand the National Center for Toxicological Research is on a former Army base, and, as I am sure we all know, many of those buildings have always been classified temporary no matter how long they last.

Secondly, it is primarily planned as a pilot facility to see if we can develop methods of safely incinerating hazardous wastes on a particular site, so it is not meant to be a permanent facility that will be incinerating hazardous wastes from now until the end of the century. But, rather, I think, one that we can use to test methods.

Mr. RONDBERG. The use of the word "facility" is what is causing the problem. I think we have something akin to a large structure enclosed on all four sides with the burner and laboratory equipment located inside of it.

Mr. SABO. Some of the communications to the Committee indicated that OSHA added requirements.

Dr. DOWD. Can we find that out and make that available to the committee, Mr. Chairman?

[The information follows:]

EXPLANATION OF COST ESTIMATES FOR THE COMBUSTION RESEARCH FACILITY

The initial cost estimates for the incineration facility were lower than final estimates for a number of reasons.

Initial estimates preceded detailed design and engineering studies by an A&E contractor.

It is clear that, in the present climate of public concern over waste disposal and potential health and environmental effects, every possible measure to insure the safety of the facility and its surroundings must be taken. Any accident at this facility would significantly impact not only the credibility of ongoing EPA hazardous waste research but also waste facility siting attempts by industry. Safety requirements considerably increased the cost of the Combustion Research Facility (CRF). These included specially designed hoods and air handling systems to control hazardous pollutants which would be encountered in hazardous waste handling and analysis. This became necessary in light of recently published data that indicate that polychlorinated dibenzo dioxins and polychlorinated furans would probably be found in many of the samples (taken from intermediate points within the incinerator) derived from many of the waste streams that are to be studied at the facility. A number of additional safety requirements were placed upon the incineration facility by the National Center for Toxicology Research (NCTR), which is the host facility providing grounds for it.

There have been significant increases in general construction and engineering cost since the EPA first estimated costs for the CRF nearly a year ago.

Mrs. BOGGS. Mr. Chairman, you know the temporary buildings of the Army and Navy of World War I were done away with in the Bicentennial year.

Mr. SABO. You might want to check the letter that we received indicating that that was part of the problem.

Dr. DOWD. Yes.

HAZARDOUS WASTE AMENDMENT

Mr. SABO. Turn to page HW-73. The second paragraph under the 1981 change portion indicates that the 1981 hazardous waste budget amendment resulted in an increase of $300,000 for this activity. The budget amendment revealed that the $300,000 was for 15 additional positions.

Turn back to page HW-59. Under Environmental Engineering and Technology, the 1981 budget estimate is 43. Why is there not at least a 15 work year increase in the 1981 current estimate refecting the effect of the budget amendment?

Mr. KINGHORN. We are in the process of developing a detailed answer on that. We can show you we will see a net increase of 25, but there are plusses and minuses.

Dr. DOWD. I believe also one issue of this area for the Environmental Engineering and Technology account is that we were attempting to pre-use some resources at the early end to help in the Superfund activity.

I think some of those go out of this particular activity and show up in the Superfund activity when and if that comes through. I think that may reflect all of the 15 we are talking about, but they are really reflected in Superfund activity.

Obviously the same set of issues are coming up.

ENVIRONMENTAL PROCESSES AND EFFECTS

Mr. SABO. Page HW-78 describes the 1982 Environmental Processes and Effects program. The Agency is requesting a $2,148,000 increase in 1982, which more than doubles the 1981 effort. What specific new activities will be undertaken in 1982?

Dr. DOWD. This increase reflects two major changes. The first is a redirection of a significant series of water quality activities that were being phased out to address hazardous waste issues, particularly trying to address the question of environmental and ecological damage from hazardous wastes. We are trying to develop methods to look at sites to evaluate the damage that sites may produce on the local biota, vegetation, animals. In addition, there is a major effort under way here as well to improve the ground water research we mentioned earlier. This is the one that is coordinated with the drinking water piece of that program. These two are the primary initiatives that we hope to get from this particular area.

Mr. SABO. Are those the reasons for the additional funds?

Dr. DOWD. Yes, sir.

Mr. SABO. Mr. Green, any questions?

Mr. GREEN. No questions, Mr. Chairman.

Mr. SABO. Mrs. Boggs?

Mrs. BOGGS. I have no questions in this regard now, Mr. Chairman.

I apologize that I had to be at another Subcommittee hearing earlier. I do have some questions I would like to submit for the

record in areas that were covered while I was out of the room, please.

Mr. SABO. Fine. They will be inserted in the record.

We will stand in recess until 10:00 tomorrow morning.

[The questions and answers follow:]

INSPECTION AND MAINTENANCE PROGRAMS

Question. In 1982, this effort will be reduced by $2.2 million and 52 permanent workyears. It is my understanding that some of the funding cuts will come from the Inspection & Maintenance program. Will emphasis now be focused on testing of vehicles that are in-use, or on isolated testing methods?

Secondly, how will EPA support State and local governments in their efforts to prevent tampering with vehicles' emission devices or with fuel switching?

Answer. EPA will continue to provide necessary guidance and technical support to States implementing automobile inspection and maintenance (I/M) programs. The reduction in resources in this area reflects a reduced need for EPA to study and explain the benefits of this program to states as states become more familiar with available information and begin, as most have, to implement the program. EPA has thus focused its resources towards supporting State implementation of the most cost efficient I/M program, and on studying and providing guidance on ways in which I/M can improve fuel economy of in-use vehicles. We also continue to evaluate, through in-use testing, the impact each year's new vehicles has on the need for and benefits of I/M. Available resources are sufficient to accomplish these objectives.

I/M programs have been shown to deter tampering with emission control devices. We are developing methods by which an additional reduction on tampering and fuel switching can be achieved through the inspection and maintenance process. This information will be presented to the States implementing I/M for their consideration. In addition, State air grants (Section 105) have been provided to help encourage States to implement anti-tampering efforts.

REDUCTION OF RESOURCES FOR AIR QUALITY RESEARCH AND DEVELOPMENT

Question. Will you explain further how the $3 million reduction in Air Quality Research and Development will be distributed?

Answer. The table below shows all the increases and decreases in Air Quality Research and Development which result in a net reduction of $3 million. Highlights of the changes are as follows:

Health Effects—major reductions are in Mobile Sources and Gases and Particles. Mobile Sources reduction reflects the phase-down of animal inhalation studies of diesel exhaust. The reduction in Gases and Particles reflects reduced efforts in epidemiology. There is an increase for health effects studies in Oxidants for clinical and animal toxicological research to be used for criteria document revisions.

Environmental Processes and Effects—Increase in Gases and Particles will be for assessing the effects of sulfur oxides and particulates on crop yields. Increase also show expanded efforts in air quality modeling (Oxidants) and ambient air characterization (Hazardous Air Pollutants). Responsibility for conducting motor vehicle emission characterization research has been consolidated within the Environmental Processes and Effects program element accounting for the increase in Mobile Sources.

Monitoring Systems & Quality Assurance—The decrease in Hazardous Air Pollutants reflects a reduction in research to develop methods for measuring these pollutants. The increase in Gases and Particles is for support of the inhalable particulate network. The increase in Mobile Sources is due to the consolidation of exposure assessment studies in the Monitoring Systems & Quality Assurance program element.

CHANGES IN RESOURCES FOR AIR QUALITY RESEARCH AND DEVELOPMENT FISCAL YEAR 1981 TO FISCAL YEAR 1982

[In thousands of dollars]

	Oxidants	Hazardous air pollutants	Mobile sources	Gases and particles	Total
Scientific assessments	−88	−246		−62	−396
Technical information and liaison	−9	+1	−10	+34	+16
Monitoring system and quality assurance	−39	−500	+769	+214	+444

CHANGES IN RESOURCES FOR AIR QUALITY RESEARCH AND DEVELOPMENT FISCAL YEAR 1981 TO FISCAL YEAR 1982—Continued

[In thousands of dollars]

	Oxidants	Hazardous air pollutants	Mobile sources	Gases and particles	Total
Health effects	+1,457	−220	−4,085	−1,871	−4,719
Environmental engineering and technology	−68	+49		+25	+6
Environmental processes	+192	+130	+750	+507	+1,579
Total	+1,445	−786	−2,576	−1,153	−3,070

OFF-SHORE DEVELOPMENT—ECOLOGICAL IMPACTS

Question. Off-shore energy exploration and drilling are vital to Louisiana's economy. The ecological impacts of oil and gas fields on aquatic life are difficult to determine, and the potential of oil or toxic spills in Gulf or inland waters are a constant threat.

How will EPA employ its scientific researchers to reconcile the conflicting values of off-shore development and its effects on delicate ecosystems?

Answer. The Agency is making every effort to ensure that unreasonable degradation of the environment does not occur. On October 3, 1980, the Agency issued final regulations under Section 403(c) of the Clean Water Act. these regulations established ocean discharge criteria for determining unreasonable degradation of the environment. The criteria, developed with assistance from EPA scientists, consider factors such as marine ecosystem diversity, productivity, and stability, esthetic, recreational, and economic values, as well as human health. These must be addressed before an NPDES permit can be issued.

At present the Agency is drafting guidance for the regional offices specifically addressing the implementation of the ocean discharge criteria for offshore and gas operations. This guidance will establish streamlined procedures to shorten the time needed to make the appropriate permit condition determinations for this industrial category. Agency scientists are also completing analyses on the effects of drilling muds and cuttings. This information will be used to determine whether the conditions—i.e., no unreasonable degradation—are such that a permit can be issued, thus assuring adequate protection of the marine environment.

EPA'S CONTINUED RESPONSE TO OILSPILLS

Question. Section 311 of the Clean Water Act of 1977 contains a Congressional mandate for EPA to respond to and prevent spills of oil and designated hazardous substances into our navigable waters.

Now that Superfund legislation has been enacted, of course, EPA's Environmental Emergency Response and Prevention Program will deal only with oil spills.

Does the fiscal year 1982 decrease of $3.5 million for Abatement, Control and Compliance in this program reflect only the removal of hazardous wastes from the program? Or is there a further reduction in EPA's ability to respond to oil spills in navigable waters?

Answer. The decrease in fiscal year 1982 over fiscal year 1981 reflects a programmatic shift to the Superfund program. In 1982, emergency response to spills of hazardous substances and uncontrolled hazardous waste sites will be funded under the Superfind program. Resources associated with these activities in 1981 have transferred and are included in Agency's 1982 request for implementation of the expanded hazardous response program. EPA's ability to respond to oil spills in navigable waters will not be jeopardized by this shift.

OIL SPILL EMERGENCY FUNDS

Question. How much money will be available during fiscal year 1982 in Section 311 for oil spill emergencies?

Answer. The Reagan budget for fiscal year 1982 requests $12 million for the 311 Fund. This money will be used exclusively for oil spills and will be administered by the Coast Guard.

SPILL CONTROL INFORMATION COMPUTERIZED

Question. Your budget justification indicates that EPA will establish a computerized system for storage and retrieval of information on spill control, including clean-up options and disposal alternatives. Will you give us further details?

Answer. The existing pattern of responses to environmental emergencies, such as at hazardous material spills or uncontrolled hazardous waste sites, involves using procedures based upon the experience of the on-scene coordinator and his immediate advisors. The effectiveness with which the situation is controlled may often depend upon the quality of that experience and the information available to them regarding the situation. One of the most critical periods in a response can be called "situation assessment" where the nature of the problem is assessed and alternative solutions to the problem are proposed and, in turn, evaluated. For many small incidents, numerous alternatives are not necessarily applicable. However, for responses to the large spill situations, and for removal actions at uncontrolled dump sites, the consequences of an erroneous assessment of the situation or the choice of a less-than-optimal alternative can have profound economic consequences. While reports of the activities of on-scene coordinators and others are currrently being prepared for these incidents, the reports are not in a format that stresses the situation assessment aspects of the response, nor are they in a form that can be easily used by other personnel who may be facing similar situations. Yet the experiences at these incidents are very valuable and come at a high price.

The purpose of this project is to develop a "machine-readable after action report" intended to be filled out by an advisor to the on-scene coordirator at the conclusion of a hazardous material incident. The report is to be in such a format and arranged in such a way that the experience at a given situation can be encoded so that those experiences are subsequently retrievable for use by others who may be facing the same or similar situations. The desired approach for this project is to examine the files of EPA and USCG on-scene coordinators and to interview selected coordinators to determine the approaches that are commonly used. While the intent of this report is currently aimed at use by EPA and Coast Guard personnel, it is desired that the format be sufficiently flexible so that the information could be utilized by other than Federal personnel who may find themselves in decision making capacities at hazardous materials incidents. Information to be stored includes: (a) the compounds or materials released to the environment; (b) sampling and analytical procedures used to monitor the extent of the release; (c) procedures for removing and disposing of the materials, including the evaluation of alternatives available; (d) concentrations of each material left in the soil and water after cleanup activities are completed; (e) rationale for selecting the concentrations left in the environment; and (f) description of any long-term follow-up monitoring activities.

DECREASE FUNDING OF DREDGE AND FILL

Question. There is a decrease of $860,500 in Water Quality Strategies and Implementation in dredge and fill activities.

This reduction will postpone development of a dredge and fill activity management information system and will reduce assistance to States in the development of Section 404 programs.

Explain the long-range effects on States—such as Louisiana—which have heavy concentrations of wetlands areas.

Answer. A cutback in Section 404 program funds for Water Quality Strategies and Implementation might affect States in two ways.

First, the 1977 Amendments to Section 404 allow States to take over implementation of the dredge and fill permitting program for certain waters of the United States. EPA is planning to provide State program development grants to six States in fiscal year 1981 at a level of $55,000-$60,000 per State. We anticipate receiving requests from six to ten States for funding in fiscal year 1982. In addition, we feel that some States funded this year may request second year funding to complete their program development.

Funding assistance is also available under the Section 106 Financial Assistance Program and the Section 205(g) State Management Assistance Program. We believe that any additional funding that States may need in fiscal year 1982 will be available from these two programs.

Funding Assistance to those States which have a strong interest in transfer of 404 authority is essential during the program development stage. States must assure that they have adequate legal authority to regulate discharges into waterways and wetlands and to take enforcement action. They must develop the technical and legal capability to ensure compliance with the 404(b)(1) environmental guidelines. They must also develop the management and administrative systems to handle actual

permitting activity, and they must develop Memoranda of Understanding with the Corps of Engineers and EPA covering their respective roles in the 404 Program.

The second impact on States of a funding cutback would result from a reduction in field studies of wetland ecosystems and proposed discharges sites. This field work is essential to determine the characteristics and values of systems so that sound regulatory decisions can be made on applications for 404 permits for discharge into those waters. Information is developed that indicates what activities can occur that will not have significant adverse effects on the value of the wetlands and what mitigation measures are appropriate to reduce impacts of proposed discharges. These activities can be funded from Section 106 monies, so that critical functions will continue.

EPA views assistance to States in preparing for 404 program transfer and ecosystem field studies as having extremely high priority. We believe that funding assistance available from the 106 205(g) programs will be sufficient to continue the active delegation of this program.

ENVIRONMENTAL MONITORING AND SUPPORT LABORATORY MAINTAINS SAME LEVEL

Question. Will there be any reductions for the research work at the Environmental Monitoring and Support Laboratory in Las Vegas?

Answer. There are no reductions for the research work at the Environmental Monitoring and Support Laboratory in Las Vegas in 1982 as compared to 1981.

Question. Is Louisiana State University's R&D project on waterborne sensors funded through this laboratory?

Answer. No. Support to L.S.U. has been provided by the Office of Exploratory Research but the project officer has been located at Las Vegas. Support was provided to L.S.U. for a two-year project in fiscal years 1980 and 1981 at approximately $250K per year. It is expected that proposals for future studies will be evaluated on a competitive basis through our Exploratory Grant Program.

COORDINATION BETWEEN SUPERFUND AND GROUND WATER

Question. The threat of ground water quality is one of the most acute contemporary environmental problems now facing our Nation. How will EPA coordinate the critically important Superfund activities with efforts to protect our ground water?

Answer. In conjunction with the States, EPA is drawing up a list of 400 top priority sites to be addressed by Superfund. Included in the criteria used to designate these sites will be consideration of the danger posed to ground water by each site will be to assess and mitigate the danger posed to ground water by releases of hazardous chemicals.

THURSDAY, APRIL 2, 1981.

Mr. GREEN [presiding]. The Committee will come to order. Chairman Boland asked me to begin the hearing this morning.

PESTICIDES PROGRAM

Turning to the Pesticides program beginning on page P-1, the 1982 amended request is $62,069,000; the January request was $72,134,000. Page P-7 contains the summary of the budget estimate. The first paragraph indicates that the decrease "reflects the decision to await pending evaluation of the first round of standards and the outcome of significant court cases." The footnote on page P-10 indicates: "If the Agency is unable to accomplish such productivity improvements in 1981, the Registration Standards program will be reevaluated and redesigned as necessary to increase its pace of operations."

These two statements imply that the Agency's Pesticides program is undergoing a major reexamination. Is that correct?

Mr. BARBER. I wouldn't characterize it as a major reexamination.

Mr. CLARK. We are doing a major reexamination of that one part because it has not been turning out standards at the rate which we planned and which we feel were necessary in order to complete that program. We are trying to see if we can't make substantial improvements of productivity within the program. If not, we may have to make major changes as to how that fits into the rest of the Pesticides program.

Mr. GREEN. Has expense been a factor?

Mr. CLARK. Yes.

Mr. GREEN. Was this reexamination directed by the Agency or was it directed by OMB?

Mr. CLARK. Initially from within the Agency, by the DAA in charge, then by me and my predecessor, then Mr. Gamse's shop, then the OMB.

PENDING PESTICIDES COURT CASES

Mr. GREEN. If you would, please provide as much detail as you can on the court cases alluded to on page P-7.

Mr. CLARK. Yes.

[The information follows:]

CHALLENGES TO 1978 FIFRA AMENDMENTS
AND TO IMPLEMENTING REGULATIONS

CASE	DOCKET AND COURT	ISSUE INVOLVED	STATUS
Union Carbide Agricultural Prod. Co., Inc. et al.	79-6200 (2d Cir.)	Validity of preliminary injunction issued by U.S. D.C., S.D.N.Y.; P.I. enjoined Agency implementation of data use (§3(c)(1)(D)) and disclosure (§10) provisions of FIFRA.	Preliminary injunction ordered reversed. Petition for certiorari before U.S. Supreme Court denied.
Mobay Chemical Corp v. Costle	75 CV 238-W-4 76 CV 351-W-4 (W.D. Mo.)	Motion to modify, in light of 1978 amendments to FIFRA, injunction enjoining Agency's data use and disclosure practices granted prior to 1978 amendments.	Motion of modify pending; decision awaiting decision in Mobay case in W.D. Pa.
Dow Chemical Company v. Costle	Civ 76-10087 E.D. Mich.	Motion to modify old injunctions similar to that in Mobay case in W.D. Mo. In addition, Dow has amended complaint to request relief similar to that sought in Mobay case in W.D. Pa.	Injunction modified; Agency currently enjoined to follow relevant provisions of the 1978 amendments. EPA has moved for summary judgment on a newly amended complaint.
NACA v. EPA	CA 79-2063 (D.D.C.)	Challenge to regulations implementing §§3(c)(1)(D) and 3 (c)(7).	EPA recently filed motion for summary judgment.
Monsanto Co. v. Costle	CA No. 79-0366-C(2); (F.D. Mo.)	Challenge to the constitutionality §§(c)(1)(D) and 10.	EPA motion for summary judgment pending.

CASE	DOCKET AND COURT	ISSUE INVOLVED	STATUS
Chevron Chemical Co. v. Costle	80-2037 (3d Cir.)	Challenge the to constitutionality of FIFRA §(3)(c)(1)(D) relating to data use and compensation.	Summary judgment in favor of EPA. 3rd Circuit affirmed; 3rd Circuit enjoined statute pending certiorari petition, which was recently filed.
Mobay Chemical Corp. v. Costle	79 591 D (W.D. Pa.)	Challenge to the constituionality FIFRA §§3(c)(1)(D), 3(c)(2)(B), 3(c)(2)(D), 10, and to validity of regulations implementing §3.	Post-trial brief filed; awaiting decision
Petrolite Chemical Corp. v. EPA and Costle	Civ. 80-0798 (D.D.C.)	Challenge to the constitutionality of FIFRA §§3(c)(1)(D) and 10.	Motion for summary judgement filed in October 1980; awaiting decision.
American Cyanamid Co. v. Costle	Civ. 77-226 (D.N.J.)	"	Pending; no trial has taken place nor are any motions outstanding.
Thompson-Hayward Chemical Co. v. EPA and Costle	79-2308 (D. Kansas)	"	Pending; pre-trial conference to be held in near future.
Pennwalt Corporation v. EPA and Costle	80-2400 (E.D. Pa.)	"	Motion for summary judgment by EPA pending.

Mr. GREEN. What is the current status of the cases?

Mr. CLARK. The cases are waiting one on the other. One went recently to the Supreme Court, which is upholding our position on it. They sent it back to the original court for further work. The other cases have been waiting on that. They have not been completed as rapidly as we had hoped last year, but all the decisions so far are going in our favor.

Mr. GREEN. What is the potential impact of these cases? If the Court ultimately should decide against you would a big change in the Pesticides program be required?

Mr. CLARK. It would create serious problems in the present registration process and probably require some amendments to FIFRA.

1981 PESTICIDE RESOURCES

Mr. GREEN. The bottom of page P-7 contains a tabular summary of the changes from the original 1981 budget estimate. In action on the 1981 Appropriation bill, the Congress reduced the Pesticides program by $5 million. In addition, the Congress made a general reduction of $7,500,000 to the Abatement, Control and Compliance appropriation.

The House action on the Bill reduced Abatement, Control and Compliance $15 million in a general reduction, and suggested that the Pesticides program might be an area the Agency would wish to reduce. Applying $1 million of the $7.5 million general reduction to the Pesticides program, in addition to the $5 million specific reduction seems to indicate that the Pesticides program is viewed as a lower priority to the Agency. Would you agree with that?

Mr. BARBER. No, I don't think the characterization as a lower priority is correct. I think the Agency has looked at the distribution of many of these cuts of where there are activities that can be deferred for a short period of time and where the contracts can be managed in such a way as to minimize the impacts. I don't think I would characterize it in that way.

Mr. KINGHORN. Mr. Green, in terms of the contract resources, that is a large part. I am not sure, but it is not out of proportion to the total.

PESTICIDE PROGRAM LEVELS

Mr. GREEN. Turn again to page P–10, the summary of program levels. Please indicate the effect of the Congressional reduction in 1981; that is, which program levels projected last January have been reduced in response to the $5 million Congressionally-directed reduction.

Mr. CLARK. That came out of RPAR registration and registration standards decision, and both of those estimated production levels have been decreased as a result.

Mr. GREEN. The January 1981 budget submission contained only two different program levels than those depicted in the March amendment. Those changes were in the Registration Standards area and in the Rebuttable Presumption Against Registration decision activity. We spoke briefly about the projected productivity increases, but I am concerned that with so few of the program

changes projected to account for a $10 million difference in appropriation requests, this may be a phony reduction that the Congress will have to respond to later in the fiscal year.

How do you respond to that?

Mr. CLARK. We don't think our estimated reductions here are total. These are our best estimates made from the information we have available.

Mr. GREEN. And you really think they account for a program level change of $10 million?

Mr. CLARK. Part of that has been taken up by essentially using up capital we had in place. In other words, last year we had done a lot of work which we are still living off of. The work we are doing this year and—that which we are not doing this year will have effects in future years.

Mr. GREEN. But you are essentially saying that you can make up that difference in productivity.

Mr. CLARK. That is our intention, yes.

INTEGRATED PEST MANAGEMENT PROGRAM

Mr. GREEN. Turn now to page P–35, the Research and Development Pesticides program. The revised 1982 request is a total of $6,876,000, of which $5,930,000 are contained in the Salaries and Expenses appropriation account. The amount requested in the Research and Development account in 1982 declines $3,670,000 from the 1981 current estimate.

Now turn to page P–48, which addresses the Agency's Integrated Pest Management program. This Committee has been a strong proponent of IPM in the past, and has specifically added money to the bill for IPM. Page 48 indicates that in the future, the government's Integrated Pest Management research will be funded solely by the U.S. Deparment of Agriculture.

Was this decision made by OMB?

Mr. BARBER. The answer is yes.

Mr. CLARK. The OMB determination was for Agriculture to do agriculturally related pest management and EPA would continue to be involved in urban pest management. The research reflects it.

Mr. GREEN. What was the Agency's request to OMB for IPM research in 1982?

Dr. DOWD. There were two sets of requests. Our January request reflected the transfer of the IPM research program—

Mr. BARBER. He was asking what our request will be. We will submit that for the record.

[The information follows:]

FISCAL YEAR 1982 AGENCY REQUEST TO OMB

The Agency originally requested $4,218,500 for the IPM research program in fiscal year 1982 for:

(1) the fifth year of the six year project to develop IPM strategies for cotton, alfalfa, soybeans, and apples. EPA would have provided $1,500,000 and the USDA—Science and Education Administration would have provided $1,500,000. (CR–806277)

(2) the fourth year of the five year project to develop IPM strategies for mosquitoes in rice production systems $500,000. (CR–806771)

(3) the third year of a five year project to develop delivery systems for IPM technology—$50,000. (CR–806321)

(4) the third year of a five year program to develop IPM strategies for the management of aquatic weeds—$900,000. (New projects)

(5) initiate an expanded research program for the development of urban IPM strategies—$350,000. (New projects)

(6) initiate development of IPM strategies for corn production systems, in cooperation with the USDA-SEA North Central Region—$250,000. (New project)

(7) initiate development of an ecosystem level testing protocol for evaluating the impact of new pesticides in IPM production systems—$185,000. (New project)

(8) in house salaries, expenses, and technical support contracts for IPM research, including integrated aquatic weed research program—$303,500. (4.8 work years)

Mr. GREEN. Do you know the total request for the Department of Agriculture's IPM program for 1982?

Mr. CLARK. We know it has been increased.

Mr. KINGHORN. $3.2 million is in the program, which involves several universities, an increase of 17 over a base of 15.

Mr. CLARK. That is a consortium we have funded in previous years.

Mr. GREEN. Do you know if the Department of Agriculture will fund research on mosquitoes in 1982?

Mr. CLARK. They don't have specific funding for that project.

Mr. GREEN. Page 49 indicates that in 1982 the EPA will concentrate on an urban IPM program. What dollars are devoted to this effort in 1982?

Dr. DOWD. In 1982 we have allocated roughly $350,000. Most of that is extramural and a small amount is in-house.

Mr. GREEN. How does the Urban IPM program relate to the total Integrated Pest Management activity?

Mr. CLARK. I believe we are still cooperating with Agriculture in all these activities. Certainly the research and development work is closely integrated with our work.

Mr. GREEN. Wouldn't it make more sense if Agriculture is funding all the agricultural research to have them take on and fund all the IPM research, too? Does it make sense to split the two?

Mr. CLARK. We think the major advantage to this is that they have the network for communicating the results out to the farmers, a network we could never duplicate. They don't have such a network in the urban area, so we think it makes sense for us to do it. We are accustomed to getting information like this into urban areas.

SILVEX—INDEMNIFICATION PAYMENTS

Mr. GREEN. During last year's hearing (on page 282) the issue of indemnification payments in connection with the Silvex cancellation was discussed. At that time, Mr. Jellinek indicated that the Agency had not made any indemnification payments, although a number of claims had been filed which the Agency was reviewing.

Has the Agency made any indemnification payments in the past year?

Mr. CLARK. No, it has not.

Mr. GREEN. Does it intend to do so?

Mr. CLARK. No.

Mr. GREEN. What is the status of the claims?

Mr. CLARK. They have been referred to the Department of Justice for resolution.

RADIATION PROGRAM

Mr. GREEN. We will now turn to the radiation program. The 1982 amended request is $12,888,000, which represents a significant decrease from the January budget estimate of $16,969,000. The permanent positions declined from 206 in the January submission to 160 in the March amendment. The authorization levels for the Radiation program have been significantly less than the appropriations for prior years.

What is the amount contained in the Administration's proposed authorization for fiscal year 1982?

Mr. TUERK. I don't know.

Mr. GREEN. Could we get that for the record?

Mr. TUERK. Certainly.

Mr. GREEN. Is there a proposal in at the present time?

Mr. TUERK. I assume there is, and it is usually made with the amount identical to the budget, but I don't know.

Mr. GREEN. Is there anybody from the Office of Legislation who can help us on that?

How much of the Radiation program do you assume to be authorized by virtue of the Clean Air Act?

Mr. TUERK. Generally, we have not looked at that in that we have dealt with the radiation authorization as a separate item with respect to all the things contained in the radiation budget. The activities are clearly authorized under the Clean Air Act, but the budget relationships have never been developed that way.

Mr. GREEN. We are puzzled by the fact that appropriations are consistently running above the authorization levels.

Mr. TUERK. You have good reason to be puzzled. It is something I have never looked at. We will this year.

Mr. GREEN. Really, it is several times the authorization levels. Please give us an explanation for the record.

[The information follows:]

AUTHORIZATION OF RADIATION PROGRAM

The authorizations reflected on page R-1 of the 1982 budget estimate (1980: $2,930,000 and 1981: $3,181,000) are contained within the Environmental Research, Development, and Demonstration Authorization Act of 1980 and 1981, respectively. This authorization covers only the Research and Development appropriation and that portion of the Salaries and Expenses appropriation which relates to the Office of Research and Development.

There is no statute covering the abatement, control and compliance radiation activities or the remainder of the salaries and expenses radiation activities. The funding levels for these activities is the Appropriation Act itself.

We have requested an authorization of $2,917,000 for radiation activities under the Environmental Research, Development, and Demonstration Authorization Act for fiscal year 1982.

RELATION OF SALARIES AND EXPENSES DOLLARS TO WORKYEARS

Mr. GREEN. Relating salaries and expenses dollars to workyears for 1980, 1981 and 1982 produces some interesting results. I realize that there are numerous activities funded in the Salaries and Expenses account in addition to personnel costs; however, I think the comparison is worthwhile. In 1980, dividing the $9,057,000 by

the 221 full-time equivalency yields $40,982. The comparable figure for the 1981 budget estimate is $27,832. For the 1981 current estimate, the figure jumps to $37,733, and in 1982 it increases to $51,277.

How do you explain these significant variations?

Mr. TUERK. There are two or three variables in there. The first is the fact that in 1981, we have had no funds for purchase of equipment, and one of the major items in 1982 is the refurbishing and establishing of better equipment for our emergency response system. That is one major item.

The second tends to be the way that we have used other-than-permanent employees in the Radiation program. In the last two years we have made increased use of consultants and part-time employees, which tends to cause the averages to vary considerably from those which you would normally derive simply by looking at the permanent employment.

FEDERAL EMERGENCY MANAGEMENT AGENCY

Mr. GREEN. The last paragraph on page R-3, in the Overview and Strategy section, indicates the Agency will "assist in the development and testing of State, local and Federal plans to respond to emergency situations involving nuclear events or large, unexpected releases of radioactivity." The President has tasked the Federal Emergency Management Agency, which is also under the jurisdiction of this Subcommittee, with off-site emergency response activities. It is my understanding that the Nuclear Regulatory Commission has responsibility for on-site activities.

What exactly is the EPA doing in this area?

Mr. TUERK. The FEMA develops an overall Federal response plan which prescribes different roles for different agencies. In addition to NRC, the Department of Energy and EPA have a major role. EPA's role in emergency response situations is to be responsible for the long-term coordination of the off-site monitoring after the event. The Department of Energy has responsibility for the monitoring during the event.

In each case, we make resources available to whomever has the coordination responsibility to use in the course of that activity. The discussion here on emergency response plans is a little different.

Each nuclear site is required to have an emergency response plan. EPA plays a major role along with five or six Federal agencies in the review and approval of those plans as they are developed. Current requirements under FEMA's rules call for all emergency response plans to be approved by April first of this year.

Mr. GREEN. What resources have been devoted to this area in 1980 and 1981?

Mr. TUERK. Essentially working with States on emergency resource plans are the resources in our regional offices which adds up to 15 or 16 workyears.

Mr. GREEN. What is requested for those activities in 1982?

Mr. TUERK. It is the same. It is an on-going program.

Mr. GREEN. What is involved in an emergency situation?

Mr. TUERK. We will have to supply that for the record.

[The information follows:]

RADIOLOGICAL EMERGENCY SITUATIONS

Radiological emergencies may result from a release of radioactivity from major nuclear facilities such as nuclear power plants, other nuclear fuel cycle facilities, major research facilities, or military installations. They may also result from smaller nuclear facilities such as hospitals or facilities using radioisotopes in industrial or research applications or from transportation accidents.

State and local government officials have the primary responsibility for protecting the public during a radiological emergency. States and local governments must be prepared to respond during the first few hours of an emergency. Since it is not practical for them to maintain a massive response capability, Federal assistance will be needed for emergencies that have the potential for significant off-site consequences.

The Federal Emergency Management Agency (FEMA) coordinates the overall off-site Federal effort to assist States with nuclear emergencies. The Nuclear Regulatory Commission monitors actions taken by its licensees during emergencies and provides advice and assistance to the State or licensee as may be required or, in extreme circumstances, directs the licensee to take particular actions. The Department of Energy coordinates Federal radiation monitoring response under the Interagency Radiological Assistance Plan (IRAP).

EPA either under the auspices of IRAP or under its independent authority may take a number of actions. EPA generally assists State and local governments in environmental monitoring, consequence assessment, and protective action decisions. Additionally, the responsibility for coordinating off-site monitoring is shifted from DOE to EPA when the immedicate emergency is over and it is determined that long term monitoring is needed. EPA is also responsible for assuring the safety of public drinking water supplies in States which have not accepted primacy under the Safe Drinking Water Act or when it concludes that States have not taken the necessary actions.

EPA COORDINATION WITH FEDERAL EMERGENCY MANAGEMENT AGENCY

Mr. GREEN. What coordination does the Agency maintain with FEMA? How do your responsibilities differ?

Mr. TUERK. They have overall responsibility and work out roles for a half-dozen agencies. They run tests to make sure each agency understands its role.

Mr. GREEN. Let me raise an issue which has aroused some concern in my district and in many cities generally, and that, is the transportation of nuclear waste. To what extent were you consulted by DOT when it developed its regulations on that issue?

Mr. TUERK. To the best of my memory, we were not consulted, but I will have to check that out for you.

Mr. GREEN. Please do so for the record.

[The information follows:]

The Environmental Protection Agency provided formal comments on the regulation to DOT at the time of its proposal.

RADIATION EXPOSURE REGULATIONS

Mr. GREEN. During last year's hearing, the Agency was asked to provide for the record the amounts and sources of estimated radiation exposure for the average U.S. citizen. The information is contained on page 295 of the 1981 hearing volume. It reveals that 102 millirems occur from natural sources and that 80 millirems are man made. However, 72 of the 80 millirems of human origin relate to medical X-rays. Thus, only four percent of the total average exposure is from non-voluntary human origin.

The Environmental Protection Agency has been devoting several millions of dollars per year to radiation programs relating mainly to that four percent of total exposure. Page R-3 indicates:

> While some public exposure to radiation is inevitable, no avoidable risk attributable to radiation exposure should occur to individuals or to the environment without offsetting benefits.

I wonder whether the amount of resources devoted to the Agency's Radiation programs in the past and requested for 1982 is justified, considering that the vast amount of radiation exposure is either voluntary or from natural background sources, (thus not affected by the EPA's programs). In other words, an awful lot of money has been provided for a very minor part of radiation exposure.

Mr. TUERK. I think to some extent, the fact that there is a limited amount of exposure from man-made sources and operations can be attributed at least in part to the activities in the Radiation program in establishing the limitation, for example, on the amount of allowable exposure from the nuclear fuel cycle.

Additionally, the things we are addressing now are directed toward even further safeguards in the amount of allowable exposure. For example, we have proposed Federal guides on occupational exposure which will reduce that even more.

In the context of overall radiation, I think you are right, that relatively a small amount of total human exposure comes from man-made sources. I don't really think that provides a fair way of looking at the program. For example, there are worldwide, perhaps thousands of people who are bitten by snakes. Now, that doesn't, I think, relieve the person running a reptile house at the zoo from making sure his snakes don't bite somebody.

So we are dealing here with something where actions must be taken to control that which is controllable. Our program is directed toward that much more in a preventive way than it is in reducing the exposures people now have.

Mr. GREEN. Can you argue for instance, that because of your efforts shoe stores no longer fluoroscope feet when a person is buying a pair of shoes?

How much radiation exposure would be added if your program were eliminated altogether?

Mr. TUERK. To give you one example of what we are dealing with right now, there is the problem of disposal of spent fuel rods from nuclear reactors. I don't know what would be done with those fuel rods if we were not in the business of trying to work out some standards governing their long-term disposal.

So I think all I can really say is that I am unable to make a quantitative estimate, but it is quite important that EPA's role of establishing the principles for radiation protection continue so that all the beneficiaries of radiation do have a standard to which they must relate, not necessarily that they would do something radically different in the absence of that standard, but it is the EPA standard which provides the baseline for measurement of what is a safe practice in the radiation field.

Mr. GREEN. You mentioned as a major activity the disposition of nuclear waste. Hasn't the Department of Energy devoted many dollars to that?

Mr. TUERK. They are looking at the encapsulation, deep mining work. We will set the standard which their practices must meet. In other words, they are spending a great deal of money on the technical aspects of it but the final disposal will take place by what EPA puts out as a standard, saying this is the maximum allowable release that can occur.

RADIATION POLICY COUNCIL

Mr. GREEN. The Radiation Policy Council is described on page R-9. The 1981 current estimate is $632,000, which is to be derived from agency reprogrammings. The Carter January submission contained $981,000 for the Radiation Policy Council. This amount has been eliminated in the March submission.

What is the purpose in having a Radiation Policy Council for only one year? If it is to be abolished by 1982, why should it be allowed to function at all in 1981?

Mr. TUERK. The Policy Council, which was established pursuant to Executive Order, will continue. What has changed here is the fact that we are now in the 1981 budget providing for permanent staff. In 1982 the staff responsibilities will be largely assumed by the many participating agencies.

Mr. GREEN. What has been obligated to date for the Council?

Mr. TUERK. I will have to give you that for the record.

[The information follows:]

RADIATION POLICY COUNCIL

[In thousands of dollars]

	1981 current estimate	Obligations at Mar. 31, 1981	Unobligated balance
Salaries and expenses	$243	$67	$176
Abatement, control and compliance	389		389
Total	632	67	565

BENEFITS DERIVED FROM RADIATION POLICY COUNCIL

Mr. GREEN. What specific benefits can you cite that will result from the Council's existence in 1981?

Mr. TUERK. The main benefit is the establishment of more formalized work groups in which all the Federal agencies are involved in addressing their mutual radiation concerns. In addition, the Council has undertaken several staff studies to develop an inventory of radiation activities in the Federal government, to develop an inventory of publications. These are activities they have engaged themselves in which will be completed by this fiscal year.

CONTRACT ABUSES IN RADIATION PROGRAM

Mr. GREEN. There were press articles last fall indicating numerous contracting abuses in the Agency's Radiation program. For the record, detail the status of that situation.

Mr. TUERK. Yes, sir.

[The information follows:]

CONTRACTING ABUSES AGAINST RADIATION

We are providing for the record Administrator Costle's letter of December 14, to Chairman Baucus of the Senate Subcommittee on Limitations of Contracted and Delegated Authority. This letter details the Agency's responses to the accusations made against its radiation program.

DECEMBER 19, 1980.

Hon. MAX BAUCUS,
Chairman, Subcommittee on Limitations of Contracted and Delegated Authority, Committee on the Judiciary, U.S. Senate, Washington, D.C.

DEAR MR. CHAIRMAN: This responds to your letter of October 21, 1980, concerning your subcommittee's inquiry into contracting and consulting practices of EPA's Office of Radiation Programs (ORP).

Let me begin by stating my commitment and the commitment of this Agency to maintaining the integrity of the Federal procurement and personnel systems. Regulatory agencies such as ours, whose activities affect the lives and fortunes of so many Americans, must be constantly aware of the need to maintain public confidence. Faithful adherence to the principles of the Federal procurement system is one means of preserving that public trust. If we deviate from those principles in acquiring the goods and services we need to develop our regulatory programs, the result may be to erode the legal and political foundations on which our regulations rest.

At the same time, however, the Agency must meet its Congressionally-mandated responsibilities to protect the public health and safety. These responsibilities must be discharged within the constraints of personnel and budgetary ceilings and, in some instances involving highly technical scientific issues, limited in-house expertise. These factors require us to draw upon the private sector for expert advice and assistance. The challenge is to utilize the private sector in a way which is consistent with Federal procurement and personnel requirements and still get the job done. Meeting this challenge is not always easy, and we do not always succeed. But I am satisfied that our officials fully recognize their obligations in this regard, and that we succeed far more often than we fail.

With these thoughts in mind, I will respond specifically to the points made in your letter concerning the actions of Dr. David Rosenbaum, Director of ORP.

You have characterized as "abuse" of the system, Dr. Rosenbaum's use of 37 consultants and experts. As Dr. Rosenbaum testified before your subcommittee, these experts and consultants were hired to provide ORP with advice and assistance mainly in highly specialized and technical fields, such as statistics and pathology, where in-house expertise was lacking and where the need for such expertise was intermittent. In these circumstances, hiring the needed experts as permanent full-time government employees—assuming they could be induced to enter government service—would not make budgetary sense. I must also point out that ORP's use of consultants and experts has been consistent with the requirements imposed upon the Agency by the Congress and OMB to use other than permanent full-time employees to meet a significant portion of its program needs.

You note that some of the experts and consultants hired by ORP have actually not been used, and you question why such people are maintained on the Agency's rolls as special government employees. In planning its future program needs, ORP identified certain areas in which expert advice and consultation would be requried. To ensure that such advice could be summoned without delay as the needs arose, ORP made a management decision to appoint experts and consultants in the areas identified. I find absolutely no basis for your assertion that ORP's hiring of consultants to meet specifically projected future needs abused the Federal personnel system.

You cite "apparent conflicts of interest" on the part of certain consultants and experts employed by ORP. The gist of your allegation seems to be that these consultants and experts, by the terms of their appointments, have been put in positions to actually manage—on behalf of EPA—contracts with the universities that also employ them. In support of this allegation you note that at least one ORP expert submitted a propsal for a contract to the Agency on behalf of his university. Based on the facts as developed in your hearing, we find no evidence of an actual conflict of interest in the instances you cite. There has been no showing to date that any ORP consultant or expert in fact participated—as a special government employee—in the Agency's decision to award a contract to his university. Further, an expert's submission of a contract proposal to the Agency does not violate the Federal conflict of interest laws or regulations, as long as the expert has served the Agency fewer than 60 days during the preceding 365 days. Our records show that the expert involved in the instances you cite has worked less than 60 days at the

time they submitted the proposals. Federal law and regulations specifically provide for the 60-day limit to ensure that the Government has reasonable access to the very best expertise available from universities and other private institutions.

The more troublesome issue you raise concerns the *appearance* of conflict of interest. Since appearances, by definition, lie in the eye of the beholder, and since you have perceived such an appearance, the point is not a debatable one. The Agency has recently adopted measures to strengthen controls in the area of organizational conflicts of interest on the part of our contractors. We now plan to further strengthen these controls to address the specific problem of apparent personal conflicts of interest which you have identified. In particular, we are developing procedures for identifying situations where EPA experts and consultants are also employed by a proposed source of contractor services. In these cases, the Office of General Counsel will be consulted, and steps will be taken to avoid or remedy the appearance (or reality) of conflict. Such measures could include: an inquiry into whether the consultant or expert in question participated in the decision to propose award of the contract; assuring that the duties of the consultant or expert in no way involve managing the contract for EPA; arranging for another university representative to act as principal investigator on the contract; or, in some instances, refusal to award the contract.

I have seen nothing to indicate, however, that Dr. Rosenbaum or the Agency's Contracts Management Division failed to represent the government's interest adequately in negotiating those few contracts where ORP consultants submitted proposals. I wish to reiterate that, in our view, neither the conflict of interest statutes nor the Federal Personnel Manual (FPM) prohibits consultants or experts (who have served fewer than 60 days during the preceding year) from negotiating with the Agency on behalf of their universities. In this connection, Appendix C of Chapter 735 of the FPM provides useful guidance. Appendix C states as follows:

"To a considerable extent the prohibitions of sections 203 and 205 [of 18 U.S.C.] are aimed at the sale of influence to gain special favors for private businesses and other ogranizations and at the misuse of governmental position or information. In accordance with these aims, it is desirable that a consultant or adviser or other person who is a special Government employee, even when not compelled to do so by sections 203 and 205, should make every effort in his private work to avoid any personal contact in negotiations for contracts or grants with the agency which he is serving if the subject matter is related to the subject matter of his consultancy or other service."

No doubt this guidance was prompted by the very concerns you expressed in your letter. Appendix C goes on to say, however, that:

It is recognized that this will not always be possible to achieve; for example, in a situation in which a consultant or adviser has an executive position and responsibility with his regular employer which requires him to participate personally in contract negotiations with the agency he is advising. When this situation occurs, the consultant or adviser should participate in the negotiations for this employer only with the knowledge of a responsible Government official. In other situations, an occasional consultant or adviser may have technical knowledge which is indispensable to his regular employer in his efforts to formulate a research and development contract or a research grant and, for the same reason, it is in the interest of the Government that he should take part in negotiations for his private employer. Again, he should participate only with the knowledge of a responsible Government official.

It is clear that the FPM recognizes that there will be situations in which it is appropriate and desirable for special government employees to negotiate with the Agency on behalf of the outside organization which also employs them.

As to Dr. Rosenbaum's contracting activities, I agree with your statement that Dr. Rosenbaum should not have requested universities to which he planned to recommend sole-source awards to begin work on contract proposals. As his testimony indicates, Dr. Rosenbaum was motivated by a genuine sense of the urgency of the health dangers resulting from indoor radon exposure. Before Dr. Rosenbaum assumed his current position, EPA and other Federal agencies had devoted regrettably small amounts of money and effort to dealing with this serious health problem. Dr. Rosenbaum has made it an important priority of his office to launch a major radon program. I am certain that in taking this action he was motivated solely by the desire to address a problem which he and other scientists in ORP are convinced has created a serious health risk. His sole-source proposals, while not entirely consistent with the requirements of the Federal procurement system, must fairly be viewed in this context.

As the testimony makes clear, Dr. Rosenbaum was informed last spring by the Contracts Management Division that it was inappropriate for program officials to

solicit proposals. Since that time, he has avoided the practice and will continue to avoid the practice in the future. Under these circumstances, I am bound to conclude that ORP's contracting practices have not breached the Federal procurement system in any significant way.

You question the propriety of several of Dr. Rosebaum's sole-source justifications for awards to universities on the basis of memorandums and testimony of ORP employees to the effect that the universities were not the only available sources for the work or that the requirements were not so urgent as to require award without delay. Dr. Rosenbaum maintains the contrary position. With respect to the urgency of the contracts to study radon exposure, he states that this is based on my commitment to the governors of Florida and Montana that these studies would proceed immediately so as to minimize health risks associated with radon exposure. Whether or not there existed adequate basis for restricting competitions is a matter of judgment. In my view there was at least a reasonable basis for the award of these sole-source contracts and I am surprised at your apparent certainty in this matter.

In any event, while it is true that the percentage of solesource awards in the Office of Radiation Programs was higher than that for the Agency as a whole—apparently because of Rosenbaum's sense of urgency as to the radon studies—the present controversy has caused EPA program offices to exercise extreme care in sole—source contract awards, and they will probably err in the future on the side of caution. Despite my personal belief in the value of competition in Federal procurements, I am not at all sure this is a healthy trend. EPA now has an exceptionally low percentage of sole source awards and one of the very finest procurement management systems in the Federal Government. In this regard, I refer you to the July 23, 1980 report of the Senate Subcommittee on Oversight of Government Management of the Committee on Governmental Affairs. I found nothing in the testimony before your Subcommittee that changes my view of our performance in this area.

I cannot close without commenting on the general tone and thrust of your investigation of ORP and on the suggestions of wrongdoing contained in your letter of October 21. There is no question that your investigation has raised legitimate and important issues concerning the use of consultants and contractor services. In my view, however, the manner in which the inquiry was conducted has violated fundamental rules of fairness and responsible government conduct. You convened your hearings without benefit of any discusion with Dr. Rosenbaum himself. In fact, you released the results of your investigation to the press before the hearings and without interviewing Dr. Rosenbaum. In your questioning of Dr. Rosenbaum and others during the hearings, you consistently refused to take account of the programmatic context in which the perceived abuses arose. You appeared to assume, from the outset of your investigation, that Dr. Rosenbaum was motivated by venality bordering on corruption. Your staff director, Franklin H. Silbey, was abusive and threatening in almost all of his contacts with EPA staff. I am told that in discussion with EPA managers, Mr. Silbey more than once threatened to invite a Jack Anderson investigation into ORP's practices, unless the Agency publicly admitted wrongdoing. These threats only served to inject a further note of acrimony into an already difficult situation, and represent a serious injustice to both the EPA officials to whom they were directed and to the Agency itself.

Continuing in this vein, your October 21 letter fails to take account of the context in which these issues arose and contains personal attacks on the integrity of Dr. Rosenbaum and other members of the Agency's senior staff. Your letter states that Dr. Rosenbaum "did not appear cognizant of or sensitive to the seriousness of revealed and documented procurement and consulting abuses at ORP." You further state that "concerned EPA officials have little, if any, commitment to curbing or ending such abuses, and that the unfolding story has been of minimal concern to them. Only impending public exposure generated any significant concern or activity." I take strong exception to your allegation that the issues you raise have generated no concern on the part of responsible officials here. In fact, the Deputy Administrator and I, together with the Agency's top management staff, have spent a great deal of time and attention on finding ways to improve the Agency's contracting procedures. We have testified during the past year at hearings held by Senators Levin and Cohen and Congressman Eckhardt on government contracting practices. As outlined above, we have taken steps to correct those practices which we agree present problems. Our concern for proper contracting procedures is historic and continuing and is certainly not triggered simply by the threat of "impending public exposure."

In your letter, you ask for a "painstaking" review of several ORP contracts. I cannot see what benefits would be dervied from the expenditure of additional time and resources on such a review. It is my understanding that these contracts are now

being investigated by our Office of Inspector General. Rather than duplicate that effort, we will await the results of that investigation.

Your letter also questions Dr. Rosenbaum's continued fitness for his present position and recommends his removal. I see nothing in the evidence assembled so far that would warrant such a recommendation, and I am surprised that you would propose to destroy the career of such a distinguished public servant on such spurious grounds.

In this connection, I must note that the Agency is without the legal authority to demand return of any funds paid out on these contracts.

In conclusion, I want to express my hope that in the future we can work together in a more constructive spirit to address issues of mutual concern.

Sincerely yours,

DOUGLAS M. COSTLE.

Mr. GREEN. What actions has the Agency taken to insure that similar abuses do not reoccur?

Mr. TUERK. Most of it was through the use of sole-source contracting. We have developed more rigorous requirements for sole-source so there is less of it.

Mr. GREEN. Has disciplinary action been taken?

Mr. TUERK. There was no finding that required disciplinary action.

REGULATIONS FOR CLEANUP OF INACTIVE URANIUM MILL TAILINGS SITES

Mr. GREEN. The Environmental Standards and Guidelines element on page R-12 indicates that in 1980, the Agency proposed a property clean-up standard for inactive uranium mill tailings sites.

What is the potential cost of this regulation?

Mr. TUERK. Those standards were to allow the Department of Energy to clean up in Cannonsburg, Pennsylvania, and Salt Lake City, Utah.

The Department of Energy is still in the process of developing the scope of that clean-up action and I would prefer to supply for the record what their current estimates are rather than speculate here.

Mr. GREEN. Would those regulations impact other sites as well as those two sites?

Mr. TUERK. Yes, there are approximately 20 inactive sites for which we have a proposed regulation on the streets. The essence of the clean-up at most of the sites will be to provide some covering for the tailings that are on-site.

In this particular case, the tailings have been moved off-site. There may be others, but these are the main two that needed standards to take early action on as to clean-up.

Mr. GREEN. Do you have any cost estimate for the other sites?

Mr. TUERK. Yes, and I would like to supply that for the record.

[The information follows:]

At the time of proposal cost estimates were developed and included within the Draft Environmental Impact Statement. Although the exact costs are difficult to determine because of the lack of site specific estimates we believe that the total cost of the program for inactive sites will be $200 million to $300 million. These expenditures would be spread over the seven-year authorization of the program. The Federal government would bear 90 percent of this cost with the State bearing the remaining 10 percent.

FUNDING RESPONSIBILITY TO CLEAN UP MILL TAILINGS SITES

Mr. GREEN. Who would pay for clean-up under the regulations?

Mr. TUERK. That cost would be borne by the Federal government.

Mr. GREEN. Is this regulation one the new Administration is likely to review critically and possibly, to alter?

Mr. TUERK. They have given us no indication that is a regulation they want to review.

Mr. GREEN. So you are not aware of any review by the new Administration?

Mr. TUERK. No.

NOISE PROGRAM

Mr. GREEN. Turn now to the Noise program, beginning on page N-1. The 1981 current estimate for the Noise program is $13,045,000 in the amended 1982 budget—the comparable figure in the January submission was $12,724,000. The Noise program is being phased out in 1982. The total 1982 request is $2,271,000.

The authorization level line in the tabular summary indicates that there was no authorization in 1980 and there is not yet an authorization for 1981. When was the Noise program last specifically authorized?

Mr. TUERK. 1979.

REDUCTION IN FORCE FOR NOISE PROGRAM

Mr. GREEN. The reduction in 1982 totals $10,774,000. Positions decline from 90 in 1981 to 29 in 1982. Will a reduction in force be necessary in either 1981 or in 1982 to meet revised personnel ceilings for the Noise program?

Mr. TUERK. A reduction in force may be required. The Agency is identifying the individuals who are at risk of being displaced and is actively trying to work them into existing vacancies in the Agency. To the extent that our placement program doesn't fully accommodate the reductions with which we are faced, a RIF would be required in 1981 and possibly in 1982.

Mr. GREEN. How many positions are currently occupied?

Mr. TUERK. Permanent, something around 60.

Mr. GREEN. How many workyears have been funded to date in the Noise program in fiscal year 1981?

Mr. TUERK. The workyears would be the total shown on page N-2, which would be 105.

Mr. GREEN. Do you envision that 1982 will be the last year for which funds are requested in the Noise program?

Mr. TUERK. That is the current understanding.

Mr. GREEN. Under those circumstances, why shouldn't we just close it down now?

Mr. TUERK. The main reason for carrying a program into 1982 is to allow us to have an orderly phase-out.

Let me give you some examples. The assumption is that State and local agencies will continue to be active in the noise field. We have at the present time some 1,000 communities, for example, that have noise programs. So what we very much want to do over the next 18 months is to take the considerable amount of technical knowledge we have gathered both in regulation-writing and in

doing research and developing control techniques, taking that knowledge and packaging it in such a form that it can be made available to State and local agencies.

In addition, there is some concern about the existing Federal regulations we have promulgated over the past half-dozen years for noise. There needs to be a way over the next 18 months of handling actions to either rescind or modify those.

We have health studies underway which will continue well into 1982 and we need to be in a position to be able to take the results from those studies and again make them available to the scientific community as well as the State and local agencies.

So it is all in the context of providing the most effective transition possible to the continuation of activities at the State and local level.

Mr. GREEN. Do you imagine you'll have a body of regulations on the books when the program is closed down?

Mr. TUERK. They don't come off automatically. They stay there until something is done to rescind or modify them.

Mr. GREEN. Do you anticipate you will be rescinding them?

Mr. TUERK. That is a matter that is under consideration and we do not at this time have a firm decision.

Mr. GREEN. Was the decision to terminate the program made by OMB?

Mr. TUERK. OMB specifically requested that it be terminated.

INTERDISCIPLINARY PROGRAM

Mr. GREEN. Turn to Interdisciplinary program. The revised 1982 request is $15,304,000 and 134 positions, which represents a decrease of approximately $700,000 from the January submission. The 1981 budget estimate column for the Interdisciplinary program indicates a total of $10,697,000. However, in the 1981 budget justifications submitted in January of 1980, the 1981 total was $27,241,000. I realize that the research programs have been restructured, but this change strikes me as more than the basic restructuring. The Committee has been extremely critical of this program in past years, especially of the Anticipatory Research element. Is this restructuring anything more than a ruse to bury the Anticipatory Research program?

Dr. DOWD. Mr. Chairman, in fact, we had reorganized the program in part to reflect the kinds of activities in this research program that really needed to be carried out, and tried to hold them in our individual research committees so the research committee could make sure the research met the needs of the Agency, partly in response to the Agency's concern that this research needed someone to watch it more carefully. That is the reason for distributing these pieces of research to other elements.

Mr. GREEN. Please indicate precisely where the original 1981 budget estimate of $27,241,000 is reflected in the 1981 column portrayed on page I-1.

Dr. DOWD. I would note in the tabs I think we have indicated each of the program elements in the budget submission. Of course, it is difficult to pick those out. I will assemble those and submit them to the Committee.

Mr. GREEN. That will be helpful.

[CLERK'S NOTE.—The information has been received, and is on file with the Committee.]

ANTICIPATORY RESEARCH RESOURCES

Mr. GREEN. Included in the 1981 original submission was $14,745,000 for anticipatory research. What is the comparable amount for the 1981 current estimate?

Dr. DOWD. I believe the current estimate is something on the order of $6.4 million.

Mr. GREEN. What is the comparable amount in the 1982 budget estimate?

Dr. DOWD. The 1981 budget estimate was $6.3; 1982 is $6.4, roughly.

INNOVATIVE RESEARCH

Mr. GREEN. In action on the 1981 Appropriation bill, the Congress reduced the Innovative Research program by $2,500,000. Where is that reduction reflected in the 1981 current estimate?

Dr. DOWD. Because of the restructuring, the decrease shows up in different places: $850,000 was taken out of toxics, $1 million from gaseous and particles program in energy, and $650,000 directly from exploratory work still remaining in this account, adding up to $2.5 million.

ENERGY REVIEW AND PERMITTING

Mr. GREEN. Turn to the Energy Review and Permitting activity, on page I-11. The 1981 current estimate is $684,000 and ten positions: the 1982 budget request is a significant increase to $5,162,000 and 34 positions. The legend indicates that part of the increase is for alternative energy facilities such as synthetic fuels plants.

What portion of the total $5,162,000 request will be devoted to synthetic fuel activities?

Mr. BARBER. I think we will have to supply that breakdown for the record, sir.

Mr. GREEN. Please do. Also, let us know how much of the total will be funneled through the Denver office relating to synthetic fuels.

[The information follows:]

SYNTHETIC FUELS RESOURCES FOR DENVER

Of the $5.2 million request for Energy Review and Permitting, approximately $1.8 million is dedicated to providing technical assistance for complex synthetic fuel projects. Currently, we are in the process of finalizing the distribution of these resources among the Regions utilizing our workload models. Resources devoted to the Denver Office, therefore, cannot be determined as yet.

COMPETITIVE RESEARCH GRANTS PROGRAM

Mr. GREEN. Turn to page I-15, which describes the Exploratory Research program. The last paragraph indicates that in 1980 the Agency established a new Competitive Research Grants program. What is the total amount devoted to Competitive Research Grants in 1980?

Dr. DOWD. In 1980 I believe we reviewed 650 proposals, and funded 103 out of the 650 that were reviewed, for a total of $17.3 million.

Mr. GREEN. What is included for 1981 and 1982?

Dr. DOWD. In 1981, I believe we have assumed we will be able to spend about $25.6 million. I would note that these grants come from the individual program elements and meet generally the needs established in the research committees, but we carry them out through the Competitive Research Grants program to make sure we have the best researchers in the country carrying out this work.

Mr. GREEN. How does the Competitive Research Grants program differ from the Innovative Research program contained in the 1981 justifications submitted in January of 1980?

Dr. DOWD. I am not personally familiar with the justifications submitted last year, so I will have to submit that for the record.

[The information follows:]

COMPETITIVE GRANTS PROGRAM VERSUS INNOVATIVE RESEARCH PROGRAM

The Competitive Grants program differs from the Innovative Research program contained in the 1981 justifications submitted in January 1980.

The Competitive Grants program is an extramural program which aims to support long-term exploratory projects. The program is part of ORD's effort to fulfill a Congressional mandate to assure that 15 percent of the Research and Development program is dedicated to long-term research. The program supports Agency needs as defined by the research committees and with consultation of outside scientists. The program solicits proposals from over 3,000 universities and non-profit institutions. Projects are evaluated by scientific peer panels. In fiscal year 1981 it is expected that at least 1,000 proposals will be reviewed and 140 supported. Resources for this extramural program are contained in almost every R&D program element. Administrative support costs are contained within the Interdisciplinary-Exploratory Core S&E funds.

The Innovative Research program contained in the 1981 justification consists of several components. One part is a small program which aims at providing ORD's scientists with an opportunity to conduct a basic research project or investigate a new problem. Since 1979, fifteen awards have been made. The first group of six scientists and engineers are just completing their projects. The results of this program to date include 12 publications in peer-reviewed journals, four additional articles under consideration and 25 additional papers under preparation. In the 1981 justification the innovative program also proposed to spearhead extramural research in several areas including behavioral toxic effects, toxic chemical effects on soil, and unique environmental problems associated with disposal of sulfur. These projects were not initiated because of the Congressional reduction. Henceforth, the Competitive Grants program and the Exploratory Research Centers will be the primary vehicles for providing support for extramural innovative projects.

COMPETITIVE RESEARCH GRANT RECIPIENTS

Mr. GREEN. You have already told us how you select the recipients. Who are they, in general?

Dr. DOWD. If I can just take a moment here to point out that in the first year of this operation, we reviewed a large number of proposals, of which 50 percent were grant applications, all of which were reviewed by peer panels. Of the 103 that we supported, 73 principal investigators had had no previous funding, which means we really would be tapping into a group of the academic community which hadn't previously come to EPA for research before. We think that is a very good development.

Mr. GREEN. The program is aimed primarily at the academic community?

Dr. DOWD. Primarily academic institutions, although others can compete.

Mr. GREEN. For the record, provide the amount of financial assistance given to each of the exploratory centers in fiscal year 1980 and the amounts for fiscal years 1981 and 1982.

Dr. DOWD. I would be glad to provide that.

[The information follows:]

FUNDING FOR EXPLORATORY CENTERS

The amount of financial assistance given to each of the exploratory centers in fiscal year 1980 and the amounts for fiscal year 1981 and 1982 are approximately as follows:

[In thousands of dollars]

Center	Fiscal year—		
	1980 funds	1981 funds (estimate)	1982 funds (planned)
Epidemiology	500	500	500
Advanced control technology	0	500	500
Ground water	500	500	500
Marine sciences	250	500	500
Industrial waste elimination	0	500	500
Ecosystem research	500	500	500
Intermedia transport	500	500	500
Hazardous waste	0	200	500
Total	2,250	3,700	4,000

SCIENTIFIC SABBATICAL TRAINING

Mr. GREEN. The description of the Innovative Research program in the January 1980 justification indicated that recipients would include individual scientists from EPA who would take sabbaticals for a year in order to do research. Will that occur in the Exploratory Research program?

Dr. DOWD. No. The Committee raised questions about that and that part of the program has been terminated.

TOXIC SUBSTANCES PROGRAM

Mr. BOLAND. We will turn to Toxic Substances.

The total Reagan request in 1982 for the Toxic Substances program is $98,153,000, a decrease of $5,839,000 from the revised 1981 current estimate and a reduction of $9,488,000 from the Carter January submission. The authorization level in both 1980 and 1981 is considerably below the amounts appropriated and spent. Why hasn't the Agency been able to secure adequate authorizations?

Mr. CLARK. I would have to supply that for the record.

[The information follows:]

AUTHORIZATION FOR TOXIC SUBSTANCES PROGRAM

The authorizations reflected on page TS-1 of the 1982 budget estimate (1980: $30,977,000 and 1981: $36,895,000) are contained within the Environmental Research, Development, and Demonstration Authorization Act of 1980 and of 1981, respectively. This authorization covers only the Research and Development appro-

priation and that portion of the Salaries and Expenses appropriation which relates to the Office of Research and Development.

The Toxic Substances Control Act, Public Law 94-469 dated October 11, 1976, contained fund authorizations through fiscal year 1979. Our request to extend the Act, providing a fund authorization level for 1980 and 1981, was not acted upon. Therefore, the funding levels for these activities were established "by virtue of the Appropriation Act." We have requested that the Act be extended to provide fund authorizations for 1982 and 1983.

AUTHORIZATIONS FOR TOXIC SUBSTANCES

Mr. BOLAND. What is the proposed authorization for fiscal year 1982?

Mr. CLARK. We propose authorization at the level requested. However, our House authorization Committee didn't do the R&D part of it, so our authorization request was for $60 million.

ABATEMENT, CONTROL, AND COMPLIANCE RESOURCES IN 1980

Mr. BOLAND. The 1980 program totalled $90,237,000. Included in this was $38,745,000 in the Abatement, Control and Compliance account. The plan for that appropriation had been $45,201,000. That shortfall amounted to nearly $6.5 million, or 14.3 percent.

What is the reason for this significant gap?

Mr. CLARK. There were reprogrammings of the accounts because of PC&B shortfalls described in the budget. Then there was about $4 million to carry over to 1981. We would like to provide a more detailed answer for the record.

[The information follows:]

TOXIC SUBSTANCES OBLIGATIONS

In fiscal year 1980, the Agency's estimated budget for the Toxic Substances Control and Compliance appropriation was $45,201,000. The actual amount was $38,745,000 with $6,456,000 not being obligated.

The $6,456,000 difference can be explained by the following:

$1,300,000 was carried over into fiscal year 1981 for State Cooperative agreements. The section 28 grants are funded in order to assist States in establishing a toxic substances control program.

$2,800,000 was carried over into fiscal year 1981 for other grant and contract commitments.

$2,000,000 was transferred to the Pesticides program for the disposal of Silvex. The Committee approved this transfer.

The balance was used to fund the Agency's PC&B shortfall in the Salaries and Expenses appropriation. The Committee approved the Agency's PC&B shortfall reprogrammings.

Mr. BOLAND. Positions and work years in 1980 also were far behind plan: positions were targeted at 657, but were actually 592; and full-time equivalency was planned to be 765, but the actual was 741.

Mr. CLARK. As you may remember, this program has been staffing up over the past three years. The hiring freeze was placed in the spring of 1980.

Mr. BOLAND. Perhaps this program was over-funded or too generously funded in 1980?

Mr. CLARK. Compared to other staffing, I guess, yes.

ENFORCEMENT RULES AND REGULATIONS

Mr. BOLAND. The last sentence on page TS-4 indicates that as the list of enforceable rules and regulations expands, the role of the regional office will grow in size and importance. What part of the $98 million requested in 1982 will be utilized in the regions?

Mr. WILSON. Mr. Chairman, all the enforcement increase between the current 1981 estimate and 1982 estimate is for the regional offices.

Mr. BOLAND. On page TS-6, the justifications indicate that the decrease of $5,840,000 in 1982 is primarily due to reductions in intervenor and public participation grants, among other items.

For the record, provide the amounts included in the 1981 current justification and in 1982 for each of the activities listed on that page; that is, for intervenor funding, public participation grants, recordkeeping rules, and scientific data base development.

[The information follows:]

The 1982 levels and programmed cuts in Abatement, Control and Compliance related to the specific activities listed on page TS-6 are as follows:

	Fiscal year—		Net change
	1981	1982	
Public participation:			
Public participation grants	915,000	0	−915,000
Intervenor Grants	0	0	0
Record keeping:			
Rule development	620,000	440,000	−180,000
Support activities	900,000	600,000	−300,000
Scientific data base development:			
Risk assessments	4,400,000	2,200,000	−2,200,000
Support activities	1,700,000	1,000,000	−700,000

PROPOSED RULEMAKING

Mr. BOLAND. Turn to page TS-16. In 1980, the EPA issued an Advance Notice of Proposed Rule Making covering possible approaches to restrict the growth of manufacture of chlorofluorocarbons for non-consumptive uses. Pages TS-53 and TS-54 also address the chlorofluorocarbon issue. Page TS-53 indicates that in 1980 a report was issued entitled "Protection Against Depletion of Stratospheric Ozone By Chlorofluorocarbons."

What were the major results of this report?

Dr. DOWD. Which report? We have had several. The most recent one?

Mr. BOLAND. This is the one entitled "Protection Against Depletion of Stratospheric Ozone By Chlorofluorocarbons."

Mr. CLARK. I think we can supply that specific report for the record.

Mr. BOLAND. All right. Why don't you supply it for the record.

[CLERK'S NOTE.—The report has been received and is on file with the Committee.]

INTERAGENCY COMMITTEE ON STRATOSPHERIC OZONE DEPLETION

Mr. BOLAND. For the record, also provide the names of the members of the Interagency Committee on Stratospheric Ozone Depletion, which is listed on page TS-54.

[The information follows:]

[CLERK'S NOTE.—The following membership list of the Interagency Committee on Stratospheric Ozone Depletion reflects Carter Administration appointees. The Agency expects the new Administration to appoint members in the near future. At that time, the Agency will provide the Committee with a more current list.]

INTERAGENCY COMMITTEE FOR STRATOSPHERIC OZONE PROTECTION (ICSOP)

Dr. Stephen J. Gage, *Chairman*, Assistant Administrator for Research and Development, Environmental Protection Agency, Washington, D.C. 20460—755-2600

Dr. F. Alan Andersen, Chief, Standards Support Staff (HFX 140), Division of Biological Effects, Bureau of Radiological Health (FDA), 5600 Fishers Lane, Rockville, Maryland 20857—443-4006

Mr. Bruce Barrett, Acting Director, Office of Environmental Affairs, Office of Science and Technology, Department of Commerce (Room 3425), Washington, D.C. 20230—377-4335

Dr. Eugene W. Bierly, Director, Division of Atmospheric Sciences, National Science Foundation, Washington, D.C. 20550—357-9875

Mr. S. John Byington, Chairman, Consumer Product Safety Commission, 1111-18th Street, N.W., Washington, D.C. 20207

Mr. John DeKany, Deputy Assistant Administrator for Chemical Control, Office of Toxic Substances TS-794, Environmental Protection Agency, Washington, D.C. 20460—426-9000

Dr. Edward S. Epstein, Director, National Climate Program Office, National Oceanic and Atmospheric Administration, 6010 Executive Blvd., Rockville, Maryland 20852—443-8646

Colonel Elbert W. Friday, Jr., USAF, Director, Environmental and Life Sciences, Office of the Under Secretary of Defense for Research and Engineering, Pentagon, Rm. 3D129, Washington, D.C. 20301—695-9604

Dr. C. C. Gravatt, Deputy Director for Programs, National Measurement Laboratory, National Bureau of Standards, Washington, D.C. 20234—921-2822

Mr. Ralph J. McCracken, Associate Director, Science and Education Administration, Department of Agriculture, Washington, D.C. 20250—447-8885

Dr. John I. Munn, Assistant to the Scientific Coordinator for Environmental Cancer (DCCP), Department of Health, Education, and Welfare, National Cancer Institute, Landow Building 8C25, Bethesda, Maryland 20014—496-4663

Mr. Edward Olson, Office of Environmental and Health Affairs, Department of State (Room 7820), Washington, D.C. 20520—632-9196

Dr. Herbert S. Posner, Research Pharmacologist, Office of Health Hazard Assessment, National Institute of Environmental Health Sciences, P.O. Box 12233, Research Triangle Park, North Carolina 27709—8/629-3201

Dr. Edwin B. Shykind, Acting Director, Ofc. of Business Policy Analysis (BDBD), Department of Commerce (room 3112), Washington, D.C. 20230—377-4694

Dr. N. Sundararaman, Manager, High Altitude Pollution Program, AEE-300, Federal Aviation Administration, DOT, 800 Independence Avenue, S.W., Washington, D.C. 20591—755-8933

Dr. Shelby G. Tilford, Chief, Upper Atmospheric Processes Branch, National Aeronautics and Space Administration, Code EBT-8, Washington, D.C. 20546—755-8596

Dr. Herbert L. Wiser, *Executive Secretary*, Principal Physical Science Advisor, Office of Research and Development, Environmental Protection Agency, Washington, D.C. 20460—755-0477

Atmospheric Sciences

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Health Effects

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Orville Paynter, Toxicologist, Office of Environmental Affairs, U.S. Department of Commerce (Room 3424), Washington, D.C. 20230—377-3234
N. Sundararaman, Manager, High Altitude Pollution Program, AEE-300, Federal Aviation Administration, DOT, 800 Independence Avenue, S.W., Washington, D.C. 20591—755-8933

EPA ANALYSIS

Mr. BOLAND. Has the EPA prepared an economic impact statement on the possible effect of the Advance Notice on air conditioner and refrigerator manufacturers?

Mr. CLARK. That is an EPA analysis.

Mr. BOLAND. How does the United States approach to chlorofluorocarbons compare with that of other nations?

Mr. CLARK. We are cooperating very closely with the other nations and trying to make sure our approaches are consistent.

Mr. BOLAND. Are other nations following suit with the United States' approach in this area?

Mr. CLARK. Yes. They are imposing restrictions on unessential aerosol uses and are considering restrictions on production capacity.

REPORT ON XAD–2 THERMAL BLANK DETERMINATION

Mr. BOLAND. Turn to the Technical Information and Liaison element of the Research and Development program on page TS–34. In 1980, the Agency published a report on XAD–2 Thermal Blank Determination.

What is that?

Dr. DOWD. I am sorry to say——

Mr. BOLAND. You better supply that one for the record.

Dr. DOWD. May I read it first?

Mr. BOLAND. Who develops all these reports?

Dr. DOWD. We have a great many people in the laboratories doing a lot of work.

Mr. BOLAND. Then they are shelved, I suppose.

Dr. DOWD. We are trying to assure they are not. We are trying to produce research summaries that are rather slim so the technical scientists working in the field can request the full report. We are trying to send out into the community a quick summary of the reports.

[The information follows:]

XAD–2 THERMAL BLANK TECHNIQUES

In order to determine the potential impacts of gaseous emissions and, consequently, the need for and efficacy of various control technologies, we must first be able to determine precisely what those emissions are. One of the more difficult problems we face in terms of determining the precise nature of these gaseous emissions is capturing them in the first place.

Among the devices used to capture volatile organic materials in air streams are porous polymer adsorbent resins such as XAD–2. Such resins trap and hold volatile organics for later measurement using equipment such as the gas chromatograph/mass spectometer (GC/MS). This measurement equipment vaporizes a sample and determines its composition by measuring the spectra which results.

One of the limits to this technique is that the resin used to capture the organic materials introduces spectra of its own which can obscure a certain segment of the spectra of the organics being measured. This resin-caused obscuring spectra is referred to as a "blank." The "blank" caused by a collection resin must be clearly defined if the resin is to be useful as a sampling device. The report in question characterizes the "blank" caused by the XAD–2 resin, indicates the type of handling required to minimize this blank, and specifies the thermal and temporal stability of XAD–2.

A copy of the executive summary of this report (600S2–81–047) will be available from the Center for Environmental Research Information (U.S. EPA, 26 St. Clair, Cincinnati, Ohio 45268) within a month. A copy of the full report is available from the National Technical Information Service, U.S. Dept. of Commerce, P.O. Box 1553, Springfield, Virginia 22161 (reference number PB 81–172–264).

MUSSEL WATCH—COASTAL ENVIRONMENTAL ASSESSMENT SYSTEM

Mr. BOLAND. The same page indicates that the Agency conducted a seminar on Mussel Watch Coastal Environmental Assessment in the toxic substances area. Page I–17 also indicates that the Interdisciplinary program has responsibility for the Mussel Watch program.

Why is Mussel Watch research being performed by both the Toxic Substances office and in the interdisciplinary area?

Dr. DOWD. The research itself was carried out under the rubric of exploratory work because it was trying to assess new methods of identifying coastal toxicants. When the report was finalized, the results reflected on whether there were hot spots of pollution along the coastal zone.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

Mr. BOLAND. Page TS-43, under the Environmental Engineering and Technology element, states that in 1981 the Agency will "assess alternative disposal methods for PCBs [polychlorinated biphenyls], document and correlate PCB destruction with combustion efficiencies in high efficiency boilers, and develop alternative nonthermal destruction methods for PCBs."

Compare and contrast this research with that described in the Hazardous Waste program on page HW-75. That page indicates that the Agency will operate field scale rotary-kiln and liquid injection incinerators.

What is the difference, and how do they compare?

Mr. CLARK. I think I can address that.

Because of our PCB rules, we have a substantial concern about the appropriate disposal of PCBs. The research described here is related directly to that issue, testing incinerators and particularly looking at alternative means of disposal. The other work, I believe, is more general.

Dr. DOWD. It is important to recognize the kind of work being carried out. Part of their time will be dealing with hazardous waste and part of it has to be related to PCBs as they may or may not be different from the general group of hazardous substances that go into a dump.

We do have some engineering that is done by work in the hazardous wastes. That is because we have a disciplinary focus which we have to split apart into programs. In the case of the toxic substances, we tend to be more interested in specific chemicals, their health effect or engineering or environmental approaches to reducing the impact of them, and in something like hazardous waste, we tend to be more interested in the gunk. It is a different approach but done by the same people with the same backgrounds.

ENERGY PROGRAM

Mr. BOLAND. Let's turn to the Energy program. This program experienced significant decreases in both the Carter January submission and the Reagan March amendment. The Carter 1982 request was $96,845,000. The Reagan amendment reflected a further decrease to $70,146,000.

Why do you think both Administrations viewed the Energy Research and Development program as a lower priority?

Mr. BARBER. Their view was that it was an area where we had a large amount of contract dollars at a time when they were seeking budget reductions wherever they could find them. This particular program is one of the larger units, with a lot of extra dollars in it, so it was targeted for fiscal rather than policy reasons.

Mr. BOLAND. Why is there a small increase in the number of permanent workyears and full-time equivalencies, when the dollar request is declining 35 percent? Why don't we see a corresponding decrease in positions and workyears?

Dr. DOWD. I think, Mr. Chairman, that reflects the fact that the Energy program as carried out in this set of program units historically has been a primarily extramural account. The budgetary reduction was an attempt to reduce the budgetary extramural

account and as we went through and made the cuts, we also tried to protect particularly those areas dealing with synthetic fuels and the impact on health, ecological and environmental health. Some of the ecological aspects tended to be more resource-intensive of EPA's resources.

The simple answer is that the majority of the funds that were cut were extramural funds.

ACID RAIN RESEARCH

Mr. BOLAND. Page E-5, shows that a breakthrough technology concerning acid rain was identified during the past year. Describe this breakthrough technology and its promise.

Dr. DOWD. We can reduce the amount of nitrogen oxide produced by the boiler at relatively low cost, much lower than other controls. What has proven to be of interest, in addition to that, is when this is mixed with the limestone injection from coal, it appears we may not only be able to reduce the nitrogen oxide but also the sulphur oxide at, again, a much lower cost than conventional methods.

Mr. BOLAND. That would be a significant breakthrough.

What do you estimate the cost would be to retrofit this control technology on existing coal-burning plants?

Dr. DOWD. The first pilot of this is about to begin. The equipment will be delivered this month. We will provide cost data for the record.

[The information follows:]

ESTIMATED COST FOR ACID RAIN TECHNOLOGY

The estimated capital cost for the limestone injection/multistage burner (LIMB) process is $30-40 per kilowatt. The estimates cost included incremental costs for the low NO_x burner, particulate control, waste disposal, and supporting equipment. A comparable limestone wet scrubber would cost an estimated $140-200 per kilowatt. Comparatively, the LIMB process has potential to be the lowest cost control technology for NO_x with the greatest environmental benefits.

Mr. BOLAND. While we are on the subject of acid rain, turn to page E-28, which describes the 1981 activity in this area. This Committee is concerned that the government lacks a coordinated acid rain research effort. The National Science Foundation is performing some research in acid rain in addition to the Department of the Interior, the Department of Health and Human Services, the Department of Agriculture, and several others.

What is the total amount of resources that the Federal government devotes to acid rain activities?

Dr. DOWD. It is in the neighborhood of $18 million. I believe that EPA's part of that right now is about $9 million.

Mr. BOLAND. All right. To be sure you have the correct amount, you may supply it for the record, both for fiscal year 1981 and fiscal year 1982.

[The information follows:]

The fiscal year 1982 Federal budget for acid precipitation, prepared by the Interagency Task Force on Acid Precipitation mandated by Public Law 96-294, is $18.4 million, exclusive of control technology evaluation. The approximate breakdown by agency or department is:

TVA—$378,000.
USDA—$2,098,000.

NOAA—$1,900,000.
DOE—$2,375,000.
DOI—$2,651,000.
EPA—$9,034,000.

These estimates do not include funds for the National Science Foundation, which provides support for basic studies of the physical and chemical properties of sulfur and nitrogen and studies of how they cycle in the biosphere.

The fiscal year 1981 Federal Interagency budget is not currently available. The Interagency Acid Rain Task Force is attempting to assemble this information. However, the estimated EPA acid rain research budget, exclusive of studies to evaluate control technology is approximately $7.2 million.

ACID RAIN COORDINATING COMMITTEE

Mr. BOLAND. How would you describe the usefulness of the Acid Rain Coordinating Committee? How active has EPA been in that Committee?

Dr. DOWD. Quite active. In fact, it has been very important to try to come up with the budgetary distributions and request level from other agencies, from EPA's standpoint, making sure we are close to the NGS and NOAA. It has been an important part of our program.

ACID RAIN RESOURCES

Mr. BOLAND. Page E-28 indicates that $500,000 was added to the energy Acid Rain program in response to the Congressional add-on. Why wasn't the entire increase targeted to this area?

Dr. DOWD. The other went into the limestone injection program that I mentioned, the control technology to reduce the frequency of acid rain.

Mr. BOLAND. Is EPA performing acid rain research in the Air program?

Dr. DOWD. For 1982, we have transferred all the acid rain program.

Mr. BOLAND. Is the Agency still performing any acid rain research in the Air program?

Dr. DOWD. We are not.

NATIONAL ACID PRECIPITATION DATA SYSTEM

Mr. BOLAND. EPA's monitoring programs have been criticized in the past for lacking coordination and adequate scientific bases. How does the National Acid Precipitation Data System avoid this type of criticism?

Dr. DOWD. One of the ways is to have EPA assume an essential role as to the quality of the data. We exercise real quality control procedures to try to avoid the problems.

Mr. BOLAND. How many monitoring stations are maintained in the acid precipitation network?

Dr. DOWD. I don't have that number with me. If it would be appropriate, I would be glad to submit it for the record.

[The information follows:]

ACID PRECIPITATION MONITORING NETWORKS

Acid precipitation monitoring in the United States is conducted by several publicly and privately funded networks. Major networks are the NOAA/EPA/WMO (ten sites), National Atmospheric Deposition Program, NADP, Department of Agriculture; (approximately 45 sites), MAP3S (DOE/EPA, five sites), Electric Power Re-

search Institute (nine sites), TVA, and Department of Interior. Data from all these networks are being entered into the National Acid Precipitation System with the USGS taking a lead role in developing and implementing quality control and assurance procedures in data consolidation. Most of these networks will be consolidated in the National Trends Network described in the National Acid Precipitation Assessment Plan.

PASS THROUGH RESEARCH FUNDING TO OTHER AGENCIES

Mr. BOLAND. Page E-6 indicates that the Environmental Protection Agency uses pass-through funding to reimburse other Federal agencies for performing research.

What is the total estimated amount of such pass-through research funding included in the 1982 budget?

Dr. DOWD. I don't have that.

Mr. BOLAND. You may supply that for the record.

Dr. DOWD. Thank you.

[The information follows:]

1982 PASSTHROUGH RESEARCH FUNDING

The estimated amount of "pass-through" research funding in the 1982 budget is $15,200,000. This amount will be provided to six other government agencies which include the Department of Agriculture (Forest Service, SCS), Tennessee Valley Authority, Department of Interior (Fish and Wildlife), Department of Commerce (National Oceanic and Atmospheric Administration), National Institute for Occupational Safety and Health, and the National Aeronautics and Space Administration, and fourteen DOE National Laboratories or off-site facilities.

PASSTHROUGH RESEARCH FUNDING

Mr. BOLAND. Is all the pass-through funding in the Energy program?

Dr. DOWD. I believe it is

Mr. RONDBERG. We have cooperative work with FDA concerning toxology and so forth, so there are small amounts of inter-agency efforts to purchase work where they have expertise.

Dr. DOWD. We passed $4.5 million through to the Research Center at Pine Bluff.

FOSSIL FUEL AND WOOD-BURNING FIRES

Mr. BOLAND. The same page indicates that the Agency will continue its research on the effects of fossil fuel and wood-burning combustion. Do you believe this to be a great issue?

Dr. DOWD. That is right, sir.

Mr. BOLAND. What is the solution—burning less wood?

Mr. DOWD. There are several industrial groups who have been investigating different kinds of fireplaces. It appears the way to reduce this, if our research proves out, is to do very high-temperature combustion of the wood. There are stoves that have been developed in Europe that have very short periods of high temperature of burning wood, put the chips in, it burns itself very, very fast, high temperature. It is heavy concrete and takes the heat and continues to radiate the heat several hours after the burning.

You have to charge it several times a day, but the heat would continue to be radiated with relatively low pollution.

TRANSFER OF RESOURCES FOR LOVE CANAL RESEARCH

Mr. BOLAND. Page E–8 describes the changes from the original 1981 budget estimate. The major change was the transfer of $3,146,000 to the Office of Solid Waste for Love Canal research. This substantial transfer leads us to believe that the Energy program enjoys a rather low priority within the Agency.

Dr. DOWD. That is not really true, Mr. Chairman. The problem we faced is that last summer, as the Love Canal experience began unfolding, we realized the Agency had to carry on a substantial effort. It was an emergency activity and we had to search for some way of finding funding for it. It really is not because Energy has low priority——

Mr. BOLAND. Is it because you needed the money quickly?

Dr. DOWD. That is exactly correct.

ACID RAIN RESOURCES

Mr. BOLAND. The 1981 change paragraph of the Energy Environmental Engineering and Technology element indicates that $1 million of the Acid Rain program increase is devoted to this activity. In addition, $1 million of the $2,500,000 Anticipatory Research reduction was applied to this activity. It certainly appears that the Acid Rain increase is being used to offset the Anticipatory Research decrease. How do you respond to that?

Dr. DOWD. The $1 million added to this particular activity went into the Limestone Injection program. The $1 million that was taken out was from the transfer that we discussed earlier this morning of several items in the Interdisciplinary account.

I would have to determine exactly which program was hit that had been transferred from Interdisciplinary. It was not, I believe, the same program that got the additional acid rain funding.

ANTICIPATORY RESEARCH FOR ENERGY ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

Mr. BOLAND. Specifically, what anticipatory research in the Energy Environmental Engineering and Technology area that had been planned will not be accomplished because of the Congressional reduction?

Dr. DOWD. If it would be appropriate, Mr. Chairman, may I supply that for the record?

[The information follows:]

Anticipatory Research in the Energy Environmental Engineering and Technology area which had been planned but will not be accomplished because of the Congressional reduction consists of:

Fundamental combustion research including studies of the kinetics and reaction rates of combustion processes, and

Research on electrostatic precipitator processes including particle charging mechanisms, and research on fabric filters, including the effects of electric fields on particle collection efficiencies.

MANAGEMENT AND SUPPORT PROGRAM

Mr. BOLAND. Let's turn to Management and Support.

The revised 1982 estimate is $232,578,000, compared with the Carter January estimate of $256,922,000. The number of permanent workyears declines from 2,676 in the Carter submission to 2,437 in the Reagan amendment.

Workyears in the 1982 Carter submission for Management and Support equaled 22.9 percent of total Agency workyears. Full-time equivalency in the management and support activity equaled 23.7 percent of the Agency total. The comparable figures for the Reagan amendment are 23.5 percent for permanent workyears and 24.7 percent for full-time equivalency. The bottom line is that the 1982 Reagan reduction in the Management and Support activity was not commensurate to the total workyears and full-time equivalency in this area.

Why didn't the Management and Support activity receive at least a proportional reduction in workyears and full-time equivalency? We have been asking this question in many areas.

Ms. GORDON. We can supply details for the record, but most of our Management and Support accounts did receive reductions that were proportionate. However, there were just certain parts like our Toxics Integration program that were not reduced.

[The information follows:]

ADJUSTED MANAGEMENT AND SUPPORT BUDGET

The Management and Support accounts, when adjusted to exclude increases provided for the Toxics Integration project (which includes workyears primarily to be devoted to improving program activities), the Calendar of Federal Regulations, and certain increases in program management, compare closely to the percentage change in fiscal year 1982 resource levels in other parts of the Agency. The following chart displays the percentage change from the January to March budgets for both the total Agency operating budget and the adjusted Management and Support budget.

Total operating budget (excluding Superfund)

Fiscal year 1982 budget requests:	
Permanent work-Years:	
January request	$11,039
March request	$9,884
Change	−$1,155
Percent change	−10

Adjusted [1] management and support budget

Fiscal year 1982 budget request:	
Permanent work-years:	
January request	$2,636
March request	$2,374
Change	−262
percent change	−10

[1] Excludes resources for Toxics Integration project, Calendar of Federal Regulations, multimedia policy analysis/criminal investigation capacity in the Office of the Assistant Administrator for Enforcement, and resources carried in the Office of the Assistant Administrator to bridge the transition in OANR.

OFFICE OF AIR, NOISE AND RADIATION INCREASES

Mr. BOLAND. Turn to page MS-5 for an example of the nonproportional cut in the Management and Support activity. The Office of Air, Noise, and Radiation is increasing from 48 positions and $2,061,000 in 1981 to 53 positions and $3,032,000 in 1982. Since the Noise program is being phased out in 1982, the Radiation

program is experiencing a significant reduction in 1982, and the Air program is slightly decreasing in 1982, why does the program management element for the Office of Air, Noise and Radiation increase?

Mr. GAMSE. Let me say a few words on that, and Mr. Tuerk may want to add something.

We are going through such a transition with three major parts of that overall office that we felt it desirable to have some capacity in the immediate office there to take charge of the transition and to provide some capacity for dealing with problems that would inevitably be coming up through the transition.

Mr. TUERK. That is basically correct.

SENIOR EXECUTIVE SERVICE BONUSES

Mr. BOLAND. On the same page, the 1981 Explanation of Change from Budget Estimate indicates that the Congress applied a $750,000 cut to the Senior Executive Service bonuses. Why doesn't the Agency budget for SES bonuses in one office?

Mr. KINGHORN. One of the reasons we do it this way is that the recommendations must eventually be funded out of the S&E accounts, in the individual offices.

Mr. BOLAND. What is the total amount devoted to SES bonuses during fiscal year 1980?

Mr. GAMSE. $160,000 in 1980 for Presidential stipends. There were no SES bonuses in 1980, only these stipends.

Mr. BOLAND. What is assumed for 1981 and 1982?

Mr. GAMSE. $300,400 in 1981. We do not know yet for 1982.

Mr. BOLAND. What was the largest total bonus in 1980 and in 1981 to date?

Mr. GAMSE. In 1980, the largest bonus would be the Presidental stipends, of which $20,000 was the largest.

Mr. BOLAND. How many received that type of bonus?

Mr. GAMSE. Four.

Mr. BOLAND. What particular offices were they in? What was the average bonus?

Mr. GAMSE. There were four. Three were Mr. Barber, from the Office of Air, Noise and Radiation; me, from the Office of Planning and Management; Dick Wilson from the Office of Enforcement; and the fourth was Mr. Beck, from the Office of Water and Waste Management.

The average bonus in 1980 when we only had the Presidental awards was $13,333, but the only ones covered were the $10,000 and $20,000 Presidental stipend. In 1981 the average has been about $6,000.

Mr. BOLAND. What percentage of personnel eligible for SES bonuses actually received such bonuses in 1980?

Mr. GAMSE. In 1980, it was very small. Only 12 people out of about 230. So that is about five percent.

OFFICE OF PRESS SERVICES RESOURCES

Mr. BOLAND. Page MS-8 indicates that the Office of Press Services is increasing from $667,000 in 1981 to $825,000 in 1982. I realize there are expenses other than salaries associated with this

office. However, just dividing the total dollars by the number of positions yields $55,583 per position in 1981, compared to $68,750 per position in 1982.

What accounts for this significant increase?

Mr. GAMSE. I do not have that here. I will have to supply that for the record.

Mr. BOLAND. All right.

[The information follows:]

OFFICE OF PRESS SERVICES

The budget of the Office of Press Services increases by $158,000 from the fiscal year 1981 current estimate to the fiscal year 1982 budget request. In part, this increase reflects the Agency's policy of fully funding intramural expenses (e.g. personnel costs, supplies, rental of office equipment, etc.); in the fiscal year 1982 Budget. Additionally, in fiscal year 1982 the Office of Press Services will absorb the activities associated with publishing the *EPA Journal.* Funding has been provided to cover printing, reproduction, and other incidental costs related to this activity.

CONTRACT SUMMARY IN EXECUTIVE OFFICES

Mr. BOLAND. Page MS-9 contains the contract summary for certain executive offices. The 1981 current estimate for the Office of the Inspector General is $3,627,000. The comparable figure in the 1981 budget estimate submitted to the Congress in January of 1980 was $4,772,000. Especially in light of the new Administration's emphasis on reducing waste, fraud, and abuse in the Federal government, why does the 1981 estimate decline by more than one million dollars? You may supply that for the record.

[The information follows:]

OFFICE OF INSPECTOR GENERAL

The decrease in the Office of the Inspector General's fiscal year 1981 contract budget reflects an accounting change. The fiscal year 1981 budget estimate of $4,772,000, which was submitted to the Congress in January 1980, included funds for interagency agreements and ADP contracts totalling $1,068,400, in addition to extramural contract dollars. In the fiscal year 1981 current estimate, the Inspector General's contract budget of $3,627,000 includes only extramural contract dollars. The total dollar budget for the Office of Inspector General has not been decreased in fiscal year 1981.

OFFICE OF PLANNING AND EVALUATION CONTRACTS

Mr. BOLAND. Pages MS-10 and 11 address the major increase for contracts in the Office of Planning and Evaluation. The 1981 current estimate is $6,355,000. This reflects the $1 million Congressional reduction applied in the 1981 Appropriation Act. The 1982 request is $12,630,000. In addition, the Office of Planning and Evaluation will dedicate 30 positions to developing and implementing a coordinated toxic substances strategy for the Agency. Included in the $12.6 million total is approximately $5 million in contract funds for the toxic strategy. The Carter January 1982 budget request contained $7 million for the toxic strategy initiative.

REQUEST FOR TOXIC STRATEGY RESOURCES

What was the EPA's request to OMB for the toxic strategy in both dollars and positions?

Mr. GAMSE. First, if I can correct one statement before answering at. The contract dollars in the 1982 request were $3.9 million, ıth the $5 million including both personnel and contracts.

In answer to the question—what was the EPA request specifically for this activity—we did not, in our submission to OMB, request :sources for this project per se. It is something that evolved as we ent through discussions with OMB before the final submission of ıe President's budget.

Mr. BOLAND. Do you have a total estimated cost for this strategy?

Mr. GAMSE. Well, we expect that we will be using the requested ınds for 1982, and finish the implementation phase of designing ıat strategy. So, basically, the resources we have in that area ow—we are using approximately 15 people and approximately 1.5 million dollars this year—then the $5 million and 30 people in ıscal 1982, that should complete the design and pre-implementation f the strategy. After that point, I think the project of resolving ıow we are going to handle making our Agency actions coordinat-:d in the toxics area would be complete and we would be adopting he strategy that comes out of that. At this point we do not know vhat this will cost, but I think it would be more a normal operational thing.

Mr. BOLAND. How many years do you expect it will take to :omplete the strategy?

Mr. GAMSE. We expect to finish design in 1982.

Mr. BOLAND. What would be the effect on this activity if the Congress reduced the $5 million by $1 million or $2 million? I presume you would take longer to complete the strategy?

Mr. GAMSE. That is correct. If I can; I will provide a response for the record, but will answer now that we feel a sense of urgency in completing it, because the purpose of all this is to make sure when we regulate a chemical across all our programs we do it in such a way that they are doing it together rather than separately. When we regulate an industry for a number of toxic or non-toxic problems we could deal with the total costs of our actions on that industry and make sure we are not imposing inordinate impacts because the right hand does not know what the left hand is doing.

Mr. BOLAND. This has already been reduced from $7 million to $5 million, hasn't it?

Mr. GAMSE. Yes.

Mr. BOLAND. Then perhaps an additional reduction of another $1–2 million will not hurt too much. You may address the programmatic implications of an additional reduction for the record.

[The information follows:]

JUSTIFICATION FOR A $5 MILLION COMMITMENT TO TOXICS INTEGRATION STUDIES IN THE PRESIDENT'S FISCAL YEAR 1982 BUDGET

A reduction of $1 million-$2 million in resources for toxics integration in fiscal year 1982 will force EPA to postpone developing parts of a strategy designed to improve agency efficiency and to better rationalize the economic burden of environmental regulation on the private sector. Integration would be delayed because the agency needs at least $5 million to gather the information and develop the new analytic procedures necessary to harmonize the implementation of seven independent legislative mandates programs (air program, water program, Superfund, etc.).

The historically independent development of these programs in EPA has led to a number of suspected problems, such as inconsistencies among programs in the assessment of a chemical pollutant's risk to human health. That internal inconsistency, in turn, can lead programs to place different control requirements on an

industry without a coordinated concern for what the industry can afford. Still another problem is the potential for one program's recommended pollution control device (i.e., a stack gas scrubber) to create inadvertently a pollution control problem for another program (i.e, the watery sludge residue generated by the scrubber).

The fiscal year 1981 toxics strategy identifies about twenty-five tasks which address problems of internal inconsistency and duplication as well as the broader need to avoid inappropriate or overly heavy economic burdens on industry. Examples of those tasks are:

developing an agency-wide regulatory priorities list;

developing consistency in the use of scientific procedures; and

developing a methodology for comparing the collective toxic pollution risks from emissions of a single industry with hypothetical control costs to that industry. By the end of fiscal year 1981, the project will propose a strategy to integrate the regulatory development process among EPA's toxics programs. In fiscal year 1982, EPA will test the implementation of that strategy.

Effect of congressional budget reductions in fiscal year 1982 on toxics integration

Integration, however, cannot occur by fiat, and the major obstacle is the current lack of knowledge and analytic tools necessary to integrate on a cross-program, cross-media basis. Less resources means less development of these necessary procedures, a slower rate of integration—and continued waste of resources for both EPA and industry.

The task of developing an agency-wide regulatory priority list—to ensure that EPA as a whole focuses on the worst pollution problems first and in a clear and consistent manner—provides a more detailed example. In fiscal year 1981 the toxics project will be attempting to identify criteria for the development of the list; much of that work, as well as the testing and implementation of the actual list, will have to continue in fiscal year 1982. But to create a credible list within that time-frame requires research and other resources to address and resolve such questions as:

What criteria would one use as the basis for a list: Chronic health effects? Environmental effects? Acute health effects? Exposure? Production? How will one weigh these if more than one criterion is important?

How can EPA establish one list of regulatory priorities that includes such disparate categories as chemicals, industries, and geographic areas?

How can objective criteria applicable to all problem offices be developed if statutory authority (or precedent) implies inconsistency?

What impact will availability of data have and how can quality control be maintained?

Approximately the same kinds of questions must be answered for most of the other tasks to be undertaken in fiscal year 1982—tasks like testing the practical implementation of the integrated regulatory strategy, development of legislative recommendations, implementation of internal budget and organizational changes, etc. Resource reductions will require EPA to postpone implementation of some parts of its integration strategy—and its attendant savings to the government and industry—beyond the beginning of fiscal year 1983.

Mr. BOLAND. Is it likely that the results of the toxic substances strategy will require legislation to implement?

Mr. GAMSE. It is hard to say that at this point. We could conceivably come up with preferred ways for regulating carcinogens or toxic substances across the Agency which might be different than the way they are handled under specific statutes now, but at this point we do not know that to be the case.

ADP TECHNICAL SUPPORT RESOURCES

Mr. BOLAND. Automated data processing technical support costs are indicated on page MS-17. The original 1981 budget estimate included $10,345,000 to begin the A-109 procurement process for additional Agency computer support. Congressional action resulted in a reduction of $5,745,000 to this request. The 1981 current estimate reflects only $3,647,000. Is it true that the Agency applied $4,550,000 of the $7 million general reduction in March 1980 to this area?

Mr. KINGHORN. Yes, Mr. Chairman.

Mr. BOLAND. The A-109 computer purchase had been advertised as an extremely high priority within the Agency. Why did EPA apply such a large percentage of the $7 million reduction to this activity? We were told this was one of extremely high priority.

Mr. GAMSE. As you know, this was in the January request and was taken out before the March request as one of the areas where we could reduce a significant number of dollars at a time when we had to find large cuts.

Our intention here is not to abandon the A-109 process. We believe we need——

Mr. BOLAND. I understand that you took the option of this reduction before the March amendments.

Mr. KINGHORN. The $4.5 million was taken out during the Carter March amendments of last year.

Mr. GAMSE. You are asking about fiscal year 1982, are you not?

Mr. BOLAND. No, 1981.

The A-109 purchase has been advertised as an extremely high priority within the Agency. Why did EPA apply such a large percentage of the $7 million reduction to this activity? What is your answer to that?

Mr. GAMSE. Basically, we had large cuts to be taken. We could not find another appropriate place for such large dollar cuts in the Salaries and Expenses appropriation.

Mr. BOLAND. Did the Agency recommend this reduction? Obviously it did.

Mr. HANLEY. We reestimated the 1981 cost of the project and submitted that to the Committee. Given the estimated start time we clearly could not spend the entire $10.3 million request.

Mr. BOLAND. What is the impact of the Agency's 1981 action and the Reagan's 1982 action? What does that mean in terms of future ADP technical support for the Agency?

Mr. GAMSE. It means we would be putting off for roughly two years—1985 to 1987—the completion of the systems acquisition, and we will have to take remedial steps with the systems we have now to make sure we have the capacity we need in the early 1980s.

Mr. BOLAND. Are you familiar with the GAO report?

Mr. GAMSE. Yes.

EPA DATA MANAGEMENT

Mr. BOLAND. It is my understanding that the GAO report is critical of EPA's data management.

Mr. GAMSE. Yes, it is.

Mr. BOLAND. Was it a fair criticism?

Mr. GAMSE. I think in part it was. They said we were not managing our resources because they were treated as a free good. As a result, we have started charging users. That has caused them to pay attention to what they are spending and has resulted in better utilization of the services. They also said we did not have a critical mass of in-house EDP officials——

Mr. BOLAND. I gather that you are improving your efforts in this area.

Mr. GAMSE. I think so.

STANDARD LEVEL USER CHARGE

Mr. BOLAND. The total standard user charge estimated for 1982 is $25,402,000. This is a sizable increase above the 1981 current estimate of $20,494,000.

How much of the 1982 increase is for additional space?

Mr. GAMSE. About $1.1 million.

EPA'S EQUIPMENT PROGRAM

Mr. BOLAND. The special analysis on page SA-27 indicates that $7,686,000 of the adjustments necessary to accommodate the increases in personal compensation and benefits were applied to the equipment budget. The revised 1981 estimate is $8,897,000. What effect has this significant decrease had on the Agency's equipment program?

You may detail that for the record. I am sure it has had a significant impact on it.

[The information follows:]

IMPACT OF EQUIPMENT REDUCTION

The impact of the decrease in equipment funds has had the following effect: The reductions in equipment for the Regional Surveillance and Analysis labs will prevent their replacing obsolete and worn out equipment in support of analyses of water, soil, and sludge samples to determine the presence of toxic chemicals and will defer purchase of new air audit instrumentation to enhance air quality assurance programs;

The reduction from the research and development function will affect work done in the air, water quality, toxic substances, and energy media and will defer the purchase of equipment needed for the development and application of new analytical techniques for identification of hazardous pollutants.

EQUIPMENT NEEDS IN RADIATION PROGRAM

Mr. BOLAND. How much of the $17,767,000 requested in 1982 is for the Radiation program?

Mr. BARBER. Ed, do you have an estimate on your 1982 equipment?

Mr. TUERK. Yes, our 1982 emergency response equipment need in radiation is approximately $425,000.

Mr. BOLAND. Say it again.

Mr. TUERK. $425,000 for emergency equipment, plus $500,000 for other activities.

Mr. BOLAND. What would be the effect on the Agency's equipment purchases if the Congress reduced the 1982 request by $5 million?

Mr. GAMSE. I would have to respond for the record, but we are in a situation now where we have been deferring equipment purchases for various fiscally related reasons and I think that has put us in a dangerous situation. We have not been able to make the kinds of investments in our laboratories that we need to handle hazardous waste.

[The information follows:]

EQUIPMENT REPORGRAMMINGS/REDUCTIONS

A $5 million reduction in fiscal year 1982 would further exacerbate the situation we have already described—particularly in our laboratories and research programs. Because of past year reprogrammings and reductions, we have had to defer critical

equipment purchases. In fiscal year 1981, we had to reduce our equipment object class from $14 million to $7 million—a reduction of 50 percent. In fiscal year 1980, we were forced to reprogram funds out of the object class to finance unfunded personnel costs.

RESOURCES FOR EQUIPMENT

Mr. KINGHORN. This year, the OMB transfers reduced the equipment line from something like $14 million to $7 million. If we continue to have to defer basic lab purchases, I think there will be a real problem in 1982.

NEED FOR ADDITIONAL SPACE

Mr. BOLAND. You indicated that the reason for the standard level user charge increase was due to additional space needs. Is that really true? Why do you need additional space when positions and workers are declining in 1982?

Ms. GORDON. It is to cover employees we have in 1980 and 1981, increases we received in previous years, to bring us up to an adequate level of space.

Mr. GAMSE. EPA has had a very unsatisfactory space situation with much, much lower space per person than GSA would recommend or than most other Agencies. Certainly by having fewer people on board in 1982 than in 1981, that helps somewhat, but we are still below the figures we ought to be at. That has a direct effect on EPA productivity. When you squeeze multiple scientists doing technical work into an office and expect them to perform, it is very difficult. I think that shows up in a number of our program areas.

EPA, according to the Federal government averages on this, should have about 170 square feet per person. All told, our figure is much lower than that. I believe it is about 137 square feet per person. Reducing personnel will help a little bit.

Mr. CLARK. I have had in my immediate office a situation where I could not have all my people sit down at one time. We were down to 80 or 85 square feet per person.

CONSTRUCTION GRANT PROGRAM

Mr. BOLAND. Turn to the Construction Grants program.

The Agency's Construction Grants program continues to be beset by change. The fiscal year 1980 experienced a deferral of $3.6 billion. The original 1981 budget estimate of $3.7 billion has been reduced to $2.3 billion by Congressional action and the proposed rescission. Of course, there is no current appropriation request for the program in fiscal year 1982.

One of the problems the Construction Grants program has experienced in past years is that States on the so-called "fast track" tend to utilize all their available resources much more quickly than States without such well operated programs. Is it likely that the Administration's proposed legislation for the Construction Grants program will change the current formula distribution and possibly include provisions to provide additional resources for fast moving States?

Mr. SMITH. As far as I know, Mr. Chairman, what will come forward from the Administration will address the allotment formula, but will not take care of the problem of mal-distribution. In fact, I would guess the Administration would consider later an amendment in the Congress that would change that process either looking toward a borrowing pool which has been suggested or some other staging or tiering of the formula. The House did pass the two-tier formula; the Senate did not.

Mr. BOLAND. What about the reports that the Administration's proposal will alter the current 75 percent Federal/25 percent State and local contribution to construction grant projects? Do you care to comment on this?

Mr. SMITH. What I have seen so far did not indicate they will, no.

Mr. BOLAND. At this point in the record, we will insert several tables which reflect the effect of the Administration's proposed rescission of $1.7 billion on fiscal year 1980, fiscal year 1981 and Talmadge-Nunn funds.

[The tables follow:]

EPA CONSTRUCTION GRANTS RESCISSION PROPOSAL

EFFECT OF FISCAL YEAR 1980 RESCISSION

	Original allotment	Obligation	Unobligated balance	Total rescission	New allotment	New unobligated
1980						
Region 1:						
9 Connecticut	37,123,200	33,790,936	3,332,264	3,332,264	33,790,936	0
25 Massachusetts	99,051,100	18,779,716	80,271,384	20,290,039	78,761,061	59,981,345
23 Maine	25,129,900	18,424,734	6,705,166	5,147,713	19,982,187	1,557,453
33 New Hampshire	29,539,000	28,830,932	708,068	708,068	28,830,932	0
44 Rhode Island	17,609,400	17,604,057	5,343	5,343	17,604,057	0
50 Vermont	16,764,500	5,956,634	10,807,866	2,887,269	13,877,231	7,920,597
Region 2:						
34 New Jersey	119,748,500	54,957,450	64,791,050	24,529,780	95,218,720	40,261,270
36 New York	356,107,300	90,725,909	265,381,391	72,946,495	283,160,804	192,434,891
72 Puerto Rico	39,342,800	7,262,060	32,080,740	8,059,142	31,283,658	24,021,598
78 Virgin Islands	1,267,400	1,225,494	41,906	41,906	1,225,494	0
Region 3:						
11 District of Columbia	16,764,500	0	16,764,500	2,887,269	13,877,231	13,877,231
10 Delaware	16,764,500	10,519,381	6,245,119	2,887,269	13,877,231	3,357,850
24 Maryland	93,133,300	2,196,364	90,936,936	19,077,812	74,055,488	71,859,124
42 Pennsylvania	146,239,700	99,770,612	46,469,088	29,956,347	116,283,353	16,512,741
51 Virginia	65,723,400	64,166,234	1,557,166	1,557,166	64,166,234	0
54 West Virginia	60,026,800	42,624,574	17,402,226	12,296,139	47,730,661	5,106,087
Region 4:						
1 Alabama	43,057,800	31,564,985	11,492,815	8,820,138	34,237,662	2,672,677
12 Florida	128,637,000	64,646,126	63,990,874	26,350,537	102,286,463	37,640,337
13 Georgia	64,106,400	23,870,615	41,235,785	13,336,665	51,769,735	27,899,120
21 Kentucky	49,012,600	35,425,102	13,587,498	10,039,944	38,972,656	3,547,554
28 Mississippi	32,388,900	26,626,456	5,762,444	5,762,444	26,626,456	0
37 North Carolina	66,414,100	1,374,501	65,039,599	13,604,540	52,809,560	51,435,059
45 South Carolina	39,450,100	2,877,935	36,572,165	8,081,122	31,368,978	28,491,043
47 Tennessee	51,922,900	31,681,897	20,241,003	10,636,102	41,286,798	9,604,901
Region 5:						
17 Illinois	174,159,300	150,734,372	23,424,928	23,424,928	150,734,372	0
18 Indiana	92,801,300	53,614,005	39,187,295	19,009,804	73,791,496	20,177,491
26 Michigan	138,494,500	130,753,966	7,740,534	7,740,534	130,753,966	0
27 Minnesota	62,668,900	54,990,906	7,677,994	7,677,994	54,990,906	0
39 Ohio	216,781,200	0	216,781,200	44,406,361	172,374,839	172,374,839
55 Wisconsin	65,391,400	51,092,659	14,298,741	13,395,046	51,996,354	903,695
Region 6:						
5 Arkansas	25,190,300	8,830,471	16,359,829	5,160,086	20,030,214	11,199,743
22 Louisiana	42,330,300	14,194,819	28,135,481	8,671,114	33,659,186	19,464,367
35 New Mexico	16,764,500	3,850,624	12,913,876	2,887,269	13,877,231	10,026,607
40 Oklahoma	31,111,500	8,319,228	22,792,272	6,373,009	24,738,491	16,419,263
48 Texas	146,300,100	50,944,017	95,356,083	29,968,720	116,331,380	65,387,363
Region 7:						
19 Iowa	43,430,000	22,338,677	21,091,323	8,896,381	34,533,619	12,194,942
20 Kansas	29,515,500	21,964,461	7,551,039	6,046,078	23,469,422	1,504,961
29 Missouri	83,678,100	33,423,588	50,254,512	17,140,969	66,537,131	33,113,543
31 Nebraska	18,457,700	13,946,592	4,511,108	3,780,952	14,676,748	730,156
Region 8:						
8 Colorado	30,803,000	12,313,566	18,489,434	6,309,814	24,493,186	12,179,620
30 Montana	16,764,500	2,724,042	14,040,458	2,887,269	13,877,231	11,153,189
38 North Dakota	16,764,500	4,332,660	12,431,840	2,887,269	13,877,231	9,544,571
46 South Dakota	16,764,500	10,055,406	6,709,094	2,887,269	13,877,231	3,821,825
49 Utah	16,764,500	6,276,689	10,487,811	2,887,269	13,877,231	7,600,542
56 Wyoming	16,764,500	6,194,958	10,569,542	2,887,269	13,877,231	7,682,273
Region 9:						
4 Arizona	26,008,400	22,979,374	3,029,026	3,029,026	22,979,374	0
6 California	266,595,100	232,129,583	34,465,517	34,465,517	232,129,583	0
15 Hawaii	26,581,700	3,181,119	23,400,581	5,445,106	21,136,594	17,955,475
32 Nevada	16,764,500	4,793,947	11,970,553	2,887,269	13,877,231	9,083,284
66 Guam	2,494,500	13,733	2,480,767	510,984	1,983,516	1,969,783
88 Northern Marianna Islands	462,700	11,406	451,294	94,781	367,919	356,513
75 Territory of Pacific Islands	4,667,200	256,746	4,410,454	956,049	3,711,151	3,454,405
60 American Samoa	2,065,400	290,343	1,775,057	423,085	1,642,315	1,351,972
Region 10:						
2 Alaska	16,764,500	5,932,373	10,832,127	2,887,269	13,877,231	7,944,858
16 Idaho	16,764,500	7,733,511	9,030,989	2,887,269	13,877,231	6,143,720
41 Oregon	43,500,400	41,613,900	1,886,500	1,886,500	41,613,900	0
53 Washington	59,305,900	57,780,108	1,525,792	1,525,792	57,780,108	0
99 Totals	3,400,000,000	1,752,514,553	1,647,485,447	585,565,565	2,814,434,435	1,061,919,882

EPA CONSTRUCTION GRANTS RESCISSION PROPOSAL—Continued

EFFECT OF FY81 RESCISSION

	Original allotment	Obligation	Unobligated balance	Total rescission	New allotment	New unobligated
Region 1:						
9 Connecticut	36,084,000	13,668,189	22,415,811	10,918,542	25,165,458	11,497,269
23 Maine	24,427,000	49,737	24,377,263	7,391,287	17,035,713	16,985,976
25 Massachusetts	96,279,000	0	96,279,000	29,132,753	67,146,247	67,146,247
33 New Hampshire	28,712,000	8,658,937	20,053,063	8,687,872	20,024,128	11,365,191
44 Rhode Island	17,117,000	403,760	16,713,240	5,179,378	11,937,622	11,533,862
50 Vermont	16,295,000	400,000	15,895,000	4,930,652	11,364,348	10,964,348
Region 2:						
34 New Jersey	116,397,000	3,571,500	112,825,500	35,220,194	81,176,806	77,605,306
36 New York	346,140,000	10,620,900	335,519,100	104,737,383	241,402,617	230,781,717
72 Puerto Rico	38,242,000	0	38,242,000	11,571,524	26,670,476	26,670,476
78 Virgin Islands	1,232,000	0	1,232,000	372,787	859,213	859,213
Region 3:						
10 Delaware	16,295,000	0	16,295,000	4,930,652	11,364,348	11,364,348
24 Maryland	90,527,000	0	90,527,000	27,392,274	63,134,726	63,134,726
42 Pennsylvania	142,147,000	0	142,147,000	43,011,804	99,135,196	99,135,196
51 Virginia	63,884,000	15,679,380	48,204,620	19,330,454	44,553,546	28,874,166
54 West Virginia	58,347,000	0	58,347,000	17,655,031	40,691,969	40,691,969
11 District of Columbia	16,295,000	0	16,295,000	4,930,652	11,364,348	11,364,348
Region 4:						
1 Alabama	41,853,000	0	41,853,000	12,664,165	29,188,835	29,188,835
12 Florida	125,037,000	0	125,037,000	37,834,544	87,202,456	87,202,456
13 Georgia	63,284,000	306,040	62,977,960	19,148,902	44,135,098	43,829,058
21 Kentucky	47,641,000	0	47,641,000	14,415,537	33,225,463	33,225,463
28 Mississippi	31,482,000	0	31,482,000	9,526,037	21,955,963	21,955,963
37 North Carolina	64,555,000	0	64,555,000	19,533,490	45,021,510	45,021,510
45 South Carolina	38,346,000	0	38,346,000	11,602,993	26,743,007	26,743,007
47 Tennessee	50,470,000	1,354,703	49,115,297	15,271,555	35,198,445	33,843,742
Region 5:						
17 Illinois	169,285,000	0	169,285,000	51,223,404	118,061,596	118,061,596
18 Indiana	90,204,000	0	90,204,000	27,294,538	62,909,462	62,909,462
26 Michigan	134,618,000	4,130,600	130,487,400	40,733,628	93,884,372	89,753,772
27 Minnesota	60,915,000	1,800,859	59,114,141	18,432,074	42,482,926	40,682,067
39 Ohio	210,714,000	0	210,714,000	63,759,272	146,954,728	146,954,728
55 Wisconsin	63,561,000	1,950,300	61,610,700	19,232,719	44,328,281	42,377,981
Region 6:						
5 Arkansas	24,485,000	67,005	24,417,995	7,408,837	17,076,163	17,009,158
22 Louisiana	41,145,000	0	41,145,000	12,449,933	28,695,067	28,695,067
35 New Mexico	16,295,000	0	16,295,000	4,930,652	11,364,348	11,364,348
40 Oklahoma	30,241,000	0	30,241,000	9,150,527	21,090,473	21,090,473
48 Texas	142,205,000	4,390,124	137,814,876	43,029,354	99,175,646	94,785,522
Region 7:						
19 Iowa	42,214,000	7,160	42,206,840	12,773,399	29,440,601	29,433,441
20 Kansas	28,689,000	256,437	28,432,563	8,680,912	20,008,088	19,751,651
29 Missouri	81,336,000	0	81,336,000	24,611,199	56,724,801	56,724,801
31 Nebraska	17,941,000	169,430	17,771,570	5,428,709	12,512,291	12,342,861
Region 8:						
8 Colorado	29,941,000	7,391,830	22,549,170	9,059,751	20,881,249	13,489,419
30 Montana	16,295,000	0	16,295,000	4,930,652	11,364,348	11,364,348
38 North Dakota	16,295,000	0	16,295,000	4,930,652	11,364,348	11,364,348
46 South Dakota	16,295,000	8,294,126	8,000,874	4,930,652	11,364,348	3,070,222
49 Utah	16,295,000	0	16,295,000	4,930,652	11,364,348	11,364,348
56 Wyoming	16,295,000	763,890	15,531,110	4,930,652	11,364,348	10,600,458
Region 9:						
4 Arizona	25,280,000	17,110,386	8,169,614	7,649,394	17,630,606	520,220
6 California	259,133,000	5,173,956	253,959,044	78,410,221	180,722,779	175,548,823
15 Hawaii	25,838,000	0	25,838,000	7,818,237	18,019,763	18,019,763
32 Nevada	16,295,000	260,565	16,034,435	4,930,652	11,364,348	11,103,783
60 American Samoa	2,008,000	0	2,008,000	607,594	1,400,406	1,400,406
75 Transfer of Pacific Islands	4,537,000	0	4,537,000	1,372,836	3,164,164	3,164,164
66 Guam	2,425,000	0	2,425,000	733,773	1,691,227	1,691,227
88 NMI	450,000	0	450,000	136,164	313,836	313,836
Region 10:						
2 Alaska	16,295,000	0	16,295,000	4,930,652	11,364,348	11,364,348
16 Idaho	16,295,000	126,226	16,168,774	4,930,652	11,364,348	11,238,122
41 Oregon	42,283,000	15,424,054	26,858,946	12,794,277	29,488,723	14,064,669
53 Washington	57,646,000	39,495,551	18,150,449	17,442,918	40,203,082	707,531
99 Totals	3,304,837,000	161,525,645	3,143,311,355	1,000,000,000	2,304,837,000	2,143,311,355

EPA CONSTRUCTION GRANTS RESCISSION PROPOSAL—Continued

EFFECT OF TALMADGE/NUNN RESCISSION

	Original allotment	Obligation	Unobligated balance	Total rescission	New allotment	New unobligated
Region 1:						
9 Connecticut	0	0	0	0	0	0
25 Massachusetts	0	0	0	0	0	0
23 Maine	0	0	0	0	0	0
33 New Hampshire	0	0	0	0	0	0
44 Rhode Island	0	0	0	0	0	0
50 Vermont	0	0	0	0	0	0
Region 2:						
34 New Jersey	0	0	0	0	0	0
36 New York	0	0	0	0	0	0
72 Puerto Rico	5,856,000	0	5,856,000	5,856,000	0	0
78 Virgin Islands	0	0	0	0	0	0
Region 3:						
11 District of Columbia	0	0	0	0	0	0
10 Delaware	0	0	0	0	0	0
24 Maryland	7,248,000	0	7,248,000	7,248,000	0	0
42 Pennsylvania	0	0	0	0	0	0
51 Virginia	0	0	0	0	0	0
54 West Virginia	34,272,000	0	34,272,000	34,272,000	0	0
Region 4:						
1 Alabama	23,520,000	23,517,975	2,025	2,025	23,517,975	0
12 Florida	14,256,000	14,256,000	0	0	14,256,000	0
13 Georgia	27,360,000	27,360,000	0	0	27,360,000	0
21 Kentucky	12,960,000	12,960,000	0	0	12,960,000	0
28 Mississippi	12,720,000	2,777,035	9,942,965	9,942,965	2,777,035	0
37 North Carolina	31,920,000	31,355,417	564,583	564,583	31,355,417	0
45 South Carolina	14,016,000	11,976,680	2,039,320	2,039,320	11,976,680	0
47 Tennessee	14,448,000	14,448,000	0	0	14,448,000	0
Region 5:						
17 Illinois	0	0	0	0	0	0
18 Indiana	0	0	0	0	0	0
26 Michigan	0	0	0	0	0	0
27 Minnesota	0	0	0	0	0	0
39 Ohio	0	0	0	0	0	0
55 Wisconsin	12,720,000	12,600,034	119,966	119,966	12,600,034	0
Region 6:						
5 Arkansas	17,952,000	17,849,782	102,218	102,218	17,849,782	0
22 Louisiana	16,848,000	16,848,000	0	0	16,848,000	0
35 New Mexico	5,424,000	5,424,000	0	0	5,424,000	0
40 Oklahoma	17,472,000	17,466,718	5,282	5,282	17,466,718	0
48 Texas	88,608,000	88,607,850	150	150	88,607,850	0
Region 7:						
19 Iowa	1,776,000	1,776,000	0	0	1,776,000	0
20 Kansas	13,920,000	9,954,574	3,965,426	3,965,426	9,954,574	0
29 Missouri	7,056,000	2,738,842	4,317,158	4,317,158	2,738,842	0
31 Nebraska	3,696,000	3,695,375	625	625	3,695,375	0
Region 8:						
8 Colorado	14,592,000	3,648,000	10,944,000	10,944,000	3,648,000	0
30 Montana	3,024,000	700,545	2,323,455	2,323,455	700,545	0
38 North Dakota	5,088,000	804,255	4,283,745	4,283,745	804,255	0
46 South Dakota	4,272,000	38,919	4,233,081	4,233,081	38,919	0
49 Utah	8,928,000	2,523,203	6,404,797	6,404,797	2,523,203	0
56 Wyoming	4,368,000	462,309	3,905,691	3,905,691	462,309	0
Region 9:						
4 Arizona	22,512,000	22,295,537	216,463	216,463	22,295,537	0
6 California	0	0	0	0	0	0
15 Hawaii	2,880,000	804,343	2,075,657	2,075,657	804,343	0
32 Nevada	624,000	211,540	412,460	412,460	211,540	0
66 Guam	1,440,000	207,142	1,232,858	1,232,858	207,142	0
88 NMI	416,950	416,950	0	0	416,950	0
75 Territory of Pacific Islands	4,287,050	0	4,287,050	4,287,050	0	0
60 American Samoa	768,000	531,710	236,290	236,290	531,710	0
Region 10:						
2 Alaska	4,368,000	104,277	4,263,723	4,263,723	104,277	0
16 Idaho	5,088,000	3,930,050	1,157,950	1,157,950	3,930,050	0
41 Oregon	1,344,000	1,344,000	0	0	1,344,000	0
53 Washington	11,952,000	11,930,503	21,497	21,497	11,930,503	0
99 Totals	480,000,000	365,565,565	114,434,435	114,434,435	365,565,565	0

STATE FUNDING IN 1981 AND 1982

Mr. BOLAND. Also, provide for the record an estimate of the States which will run out of money by the end of fiscal year 1981 and a separate estimate of the States which will run out of money by the end of fiscal year 1982 if no appropriation is provided during fiscal year 1982.

Mr. SMITH. We will.

[The information follows:]

STATES RUNNING OUT OF FUNDS

The following States will be essentially out of fiscal year 1981 funds before the end of fiscal year 1981:

Connecticut	Tennessee	Utah
Maine	Illinois	Wyoming
New Hampshire	Minnesota	Arizona
Virginia	Wisconsin	Trust Territories
Alabama	Kansas	Oregon
Georgia	Colorado	Washington
Mississipi	South Dakota	

Twelve more States could probably be out of funds but have decided to stretch out their programs. A total of fifty States and Territories will have used over half their fiscal year 1981 funds by the end of this fiscal year. Additionally, by the end of fiscal year 1982, *all* other States (except the District of Columbia) will be out of available funds.

TALMADGE-NUNN FUNDS

Mr. BOLAND. The Administration's proposed rescission includes $1 billion of monies appropriated for fiscal year 1981, approximately $586 million of monies appropriated for fiscal year 1980, and approximately $114 million in so-called Talmadge-Nunn funds, which were appropriated in fiscal year 1976. The Talmadge-Nunn monies, contained in the Public Works Employment Appropriation Act, were obviously designed to spur employment, with a total appropriation of $480 million. After four years, approximately 25 percent of that appropriation still had not been obligated. The reason for this was that the Talmadge-Nunn monies were not subject to reallotment after two years.

Isn't it true that certain States, especially in Region Six, deobligated monies from their regular 1980 and 1981 accounts and then used Talmadge-Nunn funds when it became apparent there would be a major rescission?

Mr. SMITH. Let me turn to Mr. Henry Longest, Deputy Assistant Administrator for Water Program Operations.

Mr. LONGEST. We have heard that same claim; we have not verified it. When you are obligating money for specific accounts there are times when you change funds from one program to another, specifically if you have an I&A project. You have it in one year's plans but not for the add-ons.

The answer is, it can be done, but I do not know of the specific instance you are talking about.

Mr. BOLAND. Do you know which States may have been involved in this type of action? Do you know which States deobligated their fiscal year 1980 and 1981 monies and made it up out of the Talmadge-Nunn funds?

Mr. LONGEST. I do not know the specifics on it.

Mr. BOLAND. There's nothing wrong with it; the money was there. I just think it was a pretty cagey strategy on the part of the States.

What was the total amount of money involved here? You may supply that for the record.

[The information follows:]

TRANSFER OF TALMADGE/NUNN FUNDS IN EPA REGION VI

On February 4th and 5th of the current fiscal year, Arkansas, Louisiana, Oklahoma, and Texas deobligated a total of $34,962,690 in fiscal year 1980 funds, and obligated $82,487,506 in Talmadge/Nunn funds.

The table below displays activities in each State:

State	February 1981	
	Fiscal year 1980 deobligations	Talmadge/Nunn obligations
Arkansas	$6,180,277	$14,931,769
Louisiana	12,533,629	16,848,000
Texas	10,723,594	35,483,104
Oklahoma	5,525,190	15,224,633
Total	34,962,690	82,487,506

1990 STRATEGY FOR CONSTRUCTION GRANTS

Mr. BOLAND. During the past year, the Agency has devoted considerable effort to what is called the "1990 strategy" for the Construction Grants program. It had been envisioned that the 1990 strategy would make recommendations in five general areas. These areas are: compliance, funding, operations, management, and planning. Indicate briefly the specific objectives of the 1990 strategy.

Mr. SMITH. The objectives overall were to take a look at the program as it entered the decade of the 1980s and try to look ahead and see where it would likely be by the end of the decade, 1990, under certain assumptions. It recognized there were some fundamental problems with the program. The allocation and distribution of funds was out of whack, the needs far exceeded funding, and there were problems with the planning aspects.

The effort of the 1990 strategy was to develop a design in concert with the States and localities to say this is where we would like to see the program progressing by the end of the decade. The element that became uncertain was the funding aspect. Now we have a little more certainty as to what the Administration would request. The strategies assumed a funding of roughly four billion dollars a year over the remainder of the decade. Obviously, that seems unrealistic now, and those assumptions have to be reassessed.

Mr. BOLAND. So the strategy is on "hold" now.

DEFERRAL OF CONSTRUCTION GRANT FUNDS

I indicated earlier that in fiscal year 1980 the Administration proposed a deferral of $3.6 billion in the Construction Grants program in order to achieve outlay savings in 1981 of $95 million. The proposed deferral was ultimately overturned. As you know, a Presidential proposal only has to be overturned in one House, and in

this instance, the Senate overturned the deferral in August of 1980. But the deferral was effective until the Senate overturned it.

Did the deferral achieve any outlay savings?

Mr. LONGEST. Since it was overturned, it would be impossible to come up with savings. We contacted the States to find out what would their demand be in terms of dollars to obligate, and they came up with a list of $1.7 billion in projects. EPA's distribution was based on $1.2 billion. However, in the last four months of the fiscal year, with the overturning of the deferral, that $1.7 billion was obligated.

Mr. BOLAND. I presume the recommendation to overturn the proposed deferral was disruptive to the program.

Mr. LONGEST. Yes. Anytime you stop a program and have to sit down and reexamine its priorities——

Mr. BOLAND. For the record, indicate how disruptive it was.

[The information follows:]

CONSTRUCTION GRANTS DEFERRAL OVERTURNED

The disruption in the program came about because applications were not funded during the five-month deferral period, and States were forced to reschedule projects on a ready-to-go basis. However, the net effect of the deferral on actual funding during fiscal year 1980 was that total obligations were only minimally impacted. Following the Congressional overturn of the deferral, States rushed to obligate the funds that had been held up. Total obligations for the year were about what was expected at the start of the year, well before the deferral was announced, and no undue carryover resulted at the end of the year. That is, carryover was approximately what EPA had estimated at the time of our budget request.

GAO REPORT ON WASTEWATER TREATMENT PLANT PERMIT VIOLATIONS

Mr. BOLAND. There have been several reports recently issued that illustrate that the Construction Grants program is not operating as smoothly as it could. Some of the reports have targeted on the operation and maintenance problem. The GAO issued a report last November entitled "Costly Wastewater Treatment Plants Fail to Perform As Expected." Page eight of that report summarizes the violation of permits of existing wastewater treatment plants:

> Violation of permits is the norm, not the exception. Over the past several years, EPA has reported that somewhere between 50 and 75 percent of municipal wastewater treatment plants at any given time are violating their permits. Our random sample of 242 plants showed an even drearier picture. For a one-year period between 1978 and 1979, 87 percent of the plants in our sample violated the effluent discharge limits of their permit; 31 percent were, in our opinion, in serious violation.

The obvious conclusion from reports such as the GAO report, is that we are spending an awful lot of money but not getting a commensurate reduction in water pollution. How do you respond to these serious charges?

Mr. SMITH. I would like to respond, Mr. Chairman. I think the Agency should not be defensive about the GAO report. We do not agree with all the figures exactly, but we do agree basically with the proposition, which is that the municipal systems are not running as efficiently as designed and are not complying with the permits they have. It is something we have to address very critically in the program.

Mr. Wilson might want to talk about the permits.

Mr. WILSON. When we discussed the water enforcement program, that is our number one priority this year and in fiscal year 1982. We are very conscious of that problem, and we have a high-level of activity going on. It is a complicated problem in many ways. The difficulty is in dealing with municipalities. Our basic approach is to hire an outside contractor, technical people to come in and figure out what is wrong with the plant and to get it back in shape.

Mr. GAMSE. If I might add a few words on that. We have some pilot projects going on in some of our regions to test this and we have additional resources in 1982 to carry that out. We had identified it before GAO told us there was a problem. A lot of the recommendations they picked up were things we discussed with them in the preparation of the report.

Mr. BOLAND. How is the modified Construction Grants program, likely to address the serious problem of poor operation and maintenance?

Mr. SMITH. We have to do it through our enforcement level. Make the permits stick on one hand; on the other hand, we have to give more technical assistance to the communities, helping to advise them on their problems. This is the sort of thing Mr. Wilson was referring to when we actually go in and get a diagnostic done on it and say here are your problems and here is what you have to do to get it back in operation. We also have to put more pressure on the A&E community.

Mr. BOLAND. How about more pressure being put on the manufacturers? Do you agree with the GAO assessment that unreliable and inferior equipment is the major reason that O&M problems lead to inadequate plant performance?

Mr. SMITH. I think that is a problem. The burden has to be spread all over.

Mr. BOLAND. I think you are right.

OPERATOR TRAINING

How about operator training? Isn't it possible that the percentage of plants violating permits could be significantly reduced by additional operator training?

Mr. LONGEST. There are a couple of things I would like to go back to in the GAO report, that is, the GAO's implications that all the money put in the program has been wasted because we are not cleaning up water because treatment plants are not operating. We have to separate this into two issues, compliance and degree of pollution. While these plants are out of compliance, they are still removing a great deal more pollutant, so the net result is there is some cleanup of the water.

Getting to your specific question about operator training, for too long the local communities have looked up to the Federal government to provide this type of training. It is time to move this down to the State agencies. We are seeing a large increase in the number of equipment manufacturers, private consultants for operation and maintenance, and engineer consultants developing the capacity and teaching people to operate the facilities.

There are many cities today which have contracts for running their facilities. As we go out and identify the compliance problems,

then the private sector will take over by providing expertise or by providing contracts for running the facilities. That has begun.

Mr. BOLAND. As you know, the Carter budget provided for operator training, while the Reagan proposal eliminated those training resources, with the assumption that the local communities would pick up operator training responsibilities. Is it true as well, that builders, contractors, and equipment manufacturers would be involved in operator training?

Mr. LONGEST. Yes. It has already taken place. Quite a few consulting firms have developed programs within their own firms for operation and maintenance of these plants. Some private plants have firms to run treatment facilities.

As regards the dollars, it was mentioned in the Carter passback that this would be an issue in 1983. So, it actually came a year sooner.

The training program over the last two years has been specifically regearing towards another thrust. For example, through a contract that will continue for three years with Ohio State University we have developed an instructional resource center which provides the course material, books, et cetera for training. We have also been working with the association of board certifiers, made up of States, for certifying operators. We are working with them to develop a test for the certification. There are other programs we were working along with. Section 109 of the Clean Water Act allows States to build facilities. To date, more than 14 States have actually built those facilities. So, the program has moved in a direction to push this to a local-level responsibility.

Mr. BOLAND. Of course, this criticism is widespread. There is no doubt that the GAO report's criticism about the program is justified: you say so yourself.

The GAO report is also critical because EPA and the States generally assume financial responsibility for correcting plant deficiencies. According to the report, "it is therefore rare when a municipality attempts to take legal action against a design firm or a construction contractor for damages . . . ."

A number of these mistakes are the contractor's and designer's or engineer's fault, aren't they?

Mr. SMITH. Yes. I am aware, Mr. Chairman, of several cases where the community is suing the designer and the contractor for mal-performance. That is one finding in the GAO report that I would not necessarily agree with.

Dick, you may know of other cases.

Mr. WILSON. Mr. Chairman, I would just say we intend through enforcement actions to force municipalities if they are not all right to take recovery actions as you mentioned. We are not looking at the fact that it is somebody else's fault. I think there is something of an attitudinal change by municipalities in this area.

Mr. BOLAND. How old is the Construction Grants program? Eight years old?

Mr. SMITH. Yes, although there are predecessors to that.

Mr. BOLAND. It is a very complex program, and we expected there to be a lot of bugs in the operation until the Agency developed some expertise in this area. I guess this is developing. Hopefully, it will continue.

How about technical assistance? The report also concludes that EPA is not providing adequate technical assistance because it believes such assistance might jeopardize future enforcement actions. That is no reason not to provide technical assistance, is it? I would think you would want to avoid future enforcement actions.

Mr. SMITH. I do not agree with that allegation. We do provide technical assistance. There are cases sometimes where they say your problem is really with the equipment manufacturer. If the Agency comes in, gets involved, and tries to evaluate the equipment, you will diffuse the municipality's case for recovery against the equipment manufacturer.

There has been a problem and one of the problems—we have sent technical people there to assist the community. It is working very effectively, but we do try to address those problems and provide technical assistance.

Mr. BOLAND. I think you have found yourself faced with "unsurmountable opportunities", as Pogo would say.

SUPERFUND

Mr. BOLAND. We will turn to the Superfund program.

After at least two years of intensive effort, the Comprehensive Environmental Response, Compensation, and Liability Fund Act was signed into law last December. The so-called "Superfund" law provides for a $1.6 billion fund to be capitalized over a period of five years from petrochemical feedstock, taxes and appropriations. The ratio of fees to appropriations is approximately 8:1.

The 1981 supplemental request for the Superfund is $68 million, including the Federal payment into the Fund of $9 million. This reflects a reduction of $10 million from the Carter January request of $78 million. The revised 1982 estimate of $200 million includes the Federal payment into the Response Fund of $27 million. These figures are $8 million and $50 million, respectively, below the Carter January request.

The Reagan March amendment includes 503 permanent positions and a full-time equivalency of 584. This compares with 635 positions and a full-time equivalency of 730 contained in the January estimate.

1981 SUPPLEMENTAL FOR SUPERFUND

There has been considerable talk of an urgent 1981 supplemental for Superfund. This would involve moving a single purpose item through Congress. Unfortunately, due to the lack of authority in the second budget resolution for fiscal year 1981, it appears unlikely that this will happen. The difference in availability of 1981 funding via the urgent supplemental route and the general supplemental route is probably six to eight weeks.

How critical is this six to eight weeks in your estimation?

Mr. BARBER. We would have to characterize it as serious, but the world does not end over these issues. It is emergency response money, and the emergency fund is depleted of emergency response money.

Mr. BOLAND. What other resources does the Agency have within its 1981 operating budget that it can devote to critical Superfund activities until receipt of the supplemental?

Mr. SMITH. We have no funds we can divert to actual cleanup work. The only things that would be appropriate are 311 funds, which are almost depleted now, or monies that would come out of the Superfund title can be used for remedial and cleanup work. We can continue to carry the cost of the staff and putting the program in place, developing the regulations and so forth. But actually to take the actions, we have no more money to devote to that. We are trying to save a small contingency of something left in the Fund. We feel we need to save at least a half million dollars for a major catastrophe or major emergency.

Mr. BOLAND. On page HW-45 in the Hazardous Waste medium, there is indication that in 1980 "contract funds of $1 million were used for support of emergency response to sites."

Let me ask the question again: can't the Agency continue to use contract funds to respond to emergencies until the Superfund monies are appropriated?

Mr. SMITH. It is my understanding, sir, we cannot do that. We did that with the $1 million, as I mentioned yesterday.

Let me ask Mr. Michael Cook, the head of our Superfund program, and he can give us the exact answer to that.

Mr. COOK. That $1 million was not used for actually cleaning up an emergency problem. It was used to help fund some additional contract personnel to assist us on-scene during an emergency by providing certain kinds of technical support services.

Mr. BOLAND. It seems there should be some way you could provide these monies through reprogrammings or another way until a general supplemental bill is enacted. Why can't you make a provision within the Agency to provide funding until you get supplemental funds? Then we will make an effort to respond to those reprogramming requests. How does that strike you?

Mr. COOK. Mr. Chairman, I would certainly want to explore that if you are receptive to that type approach. The question is whether or not we have the legal authority to transfer money from our operating budget into one of the funds that we can use to actually clean up, either the Superfund or the 311 fund, which is administered by the Coast Guard, and it would be a matter of making that transfer through the Coast Guard's operating funds.

In the case of the Superfund I do not know of any legal way we can transfer money into that fund.

Mr. BARBER. I think we will have to have counsel explore our realm of authorities.

Mr. BOLAND. Why don't you do that?

Mr. BARBER. May I ask, when you say six to eight more weeks, what would you expect the approximate date for the general supplemental to be at this point?

Mr. BOLAND. That general supplemental will not be passed until we have had some action on the third budget resolution in 1981. I would think that the general supplemental bill probably would not reach the House floor until late May.

Mr. SMITH. I think we might have trouble with the OMB in making the transfers.

Mr. BARBER. Let's explore that.

SUPERFUND RESOURCES FOR ADMINISTRATIVE AND PERSONNEL SUPPORT

Mrs. BOGGS. Mr. Chairman, during the debate on the Superfund legislation there was some criticism expressed by Members of Congress about section 111. They indicated that EPA could use money within the Trust Fund to finance overhead and administrative costs without further consultation with the Appropriations Committees.

In response, Douglas Costle stated in a letter dated December 3, 1980:

> . . . On the question of administrative and personnel costs supported by the fund, section 111(a) of the Act prohibits the use of fund monies for payment of administrative and personnel costs unless those costs are reasonably necessary for and incidental to the implementation of this title. This Section is intended to assure that any funds used for these costs are used for activities related to cleanup of hazardous substances releases. This would include costs of personnel actually involved in removal and remedial actions. It would also include administrative costs associated with the taking of removal and remedial actions. This provision, however, is in no way intended to allow for payment of administrative or personnel supporting response programs of program management that is not related to response actions.

Will you elaborate for us how the tax revenue raised through levies of chemicals and oil will go through the Appropriations Committee?

Mr. SMITH. Right now the personnel costs are being carried in other items in the 1981 budget. Once we have the appropriation, we would transfer those into the Superfund area. We are trying to keep the personnel costs, overhead, administration, to a minimum. I was asked yesterday what the whole breakout would be. I said 25 percent. We have looked at it and it looks more like 20 percent. We are trying to live very rigidly within that constraint. So, it is not an immediate problem because our personnel costs are covered by other budget categories.

Mrs. BOGGS. This Section is intended to assure any funds for activities related to hazardous waste. This would include costs of personnel in removal and remedial actions and the administrative costs associated with this.

Mr. SMITH. Yes.

Mrs. BOGGS. Do you agree with this assessment?

Mr. SMITH. I do indeed.

Mrs. BOGGS. Thank you, Mr. Chairman.

I saw an amazing figure in which EPA has estimated, that in 1980, American industries generated enough toxic wastes to fill the Louisiana Superdome from floor to ceiling every day of the year!

Mr. SMITH. You are not going to volunteer the Superdome?

Mrs. BOGGS. I don't know; maybe the Saints could stand a little treatment.

JOINT STATE-FEDERAL PROGRAM

Mr. BOLAND. On Page SF-2, indicates that the Superfund Act provides for EPA to design a joint State-Federal program. Section 104 of the Act addresses State and local cost sharing activities.

Under what circumstances will the States contribute to the cost of identifying sites, remedial measures to improve sites or enforcement of legislation?

Mr. SMITH. Well, we are prepared, where a State has the capacity and interest, to provide the State with the funds to do the investigations, to do the notifications and start the basic process in motion. We would also transfer the funds for them to actually take remedial action where we feel they have that capability and capacity. There is in the statute, however, a limitation. We can only spend up to a million dollars on any one site before the State then has to come forward and provide ten percent of the costs and an agreement to take care of the operation and maintenance of that site, and to also provide certain other services including designation of a site where the waste would be removed to within the State boundary if the decision is made to move.

Mr. BARBER. As a general policy, the State would have to be willing to participate for the fund to be applied on any nonemergency basis.

RESOURCES FOR ENFORCEMENT ACTIONS

Mr. BOLAND. The top of page SF-4 states that a key element of the Agency's strategy is to invest approximately 35 percent of the resources in enforcement actions. However, the dollars in the justification for the Office of Enforcement do not equal 35 percent of the total resources. Page SF-5 indicates that 24 permanent workyears and $3,815,000 of the supplemental increase is requested for enforcement actions associated with remedial actions.

Mr. BARBER. In 1981.

Mr. BOLAND. How is the Agency defining enforcement action in this context?

Mr. WILSON. Mr. Chairman, the total Agency budget for fiscal year 1982 for enforcement is $15.2 million and 188 FTE.

It would not be 35 percent of the dollar budget, in part because of the large amount of contract dollars and Fund dollars in the abatement and control side.

BREAKDOWN ON USE OF SUPERFUND RESOURCES

Mr. BOLAND. For both the 1981 supplemental request and the 1982 request, give us some idea of the breakdown of how the funds will be used. Specifically, how much do you estimate will be required for administrative purposes, how much for legal and other enforcement actions, and how much for the actual physical remedial actions?

Submit that for the record.

Mr. SMITH. I'd be glad to.

[The information follows:]

SUPERFUND COST BREAKOUT

[In millions of dollars]

	1981	1982
Direct response	52.4	143.7
Direct research and development	4.4	11.9

SUPERFUND COST BREAKOUT—Continued

[In millions of dollars]

	1981	1982
Administration	11.2	44.4
Total	68.0	200.0

Enforcement

1981: Included in the above is $5.2 million for the Office of Enforcement. Of this amount, $5 million (and 36 positions) will be devoted to legal actions to force privately financed clean-up of sites and spills and to recover monies spent from identifiable responsible parties. A more complete description of these activities is included in the EPA budget submission on pages SF–5 and 6.

1982: Included in the above is $15.2 million for the Office of Enforcement. Of this amount, $12 million (and 123 permanent positions) will be devoted to legal actions to force privately financed clean-up of sites and spills and to recover monies spent from identifiable responsible parties. A more complete description of these enforcement activities is included in our EPA submission on pages SF–7 and 8.

FULL CONTAINMENT FACILITY AT EDISON, NEW JERSEY

Mr. BOLAND. A total of $4 million ($900,000 in fiscal year 1981, and $3,100,000 in fiscal year 1982) are requested for the full containment facility at Edison, New Jersey. Does this represent the total cost of this facility? What is the purpose of the facility?

Mr. HANLEY. By full containment facililty, we mean a laboratory able to deal with the highest hazard samples taken directly from drums or sludge under drums so they can be analyzed and diagnosed. We need a facility that not only provides what is called primary containment to protect the laboratory worker, but secondary or full containment protecting other workers in the same facility and surrounding areas. The concentration is so high we have to be concerned about accidental or chronic releases from the facility itself. Those kinds of facilities are extraordinarily expensive, the heating ventilation systems——

Mr. BOLAND. Is this the only full containment facility the Agency will require for the implementation of the Superfund Act?

Mr. HANLEY. Yes, our current estimate is that this facility will provide all we need in the way of capacity. We will still be relying on contract facilities. The principal role of this facility will be to do protocol development so we can contract out most of the Superfund work and to handle a limited number of emergency cases. Our request is based on the assumption that most——

Mr. GAMSE. We do have one facility at our National Enforcement Investigation Center in Denver, but it is not sufficient for the work we expect from RCRA.

Mr. BOLAND. What do you estimate the total cost to be?

Mr. HANLEY. $900,000 in 1981.

Mr. BOLAND. $4 million will be the total cost?

Mr. HANLEY. Yes.

Mr. BOLAND. Mrs. Boggs.

Mrs. BOGGS. There were a couple of other concerns expressed along with the appropriations oversight and transfer of personnel, and I would simply like to ask about the policies that will be followed to address those concerns.

CEILING IMPOSED BY PUBLIC LAW 96-510

The law (Public Law 96-510) provides for a ceiling if on either September 30, 1983 or September 30, 1984 the unobligated balance of the Fund exceeds $900 million, and the balance will exceed $500 million on September 30 of the following year.

I am concerned that the Agency may be in a hurry to spend money to avoid that $900 million ceiling, and therefore may not concentrate on more serious and difficult remedial actions.

Are my concerns justified?

Mr. SMITH. I do not think in light of our budget request they are, Mrs. Boggs. They are coming in below what will be in the Fund in 1981 and 1982. We feel we need to gain some basic experience in implementation. We have not had a broad range of experience yet. Next year when we come back we will be in a better position to say this is what it will cost to put this program in effect.

TERTIARY AND SEWAGE TREATMENT CONSTRUCTION

Mrs. BOGGS. Another concern centers on the tertiary and sewage-treatment construction. Can you express the policy of the EPA?

Mr. SMITH. It is a requirement in the Act that we find the most cost-effective action——

Mr. COOK. We are translating the requirement on cost-effectiveness into requirements incorporated into what is called the national contingency plan, that guidance will have rather severe strictures on making sure we do not gold-plate our ultimate designs prior to construction.

FUNDS FOR ORPHAN SITES

Mrs. BOGGS. Can you indicate what percentage of fiscal year 1982 Superfund appropriations will actually be applied to removal and remedial actions at "orphan" sites?

Mr. SMITH. Do we have that breakout, Mike?

Mr. COOK. Yes, the policy that we currently have is that we will take remedial and emergency actions only in those cases where we cannot find a responsible party and that, therefore, makes the site an orphan site in the terminology that you are using.

The amount budgeted for those remedial actions including inspections, engineering work, and cleanup is $118 million.

Mr. BOLAND. I have several questions to be answered for the record at this point.

[The questions and answers follows:]

BUILDINGS AND FACILITIES

Question. Provide detailed information on the proposed 1982 projects in the Buildings and Facilities appropriation that comprise the $4,115,000 budget estimate.

[The answer follows:]

FY 1982 BUILDINGS AND FACILITIES	$4,115K
HVAC AND FUME HOOD UPGRADING AT VARIOUS LOCATIONS	$2,033K
RSKERL - Ada, Oklahoma	$ 450
Region I Lab - Lexington, Mass	338
NEIC - Denver, Colorado	155
Region III Lab - Annapolis, Md.	300
Region VII Lab - Kansas City, Kans.	213
Various Locations	577
SAFETY, SECURITY, FIRE PROTECTION AND CHEMICAL STORAGE	$ 889K
RSKERL - Ada, Oklahoma	$ 188
EMSL - Las Vegas, Nevada	187
ERL - Corvallis, Oregon	100
Various Locations	414
UTILITIES/POLLUTION ABATEMENT	$ 828K
ERL - Gulf Breeze, Florida	$ 100
ERL - Duluth, Minnesota	600
Various Locations	128
EMERGENCY REPAIRS	$ 115K
ENGINEERING	$ 250K

FY 1982 BUILDING AND FACILITIES

COST	LOCATION	DESCRIPTION
450K	Robert S. Kerr Environmental Research Laboratory Ada, Oklahoma	HVAC Mods - The HVAC systems in the laboratory building as originally designed, require major modifications to meet current research requirements and to comply with OSHA, EPA and Industrial Hygiene Safety Requirements.
188K	Robert S. Kerr Environmental Research Laboratory Ada, Oklahoma	Hazardous Materials Storage Building - Construct and equip a building for sample storage, sample preparation and toxic substance control.
600K	Environmental Research Laboratory Duluth, Minnesota	Pollution Abatement - This project includes pollution control devices to meet state requirements. Construct common waste treatment room, purchase special purpose chemical waste treatment units; install incinerator for burning solid and atomized liquid wastes, etc.
338K	EPA Region I Laboratory Lexington, Mass	HVAC Mods - Modification to the lab and office area heating, ventilating and air conditioning systems to meet temperature/humidity control and safety requirements. The work will include (a) auxiliar air type hood plenums, (b) high capacity, low initial velocity type diffusers, (c) pneumatic temperature control system for proper identification and variable air volume distribution system.
155K	National Enforcement Investigations Center Denver, Colorado	HVAC Mods - Project involves modification to the existing HVAC system to prevent recirculation of contaminated laboratory air. In addition approximately 9 fume hoods require upgrading to comply with current industrial hygiene requirements.
300K	EPA Region III Laboratory Annapolis, Maryland	HVAC Mods - The Region III lab currently occupies leased space. This space was originally designed as commerical space. This project involves upgrading the HVAC systems to comply with current Industrial Hygiene Requirements.
213K	EPA Region VII Laboratory Kansas City, Kansas	HVAC Mods - Project involves upgrading of fume hoods, revisions to ventilating systems, etc., to comply with current industrial hygiene requirements.

COST	LOCATION	DESCRIPTION
187.5K	Environmental Monitoring Laboratory Las Vegas, Nevada	Emergency Exists - Whole Body Radiation Counter - This project will provide an alternate exit from the underground facility to correct a reported safety violation. Project requires excavation and construction of a concrete stairway to exterior.
100K	Environmental Research Laboratory Corvallis, Oregon	Door Swing Mods - Modify doors to the laboratories so that they swin in the direction of travel in an emergency. This project would alsc modify one exterior exit to meet the code requriement for a 5 foot platform.
100K	Environmental Research Laboratory Gulf Breeze, Florida	Chemical Incinerator - Provide outdoor incinerator capable of burnin chemical wastes at scientifically controlled high temperatures.
577.0K	Various Locations	HVAC and Fume Hood Upgrades (See Details Attached)
413.5K	Various Locations	Health and Safety/Chemical Storage (See Details Attached)
128.0K	Various Locations	Utilities/Pollution Abatement (See Details Attached)
115.0K		Emergency Repairs
250.0K		Engineering
$4,115.0K	Grand Total	

HVAC AND FUME HOOD UPGRADING AT VARIOUS LOCATIONS

EPA proposes to upgrade fume hoods and make minor modifications to the HVAC systems at 6 different stations throughout the country. Estimated cost for these projects are $577,000.

COST	LOCATION	DESCRIPTION
80K	Office of Pesticides and Toxic Substances Beltsville, Maryland	Building 288-HVAC - Install an integrated heating, ventilating and air conditioning system.
75K	Eastern Environmental Radiation Facility Montgomery, Alabama	Furnish and Install 8 New Fume Hoods - Furnish and install 8 new fume hoods meeting EPA safety standards.
63K	Environmental Research Center Research Triangle Park, North Carolina	Hood Ventilation - This project involves modification of existing hoods (25) to upgrade face velocities through the installation of auxiliary air canopies.
54K	Eastern Environmental Radiation Facility Montgomery, Alabama	Purchase 11 Fume Hood Scrubbers - Install 11 fume hood scrubbers to reduce the amount of acid fumes released into the environment.
50K	Robert S. Kerr Environmental Research Laboratory Ada, Oklahoma	Perchloric Acid Fume Hood - Install one six foot auxiliary air type stainless steel perchloric acid fume hood. This hood required for experiments involving digestion of soils and plant tissue.
50K	EPA Region I Laboratory Lexington, Mass	Fume Hood Modifications - Design and installation of make-up air units on existing laboratory fume hoods. Units will include controls, tempering elements, piping, duct work and make-up air units.
49K	Eastern Environmental Facility Montgomery, Alabama	21-3 hp Blowers for Fume Hoods - Purchase and install 21-3 hp blowers to provide adequate air flow through hoods with scrubbers.

COST	LOCATION	DESCRIPTION
46K	Region VI Houston, Texas	Upgrade Fume Hoods - Upgrade 7 existing laboratory fume hoods and appurtenant devices to meet face velocity and other safety requirements.
37.5K	Eastern Environmental Radiation Facility Montgomery, Alabama	19 Make-up Air Heaters for Hoods - Provide 19 make-up heaters for fume hoods.
37.5K	Robert S. Kerr Environmental Research Laboratory Ada, Oklahoma	Exhaust Fan Discharge Air Handling - Separate exhaust air discharges from air intake location in accordance with CLV Industries Report No. 25.
35.0K	EPA Region VI Laboratory Houston, Tx	Modify Microbiology Laboratory - Modify existing microbiology laboratory to include a laminar flow hood and glove box, each equipped with EPA approved filteration devices, and installation of a new negative pressure HVAC system.
577,0K	Total	

SAFETY, SECURITY, FIRE PROTECTION AND CHEMICAL STORAGE

EPA proposes to make improvements at 9 stations which involves fire alarm systems, safe chemical storage, security fencing, etc., for the protection of personnel. Estimated cost for these projects are $413,500.

COST	LOCATION	DESCRIPTION
79K	Large Lake Research Station Grosse Ile, Michigan	Security Fence - Phase II - Fencing of the former missile site is necessary to protect transient personnel from falling into nike silos and the adjacent quarry.
62.5K	Environmental Research Center Research Triangle Park, North Carolina	Animal Feed Mixing Facility - This facility will provide for protection of personnel preparing animal diets as part of toxicology research projects.
62.5K	Environmental Monitoring System Laboratory Las Vegas, Nevada	Hazardous Waste Storage Facility - This project involves conversion of Room L65 from an oven room to wet chemistry laboratory and include an independent ventilation system, fume hood and a safety shower.
62.5K	Environmental Research Laboratory Athens, Georgia	Cutoff Switches for Electric Power - Install cutoff switches in corridor outside each laboratory so power can be controlled in cases of emergency.
48K	Eastern Environmental Radiation Facility Montgomery, Alabama	Construct Chemical Storage Building - Chemical storage building would be a replacement for current temporary storage trailers.
37.5K	Environmental Research Laboratory Duluth, Minnesota	Upgrade Alarm Systems - Modify existing, or replace, laboratory fire detection system complete with computerized capabilities for minitoring other systems including HVAC, security and experiments.
19K	Environmental Research Laboratory Narragansett, R. I.	Hazardous Storage - Modifications to include: (a) siding and roof to enclose east side of building, to protect loading dock from the elements (b) electrical ground wire system for rooms not presently covered, and (c) compressed gas storage rack for oxidizing gasses.

COST	LOCATION	DESCRIPTION
17.5K	Environmental Research Laboratory Narragansett, R. I.	Installation of Showers and Restroom Mods - Provide a shower stall and change area for both one men's toilet and one women's toilet for research personnel working with toxic substances.
15K	Newtown Fish Toxicology Station Newtown, Ohio	Safety Mods For Storage Area - Provide space for storage of gas cylinders and the acid and caustic materials used for recharging the deionizer.
10K	Environmental Research Cincinnati, Ohio	Handrails for Entrance Steps - Install metal handrails on four sets of steps.
413.5K	Total	

UTILITIES/AND POLLUTION ABATEMENT

At two locations; Manchester, Washington and Beltsville, Maryland, EPA proposes to install equipment or construct systems to assure the proper disposal of laboratory effluent. Estimated cost of these projects are $128,000.

COST	LOCATION	DESCRIPTION
78K	Region X Manchester, Washington	Water and Sewer System Bldgs 59 & 60 - Construct a domestic and fire protection water supply system and sewer system for Buildings 59 and 60.
50K	Office of Pesticides and Toxic Substances Beltsville, Maryland	Building 288 - Waste Disposal System - Repair or replace waste disposal system and each field serving research and sanitation wastes from Buildings 288 and 289.
128K	Total	

EMERGENCY REPAIRS - $115,000. Items under $100K that were unforeseen at time of budget submission and that cannot wait for next budget cycle. Examples from this year structural and roof repairs Edison, New Jersey, repair of broken sewer, Athens, Georgia and roof repair Athens, Georgia.

ENGINEERING - $250,000. This item is added to provide for planning and design services by architect and engineering contractors, BA contractors, etc., that directly support execution of the B&F program in a timely manner. Examples this year on-site inspection for development and validation of lab health and welfare deficiencies, master plan development for Edison, NJ.

SUPERFUND POSITIONS

Question. The Carter January submission reflected 142 permanent workyears for the 1981 supplemental. Page SF–4 of the justification indicates that upon receipt of the supplemental, an estimated 142 permanent workyears will be transferred into the Superfund account. Why doesn't page SF–1 reflect the 142 positions in the 1981 current estimate column?

Answer. The 142 positions are not shown on page SF–1 because these positions already exist as part of the Agency's current authorized workyear ceiling. We are requesting Salaries and Expenses money to fund these positions once they are transferred to the Superfund program.

Question. Of the 503 permanent positions requested for 1982, how many will be located in headquarters and how many in the field?

Answer. In 1982, 261 permanent positions will be located in the regions and 242 will be located at headquarters.

Question. What types of disciplines are involved in the 503 positions?

Answer. The discipline or skill mix of the positions being requested in fiscal year 1982 covers the complete spectrum of job classifications needed to start up any major program. The implementation of Superfund will require managers and personnel having a great variety of background, skills, and experiences. Personnel with backgrounds in such areas as geology, hydrology, and engineering must be blended with scientists and chemists to formulate technical solutions to incidents. These personnel will be augmented by other specialists in law, computer science, finance, contracts management, etc. to ensure that the solution eventually chosen to address an incident is the most responsive, economical, and efficient.

Question. What portion of the 503 positions will be devoted to administrative and overhead matters?

Answer. Section 111(a)(4) of the Act authorizes charging the Fund only for administrative costs "reasonably necessary for and incidental to the implementation" of Superfund. Accordingly, in our request, we have included no workyear overhead or any other costs for resources not necessary for and devoted to the implementation of the program.

All 503 positions will be dedicated to administering the various activities necessary to implement Superfund. As we indicated in response to the previous question, many of these positions will be filled by people from a variety of specialized disciplines. This is necessary because, although the actual cleanup, containment, and removal work is done primarily through contractors or State governments, knowledgeable, trained EPA personnel are required to properly plan, direct, and manage the program. The request does not include any workyear overhead, i.e., there will be no charges made to the fund for the time and effort spent by senior agency managers, such as the Administrator and Regional Administrators, whose responsibilities include more than Superfund activities.

NATIONAL CONTINGENCY PLAN

Question. Section 105 of the Superfund law, Public Law 96–510, requires that the National Contingency Plan be revised within 180 days of the enactment of the legislation. What are EPA's responsibilities in the revision of the National Contingency Plan?

Answer. EPA has taken lead responsibility for preparing, publishing, revising, and amending the National Contingency Plan. We are currently working with the other involved Federal agencies, the National Response Team, and interested public sector groups in an effort to develop a comprehensive, balanced, and efficient document capable of providing the instructions and guidance needed to implement the Superfund program.

Question. What is the status of the NCP revisions?

Answer. EPA is leading the Federal effort to comply with the statutory requirement to revise the National Contingency Plan to effectuate the responsibilities of the Act. We are currently working closely with other Federal agencies and interested private sector groups to compile a comprehensive, balanced, and acceptable version of the draft NCP. We are now planning to publish, for public comment, the draft version of the plan in the Federal Register as soon as possible.

Question. Pages SF–8 and 9 indicate that in 1982, the Office of Research and Development will devote 49 permanent workyears and $14,560,000 to removal and remedial activities. Much of this effort will be to revise and refine the National Contingency Plan. Does this mean that the National Contingency Plan, which will be published this year, will have serious flaws?

Answer. The Office of Research and Development is playing an active role in the revision of the existing National Contingency Plan. This plan is being revised so

that its provisions are consistent with the provisions found in the Superfund legislation. The revised plan, which is scheduled for publication in the Summer, will not have serious flaws. Rather, it will provide the specific guidance necessary for Federal and State agencies to respond to spills and sites incidents in a manner consistent with the specific provisions and intent of the legislation.

List of Priority Sites

Question. That same section requires the Administration to assemble a list of at least 400 of the highest priority facilities to be designated as top priority among known response targets. This list should include at least 100 of the highest priority facilities including one facility from each state. What is the status of this listing?

Answer. EPA is presently working with the States and regions to develop and weigh criteria for the hazardous facilities ranking. This criteria will be applied to information on sites obtained from our earlier efforts and current operations to develop the initial list of the 400 most serious sites. The criteria are expected to be presented to Congress, along with the NCP, the Summer of 1981.

Question. Page SF-3 of the justifications indicates that the first two years of the program will focus on identifying the most serious sites. How will this effort compare with the list of the 400 most serious sites required by Section 105 of the Act?

Answer. The Agency has been active in identifying and investigating hazardous waste sites since mid-1979. These earlier activities combined with current operations provide the information necessary to produce the initial list of the 400 most serious sites. The Agency currently has a backlog of potential sites where field investigations are needed, and the Section 103(c) mandatory site notification has the potential to increase greatly the number of potential sites that we need to assess and possibly investigate. This assessment and investigation function will be a major activity during the first two years. The results of this function will be used in updating the 400 list as required by Section 105(8)(B).

Question. Obviously, with a potential universe of 30,000 to 50,000 sites, including 1,200 to 2,000 which may present potentially significant problems, a method of ranking sites is essential. What factors does the Agency intend to include in its ranking of the gravity of sites?

Answer. The list of the 400 most serious sites will be developed by employing a site ranking method that takes into consideration relative risk or danger to public health or welfare or the environment, taking into account to the extent possible the population at risk, the hazard potential of the hazardous substances at such facilities, the potential for contamination of drinking water supplies, the potential for direct human contact, the potential for destruction of sensitive ecosystems, State preparedness to assume State costs and responsibilities, and other appropriate factors. This list will be the most formal expression of the seriousness of waste sites to be managed under Superfund.

EPA has developed a standard scoring system in order to allow comparison of risk or danger in widely varying situations. In this scoring system the major pathways by which harm can occur are considered. For each event or pathway type, risk is considered to be a function of the probability of that event occurring and the degree of harm or endangerment associated with that event.

Superfund Research

Question. A significant amount, $14,560,000, is requested for research. Couldn't these funds be better utilized by actually physically removing hazardous waste site problems?

Answer. The current state-of-the-art in removal and remedial technology is not sufficient to ensure cost-effective cleanup of accidential discharges and support long-term remedial actions at disposal sites.

Key questions dealing with the cost effectiveness of removal and remedial approaches; the extent of cleanup required at a site; personnel and other equipment needs to support cleanup; and methods for monitoring and evaluating sites can only be answered through research and development. Detailed planning has already begun for ORD's response to the program office needs in developing: minimum reportable quantities; National Contingency Plan updating; assessment of damage to natural resources; and methods of assessment for evaluating claims.

ORD has extensive expertise in emergency and remedial response technology relative to hazardous substances and the capability for timely response to the needs of the program office, which has actively solicited ORD technical assistance. Since the Act was passed in mid-December 1980, ORD has provided the following support to respond to high priority Superfund needs:

1. Performed 200 site-specific historical photographic analyses for the Program Office.
2. Established a Quality Assurance Program that evaluated 13 contractors for procedures, standards and reference materials.
3. Provided detailed outlines and drafts of Annexes 2, 3, 5, and 7 of Title III of the National Contingency Plan.
4. Provided drafts of a re-structured Annex 10 of Title II of the NCP.

Question. How does this $14 million in research differ from that performed by the Office of Research and Development under the Hazardous Waste program?

Answer. EPA's R&D programs in support of RCRA and Superfund deal with two entirely different sets of problems, although admittedly, they both encompass treatment of hazardous substances. Research in support of RCRA deals with the issues associated with hazardous substances that are currently being produced and disposed of in properly permitted facilities. This involves support in implementing RCRA sections 3001, 3004, and 3005. These respectively entail identifying industrial processes that yield hazardous wastes and identifying the wastes produced; developing standards for TSD's that will ensure proper and safe treatment, storage and disposal of hazardous wastes; and in developing these standards to provide the basis for the RCRA permitting process.

R&D supporting Superfund deals with the issues associated with cleaning up spills and accidential releases of hazardous substances, and remedying the harmful effects of improper past disposals. R&D's support here is many faceted and includes such things as development of protective clothing and equipment for personnel, development of state-of-the-art cleanup equipment (as opposed to "picks & shovels"), protocols for performing cleanups and remedial actions, protocols for prioritizing which sites have more immediate needs, and protocols for assessing the risks associated with different types of events and sites.

Question. According to brochures that are being circulated in the environmental community, the United States Environmental Protection Agency is co-sponsoring with a private organization, the Hazardous Materials Control Research Institute ("HMCRI"), a "Conference and Exhibition on Management of Uncontrolled Hazardous Waste Sites" on October 28-30, 1981 in Washington, D.C.

The activities of the conference apparently include the submission of papers relating to the hazardous waste field and a trade exhibition of equipment, products, and services in the solid and hazardous waste material management field. Fees are charged to exhibitors. In addition, the brochures advertise the availability for sale of various, apparently private publications. It is not clear whether these publications are being sold at cost or for a profit. The United States Coast Guard (as well as several private organizations) is "affiliated" with the conference and exhibition, according to the brochures.

The sponsorship, management, and support of trade shows and exhibitions traditionally have been a function of the private sector. Trade association in the environmental and hazardous waste field for a long time have sponsored and run their own exhibition, without government subsidy or support. What is the nature of EPA's relationship to and involvement with the HMCRI October conference? What contractural obligation does EPA have with regard to the conference? Who at the Agency is responsible for making this arrangement?

Answer. Under Section 8001 of the Solid Waste Act, EPA has issued a cooperative agreement to HMCRI, a non-profit public foundation, to co-sponsor a conference on the Management of Uncontrolled Hazardous Waste Sites. HMCRI handles all of the logistical planning and preparation involved for the conference. The grant was issued from the Office of Research and Development, who also participates on the program review committee. The committee is chaired by the Hazardous Site Control Division, Office of Hazardous Emergency Response.

Question. What resources in terms of monies or staff time will be spent in co-sponsoring the conference?

Answer. Under the cooperative agreement with HMCRI, EPA funds 85 percent ($46,993.00) of the costs covered by the agreement; HMCRI funds the remaining 15 percent ($15,085.00). The agreement covers only the activities associated with the conference such as direct labor costs to do the work in preparation for the conference, overhead, postage for mailing the brochures, and rental of audiovisual equipment. HMCRI pays for all the cost associated with the exhibition and they are responsible for all management and organizing activities. The cooperative agreement also does not cover any costs associated with the printing of the proceedings, honorariums, the conference lunch or amenities. With regard to actual staff time involved, EPA dedicates approximately one person per month for reviewing papers for the proceedings and making policy and planning decisions relating to the conference.

Question. Did EPA know of and support the issuance of the brochure which has EPA requesting exhibitors for the trade show?

Answer. As mentioned above, HMCRI financed the printing of the brochure. EPA reviewed and approved the mockup for the brochure, and the Agency was aware that the brochure would include a call for exhibitors.

Question. What legal basis does EPA have for engaging in this type of co-sponsorship? Has it ever engaged in similar co-sponsorship of a trade exhibition?

Answer. As mentioned earlier, EPA issued this cooperative agreement for a technical conference under the Solid Waste Act, Section 8001 grant authority. This section of the law states that EPA "shall conduct, and encourage, cooperate with and render financial assistance to appropriate public authorities, agencies and institutions—and promote the coordination, research, investigations, experiments, training, demonstrations, surveys, public education programs and studies relating to—improvements in land disposal practices for solid waste—including means for reducing the harmful environmental effects of earlier and existing landfills, means for restoring areas damaged by such earlier or existing landfills . . ."

EPA has engaged in a number of technical conferences which include ancillary exhibits but has not co-sponsored trade exhibitions. EPA's environmental emergency response program has conducted conferences relating to spills of oil and hazardous substances and they were funded under grant authorities in the Clean Water Act. Technical exhibitions have been included as a part of conferences for the past several years.

Question. Does EPA believe that this co-sponsorship is appropriate? Has it considered the impact of its co-sponsorship on similar trade exhibits entirely sponsored and supported by the private sector?

Answer. EPA believes that co-sponsorship of technical conferences on techniques and technology for removal of hazardous spills and clean up of hazardous waste sites are appropriate. One of the primary purposes of this conference is to bring industry and government together to better communicate possible solutions for the problems associated with spills and uncontrolled hazardous waste sites. Also, Federal co-sponsorship of such a conference reduces the registration fee by 40 percent, making it possible for more members of the public to attend, especially employees of State and local governments. The exhibit activities that occur concurrently with the conference are not financed or managed by the Agency.

No other public or private organization has approached the Agency with a viable plan to provide conferences of similar technical and scientific scope.

Statutory Obligations on EPA and the States Emplaced by Section 303(d) of the Clean Water Act

Question. Provide specific information on questions concerning statutory obligations on EPA and the States emplaced by Section 303(d) of the Clean Water Act.

Answer. The Committee, in a series of ten questions, requested information on EPA and State actions which have been performed to satisfy their respective statutory obligations under Section 303(d) of the Clean Water Act. In order to be able to adequately respond to eight of these ten questions, EPA Headquarters has requested information from the Agency's Regional offices who are responsible for tracking the progress of TMDL submissions and approvals. Some initial information has already been gathered at EPA Headquarters; however, since much of the requested information is highly specific (e.g., dates, pollutants, waterbodies), voluminous, and has been archived at the Agency's Regional offices, it is impractical to provide a complete response to the ten questions within the short time frame provided. We will, however, be pleased to collect and verify the Regional information and submit complete responses within a few weeks. Following are the Agency's initial responses to two of the ten questions.

Question. Litigation brought against EPA by Calvert County, Maryland, resulted in a court order to the Administrator of EPA to fulfill his obligations under section 304(a)(2) of the Clean Water Act. DDC #78-0572, decided on June 20, 1978. The Administrator complied with a preliminary notice on September 20, 1978 (43 F.R. 42303 et seq.) and a final regulation on December 28, 1978 (43 F.R. 60662 et seq.). This final regulation specifies the pollutants that are suitable for calculation of total maximum daily loads, as required by section 303(d)(1)(C) of the Clean Water Act. This regulation claims that all pollutants are suitable for calculating total maximum daily loads.

Section 303(d)(2) of the Act requires that the States must submit their TMDL calculations (i.e., their calculations of total maximum daily load) to the Administrator within 180 days of the time that the Administrator fulfills his obligations under Section 304(a)(2). The States were therefore required to submit their TMDL calculations by July 1979.

Please specify the States, the bodies of water, and the pollutants that were submitted to the Administrator in compliance with section 303(d)(2) of the Clean Water Act.

Answer. Before specifically responding to this question, the following clarifications should be made:

As required by the Act, the December 28, 1978 Federal Register publication (43 F.R. 60662 et seq.) was a final notice of identification, not a regulation.

The Notice states that "all pollutants, under the proper technical conditions (emphasis added), are suitable for the calculation of total maximum daily loads." As stated in the Notice (p. 60662), "proper technical conditions" refers to the availability of the analytical methods, modeling techniques, and data base necessary to develop a technically defensible total maximum daily load (TMDL). The Notice also states (p. 60662) that the Agency recognizes that proper techniques do not presently exist for all pollutants in all situations, although it believes that, given adequate resources, proper techniques can be developed for any pollutant.

Section 303(d)(2) of the Act requires that the States shall make their "*first* such submission" (emphasis added) of TMDL calculations to the Administrator within 180 days of the time that the Administrator fulfills his obligations under Section 304(a)(2), and shall submit TMDL's "from time to time" thereafter. Therefore, the States were required to submit their first TMDL calculations by July 1979.

Our response to this question is presently based upon preliminary data supplied by our Regional Offices, who are responsible for tracking the progress of TMDL submittals and approvals. We will be gathering additional data and will provide a more complete response in several weeks.

The preliminary data from the Regions indicates that approximately 46 States have either made formal submissions under the provisions of the above referenced Section 303(d) notice or submitted initial TMDL's as a part of the water quality management process. It should be noted that the EPA water quality management regulations have required the preparation of WLA's/TMDL's for a number of years (CFR 40 Parts 130, 131–39 FR 19635, June 3, 1974; amended CFR 40 Parts 130, 131—November 28, 1975; amended CFR 44 Parts 35, 130, 131—May 23, 1979). Many of the TMDL's submitted by the States were related to site-specific water quality problems (e.g., for proposed construction grants projects) on a case-by-case basis and/or when the States developed wasteload allocations (WLA's)/TMDL's for their water quality management basin plans. The Agency's approval of the States' basin plans submitted to EPA include the approval of those initial WLA's/TMDL's calculations that were a part of these plans. Thus, these States have been substantively complying with their obligations under Section 303(d)(2). About four States apparently have neither formally submitted WLA's/TMDL's nor submitted WLA's/TMDL's as a part of their water quality management plans, construction grants projects, etc. However, these States may be using WLA's/TMDL's in their water quality programs. The absence of formal submittals of WLA's/TMDL's to EPA does not relax the requirement under Section 301(b)(1)(C) that all dischargers meet water quality standards. Also, at least one of these States has indicated that none of its streams are water quality limited and thus WLA's/TMDL's are not required.

Question. There appears to be widespread non-compliance with the obligations imposed by section 303(d)(2). Submit in writing a detailed explanation for this. Are the obligations too onerous? If these obligations are not or cannot be fulfilled, please explain in detail how EPA plans to ensure compliance with water quality standards and to make efficient use of limited construction grant funds.

Answer. The statement that there is widespread non-compliance by the States with the obligations imposed by Section 303(d)(2) of the CWA is overstated. It is true that there has been some procedural non-compliance with respect to States not formally making their "initial TMDL submissions" during the 180 day period between 28 December 1978 and July 1979; however, almost all States have submitted WLA/TMDL calculations and submissions as part of their water quality management planning processes under Section 303(e) and Section 208, or as part of their WLA program under Section 303(d). Furthermore, EPA Regional offices currently estimate that over 90 percent of the States have active WLA/TMDL programs.

Although the States generally are preparing WLA's/TMDL's, there is a need to improve efforts in this area to enable further progress toward meeting water quality goals. One constraint is the need for more resources for the States. In order to help meet these needs, the EPA has issued guidance (PRM 79–11, dated September 5, 1979) allowing use of Section 201 funds for certain high priority WLA's/TMDL's. We are also encouraging the use of Section 106 and Section 205(g) funds for developing WLA's/TMDL's.

Improved efforts on WLA's/TMDL's would increase our ability to assess the water quality impact of many proposed construction grants projects. In general, complete

WLA's/TMDL's cannot be done until the planning for a facility is fairly far along, i.e., the location, and the volume and characteristics of the discharge are known. However, in many cases, simplified water quality analyses can be used to indicate the water quality improvements from proposed projects. Also, many States presently have a water quality element in their priority systems. The EPA is evaluating the existing priority systems and is developing alternatives for screening water quality analysis procedures for assisting States in identifying and prioritizing construction grants projects with major water quality improvements.

[Clerk's note: The Committee has received the full responses to its questions on the statutory obligations on EPA and the States emplaced by Section 303(d) of the Clean Water Act. These questions and answers follows:]

QUESTIONS CONCERNING STATUTORY OBLIGATIONS ON EPA AND THE STATES EMPLACED BY SECTION 303(d) OF THE CLEAN WATER ACT

QUESTION: Litigation brought against EPA by Calvert County, Maryland, resulted in a court order to the Administrator of EPA to fulfill his obligations under section 304(a)(2) of the Clean Water Act. DDC #78-0572, decided on 20 June 1978. The Administrator complied with a preliminary notice on 20 September 1978 (43 F.R. 42303 et seq.) and a final regulation on 28 December 1978 (43 F.R. 60662 et seq.). This final regulation specifies the pollutants that are suitable for calculation of total maximum daily loads, as required by section 303(d)(1)(C) of the Clean Water Act. This regulation claims that all pollutants are suitable for calculating total maximum daily loads.

Section 303(d)(2) of the act requires that the States must submit their TMDL calculations (i.e., their calculations of total maximum daily load) to the Administrator within 180 days of the time that the Administrator fulfills his obligations under section 304(a)(2). The States were therefore required to submit their TMDL calculations by July 1979.

Please specify the States, the bodies of water, and the pollutants that were submitted to the Administrator in compliance with section 303(d)(2) of the Clean Water Act.

ANSWER: Before specifically responding to this question, the following clarifications should be made:

- As required by the Act, the 28 December 1978 Federal Register publication (43 F.R. 60662 et seq.) was a final notice of identification, and not a regulation.

- The Notice states that "all pollutants, under the proper technical conditions (emphasis added), are suitable for the calculation of total maximum daily loads." As stated in the Notice (p.60662), "proper technical conditions" refers to the availability of the analytical methods, modeling techniques, and data base necessary to develop a technically defensible total maximum daily load (TMDL). The Notice also states (p. 60662) that the Agency recognizes that proper techniques do not presently exist for all pollutants in all situations, although it believes that, given adequate resources, proper techniques can be developed for any pollutant.

- Section 303(d)(2) of the Act requires that the States shall make their "first such submission" (emphasis added) of TMDL calculations to the Administrator within 180 days of the time that the Administrator fulfills his obligations under Section 304(a)(2), and shall submit TMDLs "from

time to time" thereafter. Therefore, the States were required to submit their first TMDL calculations by July 1979.

- The process of calculating TMDLs for water bodies involves performing wasteload allocations (WLAs) to establish water quality based effluent limits for municipal and industrial pollutant sources which will ensure that applicable water quality standards are met. Most States have been, for the past several years, performing WLAs on a continuing basis in priority water quality problem areas. Many of their initial WLAs (and, hence, resulting TMDLs) have been included in their water quality management plans, construction grant project proposals, or NPDES permits which were developed under Sections 201, 208, 303(e), and 402 of the Act. Thus, these States have been substantively complying with their obligations under Section 303(d)(2).

The information presented below has been compiled from our Regional offices who have the lead on tracking the progress of TMDL submissions and approvals. The initial TMDL calculations were for the most part performed by the States in response to site-specific water quality problems (e.g., for proposed construction grants projects or NPDES permits) on a case-by-case basis and when the States developed wasteload allocations for their water quality management plans as part of their continuous planning process. It should be noted that the EPA water quality management regulations have required the preparation of WLAs/TMDLs for a number of years (40 CFR Part 130 (39 FR 19635, June 3, 1974); 40 CFR Part 131 (39 FR 19639, June 3, 1974); 40 CFR Parts 130 and 131 as amended on November 28, 1975; 40 CFR Part 35, Subpart G (superseding 40 CFR Parts 130 and 131 on May 23, 1979)). The Agency's approval of the States' water quality management plans submitted to EPA included the approval of those initial WLA/TMDL calculations that were a part of these plans. According to information available in our Regional offices, initial TMDL submissions were made by the following States:

1) Region I - All six New England States, through the 303(e) water quality management planning process, have submitted lists of initial WLAs/TMDLs on water quality limited segments and the pollutants which were addressed. Below is a summary listing of those basins and pollutants which were submitted by the States under the water quality management planning process:

State	Basin	Pollutants Addressed*
Connecticut	Housatonic	1,4
	Naugatuck	1,2,3
	Quinnipiac	2,3

Maine	Little Androscoggin	1,2
	Kennebec	2
	Sebasticook	1,2,3,4
Massachusetts	Blackstone	1,2,3,4
	Charles	2,3,4
	Housatonic	1,2,3,4
	Nashua	2,3,4
	Taunton	1,2,3,4
New Hampshire	Ashuelot	2,3
	Farmington	2,3
	Mad	2,3
Rhode Island	Pawcatuck	2,3
	Pawtuxet	2,3
Vermont	Otter Creek	2
	Winooski	2,3,4

* - Pollutants addressed:
1. = Toxic and/or hazardous materials.
2. = BOD.
3. = Ammonia and/or TKN.
4. = Phosphorus (nutrients).

2) Region II - New York and New Jersey have been fairly active with their development of WLAs/TMDLs for construction grant projects and Section 303(e)/208 water quality management plans. Below is a summary listing of basins and pollutants for which WLAs/TMDLs were developed by New York and by New Jersey under these programs:

State	Basin	Pollutants
New York	Buffalo River	(BOD, and ammonia or TKN for all basins listed)
	Tributaries to Allegheny River	
	Genessee River	
	Canaseraga Creek	
	Canisteo River	
	Cohocton River	
	Susquehanna River	
	Tioughnioga River	
	Chenango River	
	Nine Mile Creek	
	Indian River	
	Mohawk River	
	Upper Schonarie Creek	
	Driskany Creek	
	Hudson River	
	Moodna Creek	
	Fishkill Creek	
	Wappinger Creek	
	Claveragh Creek	
	Delaware River	
	Ramapo River	
	Black River	
	Chemung River	

New Jersey	Newark Bay
	Raritan River
	Passaic River
	Saddle River
	Husconetcong River
	Rancocas Creek
	Manasquan River
	Wallkill River
	Paulins Kill
	Crosswicks Creek
	Pennsauken Creek
	Cooper River
	Big Timber River
	Great Egg Harbor River
	Delaware River

These States have also performed several WLA/TMDL calculations for phosphorus in support of construction grant project proposals.

3) Region III - The following is a summary listing of those basins and pollutants for which WLAs/TMDLs were submitted by the States under their 208 or 303(e) water quality management planning process:

Pennsylvania	Monongahela	BOD, Sulfate, total dissolved solids, phenols, cyanide.
	(Also, as part of their later formal Section 303(d) TMDL submission, the State of Pennsylvania referenced their Section 303(e) plans previously submitted to EPA.)	
Delaware	Broadkill	BOD
	Indian	BOD
	Nanticoke	BOD
	(Also, as part of their later formal Section 303(d) TMDL submission, the State of Delaware referenced their earlier water quality management planning work which included the development of WLAs/TMDLs.)	
Maryland	The State of Maryland initially completed and submitted several WLAs/TMDLs as part of their Section 303(e) planning process. Later, as part of their formal Section 303(d) TMDL submission, Maryland referenced those TMDLs submitted as a part of the water quality management plans under Section 303(e).	

Virginia and West Virgina	Both States have developed WLAs/TMDLs through the Section 303(e) basin planning process, and much of that work has been documented in plans submitted in the past.

Over the past few years, all of the States in this Region have also submitted WLAs/TMDLs in support of Advanced Treatment projects funded under the construction grant program.

Additionally, in this Region, a water quality evaluation of nutrients in the Chesapeake Bay has been conducted and resulted in a phosphorus control policy for contributing point sources in the upper Chesapeake Bay drainage basin.

4) Region IV - All 8 States in the Southeast (i.e., Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee) developed initial WLAs/TMDLs, and included them in their 303(e) basin plans and/or initial statewide 208 plans which were submitted to the EPA. These WLAs/TMDLs were developed for BOD and several other "traditional" and other pollutants. The State of Alabama also made a formal initial submission under Section 303(d) by referencing their WLA/TMDL submissions made earlier as part of their water quality management plan submission.

5) Region V - All six States in the upper Midwest (i.e., Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin) have been and are calculating TMDLs on specific segments of streams in support of construction grant projects and/or certain industrial pollutant sources. Indiana, Minnesota, Ohio, and Wisconsin submitted initial 303(e) basin plans containing WLA/TMDL calculations, and Michigan and Illinois have submitted WLAs/TMDLs as part of construction grant project proposals. Four States (Michigan, Ohio, Minnesota, and Indiana) have developed WLAs/TMDLs for only the nonconservative "traditional" pollutants (e.g., BOD and ammonia); the other two States have been developing WLAs/TMDLs for the traditional pollutants plus they are looking at the potential for treating several metals for which WLAs/TMDLs do not yet exist.

6) Region VI - All five States in this Region (i.e., Arkansas, Louisiana, New Mexico, Oklahoma, and Texas) have submitted WLAs/TMDLs as part of their initial 303(e)/208 water quality management plans. These WLAs/TMDLs were approved by the Regional Administrator as part of the water quality management plan approval process. The WLAs/TMDLs that were submitted were developed for all streams that were determined to be water quality limited and are too numerous to be listed. Several WLAs/TMDLs will need to be revised to better support construction grant decisions and NPDES permits.

For the most part WLAs/TMDLs were determined for BOD since this is the primary oxygen demanding source. Additionally, several WLAs/TMDLs for ammonia (e.g., performed by Texas on several small streams in the Houston and San Antonio areas) and phosphorus (e.g., performed by New Mexico on the Red River) have been developed by States in this Region. Additional studies to update TMDLs and develop new wasteload allocations are currently being carried out by the States.

7) Region VII - Below is a summary listing of those basins and pollutants for which WLAs/TMDLs were submitted by the States in this Region as part of their water quality management planning process:

State	Basin	Pollutants
Missouri	Meramec River	BOD, ammonia, phenol
	Perche Creek	BOD
	James River	BOD, ammonia
	Little Sac River	BOD, ammonia
	Coldwater Creek	BOD
Nebraska	Lodgepole Creek	BOD
	Wood River	BOD
	Papillion Creek	BOD
	Salt Creek	BOD
Iowa	WLAs/TMDLs were developed for many facility planning areas in Iowa for BOD and ammonia; the major receiving waters include:	
	Little Sioux River	
	So. Fork, Skunk River	
	Cherry Creek	
	Tributary to So. Fork, Skunk River	
	Iowa River	
	Des Moines River	
Kansas	Kansas has not classified any streams as water quality limited and has, as a result, apparently not formally developed any WLAs/TMDLs.	

8) Region VIII - The six States in this Region (i.e., Colorado, Montana, North Dakota, Utah, and Wyoming) have developed and submitted initial WLAs/TMDLs under Sections 303(e) and 208, and under the NPDES process. the pollutants most commonly addressed were BOD, ammonia, chlorine, nutrients, and temperature.

9) Region IX - The States in this Region (i.e., California, Nevada, Arizona, and Hawaii) have had active WLA/TMDL programs in place, especially for the "traditional" pollutants, for the past several years in support of the construction grant and NPDES permit programs. For example, WLAs/TMDLs were developed in Nevada for BOD, phosphate, nitrate, and total dissolved solids on the Walker and Humboldt Rivers.

10) Region X - Most of the States in the Pacific Northwest (i.e., Washington, Idaho, and Oregon), especially Idaho and Oregon, have been doing some WLA/TMDL development work over the past several years in support of the construction grant and NPDES permit programs. For example, Idaho has developed WLAs/TMDLs for BOD on the Boise and the Snake Rivers, and extensive water quality analyses have been performed on the Willamette River in Oregon to support pollution abatement actions. Presently, Idaho and Washington are conducting joint studies to establish a TMDL for phosphorus on the Spokane River. Apparently Alaska has performed only a minimal amount of water quality work due to a minimum of water quality problems and a lack of resources.

QUESTION: Please submit a list of the States that have not complied with their obligations under section 303(d)(2).

ANSWER: As can be seen in the response to the first question, almost all of the States have developed WLAs/TMDLs and have made initial WLA/TMDL submissions as part of their water quality management plans developed under Sections 208 and 303(e) of the CWA, or as part of the construction grant or NPDES permit programs. It appears that only the following States have not formally developed and submitted any WLAs/TMDLs: (a) Kansas - this State has not classified any streams as water quality limited and has, as a result, apparently not formally developed any WLAs/TMDLs; and (b) Alaska - this State has apparently performed only a minimal amount of water quality work due to a minimum of water quality problems and a lack of resources.

QUESTION: Specifically, what actions has EPA performed to bring the States into compliance with their obligations under Section 303(d)(2)?

ANSWER: As can be seen in the response to the first question, almost all of the States have made initial WLA/TMDL submissions as part of their water quality management, construction grant, or NPDES permit programs. The EPA has been continuously working with the States over the past several years on developing WLAs/TMDLs on a priority basis for water quality problem areas. This work has included: developing regulations in 1974, 1975, and 1979 requiring submissions of WLAs/TMDLs; providing the States with direct in-house and contractor technical assistance in water quality modeling and field surveys on an ongoing basis; developing numerous technical guidance documents on performing WLAs/TMDLs; sponsoring several water quality modeling/wasteload allocation training seminars for State personnel; conducting water quality model user workshops; establishing a centralized EPA Center for Water Quality Modeling (providing research and development, model distribution, and model user assistance); guiding the States in the development of their water

quality management basin plans; and negotiating priorities and schedules in their continuing planning processes and the Section 106 grants with the States. The thrust of this WLA/TMDL program has been and is to establish water quality based effluent limitations for pollutant sources that will ensure compliance with water quality standards.

QUESTION: Please prepare a list of the States that have complied in part with section 303(d)(2) and identify in each case the actions EPA took to help them fulfill their obligations under section 303(d)(2).

ANSWER: As stated in the response to the first question, almost all of the States have made initial WLA/TMDL submissions as part of their water quality management, construction grant, or NPDES permit programs. No States are in partial compliance in that the States have either developed and submitted initial WLAs/TMDLs as a part of their water quality programs or they have not.

QUESTION: Once the States have submitted their TMDL calculations in compliance with section 303(d)(2), the Administrator is required to take action on these calculations within thirty days. Section 303(d)(2) specifically requires the Administrator to approve the TMDL calculations within thirty days, i.e. by August 1979.

Please submit a list of the approval actions the Administrator has taken under section 303(d)(2), specifying in each case the reasons for approval. Were the calculations derived from thoroughly verified models of water quality? If not, what was the technical and legal basis for approval in each case? When were the approvals made?

ANSWER: As stated in the response to the first question, almost all of the States made their initial WLA/TMDL submissions as part of their initial water quality management plans which were developed under Sections 303(e) and 208 of the Act, or in support of construction grant project proposals or NPDES permits. The Agency's approval of the States' plans or proposals submitted to EPA included the approval of those initial TMDL calculations that were a part of these plans or proposals. As a result, the approval actions which the Agency had taken (generally between 1975 and 1979) on the States' water quality management plans or construction grant project proposals also constitute the initial TMDL approvals which were made by EPA. These initial TMDL approvals were made on those WLAs/TMDLs that were identified in the response to the first question.

Most of the TMDL submissions and approval actions up to now have been related to the "traditional" pollutants. Most of these TMDL calculations for "traditional" pollutants have been and are performed using technically defensible water quality models.

The overall comprehensiveness and complexity of the analyses which were employed often varied from one case to the next. Generally, this variability was mostly due to the differing levels of analytical effort (as determined by each case's given conditions) that were necessary in each case to produce WLAs/TMDLs, and in some cases, was also due in part to the amount of data and other information, State resources, or time that was available for the WLA/TMDL effort. For example, in cases where simpler conditions existed or where it was clearly obvious from a technical standpoint that advanced levels of waste treatment were needed to meet instream standards, simplified and sometimes "desk-top" analyses were often used to develop WLAs/TMDLs. On the other hand, in cases where more complex conditions existed, more comprehensive analyses utilizing relatively extensive site-specific data for model calibration and verification were usually used to develop WLAs/TMDLs.

QUESTION: The final regulation governing substances suitable for TMDL calculations (43 F.R. 60662 et seq.) states that all substances and properties of water are suitable for TMDL calculations. Some of these properties are often expressed in non-numerical terms (e.g. taste and odor, foaminess, aesthetic nuisances). Upon what technical basis does the Administrator decide whether to approve TMDL calculations for these substances and properties? Has the Administrator made any determinations of approval for such substances and properties? If so, which ones in which States and bodies of water?

ANSWER: The final Notice states that all pollutants, under the proper technical conditions, are suitable for TMDL calculations; no reference is made to "substances" or "properties" of water. The Notice states that TMDLs can only be calculated for waterbodies and pollutants with a specified numerical limit based on approved or promulgated water quality standards. The Agency has not developed technical guidance on expressing properties such as taste and odor, foaminess, and aesthetic nuisances on a quantitative basis, primarily because these properties are generally controlled by applying quantitative limitations of those various pollutants which cause these taste, odor, etc., problems (e.g., BOD

limitations help to limit odors and aesthetic nuisances such as sludge deposits). Therefore, the Agency has not either approved or disapproved any TMDLs for such qualitative properties.

QUESTION: Even when substances and properties can be quantitatively expressed (e.g. pH, phosphate, ammonia, organic nitrogen, turbidity, toxic substances), it is our understanding that there are very few thoroughly verified water quality models for calculating assimilative capacities of waterways. Have any States submitted TMDL calculations for any of these substances or properties? If so, please identify the States, the substances or properties, and the bodies of water, showing in each case how the TMDL was calculated.

ANSWER: As indicated in the response to the first question, most TMDL calculations up to now have emphasized the "traditional" pollutant parameters, for which reliable models have been readily available for use in addressing many of the serious water quality problems associated with these pollutants. Much of this work has been in support of the construction grant, permits, and water quality management planning programs.

The water quality analyses of the "traditional" pollutants have primarily focused on BOD/DO problems; however, several States have also addressed other pollutants such as the nutrients (phosphorus and nitrogen species) and ammonia, often in support of construction grant project proposals. It can be seen in the response to the first question that many of the States have performed some WLA/TMDL calculations for nutrients and ammonia, and in a few cases, for other pollutants such as sulfate, total dissolved solids, and several toxic pollutants. As discussed in the response to the fifth question, the level of analytical effort utilized often varied when performing these TMDL calculations, depending on the complexity of each case's given conditions, the information, resources, and time available, etc.

Now that many of the "traditional" pollutant problem areas have had WLAs/TMDLs developed, the EPA and the States are presently broadening their program emphases to better address the control of pollutants

such as those cited in this question, especially toxic substances. Technically sufficient water quality models for most toxic pollutants have not been available for use in performing adequate WLA/TMDL calculations. In response to this situation, the Agency's research and development activities have been redirected over the past few years from the refinement of "traditional" pollutant water quality models, to the basic development of theoretical fate and transport models of toxic pollutants in aquatic systems. Now that the results of several of these initial basic research efforts are beginning to become available, the Agency is presently entering the stage of model refinement where the basic, theoretical models will be refined for use in site-specific applications. When these site-specific models become available, the States will then be able to develop more WLAs/TMDLs for toxic pollutants.

QUESTION: Section 303(d)(2) specifies what the Administrator must do when he disapproves the TMDL calculations submitted by the States. He must "establish such loads for such waters as he determines necessary to implement the water quality standards applicable to such waters" and incorporate them into the State's Water Quality Management Plan, as defined in section 303(e) of the act and related regulations under section 208 and section 303.

Please submit a list of all the Administrator's disapproval actions under section 303(d)(2), specifying in each case the date, the State, the body of water, the pollutant(s), and the technical reason for the disapproval.

ANSWER: Reviews of TMDLs are usually made on an informal, case-by-case basis prior to formal State certification. Technical differences are usually worked out between the EPA Regional offices and the States before the formal State submittals are made. Thus, no formal disapprovals of TMDLs under Section 303(d) have occurred. It should be noted that EPA disapprovals/modifications of construction grant projects (e.g., AT projects) and water quality management plans can be considered to be essentially "informal" TMDL disapproval actions. The following information has been provided by our Regional offices:

1) Region I - Region I has not formally

disapproved any TMDLs/WLAs but, rather, several have been sent back to the States for revisions based on the Region's comments. In many instances, the Region provided technical assistance where the TMDL was inadequate.

2) Region II - No TMDLs were formally disapproved; however, a number of construction grant projects were disapproved informally.

3) Region III - No formal TMDL disapprovals were cited. Normally technical comments are provided to the States and any issues are resolved prior to formal submittal. In a few cases, construction grant projects were disapproved informally.

4) Region IV - None have been formally disapproved, but many have been informally, before the formal TMDL submission.

5) Region V - Review of TMDLs are made on a case-by-case basis prior to formal State certification into a water quality management plan. All technical issues are worked out between the Regional office and the States before formal submittal.

6) Region VI - No formal TMDL disapprovals were cited.

7) Region VII - No formal TMDL disapprovals were cited.

8) Region VIII - The EPA Region VIII has informally disapproved some TMDL calculations through the 208, 303(e), and NPDES processes. These informal disapprovals were made because (a) the calculations were in error or assumptions were incorrect, (b) the TMDL was based on water quality criteria which were inconsistent with approved State water quality standards, or (c) the TMDL was based on unapproved water quality criteria.

9) Region IX - No formal TMDL disapprovals were cited.

10) Region X - No formal TMDL disapprovals were cited.

79-248 O—80——14

QUESTION: Please submit a list of the TMDL's the Administrator has established in compliance with his obligations under section 303(d)(2), showing in each case the data, the State, the body of water, the pollutant(s), and the technical reasons supporting the validity of the Administrator's TMDL calculation and its superiority over the State's method of calculation.

ANSWER: Since no formal disapprovals of State TMDLs has occurred, the Administrator has not formally established TMDLs under Section 303(d). As noted in the response to the previous question, the Agency has been working with the States to help ensure that the WLAs/TMDLs developed by the States are acceptable before they are formally submitted.

QUESTION: It is our understanding that there is widespread noncompliance with the obligations imposed by section 303(d)(2). Would you kindly submit to us in writing a detailed explanation for this state of affairs? Are the obligations too onerous? If so, please explain why. If these obligations are not or cannot be fulfilled, please explain in detail how EPA plans to ensure compliance with water quality standards and to make efficient use of limited construction-grant funds.

ANSWER: The statement that there is widespread noncompliance by the States with the obligations imposed by Section 303(d)(2) of the CWA is overstated. It is true that there has been some procedural noncompliance with respect to States not formally making their "initial TMDL submissions" during the 180 day period between 28 December 1978 and July 1979; however, almost all of the States are in substantive compliance and have made WLA/TMDL calculations and submissions as part of their water quality program under Sections 201, 208, 303(e), or 402. Furthermore, EPA Regional offices estimate that over 90 percent of the States currently have active WLA/TMDL programs.

Although the States are preparing WLAs/TMDLs, there is a need to improve efforts in this area to enable further progress toward meeting water quality goals. One constraint is the need for more resources for the States. In order to help meet these needs, the EPA has issued guidance (PRM 79-11, dated September 5, 1979) allowing use of Section 201 funds

for certain high priority WLAs/TMDLs. The Agency is also encouraging the use of Section 106 and Section 205(g) funds for developing WLAs/TMDLs.

Improved efforts on WLAs/TMDLs would increase our ability to assess the water quality impact of many proposed construction grant projects. In general, a complete WLA/TMDL cannot be developed until the planning for a facility is fairly far along, e.g., the location, and the volume and characteristics of the discharge are known. However, in many cases, simplified water quality analyses can be used to indicate the water quality improvements from proposed projects. Also, many States presently have a water quality element in their priority systems. The EPA is evaluating the existing priority systems and is developing alternative water quality analysis screening procedures to assist States in identifying and prioritizing construction grant projects that will result in major water quality improvements.

In addition, the Agency has been developing technical guidance and is sponsoring technical training seminars to help the States develop WLAs/TMDLs and set sufficient effluent limits; and construction grant project proposals from the States are being reviewed more closely by the Agency for adequacy.

Mr. BOLAND. Mr. Stokes has several questions, which I will insert in the record at this point.

[The questions and answers follow:]

MUNICIPAL WASTE TREATMENT GRANTS

Question. A number of States, Ohio included, have been extremely slow in obligating muncipal waste treatment grants. Does EPA have a role in monitoring the expenditure of these funds and, if so, exactly what is this role?

Answer. EPA has traditionally taken an active role in assisting the States to get their projects scheduled and moved through the system in a timely manner. In all but a few States we've been successful in our efforts to keep the program moving and to encourage better management of each State's project priority lists.

Question. Why is it that States have been unable to obligate these funds?

Answer. Two major reasons why some States have been slow in obligating funds in recent years are as follows:

Large and complex projects.—In many of the highly populated States we have projects well over $100 million in grant size. Many of these projects take several years to get through the planning process and can take several more years to get through the funding process, particularly when they are funded in phases or segments. If one of these very large projects should slip its schedule, a State is hard pressed to locate alternative quality projects to take up the slack before the funding deadline.

Shortage of adequate staffing at the State level.—Until recently many States have gone from year to year with uncertain funding assumptions for staffing their programs. Many States had shortages of staff and/or experienced high turnover in the professional levels. This naturally caused slowdowns of the rates of obligations. Recently, EPA has been able to provide financial assistance to the States through the Section 205(g) State Management Assistance Grants. These grants, which can total up to two percent of a State's authorized funding level, have been instrumental in stabilizing State staffs and increasing the capabilities of the States to perform the long range planning necessary to assure an even level of obligations. As a result most States no longer have any difficulty in getting their funds obligated well in advance of reallotment deadlines.

Question. The Administration has indicated that it will not request a fiscal year 1982 appropriation for waste treatment construction under title II of the Clean Water Act until legislative amendments are enacted. Is it envisioned under these amendments that EPA's role in the management of this program will change and if so, how will it change?

Answer. The proposed legislative reforms do not envision major redirection in EPA's role in the management of the program. The reforms contemplate some extension of EPA's existing policy of delegating many program activities to the States. The present authority of the Governor to reduce the existing 75 percent Federal share uniformly is amended to permit such reductions to be done on a category-by-category basis as well as according to project step. Also, in extending the innovative and alternative technology and rural set-aside programs for one year, they would become discretionary for fiscal year 1982.

MINORITY BUSINESS CONTRACTS

Question. What is EPA's role in monitoring the granting of funds to minority contractors?

Answer. EPA's Office of Small and Disadvantaged Business Utilization (OSDBU) was established in accordance with Public Law 95-507 and applicable Executive Orders to develop policy, procedures and guidelines for the effective administration of the Agency's Minority Business Enterpise (MBE) and other related programs. EPA's effort in this area is designed to maximize the contracting and subcontracting participation of small, disadvantaged, minority and women owned businesses in the Agency's Construction Grants and direct procurement programs. EPA monitors its MBE program activity through designated MBE program officers in the Agency's ten regional offices.

Question. To your knowledge, have there been any problems in identifying minority contractors eligible to receive grant funds from EPA projects (i.e., waste water treatment grant projects)?

If so, in what States and with which types of projects? What has been done to remedy the problem?

If not, does this mean that there are no problems in this area, or simply that you are not aware of them?

If there may be problems in identifying minority contractors that you are not aware of, what mechanism does EPA have in place to detect whether a problem exists or not?

Answer. In 1979 when EPA initially required Minority Business Enterprise (MBE) participation in its Construction Grants Program, there was some difficulty in identifying minority consulting, engineering, and construction contracting firms. However, this problem was alleviated when Regional offices established directories of minority architectural, engineering, construction contractors and supply firms. In addition, at least two private organizations, Associated General Contractors and American Consulting Engineers Council, annually produce MBE directories.

States with a very small minority population (e.g. Idaho, Wyoming, New Hampshire, and Maine), naturally experience the greatest problems, particularly identifying construction contractors, who tend not to be as mobile as engineering consultants. In most such cases the contractors receiving awards have subcontracted with MBE's from out-of-State.

Question: How many people are involved in the oversight of minority contracting?

Answer: Within the Headquarters Office of Small and Disadvantaged Business Utilization, three people are assigned to the MBE grants program and two people are assigned to the MBE direct procurement program. Additionally, we have one MBE direct procurement officer at our field installation at RTP, North Carolina, one MBE direct procurement officer at our field installation in Cincinnati, Ohio, and a minimum of three MBE grants program officers in each of our ten regional offices.

Question: How will the reduction proposed by the Administration affect EPA's ability to adequately perform this activity?

Answer: The Office of Small and Disadvantaged Business Utilization has not been reduced from its 1981 budget. Regional reductions will result in delegating to the States many of the construction grants monitoring efforts.

Contract and Consultant Services Spending

Question: Does EPA contract out any of its own work (i.e., to consultants for training, for special studies or analysis, etc.)?

If so, what amount of funds was spent for contracting out or consulting services in fiscal year 1980?

What percentage of these funds went to minority consultants or firms?

Answer: Yes, EPA supports parts of its mission by the use of contracts. Contract funds for research and development, technical support, administrative support services, management advisory services, etc. are specifically identified in our budget. Contract awards during fiscal year 80 equalled 28 percent of EPA's total budget excluding construction grants.

EPA obligated $358 million in prime contracts during fiscal year 1980. (This amount excludes obligations of $50 million for small purchases, as well as obligations for subcontracts under grants.) Of this amount, consulting contracts, as defined by OMB Circular A-120, amounted to $903,500.

5.1 percent ($18.25 million) of EPA's fiscal year 80 contract obligations were awarded to minority contractors. 86 percent of this amount was awarded directly to minority firms as prime contracts while 14 percent was awarded to minority firms as subcontracts under non-minority prime contracts.

Question: Provide for the record a breakdown of EPA staffing in the following manner

Total EPA Staffing—Total Minority—Percent Minority
Total EPA Technical/Professional—Minority Technical/Professional Percent
Total EPA Clerical—Minority Clerical Percent
Total EPA Managerial—Minority Managerial—Percent
Total EPA SES (Senior Executive Service)—Minority
SES—Percent

Answer: The following chart provides a breakdown of total Agency and minority staffing:

AGENCY-WIDE STAFFING AS OF DEC. 27, 1980

	Total EPA	Total minority	Minority as a percentage of total
General Schedule Employees:			
Technical/professional	7,949	882	11.1
Clerical	3,881	1,482	38.2
Managerial	1,516	251	16.6
Total GS employees	13,346	2,615	19.6
SES employees: Total	222	9	4.1
Other employees:			
Merit pay employees [1]	480	41	8.5
Other [2]	1,807	502	27.8
Total	2,287	543	23.7
Total EPA [3]	15,855	3,167	20.0

[1] Only OPM and 2 Regions are on Merit Pay at this time. The rest of the Agency is going to Merit Pay this year.
[2] Includes Commissioned Corps, Wage Board, Stay-In-Schools, Executive Levels, Administratively Determined, etc.
[3] The Agency reported 14,874 paid employees for the pay period ending 12-27-80. The difference between these two amounts is for employees on LWOP and people who have physically separated but whose paper separation has not been processed.

Question. The Administration's proposed changes in program priorities will have a significant impact on staffing within EPA components. For example, in fiscal year 1982 sizable reductions will occur in Water Quality and Hazardous Substances staffing, while an increase occurs in staffing for the Hazardous Substances Response Trust Fund (Superfund).

Do you anticipate the need for firing or laying off any of your current employees to reduce staffing in particular areas or will you be able to shift employees around?

If some employees must be riffed, how many employees will be affected and in what areas?

Will new employees be hired to perform specialized duties while other people are being fired?

Answer. We plan to shift employees in areas that are above the fiscal year 1982 ceilings to areas that are understaffed to the extent possible and use layoffs only as a last resort.

Employees currently located in program areas that are scheduled for reduced staffing will be offered positions in other Agency programs if their skills can be matched to vacant positions. Where this cannot be accomplished, employees may be laid off. The need for and size of any possible layoffs depends more than anything else on the rate of attrition over the coming months. We cannot yet project whether a layoff will be needed because it is too soon to predict the effect of our special internal placement program or the rate of attrition during these unusual circumstances.

New employees will be hired only if a vacant position requires specialized skills such that no displaced employee can adequately fill the available position. In addition, before any program can recruit outside EPA, they must first obtain the explicit approval of a Special Placement Board composed of the Assistant Administrators or, failing that, of the Administrator.

Question. Has the Environmental Protection Agency begun retargeting resources to conform with the priorities outlined in the fiscal year 1981 or fiscal year 1982 budget request?

Answer. EPA's resources are being retargeted in line with the new priorities. EPA has reallocated fiscal year 1981 resources to support the President's priorities as reflected in the fiscal year 1981 budgets, while at the same time minimizing the need for a fiscal year 1982 reduction-in-force.

Superfund

Question. Quite a few States, Ohio included, have indicated what they consider to be high priority sites for mitigation of hazardous waste problems. Will the reduced appropriation request for fiscal year 1981 and 1982 for Superfund have an impact on the cleanup of current hazardous sites?

Answer. The reduced appropriation will not decrease the number of remedial actions initiated in fiscal year 1981 and fiscal year 1982. Both the Carter and

Reagan requests anticipated starting five remedial actions in fiscal year 1981 and eight remedial actions in fiscal year 1982. The reduced appropriation would result in a somewhat lower level of emergency response and fewer preliminary site assessments and inspections.

Question. Do you know how many sites currently exist which could be construed as high priority targets for funding? If so, how many of these sites will begin actual remedial activity in fiscal year 1981 and fiscal year 1982?

Answer. The Agency allocated $3.8 million for remedial planning activities for 17 sites in February 1981. These sites were selected based on the seriousness of the site, readiness of the site to proceed to final design and State considerations. Beginning in April the Agency will start developing a second list of sites with an objective of having an initial list by July 1981 of priority targets for funding. As required by statute, in December, 1981 the States will submit their lists of priority sites to the EPA, at which time a subsequent, more comprehensive list would be available. At that time we would expect 200 to 400 high priority sites to be identified.

In fiscal year 1981 the Agency anticipates sufficient funding to undertake five remedial actions, followed by eight remedial actions in fiscal year 1982.

Question. Will all sites require construction activity to mitigate the problem? If not, could not additional problem sites begin control or cleanup activity if additional funds were requested?

Answer. Not all remedial actions will require a construction effort. For example, the most cost-effective solution might consist of simply isolating the site by a fence or other security measures. Or perhaps the best approach is to permanently relocate a few people who might be adversely affected by the site. In any case, during the first couple of years the program will be focused on identifying the most serious sites and selecting appropriate remedies. Additional resources through fiscal year 1982 would not result in any significant increase in remedial actions initiated.

Mr. BOLAND. Mrs. Boggs has asked me to insert several questions, to be answered for the record at this point.

[The questions and answers follow:]

INTEGRATED PEST MANAGEMENT

Question. In 1979, EPA initiated a "Riceland Mosquito Consortium" under the Integrated Pest Management program. It has developed techniques which permit specific pesticide applications as opposed to widespread spraying; this program also researches how to reduce the quantity of pesticides needed to control riceland mosquitos.

I was informed this morning (April 1) by Carol Finch, that the IPA program for riceland mosquitos has been transferred to the U.S. Department of Agriculture—where no funds will be provided.

Although I understand that this may be a policy question which I will address to USDA, do you have any further comment about the transfer of this important agricultural research program to another department's jurisdiction?

Answer. In its fiscal year 1982 passback on the budget, OMB directed EPA to restrict its IPM research to urban pesticide usage. USDA will conduct IPM research related to agricultural usage. It is EPA's understanding that the "Riceland Mosquito Consortium" has not been funded. EPA believes that this program is important and will cooperate with USDA in the exchange of information to help ensure the success of the program.

Question. In 1978, EPA initiated a 15-university consortium to develop Integrated Pest Management (IPM) strategies for alfalfa, cotton, apples, and soybeans. In 1980, this program helped significantly to reduce the amount of insectide used in the Southwest.

First, how much money is in the revised fiscal year 1982 for the IPM university consortium?

And second, will you detail what activities and research work are projected for fiscal year 1982?

Answer. (1) Because this project will be transferred to the Science and Education Administration (SEA), USDA, EPA has not included any money for the 15-university consortium in our revised fiscal year 1982 budget. EPA provided $400K of fiscal year 1978 resources for research conducted during fiscal year 1979; $3.0M of fiscal year 1979 resources for fiscal year 1980 work; $3.0M of fiscal year 1980 resources for fiscal year 1981 work; and $1.5M of fiscal year 1981 resources matched with $1.5M of fiscal year 1981 from USDA-SEA for fiscal year 1982 for fiscal year 1983 work and $3M in fiscal year 1983 for fiscal year 1984 work (completing the six year project).

(2) During fiscal year 1982 the project, which is funded with fiscal year 1981 resources will continue research leading to the development of IPM strategies for cotton, alfalfa, apples and soybeans. The research program proposed is quite diverse and varies somewhat from crop to crop. However, there are several unifying features that are common to each of the crop components including: (a) determination of the exact pest status (key or secondary) of the harmful organisms affecting each crop: (b) development of economic injury thresholds for as many pests as feasible; (c) development of pest-resistant crop varieties; (d) use of systems analysis to guide and interpret research; (e) use of economic analyses to show cost/benefits to be derived from the new IPM systems; and (f) development of formal linkages between research and Extension pest management pilot programs to speed flow of new technology to farmers.

Work year 1982 will be the third year of full funding at the $3 million level. Consequently, many of the basic research studies will be completed and we can anticipate that innovative control tactics will be available and ready for integration into cost-effective, environmentally sound and energy-efficient IPM strategies. The final two years (work years fiscal years 1983 and 1984) will see the full scale testing and evaluation of new developed IPM strategies, including a better understanding of the environmental benefits associated with IPM programs.

Conditional Registration

Question. "Conditional registration" of pesticides allows the Environmental Protection Agency to introduce new products similar to those registered.

Late last summer, Louisiana began treating 37,000 acres of grassland in a new attempt to control one of the South's most dreaded insects—the fire ant. The joint Federal/State effort used "Amdro," a new pesticide development to replace Mirex, a chemical banned four years ago because it accumulated in crabs and shellfish.

Will you give us an update on EPA's successes with Amdro in the Southern states which need to control fire ants?

Answer. On August 20, 1980 EPA conditionally registered Amdro for control of imported fire ants in several Southern states. The pesticide was conditionally registered because it was relatively safe to apply and effective, according to results submitted by the manufacturer and USDA. Four years of extensive field testing under experimental use testing by USDA and extensive private and commercial use under the USDA Cooperative Imported Fire Ant Program have shown that Amdro is an effective toxicant against the imported fire ant. Application in the recommended formulation at the recommended rate can achieve up to 90 percent kill. USDA has recommended the pesticide for both aerial and ground application. Studies to date have shown that Amdro is not likely to have adverse effects on man or environment. The manufacturer (American Cyanamid) is complying with the schedule for submission of outstanding data as stipulated in the conditional registration notice.

Mr. Boland. Mr. Coughlin has several questions to be answered for the record at this point.

[The questions and answers follow:]

Toxic Substances

Question. How many substances does EPA anticipate regulating under the Toxic Substances Control Act (TSCA) in fiscal year 1981 and how many will it regulate under TSCA during fiscal year 1982?

Answer. EPA plans to develop the supporting documentation needed to evaluate five chemicals for possible control action in fiscal year 1981 and three chemicals in fiscal year 1982. In addition, we plan to begin the development of risk/benefit options analyses on eight chemicals in fiscal year 1981 and eight additional chemicals in fiscal year 1982.

Question. Since the Abatement, Control and Compliance budget function is due for a reduction in fiscal year 1982, are the goals for toxic regulation realistic, given the imperative need to balance toxic risks with the need to determine whether the risk is indeed unreasonable?

Answer. An important goal of the TSCA program is to protect human health and the environment by controlling existing chemical substances that present unreasonable risks of injury to health or the environment. Toward this end, the Agency must identify chemicals that produce unreasonable risks (as required by TCSA), based upon evaluation of health, environmental, social, and economic factors. EPA's approach is to develop a perspective on the risks of chemicals and identify related segments of industry on which we should concentrate risk reduction analyses. This

effort encompasses chemicals on the TSCA Inventory, including a limited number of chemicals brought to our attention through ad-hoc means, such as Section 8(e) substantial risk notifications. Thus, EPA will have a basis for setting priorities for dealing with existing chemicals. This information will be of value to other EPA programs and to industry in its efforts to identify and address unreasonable risks. The budget reductions in fiscal year 1982 will not affect the goals of the program but will affect the number of chemicals evaluated.

EPA Plans for Abatement of Asbestos in Schools

Question. What is the anticipated time frame for proposing the rule to effect abatement of exposure to friable asbestos in schools? (TS–18)

Answer. During EPA's initial assessment of the problem, the Agency noted that schools were often acting without sufficient knowledge of the problem, and that technical advice and assistance were necessary. In some schools, for example, material which did not contain asbestos was removed unnecessarily at considerable expense; in others, acute asbestos problems were ignored. Accordingly, EPA's first action was the initiation of a non-regulatory Technical Assistance Program designed to help local education agencies control the problem of asbestos in schools, while allowing the Agency to gather information to determine whether regulation was necessary.

In September 1980, EPA proposed regulations under TSCA Section 6 which would require local education agencies to inspect school buildings for friable materials, to have friable materials analyzed to determine whether they contain asbestos, to notify teachers and parents of the results of the inspection and analysis, and, where friable asbestos-containing materials exist, to direct custodians to take simple steps to reduce asbestos contamination. EPA plans to promulgate this regulation this coming summer.

EPA's regulation would not require local education agencies to take the expensive step of removing asbestos, isolating it behind barriers, or encapsulating it with a sealant. However, the simple precautionary measures for custodians will reduce asbestos contamination significantly, and we anticipate that a number of local education agencies will take corrective action once problems have been identified. EPA is considering requiring that certain asbestos-containing materials which do present problems be removed or otherwise controlled.

Cost and Effectiveness of CSIN

Question. I notice that you intend to expand the number of users of your Chemical Substances Information Network and the number of systems accessible through the network as well as institute a system of user charges during 1982.

How much was spent developing the CSIN network, including computer software and hardware, what is the present cost of operating the CSIN system, and what amount of user charges does EPA anticipate initiating?

Answer. CSIN is a user-oriented network designed to make data and information on chemical substances available to scientists and managers with research and/or regulatory responsibilities in private industry, academia and Federal and State Governments. Development of the system has been scheduled to progress via the following stages: (1) Preprototype, (2) Prototype, and (3) Full scale system. Current tests of the CSIN Preprototype and Prototype effectively demonstrate that CSIN saves time, reduces costs and promotes interagency sharing of data. For example, a search for specific effects of 1150 different chemicals that would normally take three and one-half months was completed in six days using CSIN.

Since 1977 a total of $2,860,000 has been spent on the development of CSIN. This includes the early requirements and initial concept studies. The following organizations have helped fund CSIN development, these include: EPA, National Library of Medicine (NLM), Department of Health and Human Services (DHHS)—Committee to Coordinate Environmental and Related Programs (CCERP), Consumer Product Safety Commission (CPSC), and the Council on Environmental Quality (CEQ). The National Toxicology Program of DHHS and the United States Coast Guard, through the Department of Transportation, are expected to be involved and contribute to the project this fiscal year.

The Prototype or experimental phase of CSIN has been available for only two months; thus it is difficult to accurately estimate operational costs. However, we estimate that approximately $200,000 will be required for lease of the network's management computer and use of commercial telecommunication networks for the next ten months.

Users during the experimental phase of CSIN operation (1981–1982) will be charged for the cost of:

(*a*) using a commercial or public information resource;
(*b*) using a telecommunication network;
(*c*) processing queries through the CSIN management computer; and
(*d*) using the National Technical Information Service (NTIS) as CSIN's billing agent.

The necessary agreements between NTIS and Network Administration as well as the billing capabilities of the CSIN management computer will be in place by the end of fiscal year 1981. Charges (*a*) and (*b*) are commercial charges independent of CSIN, and will remain the same. Charges (*c*) and (*d*) will be established by the end of 1981. By the end of 1981, users will assume the costs of (*a*), (*b*), (*c*) and (*d*).

Question. Who uses the systems and what percentage of operating costs will the user assume?

Answer. The present users of CSIN are EPA, NLM, Computer Corporation of America (development contractor), and Bolt, Beranek and Newman (user support office contractor). By the end of calendar year 1981, 20 additional organizations, representing government (Federal and State), academe and the private sector, will be involved in testing the Prototype CSIN as users. User organizations will be assuming costs associated with operations, maintenance and support by the end of 1982, and CSIN should be fully self-sufficient in these areas by the end of 1983. However, we anticipate that additional development work may be required in 1983, in order to respond to user requirements.

Superfund

Fiscal Year 1982 Request for the Hazardous Response Trust Fund

Question. Under Section 221(b) (2) of the Superfund statute, a 12.5 percent Federal contribution of $44 million each year for fiscal years 1981 through 1985 is authorized. This requires an annual appropriation and I assume either all or part of this annual $44 million is being requested for fiscal year 1982. Am I correct and how much of this $44 million is reflected in your request and under which budget category does it fall?

Answer. In fiscal year 1982 the Agency has requested a total of $28 million under Section 221(b) (2) of the Superfund statute. These funds will be appropriated from general revenues to the Hazardous Response Trust Fund. These amounts are not reflected in any of the specific budget categories. Rather, they are included in the $200 million in budget authority the Agency has requested for fiscal year 1982.

Industry Tax Subject to the Appropriations Process

Question. A bit more cloudy, however, is the issue of whether or not the Administration would also make the 87.5 percent of tax revenue gained from the fees on chemical manufacturers subject to the appropriations process. It appears that the Administration has adopted the original positions of the Department of the Treasury and the Office of Management and Budget which held that all Superfund funds, including the tax revenues, must be appropriated each fiscal year. Am I correct in this assumption, given the request for $268 million in fiscal 1982?

Answer. In both the $68 million 1981 supplemental and the 1982 $200 million request, the Agency is proceeding under the assumption that all funds derived from taxes levied against chemical manufacturers are subject to the annual appropriations process.

Assumption of Liability by the Post-closure Liability Fund

Question. This new statute also includes a $200 million "Post-closure Liability Fund," designed to provide a form of insurance for waste-dump owners. Specifically, under this provision, the Fund would assume an owner's liability for releases occuring after closure of the dump if it had been operated and closed in accordance with all Governmental regulations. How does EPA feel about the postclosure section of the law and, in its preliminary research, has it discovered any dumps which would fall under this category?

Answer. At present, sites can only be permitted under the Solid Waste Disposal Act for interim status. Should an interim status site apply for closure today, a 180 day review period must be undertaken before closure could be granted. However, since the interim status sites have undergone little review, it is likely that a longer period will be needed before closure would be granted. In July of 1981 the final permitting of sites under Subtitle C of the Solid Waste Disposal Act will begin with some sites receiving their final operating permits as early as the fall of 1982. Should a site apply at that time for closure it would require a further period for monitoring before closure would be granted. When a site is closed in accordance with the

regulations of Subtitle C, the Superfund legislation requires that the site be monitored for a period of up to five years to insure that there is no substantial likelihood of danger to the public. Only at this point can liability be transfered to the Post-closure Liability Fund. Accordingly, it is very unlikely that the liability for any sites will be transferred to this Fund before September 30, 1983, when the tax on hazardous substances for the Fund will begin. In the meantime, studies of alternatives to the Post-closure Liability Fund will be undertaken, as mandated by the legislation.

Use of Contractors Under Superfund

Question. Aside from the Love Canal incident, EPA has relatively little experience in cleaning up hazardous substance releases. It would seem possible then that the Agency will have to depend heavily on outside consultants and contractors to assist in this work. What kind of supervision and control will EPA have over the consultants and contractors and is there any cost estimate available on how much this function might run?

Answer. Most of the work to be performed under Superfund will be performed by contractors, but this is due to the nature of that work rather than the EPA's level of experience. Being a direct cleanup, containment and removal program, Superfund involves intensive engineering and construction type activities using heavy equipment at locations throughout the country. The Superfund program has been designed to employ contractors to do this work, which will be a more efficient use of resources than for the Agency to invest the capital that would be required to develop these capabilities itself.

The contracts to perform this work are subject to the standard bidding, procurement, oversight and accountability requirements that any EPA contract is subject to. There is also a highly skilled On-Scene Coordinator designated for each site and spill to personally manage the contracts at that site on a day-to-day basis. The On-Scene Coordinator reports to and is directed by the Regional or National Response Team, which is made up of response experts from the various Federal Agencies and State governments involved. In addition, the Agency has requested 13 permanent workyears for the Office of the Inspector General to assure proper administration of fund disbursements and to report to Congress on this matter as the act requires. In all, approximately 75 percent of the permanent workyears will be devoted to the award, supervision, general management and review of contracts.

Superfund Will Employ Practical Engineering Solutions

Question. Given the newness of this program, I am somewhat concerned that, in determining how clean is clean, the Agency may choose "gold plated" cleanups. As you recall, a similar battle was fought over EPA's Wastewater Sewage Treatment Construction Grants and in the past, the House Appropriations Committee placed limitations on building sewage treatment plants which perform the highest or "tertiary" form of treatment.

I certainly hope that the Agency does not institute such expensive form of cleanup as tertiary and concentrates on the immediate and environmentally sound treatment. Would you comment therefore on what types of cleanup techniques the Agency is working on?

Answer. With the large number of sites warranting remedial action, and the comparatively limited size of the Superfund, the Agency fully recognizes that we cannot afford "gold plated" solutions. Our approach to the remedial action problem is geared to finding practical engineering solutions. We plan to set cleanup goals that are consistent with criteria established by governmental regulatory programs intended to protect public health and the environment. We will accomplish these goals by applying proven, existing technologies to the maximum extent practicable. We will also place emphasis on phasing, or segmenting projects at sites so that the most critical problems are solved first, i.e., situations directly impacting public health and environmentally sensitive areas. Finally, we will insist that all remedial options for a particular site undergo rigorous analysis to ensure that the selected remedy is cost effective.

Specific types of remedial actions currently being pursued include: seepage collection and treatment systems to control leachate from disposal areas, grout curtains and clay caps to minimize infiltration of surface runoff and groundwater, groundwater collection and treatment systems to control the subsurface migration of contaminants, and draining and securing waste lagoons. Other technologies available to the Agency include: surface water diversion systems; impermeable barriers; treatment systems for contaminated surface water, groundwater, soils and sediments; gas migration control sytems; in-place chemical fixation or encapsulation of wastes; and off-site storage, treatment, destruction or secure disposal.

Question. Section 111 of the Superfund law details the uses of the Fund. In general, the Fund may be used to pay the costs incurred by the government and individuals in responding to releases and potential releases of hazardous substances. The Fund may also be used for:

(a) Administrative costs "where reasonably necessary for and incidental to the implementation" of the new law.

(b) Costs of assessing damage to natural resources and restoration and rehabilitation.

(c) Costs of a program to identify, investigate, and take enforcement and abatement action against releases of hazardous substances.

(d) Costs of epidemiological studies, development of a registry of "persons exposed to hazardous substances" and diagnostic testing.

(e) Costs of equipment "and similar overhead" related to the purposes of the Act.

(f) Costs of maintaining "damage assessment capability" by Federal agencies.

(g) The Fund may not be used for general remedial costs at Federally-owned facilities.

The present scope of the Hazardous Substances Response Trust Fund is clearly larger than the original driving force of cleaning up "orphan" dump sites. Although the list is law, it was attached in Congress as giving carte blanche to EPA. A December 3, 1980 letter from the former EPA Administrator, Douglas M. Costle, responded to critics with promises that the Agency would be prudent. Despite these assurances, however, I am concerned that the Fund will be misspent and that money necessary for cleanup will instead be spent on administrative overhead and studies.

Admittedly, this is a long question, but I do want to be assured on the financial allotment cleanup will have versus administrative overhead and studies. Could you provide me with specific dollar amounts and percentage allotments, for cleanup activities, research and development of cleanup techniques, administrative overhead, and anticipated research and proposed hazardous substance release studies?

Answer. The breakout of direct cleanup, direct research and development, studies for Congress and administration costs are shown below, along with a brief explanation of what is included in each category:

	Amount	Percent
Direct cleanup	$143,692	71.8
Direct research and development	11,914	6.0
Studies for Congress	3,500	1.8
Administration	40,894	20.4
Total	200,000	100.0

Direct cleanup.—This category is composed of contracts for the investigation, assessment, evaluation, enforcement, and cleanup of actual sites and spills; the payment of claims for clean-up costs and for assessing and replacing natural resources damage; health and safety training; equipment; and necessary laboratory relocations and constructions. It does not include management support contracts or salaries and expenses necessary to support requested personnel.

Direct research and development.—This category includes only those contract costs directly associated with the development of state-of-the-art techniques and technologies for removal and remedial action, protocols for the handling of hazardous substances, personnel safety equipment, and related research and development activities in support of the program.

Studies for Congress.—This category includes only those costs associated with the studies that the law requires be done for Congress. (This would normally be considered an administrative cost).

Administrative.—This category includes all administrative costs necessary for and devoted to the implementation of the program. Among these costs are those for all EPA personnel directly involved in the implementation of the program; supplies and materials; communication; and printing. The request does not include any workyear overhead, i.e., there will be no charges made to the fund for the time and effort spent by senior agency managers, such as the Administrator and Regional Administrators, whose responsibilities include more than Superfund activities.

Liaison With International Joint Commission

Question. It seems to me that when we look at the escalating costs to build and operate sewage treatment plants, we are talking about a number of contributing

factors that are not necessarily always that obvious, let me cite an example of what I mean.

It is my understanding that a March 1981 report by the International Joint Commission (which oversees the Great Lakes Water Quality Agreement between Canada and ourselves), whose recommendations have great influence on states such as my own, recommends that wastewater treatment plants in the Lakes Erie and Ontario basins go below the current 1ppm phosphorus effluent discharge guideline to .5ppm.

Now the IJC itself acknowledges that billions have been spent on phosphorus control in the Great Lakes region over the last ten years (see attached)—much on the construction of sewage treatment plants—without yet coming to grips with the real benefits of phosphorus reductions to the lakes—which have been sustantial.

The incremental costs of the proposed ratcheting of the current 1ppm effluent guideline to .5ppm—I am told—for the Detroit sewage plant alone are $50–$75 million dollars. While phosphorus removal is relatively inexpensive compared with other kinds of sewage treatment, the costs of going from say 4ppm to 1ppm are less than taking out the additional .5ppm so we can have distilled water.

Using this as one example, my question is does the EPA, or will the EPA, in its liaison with the IJC urge consideration of the comparative cost effectiveness of non-point source controls or urge the IJC to do some sort of cost analysis on this and similar recommendations? Given the sort of budgetary constraints we now face this sort of thing is going to have to occur . . . . am I right?

Answer. The governments of the U.S. and Canada, in signing the Great Lakes Water Quality Agreement of 1978, recognized that further phosphorus controls might be necessary to abate accelerated eutrophication of Lakes Erie, Ontario, and selected nearshore areas such as Saginaw Bay and Green Bay. However, the Parties further recognized that the scientific and socio-economic data necessary to make such a policy decision were not at that time available. Hence, the governments deferred confirming the target loads contained in Annex 3 until May 22, 1981 when they would have the advice and recommendations of the International Joint Commission (IJC) and its Boards and Reference Groups.

The referenced IJC Report dated January 30, 1981, and entitled "On Phosphorus Management Strategies" does not recommend that the governments immediately reduce phosphorus effluent limits for municipal treatment plants to the 0.5 mg/1 level. While the IJC report states that it has received no additional definitive information to justify departing from the fundamental finding that further point and nonpoint source controls are necessary, the report notes that there are several scientific and policy questions which require further study before such a basinwide point source limitation could be imposed. These include: the impact of current programs (i.e., how the lakes respond when all plants over 1 MGD reach the 1 mg/1 effluent limit); the biological availability question (i.e., how much of the phosphorus entering the lakes is actually used by algae); the uncertainty of the mathematical models; and the socio-economic considerations.

The governments and USEPA as the principal U.S. Agency responsible for Great Lakes pollution control have reviewed and analyzed the advice received from the IJC, the States, public interest groups and the private sector. Based on that advice and the Agency's own evaluation, USEPA representatives under the leadership of the Department of State, are now conducting negotiations with the government of Canada in order to meet the May 22, 1981 deadline.

While no final agreement has been reached by the two governments on these matters, USEPA has under consideration the following general recommendations:

(1) that efforts be accelerated to meet current obligations to achieve 1 mg/1 at all major plants,

(2) that low or no cost agricultural tillage practices be implemented to control nonpoint sources of phosphorus pollution,

(3) that a basinwide limitation on phosphate detergents be continued or instituted where not in place,

(4) that Great Lakes water quality continue to be monitored to determine the effects of current programs; and

(5) that no decision be made to impose further controls on municipal plants until such time as the affect of the above mentioned programs have been thoroughly evaluated. This evaluation will include an analysis of costs as well as environmental benefits.

Mr. BOLAND. Mr. Alexander has a few questions, which I will insert in the record at this point.

[The questions and answers follow:]

MOSQUITO RESEARCH

Question. EPA has been funding research into mosquito population control under Grant No. CR 806771-01, involving the University of Arkansas, University of California-Berkeley, University of California-Davis, Louisiana State University, Mississippi State University, and Texas A&M University. Please summarize for the Committee the status of this research and the funding that has been invested in it.

Answer. The first (fiscal year 1980) work year of the five-year "Riceland Mosquito Research Project," CR-806771, was funded with $400,000 of fiscal year 1979 resources. The work in fiscal year 1980 was completed and the first year annual report will be submitted by May 15, 1981. The second (fiscal year 1981) work year was funded with $500,000 of fiscal year 1980 resources. Work is on schedule and a second-year six month progress report will be submitted by May 15, 1981. The third (fiscal year 1982) work year will be funded with $500,000 of fiscal year 1981 resources. The recipient is preparing the continuation funding package at this time and funding will be consumated by June 30, 1981.

Question. Does the reference in your justification concerning the shift of responsibilities for agricultural Integrated Pest Management research from EPA to USDA include a shift of the mosquito research project?

Answer. The shift of responsibilities for agricultural related IPM research included the riceland mosquito management project (CR-806771), since this project is related to the control of mosquito in rice production systems. Mosquito populations breeding in rice production systems can cause problems with livestock production, farming operations, and surrounding human populations. The IPM strategies under development should render riceland unsuitable for mosquitoes, yet keep the land highly productive for agricultural purposes.

Question. This mosquito research project is a multi-year project. What is the anticipated completion date?

Answer. The "Riceland Mosquito Management Project" was originally scheduled as a five-year project, from 10/1/79 to 9/30/84. The anticipated completion date was 9/30/84. EPA will now terminate the project on 9/30/82.

Question. Under the project plan as it was originaly initiated, what would be the Federal share of the cost in fiscal year 1982, fiscal year 1983, and fiscal year 1984?

Answer. The Federal share of the cost for fiscal years 1982, 1983 and 1984 under the original project plan would be: fiscal year 1982—$500,000; fiscal year 1983—$500,000 and fiscal year 1984—zero.

Mr. BOLAND. Well, that winds it up—you will enjoy your weekend. Walt, you are faced with "unsurmountable opportunities," but do the best you can. Thank you all very much for being here.

The Committee is adjourned. We will place the justifications in the record at this point.

[The justifications follow:]

ENVIRONMENTAL PROTECTION AGENCY

1982 Budget Estimate

Table of Contents

	Page
Summary	I
Air	A-1
Abatement and Control:	
Air Quality and Stationary Source Planning and Standards	A-14
Mobile Source Standards and Guidelines	A-21
State Program Resource Assistance	A-30
Air Quality Strategies Implementation	A-36
Mobile Source Preproduction Compliance Verification	A-41
Trends Monitoring and Progress Assessment	A-46
Enforcement:	
Stationary Source Enforcement	A-41
Mobile Source Enforcement	A-46
Research and Development:	
Oxidants	A-49
Mobile Source	A-81
Gases and Particles	A-89
Hazardous Air Pollutants	A-66
Water Quality	WQ-1
Abatement and Control:	
Water Quality Planning and Standards	WQ-17
Effluent Standards and Guidelines	WQ-31
Grants Assistance Programs	WQ-39
Water Quality Strategies Implementation	WQ-46
Water Quality Monitoring and Analysis	WQ-62
Municipal Source Control	WQ-68
Enforcement:	
Permit Issuance	WQ-82
Water Quality Enforcement	WQ-87
Research and Development:	
Water Quality	WQ-93
Industrial Wastewater	WQ-114
Municipal Wastewater/Spill Prevention	WQ-125

Drinking Water DW-1
- Abatement and Control:
  - Criteria, Standards, and Guidelines DW-11
  - State Program Resource Assistance DW-17
  - Drinking Water Management DW-21
- Enforcement:
  - Drinking Water Enforcement DW-24
- Research and Development:
  - Drinking Water DW-31

Hazardous Waste HW-1
- Abatement and Control:
  - Waste Management Regulations, Guidelines, and Policies HW-12
  - Financial Assistance HW-25
  - Waste Management Strategies Implementation HW-31
  - Technical Assistance HW-39
  - Uncontrolled Hazardous Waste Sites HW-44
- Enforcement:
  - Hazardous Waste Enforcement HW-48
- Research and Development:
  - Hazardous Waste Non-Energy (RCRA) HW-58

Pesticides P-1
- Abatement and Control:
  - Registrations and Tolerances P-11
  - Standards Setting and RPAR P-19
  - Federal and State Program Support P-24
- Enforcement:
  - Pesticides Enforcement P-29
- Research and Development:
  - Pesticides P-31

Radiation R-1
- Abatement and Control:
  - Radiation Policy Council R-10
  - Criteria, Standards, and Guidelines R-12
  - Environmental Impact Assessment R-14
  - Program Implementation R-20
- Research and Development
  - Nonionizing Radiation R-22

Noise N-1
- Abatement and Control:
  - Environmental Noise Strategies and Standards N-7
  - Noise Program Strategies Implementation N-13
- Enforcement:
  - Noise Enforcement N-21

	Page
Interdisciplinary	I-1
Abatement and Control:	
Environmental Impact Statements	I-7
Energy Review and Permitting	I-11
Research and Development:	
Intermedia Program	I-13
Toxic Substances	TS-1
Abatement and Control:	
Toxic Substances Strategies	TS-11
Enforcement:	
Toxic Substances Enforcement	TS-25
Research and Development:	
Chemical Testing and Assessment	TS-30
Energy	E-1
Research and Development:	
Multi-Media	E-11
Oxidants	E-32
Hazardous Pollutants	E-39
Gases and Particles	E-49
Water Quality	E-61
Drinking Water	E-68
Industrial Waste Water	E-71
Hazardous Waste (RCRA)	E-74
Toxic Chemical Testing and Assessment	E-77
Municipal Spills	E-82
Management and Support	MS-1
Management	MS-4
Support	MS-16
Buildings and Facilities	BF-1
Scientific Activities Overseas	SAO-1
U.S. Regulatory Council	RC-1
Construction Grants	CG-1
Comprehensive Environmental Response Compensation Liability Fund (Superfund)	SF-1
Special Analyses	
Table of Contents	SA-1

ENVIRONMENTAL PROTECTION AGENCY

BUDGET SUMMARY

The U. S. Environmental Protection Agency's 1982 budget proposal totals are $1,391,447,000 and 10,387 permanent workyears. The proposal includes 1,191,447,000 for the Agency's operating programs, and $200 million and 503 permanent workyears to implement the newly enacted Hazardous Substance Response Trust Fund (Superfund). No new budget authority is requested for the municipal waste treatment facilities construction programs. Excluding Superfund these totals constitute a decrease of $166 million and 737 permanent workyears for the 1982 operating program, and $2,304,837,000 for construction grants. The budget also requests supplemental authority of $6 million in 1981 for the costs of the 1981 pay raise.

A significant change in the 1982 budget is the request for implementation of Superfund. The Superfund legislation was passed in December 1980 to provide a means to control and clean up hazardous substance spills, to mitigate and contain the release of hazardous waste from abandoned and inactive disposal sites, and to pursue claims and enforcement activities against liable parties. A 1981 budget supplemental of $68 million is being requested for development of the program and initial implementation activities. The 1982 budget requests additional resources of $132 million and 503 permanent workyears to support the program in its first full year of operation.

1. Appropriation Summary

A summary of budget authority for EPA's eight appropriation accounts is as follows:

EPA's Request by Appropriation Account

Appropriation	1981 Current Estimate	1982 Budget Estimate
Salaries & Expenses	$ 561,693,900	$ 582,769,000
Abatement, Control & Compliance	538,494,000	413,928,000
Research & Development	250,835,700	190,635,000
Scientific Activities Overseas	...	...
Building & Facilities	4,115,000	4,115,000
U.S. Regulatory Council	2,560,000	...
Operating Programs Subtotal	1,357,698,600	1,191,447,000
Construction Grants	2,304,837,000	...
Hazardous Substance Response Trust Fund	68,000,000	200,000,000
Total	3,730,535,600	1,391,447,000

The following briefly describes the content of each appropriation and the changes requested within each from the Agency's current 1981 estimates.

Salaries and Expenses

EPA requests an increase of $21,075,100 for its Salaries and Expenses appropriation which finances salaries and related costs associated with administering the programs within the Environmental Protection Agency. It incorporates all costs exclusive of grant programs and program-specific contractual agreements. The increase provides funds for inflationary increases in rent, maintenance and other administratively - related activities. In 1982, major emphasis includes continuation of the development of a toxics integration strategy, and increased resources for enforcement activities across several media.

Abatement, Control and Compliance

The Abatement, Control and Compliance appropriation finances contracts, grants, and cooperative agreements for pollution abatement, control and compliance activities. EPA requests a decrease of $124,566,000 in 1982 for this appropriation which reflects the elimination of Section 208 Areawide Waste Treatment Planning Grants, Solid Waste Grants, Resource Recovery Grants, and Clean Lakes Grants. Other decreases are due to reductions in contracting for effluent guidelines, water quality management, noise, and radiation.

Program priorities include increase for hazardous waste grants, pesticides RPAR reviews, and energy review and permitting.

Research and Development

The 1982 budget decreases the Research and Development appropriation by $60,200,700 to $190,635,000. This decrease primarily occurs because of a shift in emphasis away from water quality and energy-related research and development activities. Major program emphasis include acid rain and groundwater protection.

Scientific Activities Overseas

The Scientific Activities Overseas appropriation finances payments in foreign currencies, which the Treasury Department determines to be excess to the normal requirements of the United States, for necessary expenses of the Environmental Protection Agency. Excess foreign currencies, derived through sales of surplus agricultural commodities and other sources, support cooperative environmental pollution research and demonstration programs overseas. No new budget authority is being requested for this activity in 1982, but the program will continue using carryover funds.

Buildings and Facilities

EPA requests $4,115,000 for the Building and Facilities appropriation which finances the construction, repair, improvement, extension, alteration, and purchase of fixed equipment of facilities owned, as well as existing facilities occupied by the Environmental Protection Agency. The funds in 1982 will help correct health and safety deficiencies in EPA laboratories and modify several labs to permit high hazardous sample testing.

U. S. Regulatory Council

The U. S. Regulatory Council appropriation finances the salaries and expenses of the U. S. Regulatory Council and its staff. The Council, established in October of 1978 at the direction of the President, is composed of the heads of those agencies within the Executive Branch that have regulatory responsibilities. No new budget authority is requested for this appropriation in 1982, but preparation of the Calendar of Federal Regulations will be transferred to the Salaries and Expenses Appropriation.

Construction Grants

The Construction Grants appropriation is for grants to local public agencies for construction of municipal wastewater treatment facilities to assist States and localities in attaining and maintaining water quality standards.

The 1982 budget requests no new budget authority for the municipal wastewater facilities construction grants program. If the President's proposed legislation changes are enacted, the Administration will request $2,400,000,000 for the Construction Grant program in 1982. This request, in addition to more then $2.4 billion available from prior year appropriations, will provide more than $6.1 billion for obligation in 1982.

Hazardous Substance Response Trust Fund

The 1982 budget requests $200,000,000 to support the first full year of operation for the newly enacted Hazardous Substance Response Trust Fund (Superfund). In 1982, these funds will be dedicated to responding to priority hazardous substance sites and spills, assessing natural resource damage and restoration techniques, and operations support activities.

Summary of Budget Authority,
Obligations, Outlays and Permanent Workyears
By Appropriation
(dollars in thousands)

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982
Research and Development				
Budget Authority	$233,481	$264,984	$250,836	$190,635
Obligations	236,888	263,000	248,336	188,509
Outlays	277,218	255,000	229,900	213,000
Permanent Workyears	...	...	...	...
Full-time Equivalency	...	...	...	...
Abatement, Control and Compliance				
Budget Authority	506,430	555,338	538,494	413,928
Obligations	573,518	542,931	534,844	418,940
Outlays	477,606	406,740	494,190	465,000
Permanent Workyears	...	...	...	...
Full-time Equivalency	39	72	55	...
Salaries and Expenses				
Budget Authority	524,773	562,542	561,694	582,769
Obligations	522,137	562,542	561,694	582,769
Outlays	471,062	529,000	547,052	614,122
Permanent Workyears	10,572	11,162	10,547	9,825
Full-time Equivalency	12,940	13,659	12,977	12,209
Buildings and Facilities				
Budget Authority	2,177	4,115	4,115	4,115
Obligations	1,667	3,000	4,300	4,839
Outlays	1,592	2,500	2,500	3,700
Construction Grants				
Budget Authority	3,400,000	3,700,000	2,304,837	...
Obligations	4,673,011	4,500,000	3,500,000	1,100,000
Outlays	4,343,010	3,950,000	4,180,000	3,840,000
Scientific Activities Overseas				
Budget Authority	...	1,000	...	...
Obligations	28	1,200	2,500	805
Outlays	2,053	3,000	2,700	1,300
Operations, Research and Facilities				
Obligations	917	800	1,669	...
Outlays	2,890	3,200	3,200	2,000
Permanent Workyears	...	...	...	...
Full-time Equivalency	...	...	...	...
Revolving Fund				
Obligations	580	580	650	700
Outlays	-92	50	50	100
Permanent Workyears	...	...	...	...
Full-time Equivalency	...	...	...	...

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982
Enforcement				
Outlays	25,411	...	6,812	...
Regulatory Council				
Budget Authority	2,538	3,338	2,560	...
Obligations	2,449	3,338	2,560	...
Outlays	1,869	2,800	2,110	1,030
Permanent Workyears	9	11	11	...
Full-time Equivalency	33	26	26	...
Trust Funds				
Budget Authority	16	...	...	...
Obligations	4	25	20	25
Outlays	7	20	20	20
Reimbursements				
Obligations	24,781	...	30,000	30,000
Permanent Workyears	58	64	63	59
Full-time Equivalency	66	73	72	68
Consolidated Working Fund				
Obligations	...	...	...	...
Outlays	...	10	17	...
Hazardous Substances Response Trust Fund				
Budget Authority	...	250,000	68,000	200,000
Obligations	...	250,000	68,000	200,000
Outlays	...	45,000	17,000	84,000
Permanent Workyears	...	...	...	503
Full-time Equivalency	...	...	...	584
Total, Environmental Protection Agency				
Budget Authority	4,669,415	5,341,317	3,730,536	1,391,447
Obligations	6,035,980	6,127,416	4,954,573	2,526,585
Outlays	5,602,626	5,197,320	5,485,551	5,224,272
Permanent Workyears	10,639	11,237	10,621	10,387
Full-time Equivalency	13,078	13,830	13,130	12,861

Summary of Budget Authority
Obligations, Outlays and Permanent Workyears
By Media
(dollars in thousands)

	Actual 1980	Budget* Estimate 1981	Current Estimate 1981	Estimate 1982
		(dollars in thousands)		
Air				
Budget Authority	247,766	252,126	246,523	239,123
Obligations	290,059	248,470	244,735	236,674
Outlays	266,524	211,500	268,669	266,257
Permanent Workyears	1,908	1,932	1,788	1,766
Full-time equivalency	2,312	2,315	2,136	2,062
Water Quality				
Budget Authority	333,592	338,798	337,680	247,333
Obligations	344,918	328,084	336,262	248,227
Outlays	362,476	285,300	380,453	378,677
Permanent Workyears	3,034	3,055	2,789	2,426
Full-time equivalency	3,625	3,719	3,397	3,021
Drinking Water				
Budget Authority	75,053	88,152	82,893	87,666
Obligations	82,392	85,830	82,368	89,192
Outlays	69,333	74,000	67,509	66,353
Permanent Workyears	489	551	513	514
Full-time equivalency	581	653	619	636
Hazardous Waste				
Budget Authority	95,517	147,798	151,364	119,801
Obligations	109,775	145,000	149,619	123,227
Outlays	77,533	125,500	78,502	77,583
Permanent Workyears	484	778	812	658
Full-time equivalency	617	994	1,037	887
Pesticides				
Budget Authority	69,990	74,617	69,669	62,069
Obligations	70,513	73,156	69,307	63,060
Outlays	67,709	63,000	63,892	63,320
Permanent Workyears	1,017	925	885	818
Full-time equivalency	1,150	1,050	995	934
Radiation				
Budget Authority	16,603	17,860	17,188	12,888
Obligations	15,329	17,562	17,188	12,888
Outlays	11,638	15,100	14,247	15,705
Permanent Workyears	192	268	186	160
Full-time equivalency	221	310	221	191
Noise				
Budget Authority	12,719	12,927	13,045	2,271
Obligations	12,411	12,767	13,045	2,271
Outlays	11,829	11,000	12,505	12,060
Permanent Workyears	97	99	90	29
Full-time equivalency	152	153	134	43

	Actual 1980	Budget* Estimate 1981	Current Estimate 1981	Estimate 1982
		(dollars in thousands)		
Interdisciplinary				
Budget Authority	26,322	10,697	10,621	15,304
Obligations	12,196	27,241	10,268	14,378
Outlays	27,509	23,200	28,056	30,602
Permanent Workyears	116	120	120	134
Full-time equivalency	137	146	145	168
Toxic Substances				
Budget Authority	88,146	109,492	103,992	98,153
Obligations	90,237	104,691	104,033	97,577
Outlays	59,163	90,200	60,991	63,500
Permanent Workyears	592	775	727	738
Full-time equivalency	741	894	880	843
Energy				
Budget Authority	100,618	110,994	104,939	70,146
Obligations	103,410	106,268	104,939	70,146
Outlays	137,420	105,000	116,132	109,264
Permanent Workyears	152	152	141	145
Full-time equivalency	238	256	243	244
Management and Support				
Budget Authority	198,358	219,403	213,110	232,578
Obligations	200,367	219,404	213,110	232,578
Outlays	160,163	186,940	186,998	208,801
Permanent Workyears	2,491	2,559	2,497	2,437
Full-time equivalency	3,205	3,303	3,226	3,179
Facilities				
Budget Authority	2,177	4,115	4,115	4,115
Obligations	1,667	3,000	4,300	4,837
Outlays	1,592	2,500	2,500	3,700
Operations, Research and Facilities				
Obligations	1,853	800	1,669	...
Outlays	2,890	3,200	3,200	2,000
Construction Grants				
Budget Authority	3,400,000	3,700,000	2,304,837	...
Obligations	4,673,011	4,500,000	3,500,000	1,100,000
Outlays	4,343,010	3,950,000	4,180,000	3,840,000
Scientific Activities Overseas				
Budget Authority	...	1,000	...	...
Obligations	28	1,200	2,500	805
Outlays	2,053	3,000	2,700	1,300
Revolving Fund				
Obligations	580	580	650	700
Outlays	-92	50	50	100

	Actual 1980	Budget* Estimate 1981	Current Estimate 1981	Estimate 1982
		(dollars in thousands)		
Trust Funds				
Budget Authority	16	...	...	...
Obligations	4	25	20	25
Outlays	7	20	20	20
Reimbursements				
Obligations	24,781	...	30,000	30,000
Permanent Workyears	58	12	62	59
Full-time equivalency	66	11	71	68
Regulatory Council				
Budget Authority	2,538	3,338	2,560	...
Obligations	2,449	3,338	2,560	...
Outlays	1,869	2,800	2,110	1,030
Permanent Workyears	9	11	11	...
Full-time equivalency	33	26	26	...
Consolidated Working Fund				
Outlays	...	10	17	...
Hazardous Substance Response Trust Fund				
Budget Authority	...	250,000	68,000	200,000
Obligations	...	250,000	68,000	200,000
Outlays	...	45,000	17,000	84,000
Permanent Workyears	...	...	...	503
Full-time Equivalency	...	...	...	584
Payment to Hazardous Substance Response Trust Fund				
Budget Authority	...	...	9,000	28,000
Obligations	...	...	...	...
Outlays	...	...	9,000	28,000
Total, Environmental Protection Agency				
Budget Authority	4,669,415	5,341,317	3,739,536	1,419,447
Obligations	6,035,980	6,127,416	4,954,573	2,526,585
Outlays	5,602,626	5,197,320	5,494,551	5,252,272
Permanent Workyears	10,639	11,237	10,621	10,387
Full-time equivalency	13,078	13,830	13,130	12,860

*January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Summary of Increases or Decreases
Budget Authority and Permanent Workyears
(dollars in thousands)

	Current Estimate 1981	Estimate 1982	Increase + Decrease -
Research and Development			
Budget Authority	$250,836	$190,635	-$60,201
Abatement, Control and Compliance			
Budget Authority	538,494	413,928	-124,566
Permanent Workyears	...	...	...
Full-time Equivalency	72	...	-72
Salaries and Expenses			
Budget Authority	561,694	582,769	+21,075
Permanent Workyears	10,547	9,825	-722
Full-time Equivalency	12,960	12,208	-752
Buildings and Facilities			
Budget Authority	4,115	4,115	...
Scientific Activities Overseas			
Budget Authority	...	...	...
Reimbursements			
Permanent Workyears	63	59	-4
Full-time Equivalency	72	68	-4
U.S. Regulatory Council			
Budget Authority	2,560	...	-2,560
Permanent Workyears	11	...	-11
Full-time Equivalency	26	...	-26
Subtotal			
Budget Authority	1,357,699	1,191,447	-166,252
Permanent Workyears	10,621	9,884	-737
Full-time Equivalency	13,130	12,276	-854
Construction Grants			
Budget Authority	2,304,837	...	-2,304,837
Oil and Hazardous Liability Fund			
Budget Authority	68,000	200,000	+132,000
Permanent Workyears	...	503	+503
Full-time Equivalency	...	584	+584
Total, Environmental Protection Agency			
Budget Authority	3,730,536	1,391,447	-2,339,089
Permanent Workyears	10,621	10,387	-234
Full-time Equivalency	13,130	12,860	-270

Liquidation of Contract Authority
(in thousands of dollars)

	1980	1981	1982
Construction Grants.....	$1,500,000	$1,700,000	$1,000,000

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AIR

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
				(dollars in thousands)		
Appropriation						
Salaries and Expenses.....	$79,036	$78,022	$79,896	$83,591	+$4,795	
Research and Development.....	40,496	45,557	41,199	35,545	-5,654	
Abatement, Control and Compliance.....	170,527	128,547	126,528	119,987	-6,541	
Total.....	290,059	252,126	246,523	239,123	-7,400	
Permanent Workyears.....	1,908	1,932	1,788	1,766	-22	
Full-time Equivalency.....	2,312	2,315	2,136	2,062	-74	
Outlays.....	266,542	211,500	268,669	266,257	-2,412	
Authorization Levels.....	337,263	270,167	270,167	*		
PROGRAM HIGHLIGHTS						
Oxidants Non-Energy:						A-53
Salaries and Expenses.....	6,160	6,605	5,641	5,732	+91	
Research and Development..	11,328	12,687	10,987	12,341	+1,354	
Hazardous Pollutants Non-Energy:						A-95
Salaries and Expenses.....	4,286	4,018	5,122	5,884	+762	
Research and Development..	6,603	7,775	6,432	4,884	-1,548	
Mobile Sources Non-Energy:						A-69
Salaries and Expenses.....	4,139	4,464	4,421	3,805	-616	
Research and Development..	4,109	4,154	4,408	2,448	-1,960	
Gases and Particles Non-Energy:						A-79
Salaries and Expenses.....	13,301	13,179	11,114	13,461	+2,347	
Research and Development..	18,456	20,941	19,372	15,872	-3,500	
Total, Research and Development Program						
Salaries and Expenses.....	27,886	28,266	26,298	28,882	+2,584	
Research and Development..	40,496	45,557	41,199	35,545	-5,654	
Total.....	68,382	73,823	67,497	64,427	-3,070	

* Authorization pending.

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981	Page
	(dollars in thousands)					
Air Quality and Stationary Source Planning and Standards:						
Salaries and Expenses...	9,263	8,698	9,724	9,818	+94	A-14
Abatement, Control and Compliance.....	28,009	20,218	19,332	15,362	-3,970	
Mobile Source Standards and Guidelines:						
Salaries and Expenses...	7,228	6,820	7,143	7,263	+120	A-21
Abatement, Control and Compliance.....	4,180	4,578	4,577	2,775	-1,802	
State Programs Resource Assistance:						
Salaries and Expenses...	409	419	289	382	+93	A-30
Abatement, Control and Compliance.....	123,370	88,334	88,741	88,396	-345	
Air Quality Strategies Implementation:						
Salaries and Expenses...	9,644	8,655	9,388	9,184	-204	A-36
Abatement, Control and Compliance.....	197	221	259	43	-216	
Mobile Source Preproduction Compliance Verification:						
Salaries and Expenses...	3,147	3,662	3,414	3,577	+163	A-41
Abatement, Control and Compliance.....	287	922	222	584	+362	
Trends Monitoring and Progress Assessment:						
Salaries and Expenses...	4,158	3,883	3,912	4,530	+618	A-46
Abatement, Control and Compliance.....	311	610	578	503	-75	
Total, Abatement and Control Program:						
Salaries and Expenses...	33,849	32,137	33,870	34,754	+884	
Abatement, Control and Compliance.....	156,354	114,883	113,709	107,663	-6,046	
Total.....	190,203	147,020	147,579	142,417	-5,162	

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
			(dollars in thousands)			
Stationary Source Enforcement:						
Salaries and Expenses.....	$13,263	$13,736	$14,029	$16,101	+$2,072	A-53
Abatement, Control and Compliance.....	11,356	10,697	10,009	9,841	-168	
Mobile Source Enforcement:						
Salaries and Expenses.....	4,038	3,883	4,599	3,854	-745	A-59
Abatement, Control and Compliance.....	2,817	2,967	2,810	2,483	-327	
Total, Enforcement Program:						
Salaries and Expenses.....	17,301	17,619	18,628	19,955	+1,327	
Abatement, Control and Compliance.....	14,173	13,664	12,819	12,324	-495	
Total.....	31,474	31,283	31,447	32,279	+832	
Permanent Positions						
Oxidants Non-Energy.....	88	96	78	74	-4	A-53
Hazardous Pollutants Non-Energy.....	78	83	97	93	-4	A-96
Mobile Sources Non-Energy.....	61	59	37	35	-2	A-69
Gases and Particles Non-Energy.....	213	215	172	180	+8	A-80
Total, Research and Development Program	440	453	384	382	-2	
Air Quality and Stationary Source Planning and Standards.....	242	244	242	236	-6	A-14
Mobile Source Standards and Guidelines.....	160	152	136	118	-18	A-21
State Programs Resource Assistance.....	7	6	6	6	...	A-30
Air Quality Management Implementation.....	318	288	275	275	...	A-36
Mobile Source Certification and Testing:.....	69	84	76	60	-16	A-41
Trends Monitoring and Progress Assessment.....	114	116	115	116	+1	A-46
Total, Abatement and Control Program.....	910	890	850	811	-39	

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
			(dollars in thousands)			
Stationary Source Enforcement...	444	471	437	473	+36	A-53
Mobile Source Enforcement.....	115	118	117	100	-17	A-59
Total, Enforcement Program.....	559	589	554	573	+19	
Full-time Equivalency						
Oxidants Non-Energy.....	121	134	106	104	-2	A-54
Hazardous Pollutants Non-Energy.....	99	106	118	117	-1	A-96
Mobile Sources Non-Energy.....	84	83	57	54	-3	A-70
Gases and Particles Non-Energy.....	252	256	206	220	+14	A-80
Total, Research and Development Program.....	556	579	487	495	+8	
Air Quality and Stationary Source Planning and Standards.	276	266	264	257	-7	A-14
Mobile Source Standards and Guidelines.....	215	190	164	153	-11	A-21
State Programs Resource Assistance.....	38	73	56	8	-48	A-30
Air Quality Management Implementation.....	356	313	299	299	...	A-36
Mobile Source Certification and Testing.....	99	107	108	82	-26	A-41
Trends Monitoring and Progress Assessment.....	128	128	127	128	+1	A-46
Total, Abatement and Control Program.....	1,112	1,077	1,018	927	-91	
Stationary Source Enforcement.....	487	507	472	507	+35	
Mobile Source Enforcement.....	157	152	159	133	-26	
Total, Enforcement Program.....	644	659	631	640	+9	

*January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

OVERVIEW AND STRATEGY

The Clean Air Act authorizes a national program of air pollution research, regulation, and enforcement activities. Under the Act, primary responsibility for the prevention and control of air pollution at its source rests with State and local government, with a strong mandate that the Environmental Protection Agency (EPA) take action where States do not fulfill their responsibilities. EPA's role is to conduct research and development programs, ensure that adequate standards and regulations are established to meet environmental goals set by the Act, support State and local control activities, and ensure that the standards and regulations are effectively enforced.

The environmental goals are generally those prescribed by National Ambient Air Quality Standards (NAAQS). Two types of standards are set: primary standards to protect human health and secondary standards to protect the public welfare (prevention of damage to property, animals, vegetation, crop, visibility, etc.). The health and other effects of pollutants are delineated in criteria documents which are the basis for the standards. There presently are National Ambient Air Quality Standards (NAAQS) for total suspended particulates, sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, and lead.

Specific limitations on pollutant emissions necessary to meet NAAQS are prescribed in State Implementation Plans (SIP). These controls are supplemented by federally prescribed national emission standards for new motor vehicles and selected new stationary sources.

In addition to the NAAQS, nationally applicable emission levels are prescribed for other pollutants deemed especially hazardous, and apply to both new and existing pollutant sources. National Emission Standards for Hazardous Air Pollutants (NESHAPs) have been established for asbestos, beryllium, mercury and vinyl chloride from a variety of sources. Benzene, arsenic and radionuclides have been listed as hazardous air pollutants and emission control regulations are under development.

Air program activities have been directed primarily at the attainment and maintenance of NAAQS. Although the combined Federal-State-local effort at controlling air pollution has achieved a notable degree of success in improving ambient air quality across the Nation, many areas have not attained all the standards. The Clean Air Act, as amended in 1977, recognizes this problem and sets forth a comprehensive program for achieving the standards for such areas. In general, the Act requires that the standards be attained by the end of calendar year 1982. However, in recognition of the unusual problems some areas have in attaining the standards for ozone and carbon monoxide, attainment of these standards is to be as expeditious as possible, but in no case later than 1987.

The Agency's highest air program priority in 1982 will continue to be the consolidation through State Implementation Plans of a firm regulatory base for air pollution control. Extensions of the ambient air quality standard attainment dates for ozone or carbon monoxide beyond 1982 were granted to 29 States. For all 29 the law requires submittal of a SIP in 1982 which will demonstrate attainment of standards. Fiscal years 1981 and 1982 will see intensified efforts by State/local control agencies with assistance from EPA to adopt additional measures for control of hydrocarbon emissions from both stationary and mobile sources and to accelerate their implementation.

The 1977 amendments to the Clean Air Act required EPA to review and revise, if necessary, ambient air quality standards. A revised ozone standard was promulgated in 1979 and revisions to the CO standard were proposed in 1980. A revised standard for NO_2, may be published in 1981. If promulgated in 1982, this would potentially create new SIP submission requirements for several States, if the standard is significantly changed. Revised standards for sulfur dioxide and particulate matter are expected to be proposed in 1982.

Although activities to complete new source performance standards (NSPS) have accelerated, several proposals have been delayed by the need in 1981 to reprogram resources to produce control techniques guidance documents for additional sources of volatile organic compounds (VOC) to be controlled by the States' VOC regulations in their 1982 ozone SIP submittals. Consequently, the program to produce NSPS for all major stationary source categories will extend through fiscal year 1982.

Considerable effort has been expended in fiscal year 1980 in revising the prevention of significant deterioration (PSD) regulations for Set I (TSP, SO_2) pollutants to bring them into conformity with court interpretations of the complex PSD provisions of the Clean Air Act. Work on Set II pollutants (CO, hydrocarbons/ozone, NO_2 and lead) has been delayed and final rules are not expected before fiscal year 1982.

In 1981 EPA proposed regulations to protect visibility values in the nations National Park and Wilderness Systems. Work to refine modeling and monitoring techniques which can be routinely applied for regulatory purposes will also continue into fiscal year 1982.

Increased national and international concern is being expressed about the problems associated with acid deposition (acid rain). Sensitive lakes and ecological systems in the northeast U.S.A. and Canada have been adversely affected. The problem in other areas of the country is just now being assessed. It is unclear what remedial action needs to be taken. The 1982 proposed program, based on current authorities, contemplates a significant monitoring effort and the evaluation of various regulatory and enforcement alternatives directed at the limitation of SO_x and NO_x emissions.

Since air is being increasingly implicated as a pathway in the exposure of large population groups to toxic or hazardous pollutants, EPA is intensifying its programs directed at this problem. Additionally, States are being encouraged to address toxic related problems through field assessments and appropriate State/local regulation development. The characterization of presently unregulated pollutants from mobile sources is likewise being emphasized to assess the toxic potential of new fuel sources and auto industry technology development.

All of the Nation's programs directed at reducing national dependency on imported oil envision increased use of coal resources either in direct energy production or as a raw material in producing domestically available gas or oil. Given a continuing commitment to the environmentally sound utilization of coal as an oil substitute it is essential that EPA's review of various coal conversion proposals be conducted in a manner that is expeditious and thorough. The 1982 planned program provides resources toward this end as well as to assure that State/local implementation of regulatory reform measures such as the "bubble" and banking are consistent with the basic environmental protection goals of the Agency.

Further federal regulation of emissions from motor vehicles will concentrate on heavy duty vehicles, where the degree of control has not yet attained that reached with light duty vehicles, and all types of diesel powered vehicles. The program will continue to implement improvements in the motor vehicle certification process which are directed at reducing paperwork and reporting and testing burdens on the affected manufacturers. Also in furtherance of energy conservation goals and to provide an improved public service, increased attention will be given to improving the ability of fuel economy test information to more accurately predict actual in use mileage.

Many of the major activities highlighted in the preceding discussion of the thrust of the 1982 program requires field work on the part of both the States and EPA Regional Offices. The SIP revision and implementation process, the beginning of analyses necessary in anticipation of new ambient air quality standards, the carrying out of mandates related to acid rain, toxics control, energy, regulatory reform and the continuing delegation of new source review functions all impose significant workload requirements upon both States and regions.

79-248 O—80——16

EPA through Federal enforcement will continue to augment State efforts to attain or maintain NAAQS. Federal action will be taken where States fail or cannot act or request assistance. Where States have not accepted the delegation of new source review, Regional Offices will continue to verify compliance and take required enforcement actions.

The stationary source enforcement program will focus on vigorously tracking consent decrees of major sources which have never achieved initial compliance, initiating civil/criminal actions against recalcitrant sources, and further implementation of the noncompliance penalty program established by Section 120 of the Clean Air Act, which will remove the economic incentive of continued noncompliance. Emphasis will be given to assisting States in maintaining strong programs to ensure compliance by major sources, and encouraging delegation of responsibility for the noncompliance penalty program to as many States as possible. The program will also focus on maintaining continuous compliance of sources that have met SIP requirements; expanding enforcement responsibilities in the new source and national emissions standards for hazardous air pollutants programs; and negotiating compliance methods and schedules for coal conversion and other energy related sources.

In 1982, the EPA Mobile Source Enforcement Program will continue to assure compliance with motor vehicle emission standards and fuels regulations. The Selective Enforcement Audit (SEA) program is continued to deter the production of non-conforming light duty vehicles and the recall program will continue to assure compliance of in-use vehicles with emission standards. An aggressive enforcement program will be continued to reduce fuel switching and tampering in order to reduce in-use emissions from mobile sources in areas which are targeted for inspection/maintenance. Furthermore, a special effort to provide support to State/local anti-tampering and anti-fuel switching enforcement programs will be initiated via air program grants.

Research will continue to stress the development of information useful in successfully implementing new SIP's or in establishing revised SIP's. Due attention will be paid to developing effects information for further updates of criteria documents.

Assessments of sources of and controls for volatile organic compound (VOC) emissions continue as major priorities of the oxidant research program as are the development and refinement of air quality models (on both urban and regional scales) for oxidants and their precursors. These new or improved tools should aid the attainment of standards in the 1983 - 1987 timeframe. With the objective of providing data for future criteria document updates, research in the health area will focus on the effects of exposures to ozone and nitrogen dioxide. In the gases and particles area research emphasis continues to be placed on development and refinement of a health effects data base relying most heavily on human clinical studies, modeling the transport and transformation patterns of fine particulate matter, and determination of concentrations and sizes of particles in ambient air.

The hazardous air pollutant research program, in large measure will continue support to implementation of Section 112 of the Clean Air Act and EPA's airborne carcinogen policy. In doing so, it attempts to provide the best data for determining human health risks of exposure to certain chemicals found in ambient air, sources of those chemicals, and feasibility and costs of reducing human exposure to those chemicals. The program will also attempt to develop new and improved techniques for generating this data, especially in the areas of bioassay methods, monitoring and measurement. This program will also complement an Agency-wide toxics strategy.

The mobile source research program will change in emphasis away from animal inhalation of diesel exhaust and towards assessment of actual human exposures to mobile source pollutants. While animal inhalation studies are being reduced, other live animal and cellular tests of the carcinogenicity and mutagenicity of diesel exhaust will continue. Tests of emissions of heavy and light duty diesel engines will continue as a further effort to identify potentially toxic pollutants.

Purpose of Research and Development Program

The air research and development program is designed to furnish EPA with the knowledge to establish prudent environmental controls, standards and regulations based upon known or potentially adverse health and ecological effects; to define, develop, and demonstrate systems for controlling stationary source pollution; and to evaluate strategies for minimizing the emission of pollutants. To achieve these ends, the program is structured to identify and, to the extent possible, quantify the adverse human health effects of exposure to air pollutants; to quantify the effects and fate of air pollutants on biological systems and processes within the environment; to develop predictive models for pollutant emission, transport, transformation, and removal, and verify these models by actual measurements; and to develop new and improved technology for preventing and controlling air pollution and demostrate the cost effectiveness of such technologies. The air research and development program also provides analytical measurement methods for monitoring air pollutants; procedures and materials to assure the quality of monitoring data; technical expertise, and specialized facilities and equipment to the regulatory and enforcement programs.

Purpose of Abatement, Control and Compliance Program

Abatement, Control and Compliance encompasses the development and implementation of air pollution control strategies and programs. Specific activities include regulations development, technical and policy guidance, financial support to State and local programs and direct Federal action when States fail to fulfill their Clean Air Act responsibilities. The intent of the Act is that States assume responsiblity for most aspects of air pollution control, and that EPA provide guidance and assistance. This total environmental effort is conceived as a working partnership with State and local governments to achieve national environmental goals.

The primary goal of the air program is the implementation of National Ambient Air Quality Standards (NAAQS) attainment and maintenance strategies. The first priority for States and EPA in 1981 and 1982 is the completion of strategy development actions leading to the adoption by the States and revisions to the State Implementation Plans (SIPs) for areas not presently attaining ambient air quality standards. Included are expeditious follow-up on conditionally approved SIPs and timely action on schedules for inspection and maintenance (I/M), and transportation control measures (TCM); adoption of new regulations covering volatile organic chemicals (VOC); additional review of non-traditional sources of suspended particulate matter; and development of improved data bases to facilitate the submission and review actions of new SIPs in 1982. In addition, EPA in carrying out the mandates of the Clean Air Act, must complete the promulgation of New Source Performance Standards for all major stationary sources of air pollution; effectively review all existing ambient air quality standards; regulate mobile sources of air pollution; develop a workable program of prevention of significant deterioration and implement the visibility protection goals of the 1977 amendments to the Clean Air Act.

The enforcement program is designed to ensure that stationary air pollution sources are in compliance with emission limitations under SIPs; that new stationary air sources are constructed in accordance with NSR, NSPS, and PSD provisions; that stationary air sources subject to NESHAPs meet hazardous air pollutant standards; and that all applicable provisions of the Power Plant and Industrial Fuel Use Act of 1978 are implemented. The program is also designed to ensure that mobile sources subject to federal emission regulations meet such regulations as produced and while in use for their warranty period. Included also is prevention of illegal tampering with engines or control devices and improper use of leaded fuels.

SUMMARY OF INCREASES AND DECREASES

	(in thousands of dollars)
1981 Air Program.....	$246,523
Salaries and Expenses.....	+4,789
The net decrease of 22 permanent workyears primarily affects 43 additional permanent workyears to mainly support stationary source enforcement and gases and particles; offset by relatively large decreases in mobile source enforcement; mobile source preproduction, and mobile source standards.	
Research and Development.....	-5,646
This decrease primarily is reflected in gases and pariticles along withsubstantial decreases in hazardous pollutants and mobile sources non-energy. Also, this decrease reflects the phasing down of inhalation studies of the effects of diesel particles; the technical program's reduced ability to prepare and disseminate technical information and the transfer of funds to emissions testing, analysis and data support.	
Abatement, Control and Compliance.....	-6,543
This decrease in extramural support primarily reflects a reduction in full-time equivalency; along with reductions in mobile standards and guidelines and emissions standards and testing.	
1982 Air Program.....	239,123

SUMMARY OF BUDGET ESTIMATE

1. Summary of Budget Request

An appropriation of $239,123,200 is requested for 1982. This request by appropriation account, is as follows:

Salaries and Expenses.....	$83,586,900
Research and Development.....	35,549,000
Abatement, Control and Compliance.....	119,986,300

2. Changes from Original 1981 Budget Estimate

	(in thousands of dollars)
Original 1981 estimate.....	252,126
Congressional decreases:	
General reduction to Abatement, Control and Compliance.....	-998
Consultant services.....	-403

SES bonuses	-102
ADP services	-220
Travel	-134
General reduction to Research and Development	-3,653
Presidential reduction of $7 million	-348
Love Canal and Three Mile Island	-84
Reprogramming for salary and related costs	-118
Miscellaneous reprogrammings	-1,793
Proposed pay raise supplemental	+1,000
March changes to budget:	
Travel	-292
Consulting Services	-50
Moratorium on Procurement of Equipment	-40
Equipment Costs	-1,543
Other Contractual Services	-312
Ore percent transfer	
Increase to fund PC&B	+3,785
Misscellaneous Reprogrammings	+272
Current 1981 estimate	246,523

The Congress reduced Agency travel costs by $850,000, of which $134,000 is applicable to the air media. ADP services were reduced by $2 million, resulting in a $220,000 decrease. General reductions to the Abatement, Control and Compliance ($7.5 million) and the Research and Development ($12,214,000) appropriations resulted in decreases of $998,000 and $3,653,000 respectively. A reduction in consultant services ($3.8 million) was made, of which $403,000 affected this media. Senior Executive Service (SES) bonuses were reduced by $750,000 resulting in a $102,000 decrease.

Shortly after the budget estimate was submitted, President Carter transmitted budget revisions (House Document 96-294); this revision decreased $7 million from the Salaries and Expenses appropriation, of which $348,000 was applied to this media.

A transfer of $84,000 was made to the solid waste and radiation media in order to support efforts on Love Canal and Three Mile Island.

Reprogrammings of $118,000 were applied to provide for salary and related costs. A supplemental appropriation is proposed to fund the costs of the October 1980 pay raise, of which $1,000,000 is applied to the air media. Miscellaneous reprogrammings to this media resulted in a net decrease of $1,793,000.

In accordance with OMB bulletins, the March 1981 changes are as follows: travel ($291,900); consulting services (-$50,100); and, moratoruim on procurement of equipment (-$39,900).

A one percent transfer authority decreases this media by $570,100.

Internal agency reprogrammings to fund PC&B deficits are as follows: equipment costs (-$1,543,000); contractual services (-$312,100); agencywide increases (+$3,784,600); and miscellaneous reprogrammings ($272,400).

ANALYSIS OF INCREASES AND DECREASES TO OBLIGATIONS

	Current Estimate 1981	Estimate 1982
	(in thousands of dollars)	
Prior year obligations	$290,059	$244,735
Effect of congressional changes	+1,250	...
Proposed pay raise supplemental	+1,000	...
Change in amount of carryover funds available	-37,392	+1,788
Program changes	-43,536	-7,400
Effect of reprogrammings	-2,343	...
Change in rate of obligations	+41,207	-2,449
Total estimated obligations	244,735	236,674
(From new obligation authority)	(239,734)	(229,885)
(From prior year funds)	(5,001)	(6,789)

EXPLANATION OF INCREASES AND DECREASES TO OBLIGATIONS

The congressional changes discussed in the previous section are expected to result in a decrease of $5,510,000 to obligations. The proposed pay raise supplemental to partially fund the October 1980 pay raise will increase obligations by $1,000,000. The effect of reprogrammings included the Presidential $7 million reduction result in a decrease of $2,259,000.

Program changes in 1981 and 1982 result in a decrease of $11,605,000 and $7,400,000 respectively to obligations. The amount of carryover funds to be obligated in 1981 is $5,001,000, a decrease of $37,392,000 over the 1980 level; in 1982 it is estimated that $6,789,000 of carryover funds will be obligated, an increase of $1,788,000 from the 1981 level.

A change in the rate of obligations is expected in 1981, which will create an increase of $9,192,000; in 1982 a decrease of $2,449,000 is expected.

AIR

Program Levels	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Number of pollutants covered by hazardous pollutants standards.....	4	4	5	8	+3
Number of automobile engine families awarded certificates for conformity with emission standards.....	250	250	250	250	...
Number of source categories covered by New Source Performance Standards.....	34	53	40	61	+21
Number of emission tests carried out for motor vehicles certification purposes.....	660	950	700	150	-550
Number of fuel economy tests carried out.....	1,785	1,800	1,850	1,300	-550
Identified Class A source in U.S.....	28,000	29,000	28,000	29,000	+1,000
Assembly line testing test orders.....	38	33	35	28	-7
Combined fuels/vapor recovery inspections.....	22,337	25,000	25,000	25,000	...
Recall investigations.....	51	19	40	35	-5
Number of civil/criminal actions initiated by EPA..	131	210	163	180	+17
Number of administrative orders initiated by EPA...	155	220	204	207	+3
Numbers of compliance monitoring inspections conducted by EPA.....	2,650	3,300	2,120	2,300	+180
Noncompliance penalty determinations.....	...	60	60	60	...
Number of continuous emissions related enforcement actions.....	...	...	...	10	+10
Number of sources that have regular continuous emissions monitoring data validations.....	500	500	500	1,000	+500

AIR

Air Quality and Stationary Source Planning and Standards

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Emission Standards and Technology Assessment:					
Salaries and Expenses..	$4,120	$3,504	$3,891	$3,950	+$59
Abatement, Control and Compliance.....	24,856	16,948	16,074	12,582	-3,492
Energy and Pollutant Strategies Development:					
Salaries and Expenses..	1,886	1,956	1,961	2,045	+84
Abatement, Control and Compliance.....	1,484	1,559	1,709	1,512	-197
State Program Guidelines and Regulations Development:					
Salaries and Expenses..	3,257	3,238	3,872	3,823	-49
Abatement, Control and Compliance.....	1,669	1,711	1,549	1,268	-281
Total:					
Salaries and Expenses..	9,263	8,698	9,724	9,818	+94
Abatement, Control and Compliance.....	28,009	20,218	19,332	15,362	-3,970
Grand Total.....	37,272	28,916	29,056	25,180	-3,876
Permanent Positions					
Emission Standards and Technology Assessment:	110	107	106	99	-7
Energy and Pollutant Strategies Development:	44	44	44	44	...
State Program Guidelines and Regulations Development.....	88	93	92	93	+1
Total.....	242	244	242	236	-6
Full-time Equivalency					
Emission Standards and Technology Assessment:	120	115	114	106	-8
Energy and Pollutant Strategies Development:	55	50	50	50	...
State Program Guidelines and Regulations Development.....	101	101	100	101	+1
Total.....	276	266	264	257	-7

Budget Request

The Agency requests a total of $25,179,400 and 236 permanent workyears for 1982, a decrease of $3,877,400 and 6 permanent workyears from 1981. Included in this total is $9,817,400 for Salaries and Expenses and $15,362,000 for Abatement, Control and Compliance, with an increase of $93,300 and a decrease of $3,970,700 respectively. Reprogramming to fund increased payroll costs and reduced regulatory development activity accounts for the decrease in abatement, control and compliance.

Program Description

This subactivity includes the setting of emission standards for stationary sources, which involves pollution control technology and cost assessments and other industry analyses which support the standard setting function. Also included are the review and revision, if necessary, of ambient air quality standards; pollutant assessments; the development of pollutant control strategies, analytical tools and guidelines; the translation of control strategies into regulatory actions; and the assessment of the energy implications of regulatory actions.

Emissions Standards and Technology Assessments -- National emission standards for stationary sources are set under Section 111 and 112 of the Clean Air Act. Section 111 mandates the Environmental Protection Agency to establish New Source Performance Standards. Section 112 authorizes National Emission Standards for Hazardous Air Pollutants.

New Source Performance Standards (NSPS) reflect the performance of the best demonstrated systems of emission reduction, considering cost and energy impact for specific processes or facilities in a source category. The analysis supporting the NSPS considers technical feasibility; cost; and economic, energy and environmental impacts. The NSPS setting process results in providing useful data to State agencies in defining best available control technology, lowest achievable emission rates, and reasonably available control technology.

National Emission Standards for Hazardous Air Pollutants (NESHAP) have been set for asbestos, beryllium, mercury, and vinyl chloride. Benzene and arsenic have been listed as hazardous air pollutants and several NESHAP proposals are under review.

Energy and Pollutant Strategies Development -- The major activities of this program element are: (1) Review and revision as appropriate of all existing National Ambient Air Quality Standards as mandated by the Clean Air Act, (2) Identification and assessments of the potential air pollutants, including the listing of additional chemicals as hazardous air pollutants under Section 112 of the Clean Air Act, and (3) Analytic support to Agency regulatory efforts to set emission standards for pollutants regulated under Sections 111(d) and 112.

State Programs Guidelines and Regulations Development -- The objectives of this program element are the development of guidelines and regulations that set forth requirements for air pollution control programs implemented by the States under the Clean Air Act (principally State Implementation Plans); development of technical guidance for modelling, emission inventory development and air quality standard attainment demonstrations, and maintaining an overview of the development and implementation of air pollution control programs to assure national consistency at the regional, State, and local levels. The State Implementation Plans (SIPs) provide for the attainment and maintenance of National Ambient Air Quality Standards, establish programs for prevention of significant deterioration (PSD) of air quality in clean areas, and will provide protection of visibility in national parks and wilderness areas.

EMISSION STANDARDS AND TECHNOLOGY ASSESSMENT

1980 Accomplishments

The 1980 resources included $24,855,400 in contract support. These contract resources were used to continue work related to setting standards for the synthetic organic chemical manufacturing industry and other studies required for setting NSPS and NESHAPs. A total of $1,900,000 was transferred to EPA'S Office of Research and Development for support in standards setting. Work continued on setting performance standards for all listed source categories. An NSPS was promulgated for the hydrocarbon storage tank revision. NSPS proposals were published for organic solvent degreasing, auto surface coating, ammonium sulfate, and lead battery manufacturing. Three reviews of existing standards were completed. A nine-volume technical report on the synthetic organic chemical manufacturing industry (SOCMI) was drafted in 1980, including 39 product reports covering 80 percent of SOCMI process emissions. Control techniques documents for sulfur oxides, particulate matter, and best available retrofit technology (BART) were drafted in in 1980.

A NESHAP was proposed for one of four benzene categories: maleic anhydride. Work was in progress on 10 NESHAP categories.

1981 Program

In 1981, the Agency allocated a total of $19,965,300 and 106 permanent workyears to this program, of which $3,891,000 is for Salaries and Expenses and $16,074,300 is for extramural purposes under the Abatement, Control and Compliance Appropriation. These contract resources are being used for engineering studies and other analyses needed to set NSPS, NESHAP, and to issue information on reasonably available control technology for review of State implementation plans (SIP). Effort has been reduced on completion of the NSPS schedule mandated by the Clean Air Act in order to complete approximately 10 control technique guidelines for use in developing the revised 1982 oxidant SIPs. Twenty-one NSPS projects will be proposed and six will be promulgated in 1981. The NESHAP projects continued from 1980 will result in five proposals and one promulgation. Five existing standards will be reviewed. Technical support for SIP, best available control technology, lowest achievable emissions rate determinations, and for the review of construction permit applications for synthetic fuels will be provided. An analysis of the benefits and impacts of air pollution and associated emission control standards will be continued.

1981 Explanation of Change from Budget Estimate

The net decrease of $486,700 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $20,800.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $10,000 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $600,000 was applied to this activity.

- An increase of $56,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Offsetting transfers of $224,700 were made between this activity and air-Energy and Pollutant Strategies Development ($150,500); and air-Training ($74,200); in the Salaries and Expenses, and Abatement, Control and Compliance appropriation.

- A transfer of $50,100 was made to the radiation media in order to support the Radiation Policy Council.

- A transfer of $900 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $21,200.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $60,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $220,000.

1982 Plan

The Agency requests a total of $16,531,200 and 99 permanent workyears for this program, of which $3,949,500 is for the Salaries and Expenses appropriation and $12,581,700 is for the Abatement, Control and Compliance appropriation. This is an increase of $58,500 and a decrease of $3,492,600 respectively, which reflects increased payroll costs and reduced regulatory efforts. Efforts will continue on the Clean Air Act mandated NSPS projects. Twenty-three proposals and 21 promulgations are planned. Three reviews of existing standards will be completed. One NESHAP is expected to be proposed and five promulgated. The initial analysis of the benefits and impacts of selected NSPS will be completed.

Change From January Request

This request represents a decrease of $4,335,700 and 14 permanent workyears from the January budget, of which $480,000 is for Salaries and Expenses and $3,855,700 is for Abatement, Control and Compliance. This decrease reflects reduced regulatory development activity for control of toxic pollutants and/or acid rain precursors.

ENERGY AND POLLUTANT STRATEGIES DEVELOPMENT

1980 Accomplishments

The 1980 resources included $1,484,300 for contract support for evaluation of national ambient air quality standards, analysis of the environmental, economic and regulatory impacts of the possible standards revisions, and the development of an improved risk assessment methodology.

The national ambient air quality standard for carbon monoxide has been reviewed and a revised standard was proposed. Work is underway to review and revise as necessary the nitrogen oxide, particulate and sulfur dioxide standards. Work continued on development of a health risk assessment analysis methodolgy applicable to the standard setting process. Visibility and odor reports were completed for Congress. Pollutant assessment was completed for arsenic and listing as a hazardous air pollutant was made. Assessments were underway for coke oven emissions, perchloroethylene, trichloroethylene, acrylonitrile, methyl chloroform, methylene chloride, toluene, cadmium, ethylene dichloride, nickel, vinylidene chloride, and formaldehyde. Work on energy impact analysis for industrial boilers was continued and the energy and environmental related data base for fossil fuel fired power plants was maintained.

1981 Program

In 1981, the Agency has allocated a total of $3,669,800 and 44 permanent workyears to this program, of which $1,960,700 is for the Salaries and Expenses appropriation and $1,709,100 is for extramural purposes under the Abatement, Control and Compliance appropriation.

The program continues to emphasize review and revision of National Ambient Air Quality Standards (NAAQS) and the assessment of hazardous pollutants in 1981. Review and revision, if necessary, of the NAAQS for nitrogen dioxide will occur. The revised carbon monoxice standard will be promulgated and the hydrocarbon standard rescinded. Technical, health, energy and economic issues raised through litigation and public inquiry will be addressed regarding all revised NAAQS. Listing decisions will be made for eight pollutants. Population exposure estimates for a group of 43 chemicals begun in 1979, assignment of public health priority, and ranking in order of risks to public health will be completed. Preliminary screening for public health risk will be made of a number of chemicals to determine which require further detailed exposure and cancer assessment.

1981 Explanation of Changes from Budget Estimate

The net increase of $155,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $11,700.

- Congress reduced agencywide travel costs by $850,000; a decrease of $2,500 was applied to this activity.

- An increase of $29,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Offsetting transfers of $150,500 were made between this activity and air-Emission Standards and Technology Assessment in the Salaries and Expenses, and Abatement, Control and Compliance appropriation.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $5,800.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $145,200.

1982 Plan

The Agency requests a total of $3,557,100 and 44 permanent workyears for this program, of which $2,044,700 is for the Salaries and Expenses appropriation and $1,512,400 is for the Abatement, Control and Compliance appropriation. This is an increase of $84,000 and a decrease of $196,700 respectively, and reflects reprogramming to meet increased payroll costs.

Review of national ambient air quality standards for particulate matter and sulfur dioxide will be completed and revised standards, if indicated, will be proposed. Promulgation of a reaffirmed or revised nitrogen dioxide standard will be published. Listing decisions will be made for three potentially hazardous air pollutants. Evaluations will be made of several alternative approaches to NAAQS risk assessment to determine their feasibility for integrating risk assessment into the decision making framework for NAAQS. Air quality problems resulting from municipal and hazardous waste incineration will be defined and information will be provided to regional offices and States to enhance their ability to deal with toxic chemicals and airborne carcinogen problems.

Change From January Request

This request represents a decrease of $14,600 from the January budget from Abatement, Control and Compliance. There is no significant programmatic effect.

STATE PROGRAMS GUIDELINES AND REGULATIONS DEVELOPMENT

1980 Accomplishments

The 1980 resources included $1,700,000 in contract support for the main areas of program emphasis: nonattainment SIPs; and New Source Review/Prevention of Significant Deterioration. Follow-up action on the conditional approvals, schedules and commitments in the 1979 nonattainment SIPs remained a major activity in 1980. Management of the new source review/ prevention of significant deterioration program continued with major effort devoted to revising the regulations in response to court decisions. A BACT/ LAER Clearinghouse was maintained. Efforts were made to encourage additional States to assume the PSD permitting program. Policy papers or regulations were developed on a variety of issues including new source review, interstate equity, stack heights, definition of ambient air, sulfur variability in coal, etc. Policy and technical guidance was issued in preparation for submittal by the States of 1982 O_3/CO SIPs, and for control of unconventional sources of particulate matter. Major technical and management support was provided to the N.E. Corridor O^3 Study. Visibility assessment techniques were developed to support the proposed regulation. Reviews of 15 non-reference models were completed and proposed revisions to the modeling guideline were prepared. Direct technical modeling guidance was provided to regional offices and States.

1981 Program

In 1981, the Agency has allocated a total of $5,421,700 and 92 permanent workyears, of which $3,872,400 is for Salaries and Expenses and $1,549,300 is for Abatement, Control and Compliance. Contracts continue to support the work required for technical guidance in the submittal of SIPs for nonattainment areas, with particular emphasis on assisting States developing adequate data bases for their 1982 O_3/CO submittals and for New Source Review/Prevention of Significant Deterioration analysis. Follow-up on conditional approvals of 1979 non-attainment SIPs and implementation of SIP schedules and commitments will continue in 1981. Submittals of schedules for the implementation of transportation control measures are expected. Areas granted 18-month extensions for submittal of plans to meet secondary total suspended particulates (TSP) standards will be submitting plans in early 1981 and these will require review and approval action. Review and approval action on lead SIP submittals will be undertaken. Regulations implementing the revised NAAQS for nitrogen dioxide will be proposed. Continued regulatory efforts will result in promulgation of regulations for stack heights, visibility and regional consistency, and proposal of continuous emission monitoring regulations. The program of policy and technical guidance for States and Regional Offices in preparation of the 1982 ozone/CO SIPs will continue. The Northeast Corridor modeling effort will be given technical direction and data analysis initiated under contract. A program to manage and ensure national consistency in New Source Review will be conducted.

Policy and technical guidance for regulatory reform efforts such as banking and the "bubble" will be provided.

1981 Explanation of Changes from Budget Estimate

The net increase of $472,400 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $19,500.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $10,000 was applied to this activity.

- An increase of $55,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Offsetting transfers of $161,700 were made between this activity and Air Quality and Emission Data Analysis Progress Assessment in the Salaries and Expenses and Abatement, Control and Compliance appropriations.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficists. The reduction applied to this activity is 13,600.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $460,000.

1982 Plan

The Agency requests a total of $5,091,100 and 93 permanent workyears for this program, of which $3,823,200 is for the Salaries and Expenses appropriation and $1,267,900 is for the Abatement, Control and Compliance appropriation. This is a decrease of $49,200 and $281,400 respectively, and reflects reductions in program costs.

The emphasis in 1982 will be to continue national management and evaluation of all major SIP programs which were initiated in previous years. Policy and technical guidance will be provided for O_3/CO SIP development and for implementation of new/revised ambient standards. Development of new models and emission factors for particulates, maintenance of the BACT/LAER clearinghouse, review of State implementation of New Source Review programs, the provision of modeling guidance on power plant emissions, and assistance to States in implementing regulations dealing with visibility and continuous compliance will continue. Efforts will also continue to assist the States in implementing EPA regulatory reform initiatives.

Change From January Request

This request represents a decrease of $36,700 from the January budget from Abatement, Control and Compliance. No significant programmatic effect is expected.

Air

Mobile Source Standards and Guidelines

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
			(dollars in thousands)			
Appropriation						
Mobile Source Standards and Guidelines:						
Salaries and Expenses...	$4,454	$4,325	$4,027	$3,756	-$271	
Abatement, Control and Compliance.....	2,298	2,059	3,457	1,331	-2,126	
Mobile Source In-Use Emission Assessment:						
Salaries and Expenses...	194	176	216	273	+57	
Abatement, Control and Compliance.....	1,769	2,369	1,090	1,444	+354	
Emission Testing, Analysis and Data Support for Standards and Guidelines:						
Salaries and Expenses...	2,580	2,319	2,900	3,234	+334	
Abatement, Control and Compliance.....	113	150	30	...	-30	
Total:						
Salaries and Expenses.....	7,228	6,820	7,143	7,263	+120	
Abatement and Control and Compliance.....	4,180	4,578	4,577	2,775	-1,802	
Grand Total.....	11,408	11,398	11,720	10,038	-1,682	
Permanent Positions						
Mobile Source Standards and Guidelines.....	108	108	102	86	-16	
Mobile Source In-Use Emission Assessment.....	6	6	7	7	...	
Emission Testing, Analysis and Data Support for Standards and Guidelines.....	46	38	27	25	-2	
Total	160	152	136	118	-18	
Full-time Equivalency						
Mobile Source Standards and Guildelines.....	149	135	121	104	-17	
Mobile Source In-Use Emission Assessment.....	7	8	8	8	...	
Emission Testing, Analysis and Data Support for Standards and Guidelinges.....	59	47	35	41	+6	
Total.....	215	190	164	153	-11	

Budget Request

The Agency requests a total of $10,036,600 and 118 permanent workyears for 1982, a decrease of $1,684,400 and 18 permanent workyears from 1981. Included in this total is $7,262,000 for Salaries and Expenses and $2,774,600 for Abatement, Control and Compliance, with an increase of $118,300 and a decrease of $1,802,700 respectively. This primarily reflects shifts for equipment and supplies purchases, and ADP contracts, as well as completion of most of the mandatory emission standards and greater State/local assumption of in-use vehicle compliance programs.

Program Description

This subactivity involves the development of emission standards for mobile sources of air pollution -- passenger motor vehicles, heavy duty and light duty trucks,motorcycles, and aircraft -- and associated technical activities, such as testing, technology assessments, and emissions characterization. It also involves the development of technical procedures and guidelines applicable to the control of emissions for new and in-use vehicles.

The development of standards for mobile sources involves characterization of emissions and control technology analyses. An essential part of this process is the continuous assessment of new or improved technologies and their associated potential for change in the nature of air pollutant emissions and other related performance factors, such as fuel economy. It also requires tests, monitoring mechanisms, or other strategies to ensure compliance with the standards. This subactivity includes the technical work underlying EPA efforts to assure the compliance of both new vehicles (e.g., certification) and in-use vehicles (e.g., inspection and maintenance).

Included in this effort are activities aimed at determining mobile source in-use emissions performance which provides information on the average emissions that are to be expected from the in-use vehicle population. The data obtained are used to calculate the emission reductions required for attainment and maintenance of National Ambient Air Quality Standards (NAAQS). Since testing began in 1973, the results have consistently indicated that between one-half and three-quarters of tested in-use vehicles fail to meet standards. Much of this failure appears to be attributable to in-use maladjustments or disablements of vehicle engines or emission control systems.

As emission standards are imposed on additional classes of motor vehicles and the stringency of these standards increases, reassessments of the control technology used by the manufacturers are made to determine energy implications and potential emissions of nonregulated pollutants. For example, emissions of pollutants for diesel-powered and catalyst-controlled vehicles are being assessed to determine if additional action is necessary to prevent the emission of potentially carcinogenic or toxic substances.

In addition, technical assessments of the motor vehicle fuel economy program are made including possible revisions of fuel economy test procedures and the need for information about additional classes of vehicles.

MOBILE SOURCE STANDARDS AND GUIDELINES

1980 Accomplishments

The 1980 resources included $2,298,500 for contracts. These contracts supported standard setting activities, emissions characterization, technology assessments,and inspection and maintenance (I/M) program establishment.

Operations in the regulatory area focused on the establishments of emissions standards for heavy duty vehicles that are equivalent in stringency to those for passenger cars, as well as the development of appropriate standards for diesel vehicles and vehicles operated at high altitude. The standards to meet the 90 percent reduction requirement for hydrocarbons HC and carbon monoxide (CO) were promulgated, and the evaporative HC emission standard/test procedure was proposed. Work was completed on standards for particulate emission of light duty vehicles, while a heavy duty particulate standard will be proposed in early 1981. Other regulations promulgated during 1980 include exhaust stand dards for light duty trucks; a set of short I/M tests designed as part of the implementation of the Clean Air Act's warranty provisions; and rules aimed at reducing emissions from vehicles at high altitude.

Substantial technical assistance was provided to States and localities which are in the process of establishing I/M programs. Legal authority was attained in several key States (27 of 29 required States now have authorizing legislation) and final SIP approval action was taken for 19 States. The 10 remaining plans are expected to receive final approval in 1981. Individual studies and analyses which furtner describe the benefits to be obtained from I/M were completed in conjunction with the Portland, Oregon vehicle testing program.

Technological development in the automotive emissions field were analyzed and major improvements in EPA's national fuel economy program were designed and are being implemented.

In the area of hazardous pollutant control, implementation of Section 202(a)(4) continued.

1981 Program

In 1981, the Agency allocated a total of $7,484,500 and 102 permanent workyears to this program, of which $4,027,200 is for Salaries and Expenses and $3,457,300 is for the Abatement, Control and Compliance appropriation.

Regulatory actions include final standards for heavy duty vehicles. Emission standards will be proposed for heavy duty diesel particulates, nitrogen oxide (NOx) gaseous emissions, and HC evaporative emissions. In addition, final action will occur on light duty vehicle and truck high altitude emissions. New regulatory action will be initiated in the areas of allowable maintenance, fuel and fuels additives, and diesel organics control. Reports on railroad emissions and light duty vehicle technology will be prepared for Congress.

New initiatives designed to improve the national fuel economy program will include voluntary labeling and information disclosure on tires, a pilot fuel economy check-up program which could be implemented in States' I/M program, and voluntary labeling of fuel efficient oils. A 1981 fuel economy report to Congress is also planned.

In the area of hazardous pollutant control, studies of nitrosamines and bioactive particulate emissions control will be initiated. Ongoing activities include Section 202(a)(4) implementation. Additional reports will be prepared on critical materials for catalysts, synthetic fuel characterization, evaporative emissions at high temperature, and an analysis of emissions under non-FTP conditions.

79-248 O—80——17

1981 Explanation of Changes from Budget Estimate

The net increase of $1,101,000 results from several actions, as follows:

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $21,800.

- OMB Bulletin $81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $300 which is being redirected to fund PC&B deficits.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions of equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $21,500.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $16,800.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $29,400.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $100,000.

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses; the reduction applied to this activity is $24,800.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $8,000 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $119,600 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $554,200 was applied to this activity.

- An increase of $56,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- A transfer of $2,000 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- A transfer of $26,800 was made to the radiation media in order to support the Radiation Policy Council.

- Reprogrammings to support increased need for contract funds in the area of inspection/maintenance, characterization, and technology assessment result in transfers of $1,953,000 from Mobile Sources In-Use Emission Assessment ($1,109,000); from Emission Testing, Analysis and Data Support for Standards and Guidelines ($120,000); from Mobile Source Preproduction Compliance Verification ($652,000); from Emission Testing, Analysis and Data Support for Preproduction Compliance Verification ($48,000); and from Stationary Source Enforcement ($24,000).

- Reprogrammings to reflect a reassessment of the needs for ADP and other in-house contracts, as well as laboratory equipment and supplies, resulted in a transfer of $183,400 to Mobile Sources In-Use Emission Assessment (-$45,000); Emission Testing Analysis and Data Support for Preproduction Compliance Verification (-$30,900); and Emission Testing, Analysis and Data Support for Standards and Guidelines (-$107,500).

1982 Plan

The Agency requests a total of $5,086,300 and 86 permanent workyears for this program, of which $3,755,600 is for the Salaries and Expenses appropriation and $1,330,700 is for the Abatement, Control and Compliance appropriation. This is a decrease of $271,600 and of $2,126,600 respectively, and reflects reprogramming of resources to emissions testing, analysis and data support, as well as completion of most of the standard setting and in-use vehicle compliance activities.

Work will proceed on the assessment of standards for heavy duty HC, CO, NOx, and particulate emissions. Issues related to evaporative emissions standards for heavy duty vehicles will be addressed, and pollutant specific studies for changing the HC and CO standards will be prepared. Additional work will be done on the control of diesel particulates and organic emissions. Setting of emission standards for high altitude vehicles will proceed, together with an assessment of the need for high altitude emission standards for heavy duty engines. Fuels and fuel additives control regulations will be proposed.

Support will be provided to all States implementing I/M programs. Improvements in I/M effectiveness will be investigated (e.g., identification of misfueled vehicles, mechanics' training effectiveness), and assessments will be made of the effectiveness of decentralized I/M programs.

Diesel emissions carcinogenicity will be assessed, as well as technology aimed at controlling diesel exhaust. Emissions from the use of synfuels and evaporative emissions of HC at higher, non-FTP temperatures will be determined. The assessment of technology available to meet the light duty vehicles emission standards will provide extensive information on the impact of new technology on unregulated emissions, and will provide an overall air quality impact assessment for regulated pollutants. Technology assessment projects will be conducted for such topics as: electronics sensors for emission control malfunctions, the effect of tampering on electronic emission control systems, and technical solutions to vehicle misfueling problems.

Assessments will be performed on fuel economy trends and the impact of emission controls on fuel economy, and improvement to the representativeness of for EPA fuel economy data will be aimed at enhancing the national fuel economy program. Factors that affect in-use fuel economy will be assessed in depth (e.g., impacts of various acceleration regimes, variations in octane of gasolines).

Change From January Request

This request represents a decrease of $1,323,300 and 27 permanent workyears from the January budget, of which $650,000 is for Salaries and Expenses and $673,300 is for Abatement, Control and Compliance. The reduction reflects completion of most of the emission standards and reduced assistance to State/local agencies for in-use vehicle compliance programs (I/M).

MOBILE SOURCE IN-USE EMISSION ASSESSMENT

1980 Accomplishments

1980 resources included $1,768,900 for contracts for testing of in-use vehicle populations in order to provide updated emission factors. This work is a continuation of work initiated in 1973 to determine in-use vehicles emissions under various conditions, and to provide appropriate analyses to assess program effectiveness and the need for both State and national control programs. Data were also collected to prepare the AP-42 emissions factors update. Testing of in-use light duty diesels and new technology vehicles will continue in 1981.

1981 Program

In 1981, the Agency has allocated a total of $1,306,100 and 7 permanent workyears to this program, of which $216,100 is for Salaries and Expenses and $1,090,000 is for extramural purposes under the Abatement, Control and Compliance appropriation.

Testing of in-use vehicles in order to determine their extent of compliance with standards, as well as to assess reasons for any exceedances will continue. A study to assess emission factors methodology will continue through 1982 and new restorative maintenance testing will take place in 1981. The development of in-use emission factors for use by States for their implementation plans is an ongoing activity of this program.

1981 Explanation of Changes from Budget Estimate

The net decrease of $1,238,800 results from several actions, as follows:

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $170,000.

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,200.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $7,100 was applied to this activity.

- An increase of $3,500 results from the cost of the October 1980 pay raise and is included in a proposal supplemental appropriation.

- Reprogramming to support increased need for contract funds in the areas of inspection/maintenance, characterization and technology assessment, resulted in a transfer of $1,109,000 to Mobile Sources Standards and Guidelines.

- Reprogramming to reflect a reassessment of the needs for ADP and other in-house contracts, as well as laboratory equipment and supplies resulted in a transer of $45,000 from Mobile Sources Standards and Guidelines ($45,000).

1982 Plan

The Agency requests a total of $1,716,400 and 7 permanent workyears for this program of which $272,500 is for the Salaries and Expenses appropriation and $1,443,900 is for the Abatement, Control and Compliance appropriation. This represents an increase of $56,400 and $353,900 respectively, which reflects increased emission factors testing.

Emission factors for use by States in SIP development will be provided. In-use light duty vehicles will be tested to determine their actual emissions performance to determine causes for failure to meet emission standards. During 1982, the results of a study aimed at improving the sampling methodology of this testing program will be implemented in order to enhance the statistical credibility of the test results.

Change From January Request

This request represents no change from the January budget.

EMISSIONS TESTING, ANALYSIS AND DATA SUPPORT FOR STANDARDS AND GUIDELINES

1980 Accomplishments

1980 resources included $112,600 in contracts for data processing and testing support. Activities included baseline testing for a NO_x standard for heavy duty engines, support for test procedure improvements aimed at assuring the validity of the FTP, and efforts to characterize emissions of new technology vehicles. Statistical and analytic support to I/M evaluation and for the AP-42 update was provided.

1981 Program

In 1981, the Agency has allocated a total of $2,930,400 and 27 permanent workyears to this program, of which $2,900,400 is for Salaries and Expenses and $30,000 is for extramural purposes under the Abatement, Control and Compliance appropriation. Data processing and testing support will continue to be provided to the other program activities which require this assistance and efforts to enhance the capability of the laboratory to cope with new technology vehicles will be carried out.

1981 Explanation of Changes from Budget Estimate

The net increase of $460,700 results from several actions, as follows:

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $339,300.

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $7,500.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $800 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $30,200 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $100,400 was applied to this activity.

- An increase of $20,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to support increased need for contract funds in the areas of inspection/maintenance, characterization, and technology assessments resulted in a transfer of $120,000 to Mobile Sources Standards and Guidelines.

- Reprogrammings to reflect a reassessment of the needs for ADP and other in-house contracts, as well as laboratory equipment and supplies resulted in a transfer of $359,700 from Mobile Sources Standards and Guidelines ($107,500); and from Mobile Sources Preproduction Compliance Verification ($252,200).

1982 Plan

The Agency requests a total of $3,233,900 and 25 permanent workyears for this program, of which $3,233,900 is for the Salaries and Expenses appropriation. This represents an increase of $333,500 in the Salaries and Expenses appropriation and a decrease of $30,000 in the Abatement, Control and Compliance appropriation. This increase reflects funding of projects deferred from 1981.

This program element consists of essential support activities for other program activities in the form of data analysis and laboratory testing. This includes provision of testing and data analysis activity in support of State I/M program implementation, and supervision of the study to improve the statistical methodology of the emission factors program.

Change From January Request

This request represents a decrease of $560,000 and 7 permanent workyears from the January budget all of which is from Salaries and Expenses. The decrease reflects reduced need for in-house contracts, equipment and supplies for heavy-duty testing, and ADP contract as a result of decreased standard setting.

AIR

State Programs Resource Assistance

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
	(dollars in thousands)				
Appropriations					
Control Agency Resource Supplementation: Abatement, Control and Compliance.....	$82,759	$87,673	$87,673	$87,735	+ $62
Training:					
Salaries and Expenses....	409	419	289	382	+ 93
Abatement, Control and Compliance.....	1,022	661	1,068	661	-407
Grants for Planning Control of Carbon Monoxide and Photochemical Oxidants in Nonattainment Areas: Abatement, Control and Compliance.....	38,089	...	...	...	...
Northeast Corridor Regional Project: Abatement, Control and Compliance.....	1,500	...	...	...	...
Total:					
Salaries and Expenses...	409	419	289	382	+93
Abatement, Control and Compliance.....	123,370	88,334	88,741	88,396	-345
Grand Total.....	123,779	88,753	89,030	88,778	-252
Permanent Positions					
Control Agency Resource Supplementation.....	...	...	...	...	...
Training.....	6	6	6	6	...
Total.....	6	6	6	6	...
Full-time Equivalency					
Control Agency Resource Supplementation.....	32	65	48	...	-48
Training.....	6	8	8	8	...
Total.....	38	73	56	8	-48

Budget Request

The Agency requests a total of $88,777,700 and 6 permanent workyears for 1982, a decrease of $252,900 from 1981. Included in this total is $381,800 for the Salaries and Expenses appropriation and $88,395,900 for the Abatement, Control and Compliance appropriation, with an increase of $92,600 and a decrease of $345,500 respectively. The decrease requested for Abatement, Control and Compliance reflects increased Regional assumption of training activities, and the increase is for payroll costs.

Program Description

This subactivity provides financial support to State and local air pollution control agencies, including Indian tribes, for the prevention, abatement, and control of air pollution, including the provision of contractual assistance to States in lieu of direct grants. Its prime objective is to develop and maintain effective State and local programs for the attainment and maintenance of the National Ambient Air Quality Standards, the prevention of significant deterioration, and the protection of visibility.

Grants to control agencies having a major role in developing and carrying out these SIP and other requirements, constitute the major form of EPA resource assistance. Grants assistance is supplemented by training of State/local air pollution personnel, and the provision of services of contractors for specific tasks identified by the States and localities, as required for carrying out or revising the State Implementation Plan. Grant assistance supports numerous State and local control efforts, including enforcement of emission regulations, development of emission inventories, application of dispersion modeling techniques, air quality monitoring, control strategy/ regulation development and development of programs for implementation of required transporation control measures and autombile inspection/maintenance (I/M). Emphasis is being given to improving State/local air quality monitoring, adoption by States of additional regulations for control of emissions of volatile organic compounds (VOC), implementation of new source review programs, particularly for the prevention of significant deterioration, increased inspections of major sources, and expedited enforcement actions. These activities are covered in the following program elements.

Control Agency Resource Supplementation Under the Clean Air Act, the control of air pollution at its source is primarily the responsibility of the States. States, in cooperation with local agencies, are responsible for developing and implementing plans to attain and maintain ambient air quality standards. EPA partially funds the operating costs of these State and local agency programs.

Training Resource assistance is further supplemented by the provision of training in specialized areas of air pollution control. Since July 1, 1976, the EPA Air Pollution Training Institute at Research Triangle Park, North Carolina, has been operated under contract. New courses are developed as needed, instruction manuals and materials are revised and updated, laboratory courses at Research Triangle Park are conducted, and manuals and instructional materials are provided to university field centers. A small EPA staff monitors the contract, maintains liaison with Regional Offices and State and local agencies, assesses changing training requirements, and ensures that those requirements are met. The EPA staff also works with regional university centers to develop State and local self-sufficiency in training by offering courses at field locations.

CONTROL AGENCY RESOURCE SUPPLEMENTATION

1980 Accomplishments

The 1980 resources included $82,758,700 in extramural funds. In 1980, major air management efforts included: completion of submittals of 1979 State Implementation Plans (SIPs) for the attainment of National Ambient Air Quality Standards (NAAQS) and follow up actions to meet conditions specified in EPA approvals; development of programs for automotive inspection/maintenance (I/M), transportation control, and the regulation of sources emitting volatile organic compounds (VOC).

State/local monitoring programs continued efforts to establish the National Air Monitoring Stations (NAMS) Network, including necessary quality assurance programs, and to prepare a comprehensive data base for the 1982 ozone (O_3) SIP within the larger urban nonattainment areas. Enforcement activities focused on major stationary source compliance.

1981 Program

In 1981, The Agency allocated $87,673,000 in the Abatement, Control and Compliance Appropriation. SIP implementation with emphasis on programs for inspection/maintenance, transportation controls, and the control of additional sources of volatile organics will continue. Enforcement activities will focus on major source compliance, including assessments of noncompliance penalties. States will develop and implement programs for the review and permitting of new sources for the prevention of significant deterioration (PSD) and the regulation of automotive tampering and fuel switching. State/local efforts will focus on the completion of NAMS by the January 1981 deadline and the completion of a data base in preparation for the 1982 O_3 SIP submittal for all areas granted attainment date extensions beyond 1982.

1981 Explanation of Changes from Budget Estimate

There is no change from the budget estimate.

1982 Plan

The Agency requests a total of $87,734,900 for this program, an increase of $61,900 from 1981. Essential management and administrative functions will be maintained, including submittal of 1982 ozone/CO SIPs, enactment of required additional VOC controls, enforcement where delegated of national emission standards for hazardous air pollutants (NESHAP) and new source performance standards (NSPS), and maintenance of current ambient monitoring efforts. Development and implementaion of in-use vehicle control programs, including inspection/maintenance (I/M), transportation controls, and anti-tampering/fuel switching will proceed. State implementation of the program for prevention of significant deterioration (PSD) for total suspended particulates (TSP) and sulfur dioxide (SO_2) will continue. Incorporation of regulatory reforms (e.g., "bubble" and "banking") while insuring compatibility with progress toward ambient air quality standard attainment will receive increased attention, including efforts to institutionalize these reforms into current State regulation development efforts. In addition, some States will begin to develop programs to deal with air toxics, including problems involving incineration and emissions from industrial complexes in densely populated urban areas. Special efforts will be made to optimize current programs for the regulation and control of VOC for limiting toxic and potentially toxic air emissions. A limited number of States will also begin to develop and implement pilot/demonstration programs to assess non-compliance penalties. In order not to circumvent state employment policies or responsibilities, the state assignee program will be phased out in 1982.

Change From January Request

This request represents a decrease of 48 now permanent workyears from the January budget reflecting the decision to phase out the state assignee program.

TRAINING

1980 Acomplishments

The 1980 resources included $1,022,500 in extramural funds. Eighty-one direct training courses were conducted and eight courses were developed or revised. Graduate level traineeships were provided for 36 control agency employees and employees doing graduate work at the Environmental Mangement Institute at the University of Southern California. Under EPA grants to Colorado State University, mechanic training related to motor vehicle inspection/maintenance programs was was conducted.

1981 Program

In 1981, the Agency has allocated a total of $1,357,600 and 6 permanent work years, of which $289,200 is for Salaries and Expenses and $1,068,400 is for extramural purposes in the Abatement, Control and Compliance appropriation. Seventy four training courses will be conducted in 20 subject areas for about 1,900 trainees. Three hundred and forty trainees will complete selfinstructional courses, three new courses will be developed and five courses will be revised. Approximately 25 control agency employees will be supported by graduate traineeships.

1981 Explanation of Changes from Budget Estimate

The net increase of $277,800 results from several actions, as follows:

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $1,600.

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $2,000.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,000 was applied to this activity.

- The Congress increased the Abatement, Control and Compliance appropriation by $278,900 to support academic training.

- An increase of $3,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs result in a transfer of $128,500 to Emission Standards and Technology Assessment ($74,200); and to State Program Guidelines and Regulations Development ($54,300).

- Reprogramming of $74,200 from Emission Standards and Technology Assessments; and $54,300 from State Program Guidelines and Regulations Development, to realign contract funds.

1982 Plan

The Agency requests a total of $1,042,800 and 6 permanent workyears for this program, of which $381,800 is for the Salaries and Expenses Appropriation and $661,000 is for the Abatement, Control and Compliance Appropriation. This is an increase of $92,600 and a decrease of $407,400 respectively from 1981. Increased payroll costs and regional assumption of some control agency employee training are reflected in these shifts.

The development and conduct of training on basic aspects of air pollution control will continue in 1982. Twenty-eight training courses will be conducted for 980 trainees and graduate traineeships to 20 control agency employees will continue.

Change From January Request

This request represents no change from the January budget.

AIR

Air Quality Strategies Implementation

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Air Quality Management Implementation:					
Salaries and Expenses..	$9,644	$8,655	$9,388	$ 9,184	-$204
Abatement, Control and Compliance.....	197	221	259	43	- 216
Total.....	9,841	8,876	9,647	9,227	- 420
Permanent Positions.....	318	288	275	275	...
Full-time Equivalency....	356	313	299	299	...

Budget Request

The Agency requests a total of $9,227,200 and 275 permanent workyears, a decrease of $419,100 from 1981. Included in this total is $9,184,300 for Salaries and Expenses and $42,900 for the Abatement, Control and Compliance appropriation, a decrease of $203,500 and $215,600 respectively. The decrease reflects greater efficiencies in the SIP revision process.

Program Description

This subactivity includes the provision by the regional offices of policy direction and guidance to States in the development and implementation of strategies for the attainment and maintenance of National Ambient Air Quality Standards and the conduct of other control activities required to meet the goals of the Clean Air Act. This involves the review of State developed strategies for consistency with the requirements of the Clean Air Act and EPA regulations, and tracking the schedules set forth in these strategies, including assessments of State progress toward attaining standards by the statutory deadlines.

It also includes the development by EPA of strategies for specific geographical areas where States do not prepare adequate plans for attaining and maintaining standards; the incorporation of these control strategies into appropriate Federal regulatory action; and the interaction with State and local governments in implementing these strategies. Other major activities include the audit of State and local control agencies for adherence to Federal requirements and guidelines; consultation with State and local control agencies on specific air pollution control problems; review of the impact of new sources of air pollution; and the management of State and local agency grant resources and their allocation.

Air Quality Management Implementation - The Clean Air Act Amendments of 1977 specify stringent criteria for preparing State Implementation Plans (SIP) and substantially increase the number of plans required. Therefore, major efforts are required for the review and approval of the SIPs and for the promulgation of plans where State plans are inadequate.

Major efforts are also necessary to provide guidance to States in meeting the commitments made in SIP submissions which are essential to the attainment of standards, including establishment of mandatory automotive inspection/ maintenance programs, adoption of transportation control measures, evaluation of urban fugitive dust and additional stationary source controls.

Major EPA regional office activity is also required to guide States in developing the necessary data base and strategy demonstrations which are required for the 1982 SIP submission for ozone and carbon monoxide, where an extension of time for attainment under the Act has been granted. This includes extensive interaction with local elected officials, metropolitan planning organizations, State transportation departments, and the State air pollution control agencies, and requires major EPA regional office coordination efforts. EPA regions must participate actively with the States in the local planning processes to assure that air quality considerations are taken into account in a meaningful way and that the local plans, particularly the transportation elements, are integrated into the SIP as enforceable measures in a timeframe consistent with the requirements of the Act. These activities are expected to extend through 1982. Similar activities will have to be carried out to develop and review SIPs for lead and for other revisions to standards as required by the Act.

The 1977 Amendments also impose major new requirements on the process for reviewing new sources of pollution to assure that they will not cause deterioration of air quality in areas attaining the National Ambient Quality Standards (NAAQS), or that will not delay attainment or aggravate current problems in areas not yet attaining the NAAQS. The determination of best available emission control technology, analysis of air quality impact, selective source siting, and emission trade-off analyses are all integral to this review process and will require EPA regional office resources.

AIR QUALITY MANAGEMENT IMPLEMENTATION

1980 Accomplishments

The 1980 resources included $197,500 in contract funds for the salaries of NOAA meteorologists who provide modeling support to EPA through assistance with computer programs, meteorological assessments and reviews of SIP models. The major efforts undertaken included the tracking, overview, and guidance of State efforts to complete development and begin implementation of the various schedules contained in the 1979 SIP. This included securing enabling legislation for mandatory I/M programs; enacting regulations for control of additional major source categories of volatile organic emissions; developing procedures and making commitments to establish I/M programs; analyzing transportation control measures potential; and analyzing and developing measures for control of urban fugitive dust. Also included was the annual review of State progress in meeting the reasonable further progress (RFP) requirement of the 1977 Amendments to the Clean Air Act. The meeting of these requirements is essential to assure attainment of air quality standards.

In 1980, the EPA regional offices also provided guidance and review of state lead SIP submissions, and the development of the required 1982 SIPs in nonattainment areas for ozone and carbon monoxide, where EPA has approved a time extension for attainment of standards. This effort focuses upon the development of new emission inventories and other data bases and requires a more sophisticated demonstration of air quality standard attainment.

Other activities included the overview of State new source review programs, including the audit of selected State reviews to insure consistency with the requirements of the Clean Air Act and EPA regulations. EPA regions are actively assisting States in developing programs for the prevention of significant deterioration where such programs were not established in 1979.

1981 Program

In 1981, the Agency has allocated a total of $9,646,300 and 275 permanent workyears to this program, of which $9,387,800 is for the Salaries and Expenses appropriation and $258,500 is for extramural purposes under the Abatement, Control and Compliance appropriation. EPA regional offices will maintain the 1980 emphasis on follow-up and implementation of the 1979 nonattainment SIPs, development of the 1982 ozone/CO SIPs, and State assumption of responsibility for New Source Review/Prevention of Significant Deterioration. Regional offices will follow up on SIP commitments and schedules for I/M, TCM, and fugitive dust programs. States requiring additional controls on emissions of volatile organics (VOC) will be assisted in developing consistent regulations. States will be assisted in reviewing applications for use of the "bubble", a method of assessing emission limitations that covers the emissions from the entire facility.

Regions will continue to assist States in completing the 1982 ozone and CO SIPs. In 1981, many I/M programs will be completing the pilot or demonstration phases, and decisions will be made on full-scale implementation. Transportation control measures will be selected and programs for implementation will be presented to the public and appropriate agencies for support and implementation. EPA involvement and leadership is critical in these areas.

The management of NSR is especially important in 1981, as many States will just have assumed responsibility for the program. State/local actions which may adversely impact on ambient air quality standards under Sections 109(j) of the Federal Highway Act and 176(c) of the Clean Air Act will be reviewed for consistency with SIPs.

1981 Explanation of Changes from Budget Estimate

The net increase of $770,600 results from several actions, as follows:

- OMB Bulletin #81-7, January 24, 1981 "Fiscal Year 1981 Travel Reduction",required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $54,500.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $1,900.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $5,800 .

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $4,000.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $52,700.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $819,400

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses; The reduction applied to this activity is $55,700.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $6,600 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $6,700 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $22,400 was applied to this activity.

- An increase of $142,400 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $54,500 to Ambient Air Quality Monitoring (-$9,400); from regional management ($24,200); to Stationary Source Enforcement (-$94,300); from Water Quality Permit Issuance ($5,800); from Water Quality Enforcement ($12,300); and from Radiation Program Implementation ($6,900).

- Reprogrammings to support an interagency agreement resulted in a transfer of $13,100 from Ambient Air Quality Monitoring.

- Reprogrammings of $3,900 from planning, evaluation and analysis reflect the need to increase technical resources available to work on the CAA amendments and the evaluation of sewage sludge incinerators.

- Reprogrammings of $12,800 from Ambient Air Quality Monitoring provide for the services of a meteorologist through an interagency agreement with NOAA.

- Reprogrammings of $15,000 from noise regional program implementation to support SIP efforts.

- Reprogrammings to support SIP activities in the areas of technical review of SIPs, SIP certification review and docket control resulted in a transfer of $135,000 from Ambient Air Quality Monitoring ($54,000); from Stationary Source Enforcement ($43,100) and from noise regional program implementation ($37,900).

- Reprogrammings of $20,300 to Ambient Air Quality Monitoring to provide for the funding of an interagency agreement.

- Reprogrammings of $27,100 to pesticides use management to support the implementation of a Federal pesticide program.

- Reprogrammings to realign contract funds resulted in a transfer of $50,200 to hazardous waste enforcement (-$10,000); to uncontrolled hazardous waste sites (-$39,500); and to toxic substances enforcement (-$700).

- Reprogrammings of $4,000 to uncontrolled hazardous waste sites were made to reallocate travel funds.

- A transfer of $4,600 was made to the Office of Inspector General in order to provide additional resources to that Office.

1982 Plan

The Agency requests a total of $9,227,200 and 275 permanent workyears for this program, of which $9,184,300 is for the Salaries and Expenses appropriation and $42,900 is for the Abatement, Control, and Compliance appropriation.

Essential regional offices management functions will be: rulemaking on all State-submitted regulatory actions as well as EPA-initiated SIP revisions; Section 105 grants program management; completion of all major new source review/prevention of significant deterioration activities including PSD Set I SIPs; management of all 1982 ozone and CO SIPs, VOC regulations and TCM programs; and activities related to continuing required I/M programs.

In addition, Regional Offices will continue to develop State/EPA agreements, perform program planning and budgeting, and conduct performance evaluations of large grantee agencies and consistency audits.

EPA will initiate regulatory reform implementation, and toxic pollutant controls. One significant area of airborne toxics which will receive particular attention is the emissions generated in large incinerators, both industrial and municipal. These incinerators are expected to be increasingly used for hazardous as well as conventional wastes.

Change From January Request

This request represents a decrease of $3,478,000 and 36 permanent workyears from the January budget, of which $1,278,000 is for Salaries and Expenses and $2,200,000 is for Abatement Control and Compliance. The decreases reflect simplified SIP review procedures.

AIR

Mobile Source Preproduction Compliance Verification

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Preproduction Compliance Verification:					
Salaries and Expenses..	$1,752	$2,128	$1,827	$1,952	$+125
Abatement, Control and Compliance.....	26	754	102	347	+245
Emissions Testing, Analysis and Data Support for Preproduction Compliance Verification:					
Salaries and Expenses..	1,395	1,534	1,587	1,625	+ 38
Abatement, Control and Compliance.....	261	168	120	234	+117
Total:					
Salaries and Expenses..	3,147	3,662	3,414	3,577	+163
Abatement, Control and Compliance.....	287	922	222	584	+362
Grand Total.....	3,434	4,584	3,636	4,161	+525
Permanent Positions					
Preproduction Compliance Verification.....	50	55	42	34	-8
Emission Testing, Analysis and Data Support for Preproduction Compliance Verification.....	19	29	34	26	-8
Total.....	69	84	76	60	-16
Full-time Equivalency					
Preproduction Compliance Verification.....	62	65	54	45	-9
Emission Testing, Analysis and Data Support for Preproduction Compliance Verification	37	42	54	37	-17
Total	99	107	108	82	-26

79-248 O—80——18

Budget Request

The Agency requests a total of $4,161,400 and 60 permanent workyears for 1982, an increase of $524,800 and a decrease of 16 permanent workyears from 1981. Included in this total is $3,577,100 for Salaries and Expenses and $584,300 for Abatement, Control and Compliance, an increase of $162,500 and $362,300 respectively. Increases in this subactivity provide for implementing new improvements in the certification and fuel economy programs. The decrease in permanent workyears reflects efficiencies in certification and a shift in emphasis to in-use vehicle compliance.

Program Description

This subactivity includes: (1) engineering review and confirmatory testing of prototype motor vehicles and engines in order to certify their compliance with emission standards and verify their fuel economy values; (2) semi-annual publication of fuel economy guides and calculation of corporate average fuel economy values; and (3) related technical, program development, and data processing support.

EPA is currently implementing improvements in its certification program. In previous years, motor vehicle manufacturers' complete lines of vehicles and engines had undergone an extensive review and verification process carried out by EPA. The full certification process involves the submission of applications to EPA by the manufacturers; the development of emissions performance information by manufacturers or EPA on the basis of prototype vehicle testing; and the review of these data by EPA for the purpose of determining compliance with standards. However, the potential air quality impact of improperly certifying a vehicle is not equal for all manufacturers or engine families. Rather, the air quality risk is related to the degree of failure and the number of vehicles sold. Consequently, EPA has undertaken reforms to this program which reduce the paperwork, reporting, and testing burdens on the automobile, truck, and motorcycle industries by giving them more control over the management of the certification process and by limiting EPA involvement primarily to non-routine questions which arise and final review of the completed application.

The certification process also results in the generation of vehicle fuel economy data. These data are the foundation of EPA's fuel economy public information activities (carried out jointly with the Department of Energy), and are used to support the Department of Transportation's program of compliance with the fuel economy standards as required by the Energy Policy and Conservation Act.

MOBILE SOURCE PREPRODUCTION COMPLIANCE VERIFICATION

1980 Accomplishments

The 1980 resources included $26,000 in contract funds for data processing and analytical support of certification and fuel economy testing. Essentially all manufacturers participated voluntarily in the revised certification process. Only a very few engine families suspected of compliance problems received the full EPA-directed review, which saved resources for both manufacturers and EPA.

Criteria for the review of vehicles using electronic control systems, which had undergone further refinement in 1979, were implemented, as were parameter adjustment regulations. The model year 1981 light duty vehicles (which underwent certification during this year) met more stringent emissions standards for CO, NO_x and evaporate hydrocarbons. Implementations of these tighter standards completed the required changes in the basic light duty vehicle standards program, as required by the Clean Air Act Amendments of 1977.

Support to the Department of Transportation's fuel economy program received a greater level of effort than in 1979. A high priority was placed on procedural improvements aimed at assuring more reliable fuel economy values and on an increased level of testing to assure improved compliance with fuel economy standards and better fuel economy public information.

1981 Program

In 1981, the Agency has allocated a total of $1,929,300 and 42 permanent workyears to this program, of which $1,827,300 is for Salaries and Expenses and $102,000 is for extramural purposes under the Abatement, Control and Compliance appropriation. The model year 1982 certification process will include for the first time implementation of a particulate standard for light duty vehicles. Final high altitude performance adjustment rules will be implemented.

In the area of fuel economy information, revised regulations to improve the representativeness of fuel economy data and revise the fuel economy labels and data base will be promulgated. As part of the national fuel economy program, EPA will continue to provide data for bi-annual publication of the Gas Mileage Guides by DOE and verification of corporate average fuel economy (CAFE) standards compliance by DOT.

1981 Explanation of Changes from Budget Estimate

The net decrease of $953,000 results from several actions, as follows:

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personned compensation and benefits (PC&B) deficits. The reduction applied to this activity is $9,200.

- Agencywide increase are required in order to fund the PC&B deficits; the increase applies to this activity is $50,000.

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this ativity is $12,200.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,500 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $51,300 was applied to this activity.

- An increase of $25,400 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogramming $652,000 to Mobil Sources Standards and Guidelines to support increased need for contract funds in the areas of inspection/maintenance, characterization, and technology assessment.

- Reprogramming $252,200 to Emission Testing, Analysis and Data Support for Standards, and Guidelines to reflect a reassessment of the needs for ADP and other in-house contracts, as well as laboratory equipment and supplies.

1982 Plan

The Agency requests a total of $2,299,100 and 34 permanent workyears for this program, of which $1,951,900 is for the Salaries and Expenses appropriation and $347,200 for the Abatement, Control and Compliance appropriation. This is an increase of $124,600 and $245,200 respectively, and a decrease of 8 permanent workyears from 1981. Decreased workyears are required as a result of simplification of the certification process and closer interface with SEA and recall activities, but these program efficiencies require increased contract resources.

The model year 1983 certification program will include implementation of new standards for light duty vehicles sold at high altitude. Certification of compliance with the emission standards will continue at a reduced level. In addition, a new set of procedures which reduce reporting and testing requirements in order to expedite the certification process for small manufacturers of light duty vehicles will be implemented.

In the fuel economy area, data will be reviewed and analyzed for potential problems more efficiently as a result of improvements in data handling and review systems. Corporate average fuel economy (CAFE) will be determined and transmitted to DOT. Fuel economy labels will be approved and the fuel economy guide data will be provided to DOE.

Change From January Request

This request represents a decrease of $555,000 and 19 permanent workyears from the January budget, of which $515,000 is for Salaries and Expenses and $40,000 is for Abatement, Control and Compliance. The decrease reflect changes in the certification program.

EMISSION TESTING, ANALYSIS AND DATA SUPPORT FOR PREPRODUCTION COMPLIANCE VERIFICATION

1980 Accomplishments

1980 resources included $261,500 in contract funds for support of emission testing and data processing activities. These resources supported laboratory and data processing activities associated with emission certification and fuel economy compliance.

1981 Program

In 1981, the Agency has allocated a total of $1,707,300 and 34 permanent workyears to this program, of which $1,587,300 is for Salaries and Expenses and $120,000 is for extramural purposes under the Abatement, Control and Compliance appropriation.

These resources provide for development of special facilities for testing diesel vehicles, laboratory support for certification and fuel economy, computer programming, and related administrative support to the certification and fuel economy programs.

1981 Explanation of Changes from Budget Estimate

The net increase of $5,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $6,800.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $800 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $41,800 was applied to this activity.

- An increase of $21,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to support increased need for contract funds in the areas of inspection/maintenance, characterization, and technology assessment resulted in a transfer to Mobile Sources Standards and Guidelines (-$48,000).

- Reprogrammings to reflect a reassessment of the needs for ADP and other in-house contracts, as well as laboratory equipment and supplies resulted in a transfer from Mobile Sources Standard and Guidelines ($30,900).

1982 Plan

The Agency requests a total of $1,826,300 and 26 permanent workyears for this program, of which $1,625,200 is for the Salaries and Expenses appropriation and $237,100 for the Abatement, Control and Compliance appropriation. This represents an increase of $37,900 and $117,100 respectively from 1981, which will be used primarily for improvements in the processing and analysis of data used in the fuel economy and certification programs. Due to streamlined operations in certification, reduced workyears are required in support services and for confirmatory testing. More sophisticated data generation will be needed as a result of revised fuel economy labels and new types of testing.

These resources provide both emissions and fuel economy testing. Capability for testing for compliance with the emission standards for 1984 model year heavy duty engines will be established. Correlation of the EPA test facility with manufacturer's test facilities will be established and additional correlation tests will be performed specifically for cases of suspected or established quality control problems.

Change From January Request

This request represents a decrease of $288,000 and 8 permanent workyears from the January budget, of which $281,000 is for Salaries and Expenses and $7,100 is for Abatement, Control and Compliance. The decrease reflects reduction in support services and confirmatory testing as a result of streamlined certification operations.

AIR

Trends Monitoring and Progress Assessment

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
	(dollars in thousands)				
Appropriation					
Ambient Air Quality Monitoring:					
Salaries and Expenses...	$2,533	$2,387	$2,516	$2,925	+$409
Abatement, Control and Compliance.....	58	320	181	311	+130
Air Quality and Emissions Data Analysis and Progress Assessment:					
Salaries and Expenses....	1,625	1,496	1,396	1,605	+209
Abatement, Control and Compliance.....	253	290	397	192	-205
Total:					
Salaries and Expenses....	4,158	3,883	3,912	4,530	+618
Abatement, Control and Compliance.....	311	610	578	503	-75
Grand Total.....	4,469	4,493	4,490	5,033	+543
Permanent Positions					
Ambient Air Quality Monitoring.....	78	82	81	82	+1
Air Quality and Emissions Data Analysis and Progress Assessment.....	36	34	34	34	...
Total.....	114	116	115	116	+1
Full-time Equivalency					
Ambient Air Quality Monitoring.....	85	89	88	89	+1
Air Quality and Emissions Data Analysis and Progress Assessment.....	43	39	39	39	...
Total.....	128	128	127	128	+1

Budget Request

The Agency requests a total of 5,032,700 and 116 permanent workyears for 1982, and increase of $542,800 and one workyear from 1981. Included in this total is $4,529,900 for the Salaries and Expenses appropriation and $502,800 for the Abatement, Control and Compliance appropriation, and increase of $618,400 and a decrease of $75,600 respectively. Resource shifts primarily reflect increased payroll costs.

Program Description

This subactivity covers work related to monitoring ambient air quality, determining source emissions, analyzing their relationships and assessing the progress made toward the attainment of environment goals.

Ambient Air Quality Monitoring - Activity in this program includes: 1) EPA's management and overview of state ambient air quality monitoring networks, associated laboratory and field quality assurance activities and the implementation of air monitoring strategies as delineated in 40 CFR 58; 2) the coordination of regional and State field investigation activities for collecting ambient air quality samples, for subsequent sample analysis and related quality control; 3) the management of source emissions determinations, and 4) the necessary management and coordination for ensuring timely storage and validation of data obtained from the first three activities.

Air Quality Emissions Data Analysis and Progress Assessments - Major activities include national management of regional office, State and local ambient monitoring programs and issuance of new/revised regulatory requirements and related technical guidance; active oversight of the National Air Monitoring Stations (NAMS) to ensure continuing conformance with all regulatory criteria and adequacy of NAMS data for progress assessments and management decisions; operations of systems for storing, retrieving and analyzing ambient air quality and emission data; development and implementation of systems to meet user requirements, and preparation of trends analyses and related air quality and emission progress assessments for policy evaluation and development and to meet public information needs.

AMBIENT AIR QUALITY MONITORING

1980 Accomplishments

The 1980 resources included $57,600 in contract funds for quality assurance audits and equipment maintenance. The implementation of the air monitoring strategy through achievement of the requirements of 40 CFR 58 was the major activity during 1980. The regulatory requirements are to be phased in over a five year period beginning in 1979 and ending in 1983. Negotiations with States were completed for defining the State/local air monitoring stations (SLAMS) network needed for SIP purposes and which SLAMS would comprise the national network needed primarily for national trends and progress assessments.

The regions continued their program of on-site visits to review monitoring stations for conformance to EPA siting standards and to review laboratories for proper operating procedures and quality control.

A new program for auditing State quality assurance procedures for defining the quality of ambient data submitted to EPA was begun in 1980. Information from this program will provide data users with a check on the States' capabilities of generating precision and accuracy statements. Data base development for 1982 O_3 SIP revisions was initiated.

1981 Program

In 1981, the Agency has allocated a total of $2,696,700 and 81 permanent workyears to this program, of which $2,515,600 is for Salaries and Expenses and $181,100 is for extramural purposes under the Abatement, Control and Compliance appropriation. The regions will continue the overview and management of State monitoring programs. This effort includes the evaluation and review of State monitoring networks for conformance to EPA regulations, and for adequacy in meeting data needs for trends assessment, compliance evaluation, SIP development and evaluation. This evaluation and review is done on a network basis and on-site at individual monitoring stations.

The quality assurance program includes three basic functions: quality assurance audits of State monitoring systems, coordination of State data quality assessments, and validation of all NAMS data for adequacy and timeliness. Programs to validate SLAMS data from critical sites will be initiated. Assistance in special data collection efforts will be provided for the complex photochemical dispersion modeling used in 1982 ozone SIP development. Regions will also actively participate in data collection efforts in all cities where trajectory models are required for the 1982 submittals and in data base development in large urban areas for particulate control strategies.

EPA will provide management and coordination with States to ensure that necessary State emission inventories are submitted and stored in the national data bank (NEDS). This is necessary to ensure that special analyses for individual nonattainment strategy problems can be undertaken. Regions will participate in performance audits of their laboratories, provide response to emergency spills or air episodes, and overview source operated monitoring networks in controversial PSD or energy source sitings.

1981 Explanation of Changes from Budget Estimate

The net decrease of $10,700 results from several actions, as follows:

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $10,600.

- OMB Bullent #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $11,000.

- An internal agencywide reduction of $6,550,000 to equipment cost is being made in order to fund PC&B deficits; the reduction applied to this activity is $56,000.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $1,500.

- Agencywide increase are required in order to fund the PC&B deficits; the increase applied to this activity is $36,200

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted

in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $15,100.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $25,700 was applied to this activity.

- An increase of $36,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogramming to realign salary and related costs to meet on-board needs resulted in a net transfer of +$102,700 from air quality management implementation ($23,600); from water quality enforcement ($71,100); to stationary source enforcement (-$1,300); to State programs regulations and guidelines (-$7,600); and from municipal waste treatment facility construction ($16,900).

- Reprogramming of $13,100 to air quality management implementation to support an interagency agreement.

- Reprogramming of $4,300 to ambient water quality monitoring to realign contract funds.

- Regional reprogrammings resulted in a net decrease of -$14,200.

- Reprogramming of $12,800 to air quality management implementations to provide for the services of a meteorologist through an interagency agreement with NOAA.

- Reprogramming of $22,900 to hazardous waste management regulatory strategy implementation to provide for sample analysis of hazardous materials.

- Reprogrammings to support the air quality monitoring program resulted in a transfer of $87,200 from energy review and permitting ($12,100); from noise regional program implementation ($31,300); and from stationary source enforcement ($43,800).

- Reprogramming of $54,000 to air quality management implementation to support SIP activities in the areas of technical review, certification review, and docket control.

- Reprogramming of $20,300 from air quality management implementation to provide for the funding of an interagency agreement.

- Reprogramming of $11,900 to noise regional program implementation to support the Senior Environmental Employment Program.

- Reprogramming of $8,200 to energy review and permitting to support an interagency agreement meteorologist from NOAA.

- Reprogramming of $32,000 to public systems supervision program assistance to realign contract funds.

1982 Plan

The Agency requests a total of $3,235,600 and 82 permanent workyears for this program, of which $2,925,100 is for the Salaries and Expenses appropriation and $310,500 for the Abatement, Control and Compliance appropriation. This reflects an increase of $409,500 and $129,400 respectively with one more workyear, and reflects reprogramming in both 1981 and and 1982 for increased payroll costs. The program of overview and management of States monitoring programs will continue.

Regional Offices will evaluate and review State monitoring networks for conformance to EPA regulations, perform quality assurance audits of State monitoring systems and performance audits of selected NAMS monitors, validate and coordinate the timely reporting and storage of air quality data to EPA data banks, prepare air quality profiles, and respond to air emergency episodes or spills. Necessary coordination for inhalable particulate data collection will be provided. SLAMS monitoring sites located in primary non-attainment areas will be evaluated for conformance to EPA regulations, as will monitoring networks for PSD or energy conversion sources. Quality assurance audits of large local agency monitoring sytems will be conducted.

Change From January Request

This request represents a decrease of $20,200 from the January budget all of which is from Salaries and Expenses, and reflects reductions in travel ceiling.

AIR QUALITY AND EMISSIONS DATA ANALYSIS AND PROGRESS ASSESSMENT

1980 Accomplishments

1980 resources included $253,200 in contract funds to support assessment of environmental trends and modification of NAMS Information System to permit direct user access to data. Major program emphasis included national management of State/local air monitoring programs, including periodic assessment of compliance with regulatory criteria and issuance of new/revised regulations and technical guidance; oversight of NAMS through comprehensive on-site audits, maintenance of detailed information base, interaction with Regional Office Coordinators, and issuance of periodic reports; operation and updating of EPA's national air data systems, training and consultation for system users, screening of current NAMS data and identifying and resolving anomalies in historical NAMS data; numerous special air quality and emission analyses to support policy and regulation evaluation and development; publication of annual air quality trends and emission statistics and reports; support for EPA developed data systems installed in 35 State/local agencies; and development of a new air system designed to be responsive to State, local and EPA user requirements.

A continuing program to perform comprehensive audits at a selected sample of NAMS was initiated with on-site visits at 329 monitors. Findings from these audits serve as a primary source of data for assessment of NAMS and provide clear documentation for the corrective actions needed to comply with EPA criteria. New software and related procedures which can display data graphically are being developed and made available to States. The preparation of a user requirements report, technical feasibility study and cost approximation study for the new system were completed.

Final designation of all NAMS was completed for most of the almost 1,300 monitors estimated to be required and should be concluded in 1981. Population exposure methods for carbon monoxide are being developed and tested and preparation of a strategy was begun for the optimum use of ambient and source monitoring and models. Regulations to revise monitoring regulations (Part 58) to include lead were proposed.

1981 Program

In 1981, the Agency has allocated a total of $1,793,200 and 34 permanent workyears to this program, of which $1,395,900 is for Salaries and Expenses and $397,300 is for extramural purposes under the Abatement, Control and Compliance appropriation. Emphasis will continue on operation and updating of existing air data systems, on providing training and guidance to system users, and responding to requests from the public. For

the EPA-developed systems installed in 35 State/local agencies, assistance and training services will be continued and systems will be upgraded and modified through software packages to be distributed to users.

Major efforts will be continued to oversee the implementation of EPA's revised air quality surveillance regulations. Comprehensive on-site audits for an additional 250 NAMS will be conducted to assess compliance with the regulations. Procedures will be developed to link precision and accuracy values to NAMS data, and incorporating these into national trends analyses and other reports which will rely on NAMS as the primary source of data. By the end of 1981, all NAMS are expected to meet site criteria, use EPA reference methods, and have quality assurance programs fully operational. The program to identify and resolve anomalies in historical NAMS data will be continued.

1981 Explanation of Changes from Budget Request

The net increase of $7,800 results from several actions, as follows:

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $20,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $2,000.

- Shortly after the 1981 budget estimate submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $7,100.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $17,600 was applied to this activity.

- An increase of $17,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Offsetting transfers of $107,400 were made between this activity and State program guidelines and regulations in the Salaries and Expenses, and Abatement, Control and Compliance appropriations.

1982 Plan

The Agency requests a total of $1,797,100 and 34 permanent workyears for this program, of which $1,604,800 is for the Salaries and Expenses appropriation and $192,300 is for the Abatement, Control and Compliance appropriation. This reflects an increase of $208,900 and a decrease of $205,000 respectively, primarily due to increased payroll expenses.

Major 1982 program activities will be to operate existing air data systems and provide guidance to users, process data requests, and identify anomalies in historical NAMS data; modify software and data files to accommodate changes in the ambient standards and highest priority requests by users; produce the Annual Administrator's Report and several special air quality and emission analyses; provide national oversight of RO/State/local air monitoring programs; provide active management of NAMS (workshops,

manuals and data validation), maintain site information base on NAMS, and prepare periodic written assessments of the status of NAMS sites and data relative to regulatory criteria.

Results of current efforts to develop improved air quality indicators will be published and incorporated into national air publications; comprehensive, on-site audits at selected NAMS will be performed, and specifications for software and data base management systems for a new air data system will be developed.

Additional activities include: develop and evaluate statistical air quality models; prepare and publish trends analyses of selected non-criteria pollutants; prepare guidance to implement new air monitoring strategy and redesign non-criteria pollutant monitoring network; prepare operating instructions and training materials for data base management systems, and actively support users of the Comprehensive Data Handling System through improved software, troubleshooting and training services, etc.

Change From January Request

This request represents a decrease of $7,700 from the January budget all of which is from Abatement, Control and Compliance. There is no significant effect on the program.

AIR

Stationary Source Enforcement

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Stationary Source Enforcement:					
Salaries and Expenses....	$13,263	$13,736	$14,029	$16,101	+2,072
Abatement, Control and Compliance	11,356	10,697	10,009	9,841	-168
Total	24,619	24,433	24,038	25,942	+1,904
Permanent Positions	444	471	437	473	+36
Full-time Equivalency	487	507	472	507	+35

Budget Request

The Agency requests a total of 25,941,700 and 473 permanent workyears in 1982, an increase of $1,904,200 and 36 permanent workyears from 1981. Included in this total is $16,100,500 for Salaries & Expenses and $9,841,200 for Abatement, Control and Compliance, with an increase of $2,072,000, and a decrease of $167,800, respectively.

Program Description

The Stationary Source Air Enforcement program is designed to effectively utilize the enforcement authorities provided by the Clean Air Act, as amended in 1977, to ensure that all sources comply with requirements of State Implementation Plans (SIPs); that new stationary air sources are constructed in accordance with applicable New Source Review (NSR), New Source Performance Standards (NSPS), and Prevention of Significant Deterioration (PSD) provisions; that new and existing sources subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAPS) meet hazardous air pollutant standards; and that relevant provisions of the Power Plant and Industrial Fuel Use Act of 1978 are implemented.

The major concentration of the stationary source air enforcement program efforts has been the major source enforcement effort (MSEE) initiated in 1978. EPA initiated this accelerated enforcement against major stationary source violators which had never come into initial compliance with applicable requirements of the Clean Air Act and the Clean Water Act. The stationary source enforcement program is continuing its part of the MSEE by developing and concluding, through settlement and litigation, cases against large stationary source violators and by ensuring compliance by closely tracking source compliance schedules, generally incorporated in judicial consent decrees.

A major element of this program's responsibility is the implementation of certain new regulations under the Clean Air Act. The noncompliance penalty regulations under Section 120, for which implementation began on January 1, 1981, create a positive incentive for compliance for many major sources in violation. Regulations are also

being implemented under Section 119 of the Act, relating to issuance of administrative orders to primary nonferrous smelters for the control of sulfur oxide emissions. The smelter order program should accelerate the movement toward compliance for the smelter industry.

Further, there will be an expanded commitment to develop a comprehensive strategy in cooperation with the States to ensure continuous compliance by stationary sources. Until this program can be fully implemented, EPA will ensure compliance through support of a strong continuous emissions monitoring program.

EPA assists State air enforcement efforts by supporting State control agencies through control agency grants, and by providing specialized skill and expertise and special contractual assistance. EPA will take the primary enforcement role with respect to selected sources when the States cannot or will not enforce.

1980 Accomplishments

As of December 1980, EPA had initiated 356 civil/criminal actions against air stationary source facilities and concluded 86 of these cases. Several major air pollution control agreements were concluded during 1980, including settlements with steel firms and power plants, which will significantly reduce sulfur dioxide and particulate emissions.

During 1980, EPA promulgated regulations which establish procedures by which EPA and States will assess and collect noncompliance penalties under Section 120 of the Clean Air Act. The regulations also set forth the means by which the States may assume delegation of the noncompliance penalty program. Further, regulations were promulgated which establish the substantive requirements of initial primary nonferrous smelter orders (NSOs) issued under Section 119 of the Clean Air Act and the procedures to be used in issuing those NSOs. EPA and States have already received, and are currently reviewing, many letters of intent and applications for NSOs.

For 1980, planned contract expenditures were $11,356,000 included $4,984,000 for enforcement case support; $4,640,000 for compliance monitoring and field surveillance; $457,000 for regional data system support; $1,275,000 for regional industrial studies support.

1981 Program

In 1981, the Agency has allocated a total of $24,037,500 and 437 permanent workyears for this program, of which $14,028,500 is for Salaries and Expenses and $10,009,000 is for extramural purposes under the Abatement, Control and Compliance appropriation.

During 1981, concluding the remaining cases on the MSEE list as rapidly as possible will be a very important objective. Once a case is concluded, the compliance schedule or consent decree must be tracked closely until the source is confirmed as being in compliance.

Also, EPA will implement Section 120 by assuring that evidence of violation for major source violators is current and complete, and proceed with the issuance of notices and the conduct of adjudicatory hearings where necessary. Another substantial effort will be EPA support of continuous emisssions monitoring programs which will ensure continuous compliance by stationary sources of air pollution. Other important activities during 1981 will be the issuance of new source permits under the prevention of significant deterioration (PSD) program, with particular attention to expeditious

issuance of energy-related permits, issuance of Section 119 primary non-ferrous smelter orders, responses to any Section 110(f) energy emergencies, issuance of Section 113(d)(5) delayed compliance orders due to coal conversion, and continued enforcement of NSPS and NESHAPS.

Planned contract funds for 1981 total $10,009,000. Activities planned for these funds include $4.754,300 for enforcement case development, $4,053,600 for compliance monitoring and field surveillance, $800,700 for regional industrial, techical, and economic studies, and $400,400 for regional data system support. An increase in the rate charged by contractors has resulted in a more limited contractor support program, which is reflected in part in the reduction in the projected number of overview inspections which are accomplished largely by contactors.

1981 Explanation of Change from Budget Estimate

The net decrease of $395,100 results from several actions, as follows:

- OMB Bullentin #81-7, January 24, 1981 "Fiscal Year 1981 Travel Reduction", required agencywide reduction to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $65,500.

- OMB Bulletin #81-8 Janauary 24, 1981, "Reductions is Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $30,900, which is to be rescinded.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $2,500.

- An internal agencywide reduction of $6,550,000 to equipment cost is being made in order to fund PC&B deficits; the reduction applied to this activity is $152,400.

- An internal agencywide reduction of $1,790,800 to other contractural services is being made in order to fund PC&B deficits; the reduction applied to this is $23,800.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $245,300.

- Agencywide increase are required in order to fund the PC&B deficits; the increase applied to this activity is $ 665,400.

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revision to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA"s request for Salaries and Expenses. The reduction applied to this activity is $83,700.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $51,700 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $90,500 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $310,600 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $22,600 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $46,700 was applied to this activity.

- An increase of $204,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings of +$423,000 to realign salary and related costs to meet on-board needs resulted in transfers from air quality management implementation ($82,300); from water quality enforcement ($271,800); from standards and regulations ($16,600); from public systems supervision program assistance ($28,400); to regional counsel ($6,800); from ambient air quality monitoring ($1,300); to water quality permit issuance ($30,300); from air quality management implementation ($12,000); from state programs regulations and guidelines ($20,000); from environmental emergency response and prevention ($9,400); from uncontrolled hazardous waste sites ($20,000), and to mobile source enforcement ($1,700).

- A transfer of $88,900 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil non-compliance penalties under Section 120 of the Clean Air Act.

- Transfer $204,900 to uncontrolled hazardous waste sites within the Office of Enforcement to provide a level of funding consistent with prior year's experience.

- Transfer $123,500 to pesticides enforcement within the Office of Enforcement to support grant activities.

- Transfer $43,800 to ambient air quality monitoring.

- A transfer of $50,700 was made to the radiation media in order to support the Radiation Policy Council.

- Transfer $43,100 to air quality management implementation to support SIP activities in the areas of technical review, certification review and docket control.

- Transfer $1,900 to toxic substances enforcement for PCB compliance inspections and PCB and asbestos lab analysis.

- Transfer $5,000 to toxic substances enforcement to realign contract funds.

1982 Plan

The Agency requests a total of $25,941,700 for this program, of which $16,100,500 is for the Salaries and Expenses appropriation and $9,841,200 is for the Abatement, Control and Compliance appropriation, an increase of $2,072,000, and a decrease of $167,800, respectively. The majority of these resources will be used to bring major

violators of SIPs, NSPS, and NESHAPS regulations into compliance through the use of Section 113 and Section 120 provisions as well as to respond to the increase in compliance monitoring inspections, emissions monitoring, and civil/criminal actions initiated.

The major source enforcement effort will conclude most of the cases initiated by settlement or litigation in 1981. Therefore, the workload associated with the MSEE in 1982 will primarily be in tracking and monitoring the hundreds of compliance schedules for these sources.

In order to prevent regression from the significant levels of compliance achieved by stationary sources, EPA is greatly increasing its efforts at ensuring continued compliance by sources which have achieved initial compliance with air quality regulations. EPA will be working with the States to develop a long-term comprehensive national strategy that will ensure that sources operate and maintain their control equipment and follow other compliance measures properly. This strategy will identify industries that will be focused upon initially, and will identify appropriate enforcement tools to handle continuous compliance actions. Since this effort is oriented towards a broad, long-term solution, EPA will also continue to address the problem through greatly increasing continuous emissions monitoring (CEM) data validation and initiating enforcement actions based on CEM data. CEM is expected to be a significant element in the long-term strategy and expanded experience with CEM enforcement techniques is critical in the interim.

During 1982, the Section 120 noncompliance penalty program will continue to be implemented. This program should be an effective method for creating incentives for compliance. EPA will also continue implementation of the primary nonferrous smelter order (NSO) program under Section 119 of the Clean Air Act. Any smelter receiving an NSO is permitted to defer compliance with the sulfur dioxide emission limitation to which it is subject under an applicable SIP. Initial NSOs may extend through January 1, 1983. A smelter that receives a Section 119 order will be placed on a compliance program which includes interim controls, and a research and development program to investigate and demonstrate control methods that are economically and technologically feasible. A major effort during 1982 will be monitoring the compliance programs and the research and development programs of these smelters.

The Agency will continue to encourage delegation of responsibility for PSD permitting and enforcement of NSPS regulations to the States. EPA will focus its attention on review of and assistance to State programs and, where necessary, initiating enforcement actions against sources not possessing new source permits or constructing in violation of permit requirements.

Enforcement of NESHAPS regulations for vinyl chloride, asbestos, beryllium and mercury will continue to be a high priority of this program. In addition, new standards for benzene storage, ethyl styrene and malaeic anhydride will be promulgated in 1982, and EPA will have to initiate a program to review waiver requests.

An area of important attention is the relationship and balance between environmental and energy concerns. The Power Plant and Industrial Fuel Use Act of 1978 (FUA) prohibits, with exemptions, new power plants and new major fuel burning installations from using natural gas or petroleum as a primary energy source. Exemptions can be granted by the Department of Energy (DOE) where environmental requirements could not be met if coal is burned as the primary energy source. EPA must work with DOE to ensure that these new sources are constructed in accordance with applicable environmental requirements and will continue to expedite issuance of energy-related PSD permits.

79-248 O—80——19

In addition, certain existing power plants having the technical capability to use coal may be required to convert under FUA. Upon conversion, these sources will still have to meet environmental standards. Also, as part of EPA's energy-related programs, EPA will provide quick and thorough responses in these situations, including issuance of Section 113(d)(5) delayed compliance orders.

Contract funds requested in 1982, totalling $9,841,200 include $5,000,000 for enforcement case development, $4,144,600 for compliance monitoring and field surveillance $246,600 for regional industrial technical and economic studies, $450,000 for data support.

Change from January Request

This request represents a decrease of $1,045,300 and 25 permanent workyears from the January budget, all of which is for salaries and expenses. As a result of this decrease, we will rely more heavily on voluntary source data to obtain experience with utilization of continuous emission monitoring techniques, in the development of a long-term national continuous compliance strategy during 1982.

AIR

Mobile Source Enforcement

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Mobile Source Enforcement:					
Salaries and Expenses...	$4,038	$3,883	$4,599	$3,854	-$745
Abatement, Control and Compliance.....	2,817	2,967	2,810	2,483	-327
Total.....	6,855	6,850	7,409	6,337	-1,072
Permanent Positions.....	115	118	117	100	-17
Full-time Equivalency.....	157	152	159	133	-26

Budget Request

The Agency requests a total of $6,336,900 and 100 permanent workyears for 1982, a decrease of $1,072,000 and 17 workyears from 1981. Included in this total is $3,854,300 for Salaries and Expenses and $2,482,600 for Abatement, Control and Compliance, with a decrease of $744,700 and $327,300, respectively.

Program Description

The mobile source enforcement program is directed primarily towards achieving compliance with motor vehicle emission standards and fuels regulations. The major goals and objectives are to (1) assure that new vehicles meet emission standards; (2) assure that vehicles meet emission standards in-use; (3) assure that emission control systems are not removed or rendered inoperative; (4) assure control of hydrocarbon emissions during gasoline transfer operations; (5) assure that harmful additives are removed from gasoline; (6) administer California fuel and emission waivers; (7) administer the emission warranties; and (8) assure compliance with emissions inspection/maintenance (I/M) requirements and vehicle miles traveled (VMT) measures.

1980 Accomplishments

In 1980, the mobile source enforcement program continued to carry out its responsibilities under Title I and Title II of the Clean Air Act by emphasizing programs aimed at reducing the failure of vehicles to meet emission standards. In 1980, the mobile source enforcement program issued 38 selective enforcement test orders to manufacturers to test vehicles on the assembly line.

Recall investigations numbered 51 resulting in the recall of 1,146,700 vehicles. Manufacturers' production compliance procedures were enforced by conducting 17 audits. The tampering and fuel switching provisions were enforced by performing 731 new car dealership inspections, 898 fleet tampering/ fuel switching inspections, and 408 commerical repair facility inspections.

A total of 22,337 fuels inspections were conducted to assure compliance with the Stage I vapor recovery, unleaded, and octane disclosure provisions. A survey of 3,290 vehicle refuelings was also conducted to determine the rate at which vehicles requiring unleaded gasoline are being fueled with leaded gasoline. Results indicate that a rate of 8-10 percent fuel switching is occurring.

Approximately $2,817,200 in contract funds were obligated in 1980 in support of the above program activities.

1981 Program

In 1981, the Agency has allocated a total of $7,408,900 to this program, of which $4,599,000 is for Salaries and Expenses and $2,809,900 is for extramural purposes under the Abatement, Control and Compliance appropriation. The extramural funds will be used for recall emission testing, fuels inspections, antitampering and antifuel switching publicity, data management, fuel switching observations, and assistance to States and localities for unleaded gasoline inspections.

In 1981, the mobile source enforcement program will continue comprehensive enforcement of the antitampering and antifuel switching provisions aimed at reducing emissions from the in-use fleet. Inspection and investigatory efforts are coordinated nationally to focus on major private and municipal fleets, new car dealerships, and commercial auto repair facilities to maximize deterrent effect when violations are detected.

Other major activities in 1981 will be to continue the assembly line testing program for light duty vehicles and the recall program; administer the California fuel and emission waivers; conduct fuels inspections; and provide assistance to States and localities to conduct unleaded fuel inspections.

These enforcement activities will result in 35 selective enforcement audit vehicle test orders; recall investigations; 950 confirmatory/surveillance tests; 350 new car dealership inspections; 525 fleet tampering/fuel switching inspections; 350 commercial repair facility inspections; 25,000 combined fuels inspections; 7,000 fuel switching observations; 30 warranty investigations; and 25 production compliance audits.

1981 Explanation of Change from Budget Estimate

The net increase of $559,400 results from several actions, as follows:

- An increase of $61,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogramming of $51,100 to hazardous waste enforcement, to provide a level of funding consistent with prior year's experience.

- OMB Bulletin #81-7, Janauary 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $31,300.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $83,600.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $8,800.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $69,100.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $728,600.

- Transfer of $194,100 from air stationary source enforcement ($1,700) and from water quality permit issuance ($192,400) to realign PC&B costs.

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $22,100.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $13,200 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $43,100 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $87,500 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $1,600 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $13,200 was applied to this activity.

1982 Plan

The Agency requests a total of $6,336,900 and 100 permanent workyears for this program, of which $3,854,300 is for the Salaries and Expenses appropriation and $2,482,600 is for the Abatement, Control and Compliance appropriation. This total represents a decrease of $1,072,000 and 17 workyears over 1981. This decrease is due primarily to a reduction in selected I/M enforcement activities. Extramural funds will be used for recall emission testing, fuels inspections, fuel switching observations, data management, and assistance to States and localities for unleaded gasoline inspections.

In 1982, the selective enforcement audit (SEA) program will be continued in order to deter the production of nonconforming light duty vehicles. The SEA program assures that new vehicles on the production line are in compliance with emission requirements before being introduced in commerce.

The recall program will continue to assure compliance of in-use vehicles with emission standards. SEA activity, recall testing, and increased public contact due to federally enforceable warranty provisions will serve to identify a greater number of vehicle classes suspected of exceeding emissions standards in use.

The centralized enforcement program aimed at controlling tampering and fuel switching in order to reduce in-use emissions will be continued. This effort is intended to prevent further deterioration of the vehicle fleet before inspection/maintenance (I/M) programs are implemented.

In 1982, activities of the fuels program will include conducting 25,000 combined unleaded, vapor recovery, and octane inspections at service stations and fleet dispensing facilities. These inspections will be performed with State and/or private testing firms. The program will continue to monitor lead usage reports and the status of refiner efforts to achieve compliance with the lead phasedown program, administer the provision which prohibits the use of fuel and fuel additives, and administer the emission waivers as required.

During 1982, the major activities for the mobile source enforcement program will be to:

- Issue 28 vehicle SEA test orders
- Conduct 35 recall investigations
- Conduct 800 surveillance/confirmatory recall tests
- Conduct 9 inspection/investigation compliance audits
- Conduct 30 warranty investigations
- Conduct 300 new car dealership tampering inspections
- Conduct 475 fleet tampering/fuel switching inspections
- Conduct 300 commercial repair facility inspections
- Conduct 25,000 combined fuels inspections
- Conduct 7,000 fuel switching observations
- Provide technical enforcement assistance to 20 states/local governments to develop tampering programs

Change from January Request

This request represents a decrease of $357,400 and 11 permanent workyears from the January budget, all of which is for salaries and expenses. The decrease represents a change in the inspection and maintenance program commensurate with the reduction in the mobile source program.

AIR

Oxidants Non-Energy

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
		(dollars in thousands)			
Appropriation					
Environmental Processes and Effects:					
Salaries and Expenses.....	$1,857	$2,058	$1,785	$1,774	-$11
Research and Development....	5,684	5,758	5,091	5,294	+203
Scientific Assessment:					
Salaries and Expenses.....	252	236	275	182	-93
Research and Development....	104	157	110	115	+5
Technical Information and Liaison:					
Salaries and Expenses.....	224	219	202	200	-2
Research and Development....	2	14	14	7	-7
Monitoring Systems and Quality Assurance:					
Salaries and Expenses.....	1,119	1,099	957	1,197	+240
Research and Development....	525	485	707	428	-279
Health Effects:					
Salaries and Expenses.....	2,089	2,366	1,794	1,726	-68
Research and Development.....	3,298	4,499	3,291	4,816	+1,525
Environmental Engineering and Technology:					
Salaries and Expenses.....	619	627	628	653	+25
Research and Devlopment.....	1,715	1,774	1,774	1,681	-93
Total:					
Salaries and Expenses.....	6,160	6,605	5,641	5,732	+91
Research and Development....	11,328	12,687	10,987	12,341	+1,354
Grand Total.....	17,488	19,292	16,628	18,073	+1,445
Permanent Positions					
Environmental Processes and Effects.....	30	33	29	23	-6
Scientific Assessment.....	4	5	3	4	+1
Technical Information and Liaison.....	4	4	3	3	...
Monitoring Systems and Quality Assurance.....	17	15	16	15	-1
Health Effects.....	22	28	16	18	+2
Environmental Engineering and Technology.....	11	11	11	11	...
Total.....	88	96	78	74	-4

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
		(dollars in thousands)			
Full-Time Equivalency					
Environmental Processes and Effects	35	46	33	31	-2
Scientific Assessment	6	8	7	6	-1
Technical Information and Liaison	5	6	5	5	...
Monitoring Systems and Quality Assurance	22	22	22	22	...
Health Effects	33	34	21	21	...
Environmental Engineering and Technology	20	18	18	19	+1
Total	121	134	106	104	-2

* January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Budget Request

The Agency requests a total of $18,076,000 and 74 permanent workyears for 1982, an increase of $1,449,100 from 1981. Included in this total is $5,730,900 for Salaries and Expenses and $12,345,100 for Research and Development, with an increase of $88,300 and $1,360,800 respectively.

Program Description

This program has been developed under the auspices of the Oxidants Research Committee. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

The overall program provides scientific data on the health and environmental effects, including ecological effects and material damage, and on monitoring techniques for ozone, nitrogen dioxide, and other photochemical products to comply with Sections 108 and 109 of the Clean Air Act. The Clean Air Act requires that the criteria and standards be reviewed and, if necessary, revised every five years; therefore, continually updated information is needed to support maintenance or revision of the criteria and standards. As part of the projects which obtain such information, this program provides the regulatory program with techniques for the assessment of the transport and transformation processes involving ozone and nitrogen dioxide and their precursors, volatile organic compounds and nitric oxide. Various types of models including, but not necessarily limited to air quality simulation models, are developed to apply on local urban and regional scales. Appropriate field studies to obtain technical results needed to implement such models accompanying the model development work. Further, as part of this program, assessments are made through laboratory and field studies of transport and transformation processes by which photochemically generated products other than ozone and nitrogen dioxide are formed and eventually removed from the atmosphere into other media. This program also supports development and demonstration of the pollution control technologies capable of reducing or eliminating volatile emissions compounds emissions from industrial sources. Technical and cost data bases that support regulatory standards are provided for direct application by industry in solving pollution problems.

Activities and program proposals for each sub-program are presented individually in the following material.

SCIENTIFIC ASSESSMENT

1980 Accomplishments

In 1980, the Agency used a total of $356,400 for this sub-program, of which $252,000 was Salaries and Expenses and $104,400 was for extramural research activities.

The nitrogen oxides criteria document was completed as required by Section 108 of the Clean Air Act. The document was published and used to evaluate standards for nitrogen oxides. Assessments for nitrogen oxides, ozone, and other photochemical oxidants are contained in the oxidiants program.

1981 Program

In 1981, the Agency has allocated a total of $385,200 and 3 permanent workyears to this sub-program, of which $275,200 is for the Salaries and Expenses Appropriation and $110,000 is for extramural purposes under the Research and Development Appropriation.

The ozone criteria document published in 1978 will be revised. This revision will address new information on health effects from exposure to oxidants, i.e., recent scientific knowledge and criteria dealing with nitrogen oxides and airborne hydrocarbons. This revision is being done under Sections 108, 109, and 110 of the Clean Air Act which require that the document be re-evaluated every 5 years.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $7,800 results from several actions as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,200.

- Congress reduced agencywide consulting services by $3.8 million; a decrease of $1,300 was applied to this activity.

- An increase of $2,700 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogramming to realign contract funds resulted in a transfer of $47,000 from this activity.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $39,000.

1982 Plan

The Agency requests a total of $296,200 and 4 permanent workyears for this sub-program, of which $181,600 is for the Salaries and Expenses Appropriation and $114,600 is for extramural purposes under the Research and Development Appropriation.

This reflects a decrease of $93,600 in the Salaries and Expenses appropriation and an increase of $4,600 in the Research and Development appropriation. The net decrease of $89,000 reduces support for preparing the ozone criteria document.

The ozone criteria document which was begun in 1981 will be revised. The revision addresses recent scientific knowledge and criteria dealing with nitrogen oxides and airborne hydrocarbons.

Change From January Request

This request represents a decrease of $1,000 from the January budget for Salaries and Expenses. This will have no major programmatic impact.

TECHNICAL INFORMATION AND LIAISON

1980 Accomplishments

In 1980, the Agency used a total of $226,500 for this sub-program, of which $224,300 was for Salaries and Expenses and $2,200 was for extramural research activities.

The Technical Information Program supported the preparation and publication of the Research Outlook, the Research Highlights, technical information plans and guidance, and other general documents of interest to the environmental decision making community. Further, it managed systems which tracked ORD's research projects and resources. Specific accomplishments in the area of Oxidants included the publication and dissemination of three reports:

- A final report on Environmental Assessment of Source NO_x Control Technology.
- A User's Guide on Intermediate Screening Methods for Environmental Assessment of Fossil Energy Process Effluents.
- The 1980 Northeast Oxidant Study Report.

The Regional Services Staff was responsible for effective communications between ORD and the regions. In providing this they:

- Advised ORD on all aspects of regional operations.
- Developed and implemented the Regional Support Management Information System.
- Carried out regional liaison activities to provide technical assistance.

The Technical Information and Liaison activities helped enable ORD to communicate its research information to EPA's regional offices and to the environmental decision making community. Further, they assisted in making better coordination between ORD and the regions possible, allowing each to meet the needs of the Agency and the public more efficiently.

1981 Program

In 1981, the Agency has allocated a total of $216,200 and 3 permanent workyears to this sub-program, of which $202,400 is for the Salaries and Expenses Appropriation and $13,800 is for extramural purposes under the Research and Development Appropriation.

This part of the program is providing various research program and project summaries, decision series documents, and technology transfer publications to meet Research Committee requirements. Technical Information Plans, listing the explicit information products for this research effort have been prepared. Throughout the year, support will be provided to develop these information products and to distribute them to the appropriate users.

Support is also being provided to manage information systems which track ORD's research projects and resources.

Regional liaison activities are continuing as in 1980. To this end, such activities will:

- Continue the Regional Support Management Information System.

- Develop and implement a process to address the research needs of state and local government in the ORD planning process.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $16,400 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $800.

- An increase of $2,300 results from the cost of October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $200 to this activity.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $28,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $9,900.

1982 Plan

The Agency requests a total of $206,400 and 3 permanent workyears for this subprogram, of which $199,600 is for the Salaries and Expenses Appropriation and $6,800 is for extramural purposes under the Research and Development Appropriation.

This reflects a decrease of $9,800. This will reduce the Technical Information program's ability to prepare and disseminate technical information products. It will also reduce the Regional Services Staff's capacity for liaison activities.

This sub-program will continue, in 1982, to provide the same types of services as in 1981. This includes the development and production of technical information products to ensure that research information is properly and adequately communicated to the environmental decision making community. Specific products planned by the appropriate Research Committee will be developed. Support to managing systems which track ORD's research projects and resources will be provided as will strong liaison with regional offices, of a similar nature to that conducted in 1981.

Change From January Request

There is no change from the January request.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1980 Accomplishments

In 1980, the Agency used a total of $1,641,800 for this sub-program, of which $1,118,600 was for Salaries and Expenses and $523,200 was for extramural research activities.

- Overhead monitoring support was provided to the Office of Air Quality Planning and Standards' Northeast Oxidant Study. Air samples were obtained and analyzed. The results will be used to review and evaluate regional air pollution patterns and regional models of oxidant transport.

- Verification, calibration and audits of air pollution measurements continued to ensure the accuracy of oxidant standards.

- Assistance was provided to regional and program offices to update oxidant data needed for revision of oxidant standards.

- The nationwide Air Pollution Background Network was operated to obtain ozone measurements in National Forests.

- A 2-frequency LIDAR System was demonstrated as useful for defining plume characteristics and plume transport. This data is also of use to the oxidant program in oxidant transport modeling.

1981 Program

In 1981, the Agency has allocated a total of $1,664,000 and 16 permanent workyears to this sub-program, of which $957,200 is for the Salaries and Expenses Appropriation and $706,800 is for extramural purposes under the Research and Development Appropriation.

Emphasis is on assisting other EPA offices in obtaining accurate and reproducible data, and upon advancing the state-of-the-art for monitoring in those areas of most importance to the Agency.

Specifically:

- Overhead monitoring support, quality assurance, and audits of photochemical pollutant measurements will be provided to the Office of Air Quality Planning and Standards to improve models and determine the effects of regional pollution transport and standards revision.

- A major task under this program is the continuing operation of the national standards laboratory to provide audits of measurements for the oxidants research programs. It also maintains a repository and distributes standard gas samples for use in the calibration of instruments with emphasis on ozone, nitrogen oxides, hydrocarbons, and carbron monoxide. Development and production of a standard reference ultraviolet photometer is also being supported. When completed, these photometers will be provided to Regions and States as standards against which they can calibrate their instruments.

- A nationwide Air Pollution Background Network is operating in national forests. This background pollution level data is obtained in areas remote to industrial/municipal emission sources and thus provides a base for comparison and also for trends analysis.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analysis section of this submission.

The net increase of $81,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $3,900.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,400 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $7,200 was applied to this activity.

- An increase of $10,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogramming to realign salary and related costs to meet on-board needs resulted in a transfer of $1,900 from this activity.

- Transfer of $102,300 from air-gases and particles non-energy to support GAP related research.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B deficits. The reduction applied to this activity is $3,100.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $10,000.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $4,000 was applied to this activity.

1982 Plan

The Agency requests a total of $1,624,500 and 15 permanent workyears for this subprogram, of which $1,197,000 is for the Salaries and Expenses Appropriation and $427,500 is for extramural purposes under the Research and Development appropriation.

This reflects a decrease of $39,500. This will reduce the frequency of audits performed on instruments measuring ozone and nitrogen oxides.

- Overhead monitoring support, quality assurance, and audits of measurement of photochemical pollutants will be provided to the Office of Air Quality Planning and Standards to improve air transport models and to determine the effects of ambient air quality standards.

- The national standards laboratory will continue to provide audit measurements and to maintain a repository and distribute standard gas samples for use in calibration of instruments. In the oxidant program, emphasis is upon ozone, nitrogen oxides, hydrocarbons and carbon monoxide.

Continued development on production of a standard ultraviolet photometer through contract with the National Bureau of Standards will allow regions and States to eventually calibrate their instruments using these standard instruments.

- The nationwide Air Pollution Background Network will continue operation in the national forests. This background pollution network obtains data in remote areas, far from industrial/municipal sources of emission and thus provides a base for comparison and for trends analysis.

- Work will commence on the development of a low cost, portable monitor for volatile organic carbon compounds. These chemicals will be regulated in the near future. Emissions from control devices in dry cleaning establishments may exceed those allowable and present monitoring devices are too expensive to be widely used by local authorities. The successful development of a low cost, portable device or method will be of value in enforcing these regulations.

- Support to the mandatory quality assurance program will provide technical guidance, and overview to assure that the Agency will have environmental data of known quality that are appropriate for EPA needs.

Change from January Request

This request represents a decrease of $17,800 from the January budget, of which $9,100 is for Salaries and Expenses and $8,700 is for Research and Development. This decrease will result in fewer quality assurance audits performed of ozone monitoring equipment.

HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $5,386,100 for this sub-program, of which $2,088,400 was for Salaries and Expenses and $3,297,700 was for extramural research activities.

Major accomplishments are summarized as follows:

- Capabilities to incorporate more accurate and sensitive techniques for studies of changes in airway resistance that may result from bronchial challenge were expanded. Such capabilities required the development of experimental tools (aerosol generators and measurement devices) for use in conjunction with the pharmacological definition of airway resistance (PDAR).

- A number of human subjects were screened to prepare for a series of clinical studies which will utilized the PDAR technique. The screening process is a necessary component of study protocols which utilize human subjects.

- A clinical study to determine the effects of nitrogen dioxide on asthmatics was completed. The preliminary results suggest a 1 hour exposure to .1ppm nitrogen dioxide has no demonstrable effect on airway responsiveness in either normals or mildly symptomatic asthmatics.

- The pathophysiological effects of ozone and the impact of vasoactive substances on lung metabolism was studied. A report on the study indicates that lungs of control animals (rats) remove essentially all of the administratered material (serotonin - a muscle constrictor and neurotransmitter) during a single passage of blood through the lung. Ozone exposures markedly and significantly reduced the ability of the lungs to remove the agent suggesting an alteration of lung vascular and bronchial smooth muscle.

- The effects of ozone exposure (1 ppm) on lung function in dogs were examined. The results indicated a time differential in responses. Gas and water exchange in the lung was not altered at a one hour interval following exposure but did change after a 24 hour period.

- Studies were completed which show that phenobarbitol-induced sleeping time in rats was altered by exposure to nitrogen dioxide but that such a response is unrelated to nitrogen dioxide alteration of brain sensitivity to phenobarbitol.

1981 Program

In 1981, the Agency has allocated a total of $5,085,600 and 16 permanent workyears to this sub-program, of which $1,794,200 is for the Salaries and Expenses Appropriation and $3,291,400 is for extramural purposes under the Research and Development Appropriation.

The major emphasis in 1981 (and continuing through 1983) continues to be on the effects of exposures to ozone and nitrogen dioxide with lesser effort being devoted to other oxidants and atmospheric reaction products. The research includes a combination of human studies (controlled clinical and epidemiological) and animal studies. Clinical studies of ozone effects are generally based upon short-term exposures at levels approaching the present standards. They evaluate the simultaneous effects of exposure during stress from heat and exercise and the impacts on sensitive populations, ascertaining mechanisms of ozone induced cardiopulmonary dysfunction, immune dysfunction and biochemical changes. Animal toxicology studies are addressing the question of effects of both long and short-term exposures to low levels of ozone and nitrogen dioxide (singly and in combination). A variety of animal models are being used in these studies in an attempt to improve estimates of risk to humans based upon extrapolation of data. The animal experiments are also useful for ascertaining the most sensitive and accurate biological indicators to be used in human health studies of oxidant initiated defects. The epidemiological studies continue to analyze existing health data in order to assess the factors that promote respiratory disease. The data bases to be analyzed include mortality figures from a major metropolitan area, chronic disease prevalence in adults, and lower respiratory disease prevalence in children. Follow-on epidemiological studies of asthmatics in the Houston and Los Angeles areas (sponsored by the exploratory research and energy research program respectively) will be initiated.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analysis section of this submission.

The net decrease of $1,779,600 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $7,200.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $3,000 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $39,400 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $500,000 was applied to this activity to allow for phasing of research to coincide with the cycle of criteria documents revisions.

- The Congress reduced agencywide ADP services by $12 million; a decrease of $11,600 was applied to this activity.

- An increase of $14,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogramming to realign salary and related costs to meet on-board needs resulted in a transfer of $900 from this activity.

- Transfer of $1,110,000 to air mobile sources/non-energy in order to consolidate all carbon monoxide research activities under the Mobile Sources Research Committee.

- Transfer $20,000 to program management to support public awareness and industrial hygienist positions at Research Triangle Park.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $2,200.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $100,100.

1982 Plan

The Agency requests a total of $6,542,400 and 18 permanent workyears for this sub-program, of which $1,726,000 is for the Salaries and Expenses Appropriation and $4,816,400 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $1,456,800. This will be used for clinical and animal studies to determine chronic effects of exposure to nitrogen dioxide, carbon monoxide, and ozone.

The 1982 plan will continue to emphasize controlled clinical human health studies of the effects of oxidants on the cardiopulmonary system, the immune system and lung biochemistry for both normal individuals and susceptible populations. Exposures at ambient levels and in the range of the present standards will be emphasized.

Studies utilizing a variety of species of animals will also be continued to assess the biological impacts of exposures to ozone and nitrogen dioxide, both singly and as mixtures, at levels simulating ambient exposures (intermittent brief high levels superimposed upon chronic low level exposures). Additional animal studies will be utilized to develop kinetic information required to improve models for lung dose and injury and to develop more rapid and sensitive indicators of damage that might be used for clinical studies.

Change From January Request

This request represents a decrease of $148,800 from the January budget, of which $9,800 is for Salaries and Expenses and $139,000 is for Research and Development. This decrease will result in the elimination of epidemiological studies performed by EPA laboratories on chronic effects of oxidants and nitrogen oxides.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1980 Accomplishments

In 1980, the Agency used a total of $2,334,600 for this sub-program, of which $619,200 was for Salaries and Expenses and $1,715,400 was for extramural research activities.

- An evaluation of control techniques such as activated carbon for reducing hydrocarbon emissions from textile finishing plants was completed. This study will assist in determination of Best Available Control Technology for certain textile industries.

- An evaluation of the use of supercritical fluid CO_2 to regenerate activated carbon used to control volatile organic compound emisions was performed.

  This project will provide more economical solutions for the control of organic chemical emissions.

- A study was completed on catalytic incineration of organic vapors from industrial sources. The results will be used to review and possibly revise New Source Performance Standards for sources such as solvent degreasers and drycleaning.

- The frequency of hydrocarbon fugitive emissions in the synthetic organic chemical manufacturing industry was determined. These data will be used in development and review of New Source Performance Standards.

- Calibration factors of volatile organic compound analyzer equipment for selected organic chemicals were determined. These data will be used in development and review of New Source Performance Standards that specify measurement techniques.

- An evaluation of solvent degreaser operations as completed. The objective was the identification of techniques to minimize volatile organic chemical emissions.

- A wet scrubber that utilizes surfactant chemicals was designed, fabricated, and operated to evaluate the control of solvents from painting operations. The results were positive and an industrial demonstration is planned.

1981 Program

In 1981, the Agency has allocated a total of $2,402,100 and 11 permanent workyears to this sub-program, of which $628,400 is for the Salaries and Expenses Appropriation and $1,773,700 is for extramural purposes under the Research and Development Appropriation.

- An evaluation of activated carbon adsorption systems is being undertaken to provide a fundamental understanding of system performance, cost, size and maintenance parameters. This knowledge will enable designers to specify optimum systems for a wide range of industrial applications in controlling oxidant emissions.

- Catalytic oxidation techniques are being studied to determine performance parameters in the control of volatile organic compounds.

- The effectiveness of flares for controlling volatile organic compounds is being studied, and means of improving this technique will be determined.

- The capture efficiency of hoods is being studied in industrial applications such as painting and solvent degreasing. Design parameters such as air flow rates, energy requirements, and capture effectiveness will be optimized in a variety of specific applications.

79-248 O—80——20

- Emission studies are determining the fugitive emissions of volatile organic compounds from petrochemical plants and from synthetic organic chemical manufacuturing plants.

- A demonstration of emissions control from paint curing ovens with microprocessor control systems and sensors is being supported. Objectives of this project are to reduce energy requirements while maximizing the concentration of emissions to enable better emission control.

- Secondary air emissions from textile and organic chemical manufacturing wastewater treatment systems are being characterized. The need for control of these emissions will be determined and methods of control will be suggested.

- A study of water based finishes for wood office furniture appropriate for purchase by the General Services Administration is being completed. The purchase of such furniture by the federal government could significantly reduce volatile organic chemical emissions in the furniture manufacturing industry and may lead to acceptance of such furniture by the private sector.

- A demonstration of volatile organic chemical control at a textile manufacturing plant is in progress.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net increase of $1,300 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $3,200.

- An increase of $8,100 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogramming to realign salary and related costs to meet on-board needs resulted in a transfer of $2,200 from this activity.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $1,400.

1982 Plan

The Agency requests a total of $2,333,600 and 11 permanent workyears for this subprogram, of which $653,000 is for the Salaries and Expenses Appropriation and $1,680,600 is for extramural purposes under the Research and Development Appropriation.

This decrease of $68,500 reflects a slight reduction in contract requirements.

- The evaluation of VOC emissions from industrial sludge treatment and disposal systems will be continued.

- An overall performance evaluation of carbon adsorption units in full-scale industrial applications will be completed.

- A prototype measurement system will be developed to evaluated the capture efficiencies of hooding systems used in the graphic arts, rubber processing, plastic processing and metal coating industries.

- A final report on the efficiency of flares to burn organic chemicals will be prepared.

- A series of performance manuals on the control of VOC will be prepared. This information will be used to develop cost-effective New Source Performance Standards and to document emission factors.

Change From January Request

This request represents a decrease of $76,400 from the January budget, of which $8,800 is for Salaries and Expenses and $67,600 is for Research and Development. This decrease will result in reduced efforts in evaluating capture efficiencies of hooding systems.

ENVIRONMENTAL PROCESSES AND EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $7,540,700 for this sub-program, of which $1,857,300 was for Salaries and Expenses and $5,683,400 was for extramural research activities.

- A detailed chemical mechanism was developed that describes the atmospheric reactions of aromatic and other hydrocarbons. This information will be used to calculate the impact of these compounds on producing ozone in the atmosphere.

- A review paper was prepared on the impact of natural hydrocarbon (e.g., isoprenes, terpenes) on ozone air quality. This review paper will provide guidance to the Agency's assessment of the actual contribution of natural hydrocarbon emissions producing elevated ozone levels in rural areas.

- The evaluation of three major types of urban photochemical air quality simulation models based on ten days of data from the Regional Air Pollution Study - St. Louis air quality data base was completed. When completely validated, these models will be used to assess the air quality impact of various control strategies for ozone.

- Ozone is used as a surrogate for establishing secondary ambient air quality standards for photochemical oxidants. More toxic photochemical oxidants such as peroxyacetyl nitrite (PAN) exist in the photochemical complex. Research was initiated to determine if plant damage can occur from PAN when the National Secondary Ambient Air Quality Standard for ozone is attained. Results from this research will determine the feasibility or need for establishing a PAN standard.

- Biogenic emisions of isoprene and total nonmethane hydrocarbons from several important deciduous and coniferous trees have been identified. These emission factors will be used in conjunction with regional biomass data to predict regional biogenically emitted hydrocarbons.

- An 8-year field study in the San Bernadino National Forest of southern California revealed a significant impact of ambient photochemical oxidants on a mixed conifer forest ecosystem. For example, in heavily polluted sections of the forest, foliar injury sufficient to limit foliage retention ocurred on Ponderosa and Jeffrey pines and white fern. Stem growth of Ponderosa pine was limited by as much as 50% and accumulated mortality rates reached as high as 10% during a 6-year period. Tree community structure is gradually shifting from predominately Ponderosa and Jeffrey pine to less desirable black oak, incense cedar and white fir. Insect damage is more severe on oxidant damaged trees. These studies show that ambient photochemical oxidants can reduce the productivity of forest ecosystems and reverse normal successional patterns and generate concern for the Nation's forest resources.

- Research was initiated by request from EPA's Office of Air Quality Planning and Standards to identify a maximum NO_2 concentration that could exist without causing plant damage. The research identified 0.4 ppm NO_2 as the concentration which must be exceeded to cause significant growth effects to crops. This data will be used in establishing a National Secondary Ambient Air Quality Standard NO_2.

1981 Program

In 1981, the Agency has allocated a total of $6,873,800 and 30 permanent workyears to this sub-program, of which $1,785,200 is for the Salaries and Expenses Appropriation and $5,088,600 is for extramural purposes under the Research and Development Appropriation.

- Smog chamber studies will be conducted to determine critical kinetic mechanisms of ozone formation from its precursors NOx and volatile organic compounds. This data will be used in developing air quality models. The role of aromatic hydrocarbons will be emphasized in these studies.

- The photochemical reactivity of selected organics to produce ozone will be determined. The work will emphasize the degree to which low reactive compounds, such as low molecular weight organics, contribute to ozone pollution.

- The existing EKMA (Empirical Kinetics Modeling Approach) model is being validated with ozone air quality data previously collected at a number of different urban locations. This model will be used as the principal modeling tool for assessing ozone control strategies for the 1982 SIP (State Implementation Plan) planning process.

- Urban air quality simulation models, previously developed and evaluated will be validated with ozone ambient air quality data collected during the 1972-1977 field study conducted at St. Louis. It is expected that these advanced models will eventually replace the currently used empirical approaches.

- The results from the Houston air quality studies will be summarized for the aerosol and ozone components of the air characterization studies conducted over the past three years. While this will complete the atmospheric chemistry portion of the Houston work, results from the Houston health effects studies will be reported over the next two to three years.

- Regional air quality models will be developed and evaluated. Air quality data collected during the Northeast Regional Oxidant Study (NEROS) conducted during the Summer of 1979 and 1980 will be used for this purpose. The regional ozone model will allow decision makers to evaluate the impact of oxidant control plans of individual cities from a regional perspective.

- A number of individual sources will be characterized by their emissions of ozone precursors, namely VOC and NOx pollutants. This work will be used to develop the necessary emission input data to develop ozone air quality models.

- Field plots are being established throughout the U.S. to determine the impacts of ozone on crop production. This program, the National Crop Loss Assessment Network (NCLAN) is integrated with other 1981 tasks to evaluate ozone and the interactive effects of other pollutants on crop yield. Crops grown in field plots will be exposed to realistic simulations of air pollution doses which will continue throughout the life cycle of the crops. Crops will be harvested and foliar injury, growth and yield will be measured.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $943,100 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $8,100.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $2,200 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $4,200 was applied to this activity.

- The Congress reduced agencywide Senior Executive Services bonsus by $750,000; a decrease of $10,700 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $700,000 was applied to this activity to allow for phasing research to coincide with the cycle of criteria document revisions.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $77,400 was applied to this activity.

- An increase of $18,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogramming to realign salary and related costs to meet on-board needs resulted in a transfer of $146,100 from this activity

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $1,900.

- An internal agencywide reduction of $6,500,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $25,000.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $15,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $28,700.

1982 Plan

The Agency requests a total of $7,072,900 and 23 permanent workyears for this subprogram, of which $1,773,700 is for the Salaries and Expenses Appropriation and $5,299,200 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $199,100 for developing and field testing regional scale models for ozone.

- Smog chamber studies will continue to investigate the specific role of volatile organic compounds and NO_x pollutants. Emphasis will be placed on determining the contribution of aromatic hydrocarbons for photochemical ozone production. This work is motivated by the fact that automotive fuels are being formulated with increased levels of aromatic hydrocarbons.

- The EKMA (Empirical Kinetics Modeling Approach) model will increase its predictive capability to treat other photochemical oxidants besides ozone. For example, the EKMA model will be adapted to provide predictions of peroxyacetyl nitrate, an environmentally important oxidant.

- The validation of studies of the urban photochemical models using the St. Louis air quality data base will be completed. The results will indicate the degree of accuracy and precision that can be expected with these models.

- The research program to develop regional scale models for ozone will be continued. The major activity in the 1982 plan will consist of regional scale modeling field studies in the Southeast portion of the U.S. The major purpose of this study is to test the general applicability of the NEROS model which was developed earlier for the northeast regional ozone problem to other areas of the country.

- Individual sources of major ozone precursors, volatile compounds and nitrogen oxides (NO_x) will be studied. The results from this work will be needed to satisfy emission inventory requirements for air quality models. Among the organic pollutants, measurement of reactive organics such as formaldehyde is important. For NO_x emission rates, the determination of the NO_2 to NO ratios is critical for the ozone modeling work.

- Field studies initiated in 1981 to determine the effects of ozone on crop production will be continued to provide the dose-response data base for determining the economic impacts of ozone. The research will continue to focus on major agronomic crops and to provide scientific support for secondary air quality standards.

- Biogenic emission rates for hydrocarbons will be determined for a variety of vegetative sources. Using this data, smog chamber and trajectory modeling studies will be conducted to assess the specific role of biogenic emisions in producing elevated ozone levels in rural areas of the country.

- Research concerning the usefulness of the present ozone standard in limiting plant damage from peroxyacetyl nitrate (PAN) will be completed. The results of initial studies relating ambient concentrations of PAN with plant injury and yield will be presented in manuscript form.

Change From January Request

This request represents a decrease of $156,200 from the January budget, of which $11,200 is for Salaries and Expenses and $145,000 is for Research and Development. This decrease will result in reduced efforts in assessing the effects of ozone and nitrogen dioxide on crop yield and vegetation.

AIR

Mobile Sources Non-Energy

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Technical Information and Liaison:					
Salaries and Expenses..	$65	$65	$76	$66	-$10
Research and Development.....	...	3	3	3	...
Monitoring Systems and Quality Assurance:					
Salaries and Expenses..	722	676	648	901	+253
Research and Development.....	258	825	143	659	+516
Health Effects:					
Salaries and Expenses..	2,839	3,179	3,147	2,161	-986
Research and Development.....	3,414	2,670	3,856	757	-3,099
Environmental Processes and Effects:					
Salaries and Expenses..	513	544	550	677	+127
Research and Development.....	437	656	406	1,029	+623
Total:					
Salaries and Expenses..	4,139	4,464	4,421	3,805	-616
Research and Development.....	4,109	4,154	4,408	2,448	-1,960
Grand Total.....	8,248	8,618	8,829	6,253	-2,576
Permanent Positions					
Technical Information and Liaison.....	2	2	2	2	...
Monitoring Systems and Quality Assurance.....	12	12	12	13	+1
Health Effects.....	37	34	12	9	-3
Environmental Processes and Effects.....	10	11	11	11	...
Total.....	61	59	37	35	-2

Full-time Equivalency	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Technical Information and Liaision	2	2	3	3	...
Monitoring Systems and Quality Assurance	16	16	16	18	+2
Health Effects	51	52	25	20	-5
Environmental Processes and Effects	15	13	13	13	...
Total	84	83	57	54	-3

January 1980 President's Budget as adjustd by the Office of Research and Development restructuring.

Budget Request

The Agency requests a total of $6,253,200 and 35 permanent workyears for 1982, a decrease of $2,575,800 from 1981. Included in this total is $3,805,200 for Salaries and Expenses and $2,448,000 for Research and Devlopment, with a decrease of $615,800 and $1,960,000 respectively.

Program Description

The program has been developed under the auspices of the Mobile Sources Air Pollution Research Committee. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

The overall program assures and improves the accuracy of the data base necessary for estimation of adverse effects on human health associated with airborne pollutants which are associated with mobile sources (fuels, fuel additives, combustion products and atmospheric transformation products derived therefrom).

Improvements in accuracy are considered necessary for decisions on certification of various vehicular models. The program also provides EPA with a scientifically defensible data base on vehicular emissions to support and evaluate mobile source standard setting processes and abatement strategies. Studies determine impacts of motor vehicle advanced control systems and advanced power systems on both regulated and important non-regulated pollutant emissions. The activities in this program also: determine human exposure to mobile source pollutants by developing and applying monitoring equipment and methodologies; determine mobile source contribution to ambient air quality by long-term monitoring; develop methods to collect exhaust for chemical analysis and mutagenic testing; register fuel and fuel additives in accordance with Section 211 of the Clean Air Act; provide all necessary quality assurance for mobile source needs; and provide fuels analysis for regional and enforcement needs.

Activities and program proposals for each sub-program are presented individually in the following material.

TECHNICAL INFORMATION AND LIAISON

1980 Accomplishments

In 1980, the Agency used a total of $65,000 for this sub-program, of which $64,500 was for Salaries and Expenses and $500 was for extramural research activities.

In 1980, the technical information program supported the preparation and publication of the Research Outlook, the Research Highlights, technical information plans and guidance and other general documents of interest to the environmental decision-making community. It also provided the Office of Research and Development (ORD) with information systems necessary to effectively plan and manage its research projects and resources. Specific accomplishments in the area of mobile sources included the publication and dissemination of a report on the diesel emissions research program.

The regional services staff provided for effective communications between ORD and the regions. Specifically, they:

- Developed and implemented the Regional Support Management Information System.

- Carried out regional liaison activities to provide technical asistance.

- Conducted ORD/regional senior staff meetings.

- Advised ORD on all aspects of regional operations.

1981 Program

In 1981, the Agency has allocated a total of $79,300 to this sub-program, of which $75,900 is for the Salaries and Expenses appropriation and $3,400 is for extramural purposes under the Research and Development appropriation.

This part of the program is providing various research program and project summaries, decision series documents, and technology transfer publications to meet Research Committee requirements. Technical information plans, listing the explicit information products for this research effort have been prepared. Throughout the year, support will be provided to develop these information products and to distribute them to the appropriate users. Support is also being provided to manage information systems which track ORD's research projects and resources.

Regional liaison activities are continuing as in 1980. To this end, such activities will:

- Continue the Regional Support Management Information System.

- Conduct ORD/regional senior staff meeting and other liaison activities to provide technical assistance. These will include preparing reports, conducting special staff and policy studies, developing regional problem statements, and identifying research and technical assistance requirements.

- Develop and implement a process to address the research needs of State and local government in the ORD planning process.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net increase of $10,900 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses; the reduction applied to this activity is $300.

- An increase of $1,000 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $300 from other activities.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $9,900.

1982 Plan

The Agency requests a total of $69,300 and 2 permanent workyears for this sub-program of which $65,900 is for the Salaries and Expenses appropriation and $3,400 is for extramural purposes, under the Research and Development appropriation.

This reflects a decrease of $10,000 which will reduce the development and dissemination of technical information products.

This sub-program will continue, in 1982, to provide the same types of services as in 1981. This includes the development and production of technical information products to insure that research information is properly and adequately communicated to the environmental decision-making community. Specific products planned by the appropriate Research Committee will be developed. Support to managing systems which track ORD's research projects and resources will be provided as will strong liaison with regional offices, of a similar nature to that conducted in 1981.

Change From January Request

There is no change from the January request.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1980 Accomplishments

In 1980, the Agency used a total of $979,600 for this sub-program, of which $722,400 was for Salaries and Expenses and $257,200 was for extramural research activities.

- A study on carbon monoxide intrusion into sustained-use vehicles (schoolbuses, taxicabs, and police vehicles) mandated by the Clear Air Act amendments was completed. The study identified major points of intrusion and developed recmmendations for abating the problem.

- Pilot studies measuring direct human exposure to carbon monoxide by using personal air quality monitors were begun in preparation for a full-scale study in 1981.

- The third annual report on the Los Angeles Freeway monitoring program, the only continuous cross-expressway monitoring program in the country, was completed.

- Over 200 fuels and fuel additives were registered.

- Analytical support was provided to enforcement and health effects programs.

1981 Program

In 1981, the Agency has allocated a total of $791,300 and 12 permanent workyears to this sub-program, of which $648,400 is for the Salaries and Expenses appropriation and $142,900 is for extramural purposes under the Research and Development appropriation.

- In the mobile sources area, emphasis is being placed on the determination of human exposure to mobile source related pollutants, particularly carbon monoxide. This exposure program, made possible recently by advances in the technology of monitoring personal exposure, will provide much more detailed information on public exposure and therefore will allow more targeted and cost-effective abatement procedures.

- The fuel and fuel additive registration program, mandated by Congress, will continue.

- Analytical support to the Office of Air Quality Planning and Standards, the Mobile Source Enforcement Division, and the Health Effects Research Laboratory in Research Triangle Park (RTP) will also continue to be provided. This support of chemical analysis and monitoring can be supplied on a cost-effective basis by the in-house expertise of the Environmental Monitoring and Support Laboratory at RTP.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "cross-walking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $708,700 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,900.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $3,400 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $117,000 was applied to this activity.

- An increase of $8,100 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $300 from other activities.

- Transfer $7,200 from air gases and particles(GAP)/non-energy, to support GAP-related research.

- Transfer $568,000 to air mobile sources/non-energy, to realign contract funds.

- OMB Bulletin #81-7, January 24, 1981. "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,793,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $1,000.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $33,000

1982 Plan

The Agency requests a total of $1,560,400 and 13 permanent workyears for this sub-program, of which $901,400 is for the Salaries and Expenses appropriation and $659,000 is for extramural purposes under the Research and Development appropriation.

This increase of $769,100 reflects a shift in responsibility for planning and conducting fullscale carbon monoxide exposure assessment studies formerly conducted under the Health Effects sub-program. These studies are based on the successful completion of pilot studies in 1980-1981.

- The carbon monoxide exposure assessment program will continue and will emphasize the identification of human activity patterns in selected urban areas.

- Fuel and fuel additive registration will continue.

- Chemical analytical support will continue to be provided to Agency laboratories and regional and program offices

Change From January Request

This request represent a decrease of $19,000 and permanent workyears from the January budget, of which $5,600 is for Salaries and Expenses and $13,400 is for Research and Development. This decrease will result in a slightly reduced level of support to analyze and monitor mobile source pollutants.

HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $6,253,500 for this sub-program, of which $2,838,500 was for Salaries and Expenses and $3,415,000 was for extramural research activities.

- A report was published on the tumorogenesis of diesel exhaust, gasoline exhaust and related emission extracts based on dermal exposure of the SENCAR (SENsitive to CARcinoma) mouse. The study concludes that the SENCAR mouse skin bioassay has utility for comparative potency analysis using both pure substances and complex mixtures.

- The results of a study on the release of mutagens from diesel particles when in the presence of physiological fluids (serum and lung cytosol) was published. The studies suggest that substantial mutagenic activity (as measured with the Ames Salmonelaa typhimurium plate incorporation assay) is released from diesel particles upon incubation with physiological fluids.

- An evaluation of a comparison between the microbial mutagencity effects present after exposure to emissions of light-duty diesel passenger cars and gasoline catalyst cars was completed. The organics in the emissions from both sources stimulated responses in the assay. The biological activity stimulated by the emissions from the diesel system was estimated to be 40-100 times that for the gasoline catalyst system, presumably due to the higher particle emission rate of the diesel.

- Preliminary analysis of the comparative responses of the matrix of short-term bioassays to the test materials (diesel exhaust extracts and surrogates) suggests that the response to diesel samples generally fall within the range of responses to the surrogates (cigarette smoke condensate, roofing tar soot and extract, coke oven soot and extract). The results also suggest that a large portion of the mutagenic activity from diesel samples was due to nitrogenated compounds.

- A series of experiments focusing on inhalation of diesel exhaust to determine its effects on mutagenicity, reproductive performance of females, and teratology were completed. Mutagenic and terotogenic effects were negative in the test animals which included mice, rats and rabbits but small effects on reproductive performance of female mice were observed.

- An international symposium on the health effects of diesels was held. Researchers from England, Germany, Italy, Sweden, Japan and the United States presented their most recent data on the characterization of diesel engine emissions and the biological responses of exposure to whole diesel exhaust and its components. Controversy over the appropriate method to interpret the available data still exists.

1981 Program

In 1981, the Agency has allocated a total of $7,003,000 and 12 permenant workyears to this sub-program, of which $3,147,000 is for the Salaries and Expenses appropriation and $3,856,000 is for extramural purposes under the Research and Development appropriation.

The program continues to emphasize the evaluation of comparative responses of the matrix of bioassay test systems (both in vitro and in vivo) to diesel exhausts from a variety of vehicles and a series of surrogates. Present emphasis is on the completion of the in vivo bioassay studies for cancer which have required lapse times of several years. Impacts upon cardiovascular, neurobehavioral, reproductive and pulmonary function that may be induced by exposures to carbon monoxide are also being evaluated using both human health studies (epidemiological and clinical) and whole animal studies. The studies conducted in this sub-program are considered necessary to improve the quantitative estimate of the potential health risks associated with agents emitted from diesel systems. Additionally, the program is continuing the development and application of in vitro and in vivo bioassay systems for use in evaluation of fuel, fuel additives, unregulated mobile source emissions and evaluation of the biological activity of gas phase hydrocarbons and of ambient air impacted by mobile source emissions. More specific tasks include:

- Continuation of the study on induction of respiratory cancer in Syrian golden hamsters using intratracheal instillation of test materials (surrogates and diesel emissions).

- Continuation of the evaluation of the relative potentcy of test materials to produce skin cancer using dermal exposure of the SENCAR mouse.

- Completion of the study on rate of tumor induction in strain A mice associated with inhalation of diesel exhaust.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "cross-walking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the cross-walk of resources itself, can be found in the Special Analyses section of this submission.

The net increase of $1,153,700 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million of EPA's request for Salaries and Expenses. The reduction applied to this activity is $10,300.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $4,100 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $77,000 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $290,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $3,700 was applied to this activity.

- An increase of $21,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $12,200 to other activities.

- Transfer of $767,700 from air mobile sources/non-energy, to realign contract funds.

- Transfer of $1,110,000 from air-oxidants/non-energy, in order to consolidate all carbon monoxide research activities under the Mobile Sources Research Committee.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $10,100.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $313,800.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $24,000.

1982 Plan

The Agency requests a total of $2,918,000 and 9 permanent workyears for this sub-program, of which $2,160,900 is for the Salaries and Expenses appropriation and $757,100 is for extramural purposes under the Research and Development appropriation. The decrease of $4,085,000 reflects the phasing-down of inhalation studies of the effects of diesel particles.

The 1982 program will consist of (1) clinical human health studies of the effects of long-term low level exposures to carbon monoxide which were initiated in 1981 in response to program office information needs; (2) continuation of the 1980 biological studies of the comparative carcinogenic potency of diesel exhaust and several surrogates utilizing in vivo test systems (intratracheal instillation in hamsters and skin painting of mice); and (3) continued development and application of in vivo and in vitro bioassay test systems which have higher sensitivity and lower cost for use in evaluation of fuel and fuel additives, non-regulated emissions from mobile sources and the biological activity induced by automotive exhaust products in ambient air.

Change From January Request

This request represents a decrease of $33,800 and permanent workyears from the January budget, of which $11,800 is for Salaries and Expenses and $22,000 is for Research and Development. This decrease will result in reduced efforts to develop bioassay test systems as a means to evaluate motor vehicle emissions.

ENVIRONMENTAL PROCESSES AND EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $949,700 for this sub-program, of which $513,100 was for Salaries and Expenses and $436,600 was for extramural research activities.

- Emission factors were determined for over 60 individual hydrocarbon compounds emitted from passenger vehicles. This information will be useful in providing risk assessments of the potentially harmful pollutants.

- An interm report was completed on the characterization of heavy-duty diesel emissions under the transient (varying speed) driving condition. This report will summarize information on the mutagenic components of diesel emissions.

- Over 200 grams of diesel particulate matter were generated for use in developing a tier bioassay protocol. Once developed, the tier bioassay protocol will be used to assess the potential health impact of automotive emissions.

1981 Program

In 1981, the Agency has allocated a total of $955,400 and 11 permanent workyears to this sub-program, of which $549,700 is for the Salaries and Expenses appropriation and $405,700 is for extramural purposes under the Research and Development appropriation.

- Research is being conducted to define the character of heavy-duty diesel engine emissions. Particular emphasis has been placed on those emissions which exhibit biological activity. Emissions from in-use gasolines powered vehicles are also being analyzed for their chemical composition and biologic activity.

- A methodology is being developed to collect the gas phase emissions from both gasoline and diesel engines that have not been previously characterized in order to identify possible biologic activity.

- Subject to fuel availability, emission data will be collected from a small number of diesel and gasoline vehicles operating on synthetic fuels. The relationship between fuel and emission compositions will be defined to the extent possible.

- Using 3-way catalyst equipped passenger cars, tests will be conducted to measure the sensitivity of emissions to variations in speed, load, and acceleration/deceleration rates.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $244,600 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $2,300.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $500 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $500 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $50,000 was applied to this activity.

- An increase of $6,000 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $2,300 from other activities.

- Transfer $200,000 to air mobile sources/non-energy ($199,700) and to nonionizing radiation/non-energy ($300), in order to realign contract funds.

- Agencywide increase are required in order to fund the PC&B deficits; the increase applied to this activity is $5,300.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $5,500 was applied to this activity.

1982 Plan

The Agency requests a total of $1,705,500 and 11 permanent workyears for this sub-program, of which $677,000 is for the Salaries and Expenses appropriation and $1,028,500 is for extramural purposes under the Research and Development appropriation.

This reflects an increase of $750,100 which is due to a realignment of existing programs (formerly conducted under Health Effect Sub-program) and allows for additional characterization work which will focus on emissions from heavy-duty diesel vehicles and vehicles powered by synthetic fuels.

- Diesel emission characterization studies will continue to emphasize the identification of the mutagenic component. While both light and heavy-duty diesel vehicles will be studied, the major focus will be placed on heavy-duty vehicles.

- Emission data will continue to be collected from diesel and gasoline vehicles operating on synthetic fuels. The emission data will be characterized chemically, physically, and biologically. The collection of specific fuels to be tested will be identified and prioritized by the regulatory and enforcement offices of EPA.

- As new technologies are used to control motor vehicle emission, tests will be conducted to determine their impact on environmentally important unregulated pollutant emissions. These tests will be conducted under potentially important non-FTP conditions with variations in speed, load and acceleration/deceleration rates. The pollutants measured in this program include compounds such as hydrogen sulfide, sulfuric acid, hydrogen cyanide, organic acids, and nitrates.

- Validation studies will evaluate existing models that predict population exposures to motor vehicle emissions. The field data used for the validation effort will be obtained from existing data bases.

Change From January Request

This request represents a decrease of $3,200 from the January budget for Salaries and Expenses. The decrease will not result in any significant programmatic impact.

AIR

Gases and Particles Non-Energy

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1981	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Scientific Assessment:					
Salaries and Expenses	$235	$221	$282	$214	-$68
Research and Development	114	172	172	178	+6
Technical Information and Liaison:					
Salaries and Expenses	436	426	388	426	+38
Research and Development	4	27	27	23	-4
Monitoring Systems and Quality Assurance:					
Salaries and Expenses	3,634	3,592	3,622	4,485	+863
Research and Development	5,264	5,416	4,552	3,903	-649
Health Effects:					
Salaries and Expenses	6,410	6,155	4,389	5,222	+833
Research and Development	4,898	6,907	7,044	4,340	-2,704
Environmental Engineering and Technology:					
Salaries and Expenses	225	228	227	239	+12
Research and Development	630	651	586	599	+13
Environmental Processes and Effects:					
Salaries and Expenses	2,361	2,557	2,206	2,875	+669
Research and Development	7,546	7,768	6,991	6,829	-162
Total:					
Salaries and Expenses	13,301	13,179	11,114	13,461	+2,347
Research and Development	18,456	20,941	19,372	15,872	-3,500
Grand Total	31,757	34,120	30,486	29,333	-1,153

79-248 O—80——21

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Permanent Positions					
Scientific Assessments.....	4	4	5	5	...
Technical Information and Liaison.....	6	6	6	6	...
Monitoring Systems and Quality Assurance.....	72	71	68	70	+2
Health Effects	90	89	54	56	+2
Environmetal Ebngineering and Technology.....	4	4	4	4	...
Environmental Processes and Effect.....	37	41	35	39	+4
Total	213	215	172	180	+8
Full-time Equivalency					
Scientific Assessments ...	6	8	8	8	...
Technical Information and Liaison.....	9	10	9	10	+1
Monitoring Systems and Quality Assurance.....	80	78	74	77	+3
Health Effects.....	107	101	66	68	+2
Environmental Engineering and Technology.....	7	7	7	7	...
Environmental Processes and Effects.....	43	52	42	50	+8
Total	252	256	206	220	+14

*January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Budget Request

The Agency requests a total of $29,332,400 and 180 permanent workyears for 1982, a decrease of $1,154,700 from 1981. Included in this total is $13,460,500 for Salaries and Expenses and $15,871,900 for Research and Development, with an increase of $2,345,100 and a decrease of $3,499,800, respectively.

Program Description

This program has been developed under the auspices of the Gases and Particles Research Committee. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

The overall program provides scientific data on health effects from exposure to airborne sulfur dioxide, particulate matter, and lead to comply with Section 108 and 109 of the Clean Air Act. The Clean Air Act requires that the criteria and standards be reviewed and, if necessary, revised every five years; therefore, continually updated information regarding health effects is needed to support maintenance or revision of the criteria and standards. In obtaining such information, the program provides regulatory decision makers with the assessment and prognostication of the environmental effects of SO_2, lead, and particles. This includes modeling and prediction of ambient concentrations of

pollutants, assessment of ecological and material damage of such pollutants, and determination of visibility impairment of fine particles. The program develops and demonstrates pollution control technologies capable of reducing or eliminating gaseous and particulate pollutant emissions from industrial point sources and provides technical and cost data bases that support regulatory standards for direct application by industry in solving pollution problems. Chemical/physical measurement methods are developed and evaluated, while the program also provides quality assurance support. In addition, this program supports the design and operation of research monitoring systems and networks, and development and testing of exposure assessment methodologies.

SCIENTIFIC ASSESSMENT

1980 Accomplishments

In 1980, the Agency used a total of $349,600 for this sub-program, of which $235,400 was for Salaries and Expenses and $114,200 was for extramural research activities.

- A draft particulate matter/sulfur oxides criteria document was completed as required by Section 108 of the Clean Air Act.

1981 Program

In 1981, the Agency has allocated a total of $454,300 and 5 permanent workyears to this sub-program, of which $282,200 is for the Salaries and Expenses Appropriation and $172,100 is for extramural purposes under the Research and Development Appropriation.

- A SO_x particulate criteria document drafted in 1980 as required by Section 108 of the Clean Air Act is being completed. The criteria document on lead will be updated as required by the Clean Air Act with peer and Science Advisory Board reviews to be completed in 1982.

- A draft issue paper is being completed on fibrous particles which will identify scientific issues needing resolution prior to the development of a more in-depth health assessment as required under Sections 112 and 122 of the Clean Air Act.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net increase of $61,300 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,200.

- An increase of $3,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign contract funds resulted in transfers from pesticides scientific assessments ($17,900) and from air scientific assessment ($400).

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $41,000.

1982 Plan

The Agency requests a total of $392,100 and 5 permanent workyears for this sub-program, of which $214,400 is for the Salaries and Expenses Appropriation and $177,700 is for extramural purposes under the Research and Development Appropriation.

This reflects a decrease of $62,200 largely reflecting completion of the SO_x/Particulate Matter Criteria Document.

- An update of the Lead Criteria Document as required by Section 108 of the Clean Air Act will be completed.

- An issue paper begun in FY 1981 on fibrous particles will be completed.

Change From January Request

This request represents a decrease of $3,200 from the January budget, of which $1,900 is for Salaries and Expenses and $1,300 is for Research and Development. This decrease will not result in any significant programmatic impact.

TECHNICAL INFORMATION AND LIAISON

1980 Accomplishments

In 1980, the Agency used a total of $439,800 for this sub-program, of which $435,600 was for Salaries and Expenses and $4,200 was for extramural research activities.

In 1980, the Technical Information Program supported the preparation of the Research Outlook, Research Highlights, technical information plans and guidance, and other general documents of interest to the environmental decision making community. It provided information systems which ORD needed to effectively plan and manage its research projects and resources. Specific accomplishments in the area of gases and particulates included the publication and dissemination of reports on:

- Diffusion, Modeling and Statistical Techniques used in Regulatory Decision Making.

- High Efficiency Control System.

- Inhalable Particulates Studies and Sampler Evaluation and Sampling techniques.

- Sodium Condition for hit side electrostatic precipitators.

- Dual Alkali Demonstration at Louisville Gas and Electric Company.

- Fugitive Emission Research Study.

The Regional Services Staff was responsible for effective communications between ORD and the regions. The Technical Information and Liaison activities helped enable ORD to communicate its research information to EPA's regional offices and to the environmental decision making community. Further, they assisted in making better coordination between ORD and the regions possible, allowing each to meet the needs of the Agency and the public more efficiently.

1981 Program

In 1981, the Agency has allocated a total of $414,800 and 6 permanent workyears to this sub-program, of which $388,200 is for the Salaries and Expenses Appropriation and $26,600 is for extramural purposes under the Research and Development Appropriation.

This part of the program is providing various research program and project summaries, decision series documents, and technology transfer publications to meet Research Committee requirements. Technical Information Plans, listing the explicit information for this research effort have been prepared throughout the year. Support will be provided to develop these information products and to distribute them to the appropriate users. Support is also being provided to manage information systems which track ORD's research projects and resources.

Regional liaison activities are continuing as in 1980. To this end, such activities will:

- Continue the Regional Support Management Information System.

- Develop and implement a process to address the research needs of state and local government in the ORD planning process.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $38,700 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,800.

- The Congress reduced agencywide SES bonuses by $750,000; a decrease of $3,800 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.4 million; a decrease of $36,800 was applied to this activity.

- An increase of $4,100 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- A transfer of $3,300 was made to the radiation media in order support the Radiation Policy Council.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $7,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is 9,000.

1982 Plan

The Agency requests a total of $449,100 and 6 permanent workyears for this subprogram, of which $426,400 is for the Salaries and Expenses Appropriation and $22,700 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $34,300 which will slightly increase the Technical Information program's ability to prepare and disseminate technical information products to the Research Committee, Congress, and the public.

This sub-program will continue, in 1982, to provide the same types of services as in 1981. This includes the development and production of technical information products to insure that research information is properly and adequately communicated to the environmental decision making community. Specific products planned by the appropriate Research Committee will be developed. Support to managing systems which track ORD's research projects and resources will be provided as will strong liaison with Regional offices, of a similar nature to that conducted in 1981.

Change From January Request

This request represents a decrease of $10,300 from the January budget, of which $6,000 if for Salaries and Expenses and $4,300 is for Research and Development. This decrease will result in slightly less technical information support to the gases and particles research program.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1980 Accomplishments

In 1980, the Agency used a total of 8,897,700 for this sub-program, of which $3,634,200 was for Salaries and Expenses and $5,263,500 was for extramural research activities.

- New stations were added to the inhalable particulate network for a total of 138 stations. Additional instruments were sited at all stations to allow for increased analysis of mass, size, and chemical composition. This information is needed for establishment and revision of standards for particulate matter.

- Quality assurance guidelines and audits were provided for the National Air Monitoring Sites (NAMS) and the State and Local Air Monitoring Sites (SLAMS).

- A new massive air sampler capable of collecting very large amounts of atmospheric particles for later chemical analysis and bioassay (e.g. Ames test) was developed.

- Systems for determining the chemical composition of fine particles collected by dichotomous samplers were tested and applied to field monitoring studies.

1981 Program

In 1981, the Agency has allocated a total of $8,174,100 and 68 permanent workyears to this sub-program of which $3,622,300 is for the Salaries and Expenses Appropriation and $4,551,800 is for extramural purposes under the Research and Development Appropriation.

- The inhalable particulate (IP) network, mandated by the Clean Air Act Amendments of 1977, is being expanded to a total of 180 stations by the end of 1981.

- Measurement methods for fine particle emissions from stationary sources are being improved. Better methods will provide more detailed knowledge of emissions and more effective abatement techniques.

- Quality Assurance procedures, including performance audits of IP network stations and State and Local Air Monitoring Stations, maintenance of a repository of reference samples and materials, publication of new methods and quality assurance guidelines, verification of certified reference materials, and the implementation of the Agency's Mandatory Quality Assurance Program, are being performed on a continuing basis.

- Chemical analysis of trace metals and statistical analysis of trends at the national air monitoring sites is continuing. These analyses are essential to determine the actual effect of the Agency's policies on the national air quality.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decreases of $834,100 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $15,000.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $7,100 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $17,400 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $9,600 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $7,800 was applied to this activity.

- An increase of $40,400 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $52,200 from this activity.

- Transfer $395,000 to monitoring and quality assurance/uncontrolled hazardous waste sites to support Love Canal efforts.

- A transfer of $8,800 was made to the radiation media in order to support the Radiation Policy Council.

- Transfer within the Office of Research and Development to support GAP related research resulted in a transfer to air oxidants non-energy ($102,300); to air hazardous pollutants non-energy ($800); and to air mobile sources non-energy ($7,200).

- Transfer $20,000 to program management in order to support public awareness and industrial hygienist positions at Research Triangle Park.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reduction to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. This reduction applied to this activity is $6,300.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $25,000.

1982 Plan

The Agency requests a total of $8,388,100 and 70 permanent workyears for this sub-program, of which $4,484,900 is for the Salaries and Expenses Appropriation and $3,903,200 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $214,000 which will increase the support for the inhalable particulate air quality sampling network.

- Air measurements will continue to be developed, evaluated and optimized and measurement systems for criteria and non-criteria pollutants tested, evaluated, and demonstrated. EPA monitoring methods will be standardized; alternative methods will be evaluated

  and certified as equivalent to Federal Register methods upon passing prescribed performance standards. Standards and reference materials will continue to be maintained and supplied to laboratories on request. Performance audits of requesting laboratories will continue to be supplied for criteria pollutants and for sulfates and nitrates.

  Special audits (unanticipated) will also be carried out. Performance specifications will be developed and tested for continuous emission monitors (CEM) used by the Enforcement Office. Support will continue to be provided for the New Source Performance Standards (NSPS) Program mandated by the Clean Air Act.

- Quality Assurance (QA) guidelines, audits, reference samples, and other support will continue to be provided to organizations monitoring air pollution sources and ambient air quality, including the new National Air Monitoring System/State and Local Air Monitoring System (NAMS/SLAMS) network mandated by the 1977 Clean Air Act Amendments. Volumes II and III of the QA Handbook will be augmented, updated, and distributed to users. Performance audits and other QA will be supplied for CEMs. QA will also be supplied for the Office of Air Quality Planning and Standards (OAQPS) studies and EPA research laboratories involving air measurements. The Agency's mandatory Quality Assurance Program established by the Administrator will continue to be implemented.

- The inhalable particulate (IP) network will operate 180 stations throughout 1982. Twenty additional stations will be added during the year. The mass, size, and chemical composition of particulates will be measured at each station, as requested by OAQPS.

Change From January Request

The request represents a decrease of $414,000 from the January budget, of which $32,900 is for Salaries and Expenses and $381,100 is for Research and Development. This decrease will result in fewer quality assurance audits performed on state and local air monitoring networks.

HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $11, 307,800 for this sub-program, of which $6,409,700 was for Salaries and Expenses and $4,898,100 was for extramural research activities.

- The first phase of study to define the decrements in lung function associated with exercise, increased temperature, and dosage with bronchoconstrictor drugs was completed. This study provided baseline health data and defined the worst case situation for unexposed subjects. The data will be used in a Phase II project which has been initiated to study the acute health effects in humans with repeated exposure to various pollutants and experiencing physical activity and thermal stress. The pollutants of interest include sulfuric acid, ammonium bisulfate, ammonium sulfate, and ammonium sulfate, and ammonium nitrate, alone and in combination with ozone, sulfur dioxide, and nitrogen dioxide.

- Acute and intermittent exposures of normal and impaired animals to ammonium sulfate, a fine-mode pollutant, were completed. Results from this study will provide toxicological data relevant to determining the need for a size resolved standard for inhalable particulate matter.

- Acute and intermittent exposures of mice and hamsters to ammonium sulfate, ammonium bisulfate, and ammonium nitrate to provide data on dose-response relationships for effects on host defense mechanisms against infectious respiratory disease were completed.

- The first phase of a problem definition study which, in conjunction with a panel of experts, can serve as the foundation for planning epidemiological studies on inhalable particulates was completed. This project identifies problem areas in current knowledge and needed research, and determines the types of studies which offer a high probability of success if conducted. Such planning studies with input from experts in the field help ensure that research efforts provide valuable data for the Agency.

1981 Program

In 1981, the Agency has allocated a total of $11,433,500 and 54 permanent workyears to this sub-program, of which $4,389,200 is for the Salaries and Expenses Appropriation and $7,044,300 is for extramural puroposes under the Research and Development Appropriation.

- Studies are being initiated to determine the subchronic and chronic inhalation toxicity and immunological effects of carbon particles. Assessments of immunological responses are also being considered for sulfur dioxide. The results will provide needed information on low concentrations of pollutants, varied exposure modes, and additional biological and immunological endpoints.

- Protocols for an *in vivo* inhalation systems will be validated and compared to *in vivo* assays as part of efforts to develop rapid modes for short-term screening of particles for lung toxicity.

- Clinical studies are primarily concentrating on continued implementation of multi-phased studies. Phase II of research on the effects in humans of acute exposure to sulfate and nitrate aerosols, alone and in combination with gaseous pollutants, is underway, focusing on respiratory mechanical parameters in young, healthy male subjects. Endpoints to be measured include respiratory functioning, spirometry, and exercise stress effects.

- The next phase of the problem definition study for epidemiological research on inhalable particles follows upon the first stage, which was completed last year. Potential study communities will be identified by particulate pollution levels and characterized with respect to demographic, industrial, socioeconomic, and other important parameters to support final selection of communities for future epidemiological studies identified by the Phase I inhalable particulate problem definition study.

- Asthmatic patients in Colorado are being evaluated for symptom aggravation, pulmonary function changes, and usage of drugs and medical care in relation to particulate air pollution. Asthmatics have been selected for study because they represent a subset of the population sensitive to air pollution.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derives from "crosswalking " the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $1,628,500 results from several actions, as follows:

- Shortly after 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $22,000.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $4,500 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $69,900 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $28,200 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $783,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $4,100 was applied to this activity.

- An increase of $40,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reporgrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $47,500 from this activity.

- A transfer of $7,100 was made to the Office of Inspector General in order to provide additional resources to that Office.

- A tranfer of $356,700 was made to air hazardous pollutants non-energy in order to realign funds between the Hazardous Air Pollutants Research Committee and the Gases and Particles Research Committee so that both Committees can accomplish their required research.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $5,400.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $340,400.

1982 Plan

The Agency requests a total of $9,561,800 and 56 permanent workyears for this sub-program, of which $5,221,500 is for the Salaries and Expenses Appropriation and $4,340,300 is for extramural purposes under the Research and Development Appropriation.

This reflects a decrease of $1,871,700 for epidemiological studies; some efforts will continue via our competitive grants program, targeted to improve our understanding of the human health impacts to SO_x exposures.

- Inhalation studies will continue on human volunteers exposed to fine-mode (0-2.5 micrometers) aerosols which include sulfuric acid, ammonium sulfate, ammonium nitrate; alone and in combination with ozone, nitrogen dioxide, and sulfur dioxide.

- Development and utilization of animal models from which information about deposition of particles in the lungs can be extrapolated to humans will continue.

- Development and application of techiques for studying pulmonary function in both normal animals and in animals with respiratory disease will continue to focus on improving the extrapolation of animal data to humans who are at risk from exposure to air pollutants.

- Studies will be conducted on the inhalation toxicity of carbon, organic particles, and gas mixtures. Data collection will be underway in research to develop and compare and alveolar epithelium. The results should establish the validity of culture models for short-term screening of particles for lung toxicity.

Change From January Request

This request represents a decrease of $2,678,600 and 15 permanent workyears from the January budget, of which $678,600 is for Salaries and Expenses and $2,000,000 is for Research and Development. This decrease will result in elimination of epidemiological studies of exposures to sulfates and other particiles performed by EPA laboratories. The decrease in the salaries and expenses appropriation is a result of a shift in resoures to Hazardous Pollutants Non-Energy Health Effects.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1980 Accomplishments

In 1980, the Agency used a total of $855,000 for this sub-program, of which $224,600 was for Salaries and Expenses and $630,400 was for extramural research activities.

- A report on the feasibility of smelter weak SO_2 stream control was completed. This information is a key element in the Agency's Nonferrous Smelter Order program. The report analyzes all technologies currently available for SO_2 control.

- A study of foreign technologies for controlling emissions at a secondary lead smelter was completed. This technology should assist industry in meeting the air quality standards for lead emissions.

- Emission factors for steel plants have been developed for inhalable particulates to support development of regulations for basic oxygen furnace stack, fugitive, and hot metal desulfurization processes and also for fugitive emissions from roads and material piles.

- A preliminary environmental assessment for tne Formcoke process was completed to support the Department of Energy. This new process, which is an alternative to conventional cokemaking, offers the promise of eliminating coke oven emissions.

- A preliminary environmental assessment was completed for the submerged arc ferroalloy furnace which identified this industrial process as a major emitter of carcinogenic matter.

1981 Program

In 1981, the Agency has allocated a total of 812,900 and 4 permanent workyears to this sub-program, of which $227,300 is for the Salaries and Expenses Appropriation and $585,600 is for extramural purposes under the Research and development Appropriation.

- A major technical support program is being undertaken to evaluate Nonferrous Smelter Order proposals that are received from industry by the Office of Enforcement. This program is required by Section 119 of the Clean Air Act. Technical assistance is being provided to Regional Offices and other governmental organizations involved in implementing this delayed compliance order for primary cooper, lead, and zinc smelters.

- The demonstration of particulate controls for open sources in steel plants is being supported. A charged fogger is being evaluated at two steel plants implementation Plans. A test report and users manual will be published for each demonstration.

- Assessments of gaseous and inhalable particulate emissions from the ferrous metallurgy and ferroalloy industries is being continued. Advanced air pollution control technology that shows promise is being identified for possible large scale demonstration in later years.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission.

The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses Section of this submission.

The net decrease of $65,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a

  decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,200.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $65,000 was applied to this activity.

- An increase of $1,700 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $1,000 from this activity.

1982 Plan

The Agency requests a total of $837,600 and 4 permanent workyears for this sub-program, of which $238,700 is for the Salaries and Expenses Appropriation and $598,900 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $24,700 for support of the Nonferrous Smelter Order program.

Activities in 1982 will be a continuation of the three major programs undetaken in 1981. Specifically,

- Support to the Office of Enforcement will continue in evaluating Nonferrous Smelter Order (NSO) proposals and making technical recommendations for compliance delay on a case-by-case basis. It is expected that by 1982 the NSO program will be well underway with active projects at several smelter facilities.

- The demonstration of controls for open sources of particulate emissions in steel plants will continue. Improved technologies will be tested and evaluated.

- Assessments of unit process eissions in the ferrous metallurgy industry will be continued.

Change From January Request

This request represents a decrease of $27,900 from the January budget, of which $3,800 is for Salaries and Expenses and $24,100 is for Research and Development. This decrease will result in the deferral of a demonstration of particulate controls at a ferroalloy plant.

ENVIRONMENTAL PROCESSES AND EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $9,906,900 for this sub-program, of which $2,361,300 was for Salaries and Expenses and $7,545,600 was for extramural research activities.

- The effects of airborne sulfur pollutants on materials in the Regional Air Pollution Study in the St. Louis Area were determined and the data will be used in the Agency's SO_x/Particulates Criteria Document.

- Effective sampling techniques for particulate emissions from four atypical stationary source categories were developed and evaluated; these techniques may be used by regulatory and enforcement offices.

- A national Crop Loss Assessment Network was designed, peer-reviewed, and field-implemented to provide pollutant dose-crop yield responses for important agricultural crops grown under normal cultural regimes in various geographical regions of the U.S. The impacts of SO_2 and pollutant mixtures are being evaluated. These data are needed

for calculating economic effects of air pollution on agriculture and for establishing scientifically defensible Secondary Air Quality Standards.

- Research has been initiated to quantify interactive effects of mixed pollutants on crop yield. Results of this research to date have established that the threshold for long-term SO_2 effects on growth, nitrogen fixation and quality of alfalfa is a median concentration of 0.06 ppm. The addition of 0.05 ppm O^3 did not change this relationship.

1981 Program

In 1981, the Agency has allocated a total of $9,197,500 and 35 permanent workyears to this sub-program, of which $2,206,200 is for the Salaries and Expenses Appropriation and $6,991,300 is for extramural purposes under the Research and Development Appropriation.

- Urban plume mapping of a city dominated by heavy and light industries is being conducted to assist in validating the AROSOL-III, an aerosol submodel designed to provide 1-hr. average values for primary aerosol mass, sulfate and visibility due to primary and secondary sources, nucleation, condensation, coagulation, sulfate photo formation, and dry deposition.

- Studies are being conducted to provide data on multi-day dispersion and transformation processes that affect the distributions and composition of secondary pollutants, as well as provide new data on processes affecting identifiable urban and industrial pollutant plumes.

- Field studies will be intiated to determine the effects of sulfur dioxide on commercially important trees. Information will be used for the development of air quality critria for sulfur dioxide.

- The acute and chronic effects of sulfur dioxide on the genetics and sensitivity of native populations of plants will be assessed. The project will provide informacion relevant to the occurrence of changes in the sensitivity or resistance of plant populations induced by exposure to sulfur dioxide.

- Receptor models are being developed to estimate the impact of sources at receptor sites. This could lead to elimination of the need for expensive emission inventories in developing cost effective State Implementation Plans.

1981 Explanation of Change from Budget Estimate

The net decrease of $1,128,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $10,700.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $4,600 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $12,700 was applied to this activity.

- The Congress applied a general reduction of 412,214,000 to the Research and Development appropriation; a decrease of $777,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $23,300 was applied to this activity.

- An increase of $89,900 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $35,500 from this activity.

- Transfer $62,600 program management to support a technical information coordinator and an inernational travel coordinator.

- Transfer $20,000 to program management to support public awareness and indstrial hygienist positions at Research Triangle Park.

- A transfer of $9,000 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 102 of the Clean Air Act.

- A transfer of $22,900 was made to radiation media in order to support Radiation Policy Council.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $9,000.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment," required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $3,000.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $63,600.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is 102,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $5,100.

1982 Plan

The Agency requests a total of $9,703,700 and 39 permanent workyears for this subprogram, of which $2,874,600 is for the Salaries and Expenses Appropriation and $6,829,100 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $506,200 for ecological effects studies to be conducted in phase with criteria document revisions.

- Improved atmospheric dispersion models will be developed for use in evaluating compliance with air quality standards and prevention of significant deterioration (PSD) and standards in areas of complex terrain, especially in the mountainous areas of the Western United States.

- Urban and regional scale air quality models will be developed for relating ambient fine (less than 2.5 micron) and inhalable (less than 15 micron) particles to their emission sources.

- Regional scale models will be developed for the transport and transformation of gases and particles to predict the effects of industry-related emissions.

- Manuscripts will be prepared which related SO_2 and SO_2/O_3 dose-response functions for plants grown under different moisture regimes for use in the possible revisions of sulfur dioxide air quality standards.

Change From January Request

This request represents a decrease of $202,800 from the January budget, of which $47,700 is for Salaries and Expenses and $155,100 if for Research and Development. This decrease will result in reduced efforts in assessing the effects of sulfur oxides especially on crops and vegetation.

AIR
Hazardous Air Pollutants

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase+ Decrease- 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Scientific Assessments:					
Salaries and Expenses.....	$1,154	$1,083	$1,207	$1,155	-$52
Research and Development..	400	600	600	406	-194
Technical Information and Liaison:					
Salaries and Expenses.....	104	102	102	103	+1
Research and Development..	1	6	6	6	...
Monitoring Systems and Quality Assurance:					
Salaries and Expenses.....	2,152	1,974	1,844	2,365	+521
Research and Development..	2,263	2,245	2,274	1,253	-1,021
Health Effects:					
Salaries and Expenses.....	387	345	1,454	1,638	+184
Research and Development..	2,159	3,053	1,901	1,497	-404
Environmental Engineering and Technology:					
Salaries and Expenses.....	211	214	215	226	+11
Research and Development...	586	605	524	562	+38
Environmental Processes and Effects:					
Salaries and Expenses.....	278	300	300	397	+97
Research and Development...	1,194	1,266	1,127	1,160	+33
Total:					
Salaries and Expenses.....	4,286	4,018	5,122	5,884	+762
Research and Development...	6,603	7,775	6,432	4,884	-1,548
Grand Total.....	10,889	11,793	11,554	10,768	-786

79-248 O—80——22

AIR
Hazardous Air Pollutants

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase+ Decrease- 1982 vs. 1981
		(dollars in thousands)			
Permanent Positions					
Scientific Assessments:.....	20	25	25	25	...
Technical Information and Liaison:.....	2	2	2	2	...
Monitoring Systems and Quality Assurance:....	41	40	40	35	-5
Health Effects:.....	6	6	21	21	...
Environmental Engineering and Technology:.....	4	4	4	4	...
Environmental Processes and Effects:.....	5	6	5	6	+1
Total:.....	78	83	97	93	-4
Full-Time Equivalency					
Scientific Assessments:.....	29	37	35	37	+2
Technical Information and Liaison:.....	3	3	3	3	...
Monitoring Systems and Quality Assurance:.....	45	45	44	40	-4
Health Effects:.....	10	9	24	24	...
Environmental Engineering and Technology:.....	7	6	7	7	...
Environmental Processes and Effects:.....	5	6	5	6	+1
Total:.....	99	106	118	117	-1

Budget Request

The Agency requests a total of $10,768,000 and 93 permanent workyears for 1982, a decrease of $784,400 from 1981. Included in this total is $5,884,000 for Salaries and Expenses and $4,884,000 for Research and Development, with an increase of $762,600 and a decrease of $1,547,000, respectively.

Program Description

This program has been developed under the auspices of the Hazardous Air Pollutants Research Committee. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

The overall program provides data which can be used by regulatory decision-makers to determine: (a) the human health risk associated with exposure to certain ambient air chemicals; (b) the source of those chemicals; and (c) the technical feasibility and costs of reducing human exposure to those chemicals. The program develops and improves techniques for generating the data listed above so that more accurate, faster and less expensive estimates of risk may be generated; more realistic priorities for regulation of chemical species may be developed; major sources of the chemicals may be more accurately defined; and more efficient, less costly control devices can be made available.

Currently, the highest priority of the research program is to provide assistance in the implementation of the Airborne Carcinogen Policy. However, there is a modest program to evaluate the non-carcinogenic properties of chemicals that might be regulated under Section 112 of the Clean Air Act as well. Some of the major features of the program are: (1) generation of quantitative risk estimates based on literature data for chemicals being considered for regulation; (2) identification of the chemical species, concentration and biological activity of ambient air pollutants and pollutant source emissions to aid in the selection of chemicals for regulation; (3) generation of animal test data which is of sufficient quality for risk estimate determinations; (4) development of standard analytical chemical methods, which will be part of the promulgated hazardous air pollutant regulation; (5) evaluation and development of control technologies primarily designed to reduce organic chemical emissions; (6) evaluation of a significiant number of chemicals for human health effects other than cancer; and (7) development of methods which will enable more accurate, faster and less expensive estimates of human health effects from animal and other test systems.

Activities and program proposals for each sub-program, are presented individually in the following material.

SCIENTIFIC ASSESSMENT

1980 Accomplishments

In 1980, the Agency used a total of $1,554,000 for this sub-program, of which $1,153,700 was for Salaries and Expenses and $400,000 was for extramural research activities.

- Reports on the carcinogenicity of 14 air pollutants were completed which were used by the Office of Air Quality Planning and Standards to prioritize chemicals for future regulatory evaluation.

- A quantitative risk assessment on the carcinogenicity of arsenic was completed. This report was one of the documents required to classify arsenic as a hazardous air pollutant. An assessment of benzene was completed which was subsequently used by the Agency to support the development of emission standards for benzene emitting sources.

- Carcinogenicity reports on 6 chemicals that are candidates for listing as hazardous air pollutants under the Agency's proposed Air Cancer Policy were completed and have been submitted to the Science Advisory Board for review.

- Draft comprehensive health assessment documents were completed on the following 9 air pollutants: methylene chloride, methylchloroform, fluorocarbon 113, trichloroethylene, ethylene dichloride, perchloroethylene, arsenic, vinlidene chloride, and acrylonitrile.

1981 Program

In 1981, the Agency has allocated a total of $1,806,400 and 25 permanent workyears to this sub-program, of which $1,206,500 is for the Salaries and Expenses Appropriation and $599,900 is for extramural purposes under the Research and Development Appropriation.

- Carcinogenicity evaluations with unit risk estimations will be completed on approximately 20 chemicals. Chemicals currently being studied are benzo (a) pyrene, cadmium, ethylene dichloride, nickel, vinylidene chloride, formaldehyde, chloroform, acrolein, chloroprene, dichlorobenzene, hexachlorocyclopentadiene, phenol, vinyl chloride, polychlorinated biphenyls, carbon tetrachloride, dioxane, acethylene tetrachloride.

- Mutagenicity evaluations and/or separate risk analyses will be completed for 6 of 21 cancer chemicals.

- Exposure assessment reviews and/or technical assistance will be provided using the new Agency guidelines for up to 9 Type II assessments. Comprehensive health assessments will be completed on methylene chloride, fluorocarbon 113, trichloroethylene, methyl chloroform, tetrachloroethylene, ethylene dichloride, acrylonitrile, vinylidene chloride, and arsenic.

- Work will be initiated on a health assessment document on toluene for the Office of Air Quality Planning and Standards and the Toxic Substances Priority Committee. Health assessments will also be initiated on 3-5 other chemicals which will be determined later by the Office of Air Quality Planning and Standards.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net increase of $123,800 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $5,700.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $2,000 was applied to this activity.

- The Coggress reduced agencywide consulting services by $3.8 million; a decrease of $12,500 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $2,500 was applied to this activity.

- An increase of $15,400 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign contracts and salary and related costs to meet on-board needs resulted in a transfer of $69,400 to this activity.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $8,300.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $70,000.

1982 Plan

The Agency requests a total of $1,561,800 and 25 permanent workyears for this sub-program, of which $1,155,400 is for the Salaries and Expenses Appropriation and $406,400 is for extramural purposes under the Research and Development Appropriation.

This reflects a decrease of $244,600. This decrease reflects a slight reduction in comprehensive health effect assessments.

- The scientific assessment program will provide continuing health hazard assessment support to the Office of Air Quality Planning and Standards. Comprehensive health effect assessments with unit risk estimations will be completed for 21 of 30 chemicals or, if needed, 12 to 15 expanded Type I assessments will be conducted for the Agency.

- Mutagenicity evaluations will be completed for 5 of 30 chemicals to support the Agency's Airborne Carcinogen Policy.

- Technical assistance will be provided on mutagenicity or reproductive toxicity policy matters and work will be initiated on four non-carcinogenic health hazard assessments to be selected from the carcinogen dropout list or other OAQPS priorities.

- Exposure assessment reviews and/or technical assistance will be provided using the new Agency exposure guidelines for up to 9 Type II risk assessments.

Change From January Request

This request represents a decrease of $18,700 from the January budget, of which $8,400 is for Salaries and Expenses and $10,300 is for Research and Development. This decrease will result in fewer risk assessments for non-carcinoganic compounds.

TECHNICAL INFORMATION AND LIAISON

1980 Accomplishments

In 1980, the Agency used a total of $104,800 for this sub-program, of which $103,800 was for Salaries and Expenses and $1,000 was for extramural research activities.

In 1980, the Technical Information Program supported the preparation and publication of the Research Outlook, the Research Highlights, technical information plans and guidance and other general documents of interest to the environmental decision making community. It also provided ORD with information systems necessary to effectively plan and manage its research projects and resources. Specific accomplishments in the area of Hazardous Air Pollutants included the Airborne Toxic Organic Chemicals.

- The Regional Services Staff (RSS) provided for effective communications between ORD and the Regions.

1981 Program

In 1981, the agency has allocated a total of $108,400 and 2 permanent workyears to this sub-program, of which $102,200 is for the Salaries and Expenses Appropriation and $6,200 is for extramural purposes under the Research and Development Appropriation.

- The Regional Services Staff (RSS) will continue to serve as a liaison between ORD and the Regions. Specifically, RSS will continue to support the Regional Support Management Information System and will develop and implement a process to address the research needs of state and local governments in the ORD planning process.

- Various research program and project summaries, decision series documents, and technology transfer publications to meet Research Committee requirements will be provided. Technical Information Plans, listing the explicit information products for this research effort will be prepared. Support will be provided to manage information systems which track ORD's research projects and resources.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the special analyses section of this submission.

The net increase of $400 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $400.

- An increase of $1,300 results from the cost of the October 1980 pay raise

and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $400 to this activity.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $10,800.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $9,900.

1982 Plan

The Agency requests a total of $109,500 and 2 permanent workyears for this sub-program, of which $103,400 is for the Salaries and Expenses Appropriation and $6,100 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $1,100 in technical information services.

This sub-program will continue to provide the same types of services as in 1981. This includes the development and production of technical information products to insure that research information is properly and adequately communicated to the environmental decision making community. Specific products planned by the Hazardous Air Pollutants Research Committee will be developed. Support to manage systems which track ORD's research projects and resources will be provided. Regional liaison activities will be continued.

Change From January Request

There is no change from the January request.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1980 Accomplishments

In 1980, the Agency used a total of $4,415,600 for this sub-program, of which $2,152,300 was for Salaries and Expenses and $2,263,300 was for extramural research activities.

- Analytical methods were developed for chlorinated hydrocarbons, non-methane hydrocarbons, coke oven emissions, cadmium, and NO_x. These hazardous air pollutants represented the highest priorities of the Office of Air Quality Planning and Standards for promulgating regulations.

- The repository of standard reference samples for hazardous air pollutants was increased and maintained in order to maintain high quality pollutant measurements.

- As part of the quality assurance program, audits were completed as scheduled at Regional, State, and local monitoring laboratories.

- Support was provided for the mandatory quality assurance operation in the EPA monitoring and support laboratories.

- A mandatory quality assurance program was established to provide technical guidance, support and overview to assure that the Agency will have

environmental data of known quality that is appropriate for EPA needs.

- In the carbon fiber program, field samples collected from five industrial types were characterized, a sampling and analysis technique (light microscopy) was developed as a reference procedure and a study was initiated on continuous monitoring of carbon fiber emissions. A survey of available measurements techniques was completed and four promising techniques are being evaluated.

1981 Program

In 1981, the Agency has allocated a total of $4,117,400 and 40 permanent workyears to this sub-program, of which $1,843,700 is for the Salaries and Expenses Appropriation and $2,273,700 is for extramural purposes under the Research and Development Appropriation.

- Analytical methods for asbestos and arsenic are being evaluated and modified for field use in regulation surveillance and a system evaluated for hazardous organic vapors using solid sorbents.

- The research on instrumentation for continuous monitoring of carbon fiber emissions is being completed and the results reported to the Federal Carbon Fiber Research Program coordinated by the Office of Science and Technology.

- In the source monitoring area, two methods are being standardized; one method is being evaluated and validated. Two continuous emission monitors are also being evaluated.

- Performance audits of laboratories are being conducted and the standards repository for ambient and stationary source methods is being maintained. Research standard materials are being developed for gaseous toxic organic compounds. A standard reference material is being developed for asbestos in air in conjunction with the National Bureau of Standards. Biological standards containing Hazardous Air Pollutants are also being validated and maintained.

- The mandatory quality assurance program is continuing to provide technical guidance, support and overview to assure that the Agency will have environmental data of known quality that are appropriate for EPA needs. Emphasis is on application of the Agencywide program to contract and grant activities.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the special analyses section of this submission.

The net decrease of $102,200 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $8,300.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,000 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $8,700 was applied to this activity.

- An increase of $23,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $3,000 to this activity.

- Transfer $167,000 to nonionizing radiation/non-energy ($82,700) and to solid waste non-energy ($84,300), to support efforts on Love Canal and Three Mile Island activities.

- Offsetting transfers of $210,800 were made between this activity and air gases and particles/non-energy in the Salaries and Expenses and Research and Development appropriations.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $1,300.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $15,200, which is to be rescinded.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $9,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $81,500.

1982 Plan

The Agency requests a total of $3,617,700 and 35 permanent workyears for this sub-program, of which $2,364,600 is for the Salaries and Expenses Appropriation and $1,253,100 is for extramural purposes under the Research and Development Appropriation.

This reflects a decrease of $499,700 in methods development work for measuring hazardous air pollutants.

- Two methods to verify exposure estimates for hazrdous air pollutants will be evaluated and improved.

- A report will be issued on the evaluation of the provisional method for asbestos monitoring.

- In the stationary sources area for the National Emission Standards for Hazardous Air pollutants, two methods will be evaluated and one validated.

- A report will be prepared on the evaluation of a continuous emission monitor

for one hazardous air pollutant designated by the OAQPS and the Office of Enforcement.

- In the area of Quality Assurance, a report will be prepared on the vertification of standards received from laboratories who are collecting monitoring data in support of Regional and local monitoring programs. Performance audits will be conducted and the standards repository for ambient and stationary source methods will be maintained.

- Support to the mandatory quality assurance program will provide technical guidance, support and overview to assure that the Agency will have environmental data of known quality that are appropriate for the EPA needs.

Change from January Request

This request represents a decrease of $51,800 from the January budget, of which $26,400 is for Salaries and Expenses and $25,400 is for Research and Development. This decrease will result in reduced efforts to develop methods for measuring hazardous air pollutants

HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $2,546,000 for this sub-program, of which $386,900 was for Salaries and Expenses and $2,159,100 was for extramural research activities.

- The development of a research protocol and computer programs to study variations and trends in U.S. cancer mortality by county, race, and sex. Preliminary data on cancer mortality trends among white males also has been prepared.

- The utility of using intratrachael injection of compounds (was investigated) as a means of predicting inhalation toxicity. The results which are very similiar to those seen following inhalation permit a more rapid screening of chemicals to determine the impact on the defense system against infectious disease.

- Biochemical data on manganese toxicity in neonatal rats was analyzed and an increase in manganese levels in brain tissue was shown.

- A report on psychological-neuropsychological function in children with asymptomatic lead burden was completed. The lead burden had a significant effect on brain waves and electrical-evoked brain potential.

- The relationship between vapor pressure and mutagenic potential in the development of techniques needed for the collection, delivery and bioassay of volatile organics was established. The relationship between analytical chemical activity and biological systems will help direct future testing and research approaches.

- An analytical method for detecting nickel-63 in the urine and feces in studies on absorption and distribution of nickel in the developing rodent was developed. This method was tested and evaluated and is now ready for application to obtain pharmacokinetic data.

- An organ specific bioassay system needed to screen for lung-specific carcinogens

and mutagens was developed. This methodology is being expanded to allow the detection of other organ-specific carcinogens and modified to utilize human cells in culture. This research will enable selection of the most appropriate mammalian and human cells for testing and predictive purposes.

- A pilot study in which large samples of urban air particulate were collected and subsequently chemically fractionated and bioassayed was completed. Significant mutagenic and potentially carcinogenic activity was observed in several fractions.

1981 Program

In 1981, the Agency has allocated a total of $3,354,800 and 21 permanent workyears to this sub-program, of which $1,454,100 is for the Salaries and Expenses Appropriation and $1,900,700 is for extramural purposes under the Research and Development Appropriation.

- A system employing human lung cells to determine the carcinogenic and mutagenic effects of hazardous air pollutants is being developed.

- A rodent lung cell bioassay to aid in identifying and separating different lung cell types and for determining which cells metabolize agents into carcinogenic/mutagenic intermediates is being developed.

- Human exposure assays for carcinogenicity and mutagenicity using in vitro and cytogenic bioassay techniques to ascertain whether readily available human tissues (urines, blood, saliva) have been exposed to hazardous substances are being developed.

- Techniques for assaying airborne mutagens to enable direct comparisons to (1) type of airborne mutagen present in the atmosphere, (2) extent of human exposure, and (3) associated epidemiological data on morbidity and mortality are being developed.

- Fractions of urban air previously shown to present mutagenic and carciogenic activity are being further characterized and pure compounds that have been identified in active fractions are being tested as pure agents.

- The immunological effects of mice acutely exposed via inhalation to selected hazardous chemicals and metals are being assessed.

- An updated cancer mortality atlas is being further refined. Mortality rates are being correlated with data from systematic sampling of air and water.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the special analyses section of this submission.

The net decrease of $43,100 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter

transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,300.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,400 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $30,600 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $232,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $1,200 was applied to this activity.

- An increase of $12,500 result from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Transfer $356,700 from air-gases and particles/non-energy to realign funds between the Hazardous air Pollutants Research Committee and the Gases and Particles Research Committee so that both committees can accomplish their required research.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $2,800.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $3,700 which is being redirected to fund PC&B deficits.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $79,700.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $59,600.

1982 Plan

The Agency requests a total of $3,134,400 and 21 permanent workyears for this sub-program, of which $1,637,500 is for the Salaries and Expenses Appropriation and $1,496,900 is for extramural purposes under the Research and Development Appropriation.

This reflects a decrease of $220,400 in epidemiological studies. An epidemiology effort will be continued at a reduced level through competitive grants to academia.

- Methods to adapt in vitro microbial and mammalian cell bioassays needed to detect and characterize carcinogens in the ambient air and at their emission sources will be developed.

- Efforts to develop and validate bioassays and screening techniques that are needed to provide suggestive evidence of the carcinogenicity of hazardous air pollutants and to evaluate the ability of a chemical to induce chromosomal aberrations which may be relatd to neoplastic changes will be continued.

- Techniques to assess pulmonary carcinogenesis in whole anaimals will be developed and validated.

- Methods of genetic bioassays for evaluation of human exposure to hazardous air pollutants will be developed.

- A comprehensive battery of cellular and whole animal tests to evaluate the non-carcinogenic toxicity of hazardous air pollutants will continue to be developed. The toxicity of these will be tested via several possible routes of exposure of chemical administration.

Change From January Request

This request represents a decrease of $180,700 and and increase of 15 permanent workyears from the January budget, of which an increase of $619,300 is for Salaries and Expenses and a decrease $800,000 is for research and Development. This decrease will result in elimination of epidemiological studies of exposures to hazardous air pollutants performed by EPA laboratories. The increase in the Salaries and Expenses appropriation is a result of a shift in resources from Gases and Particles Non-Energy Health Effects.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1980 Accomplishments

In 1980, the Agency used a total of $797,200 for this sub-program, of which $210,900 was for Salaries and Expenses and $586,300 was for extramural research activities.

- An assessment of atmospheric emissions from petrochemical production processes with emphasis on fugitive emissions was completed. These results provided input data for the development of hazardous air pollutant standards.

- An evaluation of innovative storage tank seals for benzene was completed. These data were used in the development of New Source Performance Standards for storage tanks.

- The frequency of hydrocarbon fugitive emissions such as benzene in the organic chemical manufacturing industry was determined. This data will be used in the development and review of hazardous air pollutant standards that specify measurement techniques.

- A preliminary environmental assessment of the submerged arc ferroalloy furnace was completed. The results identified this source as a major emitter of carcinogenic matter.

- An environmental assessment for coal preheaters for steel manufacturing which identified this process as a major source of carcinogenic matter was completed.

1981 Program

In 1981, the Agency has allocated a total of $738,000 and 4 permanent

workyears to this sub-program, $214,500 is for the Salaries and Expenses Appropriation and $523,500 is for the Research and Development Appropriation.

The industrial hazardous air pollution control program is closely related to the industrial oxidant control programs. Several joint projects are supported because many hazardous chemicals such as benzene are also volatile organic chemicals. Sources of industrial emissions and control technologies for both oxidants and hazardous air pollutants are therefore often coincident.

- A multi-year assessment of the ferrous metallurgy industry is being continued. Sources planned for assessment include iron foundry melting, blast furnace top, and electric furnace emissions. Hazardous discharges such as heavy metals and polycyclic organic material are characterized and methods of control suggested for further study and testing.

- An assessment of the ferroalloy industry is being completed. Plans are being developed for a later demonstration project to control hazardous air emissions.

- Secondary air emissions from wood processing and organic chemical manufacturing wastewater treatment systems are being characterized. The need for control of these emissions is being determined.

- Thermal incineration processes will be studied to determine the effectiveness of hazardous air emissions control. Methods of reducing costs and energy requirements will be sought in the project. Undesirable effects of incineration such as harmful daughter-product generation will be identified, and methods to reduce these effects will be devised.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the special analyses section of this submission.

The net decrease of $81,700 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,100.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $72,000 was applied to this activity.

- An increase of $2,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $800 from this activity.

- Transfer of $10,000 of interagency agreement funds to the energy media, to toxic chemical testing and assessment.

1982 Plan

The Agency requests a total of $788,300 and 4 permanent workyears for this sub-program, of which $226,300 is for the Salaries and Expenses Appropriation and $562,000 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $50,300 for developing control technologies for emissions of volatile organic compounds from industrial sources.

- Work will focus on the control of polynuclear organic materials and other hazardous air pollutants from the ferroalloy industry. Control of these emissions can require high energy scrubbers. For economical operation, exit gas volumes must be minimized by controlling combustion and air induction. A field demonstration of optimum control techniques will be undertaken to culminate assessment work that was begun in prior years.

- Field tests of catalytic oxidation techniques will be conducted at several industrial sites. Data that is obtained will be used in the development of cost-effective hazardous air pollutant regulations.

- Afterburners and on-site industrial boilers and heaters will be evaluated to determine the potential for hazardous air pollution control.

- A long-range program will be initiated to predict the mechanism of formation of potentially hazardous air pollutants in chemical manufacturing processes.

Change From January Request

This request represents a decrease of $28,900 from the January budget, of which $6,300 is for Salaries and Expenses and $22,600 is for Research and Development. This decrease will result in reduced efforts in evaluating activated carbon adsorption systems as a means of controlling hazardous air emissions.

ENVIRONMENTAL PROCESSES AND EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $1,472,100 for this sub-program, of which $278,700 was for Salaries and Expenses and $1,193,400 was for extramural research activities.

- Research results have been obtained on the nature of the potential carbon fiber emissions resulting from machining and incineration of graphite/epoxy composites. These results will be used to assess the potential environmental impacts associated with the increased use and disposal of materials containing carbon fibers.

- Urban and non-urban air quality measurements have been obtained for a large number of halocarbons, hydrocarbons and nitrous oxide. These data will be useful for estimating daily doses for use in risk assessment determinations and for estimating global distributions to help assess the impact of some of these compounds on the stratospheric ozone layer.

1981 Program

In 1981, the Agency has allocated a total of $1,427,400 of 5 permanent work-

years to this sub-program, of which $300,400 is for the Salaries and Expenses Appropriation and $1,127,000 is for extramural purposes under the Research and Development Appropriation.

- Carbon fiber emissions are being characterized from a variety of services including manufacturing processing and disposal facilities. The results of this program will be used by the Office of Science Technology Policy to assess the potential environmental impacts associated with increased usage and disposal of carbon fibers.

- A report will be prepared that summarizes the precision and accuracy of the ambient air quality data that has been obtained from recent field investigations of hazardous air pollutants. Reports will be used to assess the quality of data currently available on ambient levels of these important hazardous air pollutants and in developing effective hazardous ambient air measurement program plans.

- Studies are being conducted to determine the lifetimes and atmospheric degradation products of selected hazardous air pollutants, such as halocarbons. The results of this work will be used to assess risk exposure of hazardous air pollutants and to identify likely atmospheric degradation products that may be more toxic than the original form of the pollutant.

- Source apportionment models are being developed for hazardous air pollutants such as organic vapors and aerosols. These models will be used to determine the individual source contributions of selected hazardous air pollutant emissions to ambient air quality.

1981 Explanation of Change from Budget Estimate

The resources relected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the special analyses section of this submission.

The net decrease of $138,600 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,300.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $500 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $2,500 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $139,000 was applied to this activity.

- An increase of $3,400 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $1,300 to this activity.

1982 Plan

The Agency requests a total of $1,556,300 and 6 permanent workyears for this sub-program, of which $396,800 is for the Salaries and Expenses Appropriation and $1,159,500 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $128,900 in work on characterization of hazardous pollutants in ambient air.

- Ambient air characterization studies will be conducted from a selected list which currently contains thirty-six (36) hazardous air pollutants. These studies will be used to determine the real-time atmospheric level of these hazardous pollutants. The specific design and locations of the measurement networks will be based on studies conducted in the 1981 program.

- Laboratory studies that simulate atmospheric processes will be used to assess the potential lifetimes and degradation products of selected hazardous air pollutants including a number of halocarbons. The specific list of potential hazardous air pollutants to be investigated will be determined by the Office of Air Quality Planning and Standards. These pollutants are selected as they become candidates for future control under the National Emissions Standards for Hazardous Air Pollutants section of the Clean Air Act.

- Studies to develop source apportionment models will continue. The work will focus on the development of models applied to organic pollutants which exist in both aerosol and vapor form.

Change From January Request

This request represents a decrease of $2,600 from the January budget, for Salaries and Expenses. This decrease will result in no major programmatic impacts.

79-248 O—80——23

WATER QUALITY

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
			(dollars in thousands)			
Appropriation						
Salaries and Expenses	$111,611	$113,504	$115,733	$108,702	-$7,031	
Research and Development...	42,086	38,362	37,944	24,452	-13,492	
Abatement, Control and Compliance	191,221	186,932	184,003	114,179	-69,824	
Total	344,918	338,798	337,680	247,333	-90,347	
Permanent Workyears	3,034	3,055	2,789	2,426	-363	
Full-time Equivalency.....	3,625	3,719	3,397	3,021	-376	
Outlays	362,476	285,300	380,453	378,677	-1,776	
Authorization Levels.....	551,509	414,719	444,719	293,770		
PROGRAM HIGHLIGHTS						
Water Quality-Non Energy						WQ-9
Salaries and Expenses	14,316	14,100	13,815	12,174	-$1,641	
Research and Development...	15,822	11,944	13,583	5,880	-7,703	
Municipal Wastewater/Spill Prevention						
Salaries and Expenses	7,074	7,186	6,950	7,371	+421	WQ-1
Research and Development...	13,947	14,241	13,227	12,014	-1,213	
Industrial Wastewater						
Salaries and Expenses	3,829	4,084	4,172	4,039	-133	WQ-1
Research and Development...	12,317	12,177	11,134	6,558	-4,576	
Total:						
Salaries and Expenses	25,219	25,370	24,937	23,584	-1,353	
Research and Development...	42,086	38,362	37,944	24,452	-13,492	
Total, Research and Development Program	67,305	63,732	62,881	48,036	-14,845	
Water Quality Planning and Standards:						WQ-1
Salaries and Expenses	12,859	12,151	11,753	7,160	-4,593	
Abatement, Control and Compliance	11,577	11,636	10,447	3,802	-6,645	
Effluent Standards and Guidelines:						WQ-3
Salaries and Expenses ..	5,084	6,367	5,958	5,832	-126	
Abatement, Control and Compliance	21,380	23,678	22,192	10,238	-11,954	
Grants Assistance Program: Abatement, Control and Compliance	109,808	96,230	96,817	51,200	-45,617	WQ-3

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
			(dollars in thousands)			
Water Quality Strategies Implementation:						
Salaries and Expenses ..	8,917	9,422	10,769	11,147	+378	WQ-4
Abatement, Control and Compliance	7,397	6,387	8,369	6,083	-2,286	
Water Quality Monitoring and Analysis:						
Salaries and Expenses ..	7,961	8,209	8,750	8,479	-271	WQ-5
Abatement, Control and Compliance	2,731	2,436	2,400	880	-1,520	
Municipal Source Control:						
Salaries and Expenses ..	28,950	27,759	29,906	26,626	-3,280	WQ-6
Abatement, Control and Compliance	33,160	36,729	34,497	32,477	-2,020	
Total:						
Salaries and Expenses ..	63,771	63,908	67,136	59,244	-7,892	
Abatement, Control and Compliance	186,053	177,096	174,722	104,680	-70,042	
Total, Abatement, and Control Program	249,824	241,004	241,858	163,924	-77,934	
Water Quality Permits Issuance:						WQ-7
Salaries and Expenses	7,089	7,949	7,462	7,972	+510	
Abatement, Control and Compliance	2,702	5,927	5,665	6,985	+1,420	
Water Quality Enforcement:						WQ-8
Salaries and Expenses	15,532	16,277	16,198	17,902	+1,704	
Abatement, Control and Compliance	2,467	3,909	3,716	2,514	-1,202	
Total:						
Salaries and Expenses	22,689	24,226	23,660	25,874	+2,214	
Abatement, Control and Compliance	5,168	9,836	9,281	9,499	+218	
Total, Enforcement Program	27,789	34,062	32,941	35,373	+2,432	
Permanent Positions						
Water Quality-Non Energy....	287	269	256	212	-44	WQ-9
Municipal Wastewater/ Spills Prevention.....	149	146	145	138	-7	WQ-1
Industrial Wastewater.....	73	80	65	49	-16	WQ-1
Total, Research and Development Program	509	495	466	399	-67	

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
			(dollars in thousands)			
Water Quality Planning and Standards	342	327	238	105	-133	WQ-17
Effluent Standards and Guidelines	108	112	109	85	-24	WQ-31
Water Quality Strategies Implementation	233	263	286	254	-32	WQ-46
Water Quality Monitoring and Analysis	195	191	180	161	-19	WQ-62
Municipal Source Control	921	914	820	724	-96	WQ-68
Total, Abatement and Control Program	1,799	1,807	1,633	1,329	-304	
Permits Issuance	229	242	213	204	-9	WQ-82
Water Quality Enforcement	497	511	477	494	+17	WQ-87
Total, Enforcement	726	753	690	698	+8	
Full-time Equivalency						
Water Quality-Non Energy	411	427	385	335	-50	WQ-94
Municipal Wastewater/Spill Prevention	185	184	180	175	-5	WQ-12
Industrial Wastewater	94	106	89	75	-14	WQ-11
Total, Research and Development Program	690	717	654	585	-69	
Water Quality Planning and Standards	412	392	293	159	-134	WQ-18
Effulent Standards and Guidelines	132	147	138	116	-22	WQ-30
Grants Assistance Programs	7	7	7	...	-7	WQ-35
Water Quality Strategies Implementation	261	288	315	291	-24	WQ-40
Water Quality Monitoring and Analysis	247	241	229	211	-18	WQ-62
Municipal Source Control	1,046	1,057	959	850	-109	WQ-68
Total, Abatement and Control Program	2,105	2,132	1,941	1,627	-314	
Permits Issuance	257	295	264	258	+13	WQ-82
Water Quality Enforcement	573	575	538	551	-6	WQ-87
Total Enforcement, Program	830	870	802	809	+7	

* January 1980 President's Budget as adjusted by Office of Research and Development restructuring.

OVERVIEW & STRATEGY

In 1982, the water quality program's major emphasis will be the implementation stage of programs authorized and established by the Clean Water Act (CWA). Regulations and planning which established the foundation for control programs are largely in place. For example. initial water quality management plans have been all certified and approved, the majority of industrial effluent guidelines for controlling toxic discharges from major industries now under study will be completed in 1982, significant progress toward the development of water quality criteria for toxic pollutants will have been made, and much of the delegation of program management functions to the States will have been achieved. With these development activities essentially complete, the water quality program will encourage implementation of control measures at the State and Federal levels through an integrated water quality planning and management process. A key element of this process will be to focus management attention on identifying and prioritizing remaining water quality problems and focusing resources on completing analyses and implementation steps that are necessary to correct these problems. Specific program activities which will require increased resources and attention are as follows:

- Implement the BAT (Best Availabile Technology) industrial toxics control program through the permit issuance process at the State and Federal levels.

- Emphasize approval of local pretreatment programs to control industrial sources of pollution that discharge to Publicly Owned Treatment Works (POTWs).

- Develop realistic, site-specific water quality standards, including the application of toxics criteria, for stream segments that exhibit particular water quality problems; encourage the States to build greater toxic pollutant analytical capabilities, including simplified water quality economic and waste load analysis techniques to make better informed water quality standards and construction grant decisions; continue research and development activities that will provide field validation of water quality data and models to determine maximum allowable levels of toxic pollutants.

- Work toward further integration of the construction grants, water quality standards and the permit and enforcement programs to increase the rate of municipal compliance with permits and the rate of construction of Publicly Owned Treatment Works.

- Re-orient Agency management of the Construction Grants Program to support State delegation of responsibility by stressing general program oversight rather than individual project oversight.

- Continue to work with States in developing national, State, and local strategies and projects to remedy problems from both point and nonpoint sources of water pollution.

- Maximize the use of research and development funds to aid in sound policy, management and enforcement decisions.

These priority program activities represent a consistent, logical and necessary extension of the 1981 water quality program initiatives. A broader perspective regarding these critical program efforts is presented below:

Industrial Toxics Control

During 1982, EPA will complete the majority of BAT/BCT (Best Conventional Pollutant Control Technology) rulemaking with the promulgation of most guidelines for industrial categories required under the 1977 Amendments to the Clean Water Act. In addition, the Agency will provide guidelines for several synfuels production processes to facilitate the permitting process for those industries. Concomitant with BAT/BCT promulgations the Agency must be prepared for litigation.

The primary emphasis regarding toxics control will be the implementation of the BAT effluent guidelines through the National Pollutant Discharge Elimination System (NPDES). Additionally, where no national effluent guidelines are promulgated, the Agency has developed a permit issuance strategy for assisting Regions and States, using EPA/State industry teams and technical assistance documents. NPDES permitting will be carried out by those States which have delegation, and by EPA in nondelegated States. In the delegated States, Agency permit personnel will provide consultation to State permit authorities. In 1982 EPA will also conduct investigations of potential criminal violations of the Clean Water Act. These investigations will require different procedures and techniques than a civil investigation and specialized techniques and personnel trained in criminal investigations.

Another important element in the Agency's toxic strategy will be the continuation of the "hot spot" program to identify geographic areas requiring post-BAT toxic control actions. This program will examine and recommend toxic pollutant control action plans for several such "hot spots" in 1982, having begun this mission on a pilot basis in 1980.

Research and Development will play an important role in the Agency's industrial toxics control strategy. The 1982 industrial waste water research program will address development of new and improved sampling and analytical procedures for organic and inorganic pollutants; development, improvement and adaptation of bioassay/biomonitoring methods for use in determining and measuring the "toxicity" of industrial waste waters; development of additional treatability data with an emphasis on the development of surro gate/indicator procedures for measuring and monitoring treatability; and performance evaluations of National Pollutant Discharge Elimination System discharger laboratories.

Pretreatment

The pretreatment program sets standards for the control of effluent from indirect dischargers, those industrial sources of pollution which discharge their effluents to municipal wastewater treatment facilities rather than directly into streams. In these cases industrial wastes, especially toxic substances, may sometimes interfere with the operation of the sewage treatment plant, become deposited in the residual sludges, or simply pass through the system and pollute the receiving stream's waters.

The environmental importance of indirect dischargers is substantiated by the fact that the number of direct dischargers to be regulated is 12,000, while the potential number of indirect dischargers to be regulated under the pretreatment program could be as high as 60,000. Thus, the pretreatment program addresses a toxic pollutant problem which, in terms of scope, exceeds that encountered with direct dischargers. July 1, 1983 is the deadline for pretreatment program approval for publicly owned treatment works (POTWs).

Over the past two years, the Agency has begun the process of issuing categorical pretreatment standards for industrial users. EPA has begun to assist in the development of State and local pretreatment programs. In 1982, the Agency will focus on approving local pretreatment programs developed during the preceding years. The implementation of the pretreatment program at the local level will improve the performance of POTW's funded under Section 201 and help ensure that full benefits are realized from construction grants funding. Further, in FY 1982, the Agency will assess and consider the enviornmental benefits associated with EPA pretreatment standards.

Research support to develop and demonstrate pretreatment technologies and treatment methodologies for combined industrial muncipal waste waters will continue in FY 1982.

Water Quality Standards

In the past, the standards program has concentrated its resources on the development of toxics criteria for 65 classes of toxic pollutants. That development stage will near completion by 1982, although some criteria development will continue. The twin goals of the water quality standards program will be: (1) the assessment of beneficial use attainability; and (2) the application of toxic criteria to site-specific areas.

This initiative is recognized by both the States and EPA as an important step in setting realistic, implementable environmental policies. The States and regions will jointly conduct evaluations of the designated use of specific stream segments to consider attainability from an environmental, economic and technological standpoint. Waste load allocations and detailed economic studies will be performed to develop cost impacts and control strategies for streams not achieving designated uses. Alternative control strategies and/or stream use re-designations could result in significant cost savings of governmental and industrial expenditures while assuring that expenditures are made where controls are most needed.

The States and EPA will use these site-specific analyses to determine the stream segments to which the toxics criteria should be applied. The Agency will use its industrial facility file to pinpoint areas where the relevant pollutants are discharged. Physical factors monitored in the analyses, e.g. pH and hardness, will be used to adjust criteria to stream-specific conditions.

While 1981 research concentrates on "filling the data gaps" in the laboratory-derived criteria, the major emphasis in 1982 will be on development of relationships between laboratory and real world site-specific conditions, and the actual toxicity of the pollutant in question to aquatic life. This information will allow the States to translate the newly completed, laboratory derived criteria to real world, site-specific, natural conditions.

Since research on the development of methods for the present Consent Decree priority pollutants will be nearly completed in 1981, the 1982 research will concentrate on a balanced program of biological, microbiological and chemical methodology rather than pursue a chemical-bychemical approach. The research program will also focus on toxicological studies of priority pollutants and the development of short term tests for carcinogenicity and other health effects.

Construction Grant Program Management

EPA is studying the construction grants program to analyze the program's current problems, to evaluate alternative directions for the program in the future, and to recommend revisions to the program over the next several years. This has been done in light of the: 1) expanded role of the States and the Corps of Engineers in the management program; 2) extremely large needs for funds in a period of national fiscal austerity; and 3) problems related to the achievability of legislative goals. The study is expected to lead to a number of recommendations for administrative and legislative changes in the near future.

EPA plans to re-orient its role away from day-to-day project management as the States assume increased project level responsibilities in the construction grants program. EPA will focus much more on national program management, oversight of State and Corps activities, increasing the compliance of municipal facilities, and enhancing the operations and management of existing facilities.

Municipal Management Strategy

An analysis of municipal compliance with the requirements of the Clean Water Act showed that a significant number of the Publicly Owned Treatment Works did not meet the requirement for secondary treatment by the statutory deadline of July 1977. In response to this problem area, EPA developed and issued a National Municipal Policy and Strategy (NMPS) in October 1979. The purpose of the NMPS is to integrate the permit, enforcement, and construction grant activities so as to expedite municipal construction and increase municipal compliance with permits. To ensure that POTWs are operating their facilities in compliance with their permit conditions, compliance sampling and evaluation inspections will be used, as well as appropriate enforcement actions.

The Municipal Management System (MMS) is an outgrowth of the NMPS. It serves as the key mechanism through which EPA regional and State enforcement and grant staffs develop formal operating procedures for more effectively managing municipal compliance with the Clean Water Act. The EPA headquarters' role is one of coordinating and providing direction and policy. Activities associated with MMS will focus on those projects within the top 106 Standard Metropolitan Statistical Areas (SMSAs) which have treatment needs in excess of $50 million and which are on the fundable portion of the State project priority list. Once these projects are under control, MMS will then focus on other high priority treatment needs.

The Agency will develop a continuous compliance program for major municipal permittees in 1982. This program will track major municipal permitee performance with their permit conditions. It will focus on municipal plants that have completed required construction of treatment facilities and will be designed to assure that required levels of treatment are maintained.

Integrated Waste Management

An approach to pollution control that focuses on removing pollutants from water may merely substitute one pollution problem for another. For example, the sludges and spent carbon from waste water treatment contain toxic materials and are difficult to dispose of or incinerate. EPA will continue several efforts to try to deal with the multimedia aspects of complex pollution problems. Specifically for industrial problems, research, effluent guidelines and solid waste programs are developing detailed process descriptions of organic chemical manufacturing. These process descriptions will predict the formation of toxic wastes or byproducts and will attempt to predict where these materials will occur in waste and product streams.

Water Quality Management

The long-range goal of the Water Quality Management (WQM) program is to implement a comprehensive integrated and largely self-sustaining process in the States that applies available resources to priority problems and projects which will maximize environmental benefits. To accomplish this goal, the Agency has formulated WQM and construction grants program strategies and has implemented a State/EPA Agreement process with each State to define program priorities and establish State-specific strategies to achieve environmental objectives. In 1982, EPA will award State program grants under Section 106 for support of identified national and State priorities, phase-out the Section 208 grant, and expand the use of available 205(g) funds in delegated States to conduct municipal waste treatment management program activities currently supported under Section 106 grants.

In support of the Water Quality Management (WQM) program Section 208 grants provided more than $200 million for initial comprehensive Statewide and areawide plans, and more than $180 million since 1977 for continued planning. Continued planning has focused on specific nonpoint source problem solutions, particulaly projects from which results can be transferred to other places with similar problems. By the close of 1981, 220 initial plans will have been approved, and all 220 agencies will be working on follow up projects funded in 1979 through 1981.

The WQM strategy for 1982 and the following four years will emphasize less restricted use of EPA's grant programs in order to better focus limited resources on high priority problems. EPA will expand the use of any available 205(g) funds to conduct municipal waste treatment management programs and will award State program grants under Section 106 for support of identified national and State priorities.

Effective Enforcement of the Law

Effective enforcement of the law requires that the Agency determine and articulate the requirements that permittees must meet, as well as follow up to determine that those requirements are being met. EPA expects to emphasize second round permitting for major industrial dischargers in 1982. Efforts to coordinate and consolidate permitting procedures for five separate EPA permit programs will continue. The Consolidated Permit Regulations provide for consolidated permit issuance procedures and centralized administration for five permit programs: the National Pollutant Discharge Elimination System (NPDES), the hazardous waste permit program under the Resource Conservation and Recovery Act (RCRA), the Underground Injection Control (UIC) program, the Section 404 Dredge or Fill program, and the prevention of significant deterioration (PSD) program. The Agency expects permit consolidation to produce better permits, reduce delays, simplify permitting procedures, and make more efficient use of Agency and State resources.

During 1982, State and EPA enforcement efforts will be directed to ensuring compliance with NPDES permit conditions by major Publicly Owned Treatment Works (POTWs). These now represent the largest categorical source of surface water pollution.

State-EPA programs will control the discharge of toxic pollutants to POTWs in order that they may effectively treat the incoming effluent without releasing toxic substances. Compliance sampling and evaluation inspections will be used and, where violations are found, appropriate administrative or civil actions will be taken.

State and EPA enforcement will continue to conduct biomonitoring inspections and compliance sampling inspections to monitor compliance with toxic limitations incorporated into "second round" NPDES permits. Where violations are found, appropriate enforcement will be initiated.

Scientific Bases for Decisions

As the technology-based point source control requirements of the Clean Water Act are achieved over the next four years, emphasis increasingly will be placed on water quality-based controls where necessary to achieve the water quality goals of the Act. An integrated approach to watershed management is expected to receive more attention as point sources are brought under appropriate levels of control.

In pursuing the above activities, there will be a full awareness of and sensitivity to the nation's protracted energy and economic problems. EPA will concentrate on providing the technical base for translating the goals of the Act into water quality objectives and associated standards. These will reflect local conditions and identify the most cost-effective and energy efficient water quality management strategy for each pollutant and within each watershed. Significant effort also will be devoted to

providing the techniques needed in identifying and documenting water quality problems and standards violations.

Research to support toxic pollutant management is a priority in 1982. EPA's predominant effort is to establish procedures for translating the laboratory-derived criteria for site-specific, local conditions. Another important task is to complete the acute and chronic toxicity data bases for the Consent Decree chemicals, as incorporated in the 1977 Clean Water Act. In addition, the dredge and fill program will continue to assess the potentially harmful impacts associated with the extraction, transport and disposal of dredged materials containing toxic pollutants.

An energy component of water quality research is coordinated with the Energy Research Committee. The priority work in this complementary program includes determining the ecological impacts of oil and gas fields in major offshore and estuarine areas, analyzing exposure effects of hazardous or toxic substances on aquatic ecosystems and developing protocols for hazardous and toxic spills.

Purpose - Research and Development Program

Research and Development in EPA's water quality program provides the scientific information needed to support its standard setting and enforcement activities. The multifaceted research program includes the development of efficient and cost effective waste water treatment technology for both municipalities and industries; the determination of the health implications of existing technology for treatment and disposal of waste water and sludge; the determination of useful and defensible monitoring methods; documentation of the validity of monitoring data; definition of criteria for water pollution from spills of hazardous materials; and the prevention or control of pollution from agricultural and forestry sources. The overall goal is to provide the scientific basis for economically and socially viable environmental management.

Purpose - Abatement and Control Program

The objectives of the water quality abatement and control programs are to abate water pollution from industrial, municipal, and rural sources and to assist State, areawide, and local agencies in controlling water pollution from point and nonpoint sources by providing management, technical, and resource assistance.

Industrial point source control is accomplished by the development of technology-based effluent limitations. The current emphasis is on development of effluent limitations for toxic pollutants which reflect the best available technology economically achievable for existing sources and which represent new source performance standards for new sources. In particular, the emphasis on toxic pollutants has required the concurrent development and use of new analytical methods, substantial increases in resources devoted to sampling and analysis activities, development of new and cost-effective analytical methods for routine monitoring of individual toxic pollutants, examination of wastewater treatment technologies for effectiveness in removing toxic polluants, and more intensive and thorough engineering investigations of specific industrial categories. These effluent limitations are aimed at controlling the discharges of 65 classes of compounds for 34 industry categories. Industrial effluent limitations are implemented through National Pollutant Discharge Elimination System (NPDES) permits. Pretreatment standards for existing and new industrial users of municipal treatment works are developed for 34 primary industry categories along with effluent limitations for direct dischargers. Pretreatment standards regulate toxic pollutants which are incompatible with municipal works.

Municipal point source control proceeds via Federal grants to municipal, intermunicipal, State and interstate agencies which assist in financing the planning, design and construction of municipal waste water treatment facilities. The construction grants program helps municipalities to achieve the effluent limitations required by the Act. As is the case with industries, effluent limitations are implemented through NPDES permits, and construction grants are made to assist municipalities in meeting their permit conditions. Construction grant funds are allocated to each State on the basis of formulas set forth in the Clean Water Act. Within these allotments, grants are awarded on a priority basis for individual projects. Generally each project is eligible for 75 percent Federal assistance, although grants may provide up to 85 percent federal assistance for projects using innovative or alternative technology in treatment facilities design.

As part of the municipal construction grants program, the Section 205(g) State management assistance grant program authorizes the use of two percent or $400,000, whichever is greater, of each State's authorization to cover the cost of delegation of the construction grants program to the States. Beginning in 1982, States which have signed section 205(g) delegation agreements can support municipal facilities management activities as well as delegations under Sections 402 and 404 of the Clean Water Act from Section 205(g) funds which are currently supported in these State with Section 106 funds.

Because a primary responsibility for the control of pollution lies with the States, EPA's abatement and control efforts are oriented toward support of State and local efforts to develop and maintain their technical, institutional and financial mechanisms in water quality management. The primary mechanism for accomplishing water quality and other environmental objectives is the comprehensive, integrated State/EPA Agreements covering EPA resource assistance programs.

The water quality cornerstone of the State/EPA Agreement is the management, technical and resource assistance and guidance provided to States and local water quality planning and management agencies under the Clean Water Act. These agencies develop water quality problem assessments, water quality standards and detailed water quality management solutions to water problems.

Section 106 State program grants, and the municipal waste treatment program fund implementation programs which support national, State and local point and nonpoint source controls. In addition, delegated State management of municipal waste treatment, National Pollutant Discharge Elimination System (NPDES) and dredge and fill programs can be encouraged and supported with available Construction Management Assistance grants under Section 205(g).

Combined and integrated with other abatement and control, enforcement, and research programs in EPA and other Federal agencies under the State/EPA Agreements, the water quality management program functions to assure sound management of water resources, including drinking water, promote the development and implementation of techniques, management practices and regulatory programs to control nonpoint sources of pollution; promote the consideration of cost-effective alternatives to advanced waste treatment construction; promote water conservation; and assure that effective source control programs are implemented.

The abatement, control and compliance program also includes the development and publication of water quality criteria to reflect the latest scientific knowledge on the kind and extent of identifiable effects of pollutants on health and welfare. These criteria are published under Section 304(a) and under support of Section 307(a) decisions to add substances to the list of toxic pollutants. The program assists States in developing water quality standards and reviews of State water quality standards to ensure that acceptable standards are established in each State. The program also includes the development of guidelines, standards and regulations to correct water pollution problems resulting from such sources as in-place toxicants and discharges from vessels and aquaculture projects; the regulation, implementation and the national management of a grants assistance program for the classification and restoration of the Nation's eutrophic lakes through 1981; and the national management, coordination and program development regulating the discharge of dredged or fill material, including the review and recommendation of requests from States for Section 404 permit authority.

EPA monitoring and analysis activities are coordinated with State and other Federal efforts and include ambient water quality monitoring, data collection, and dissemination of water quality data. Current programs include implementation of a water monitoring strategy to provide data and analyses needed by top management to establish policy and measure results of clean-up programs; establishment of a clearinghouse for water monitoring data to help improve coordination and integration of data collection efforts; and analysis of monitoring data to assist in development and implementation of standards and regulations. Increasing emphasis is being placed on improving State capability to monitor toxic pollutants, nonpoint sources, and biological impacts.

The emergency response program will continue its response and prevention activities associated with oil spill emergencies under the authority of Section 311 of the Clean Water Act. Activities related to response of hazardous substance releases will be carried out under Superfund.

The Marine Protection, Research and Sanactuaries Act of 1972, as amended, authorizes EPA to regulate the deposition of materials into the oceans, excepting dredge material. Under this authority, a permit program for ocean disposal of waste has been underway since 1973. In addition, EPA has re-oriented its oceans program to include a coordinated approach to the problems in the ocean environment. This re-orientation includes close interaction with other Federal agencies having ocean-related activities.

Purpose - Enforcement Program

The water quality enforcement program is responsible for implementing a number of components of the Clean Water Act.

The permits issuance program has responsibility for both determining procedures and issuing permits under the National Pollutant Discharge Elimination System (NPDES) permit program. The permit is the mechanism for imposing limitations, standards and conditions on point source discharges into navigable waters of the United States. At the national level, the program includes regulation writing and revision, national program and policy guidance, and State permit program approval. Regional activities include issuing permits, conducting adjudicatory hearings, and providing support to State permit programs. In 1982 the program will focus on the issuance of second round permits for major industrial dischargers, in accordance with BAT limitations. Permits written without BAT guidelines will use best professional judgment and will be more resource intensive.

The goal of the water quality enforcement program is to assure compliance with Clean Water Act requirements. At the national level this involves establishing policy direction and guidance, program overview and support for specific regional compliance monitoring and legal actions. Regional activities include emergency enforcement responses, review and evaluation of self-monitoring reports, inspections, use of administrative sanctions to require compliance, referral and prosecution of lawsuits, and enforcement of non-NPDES requirements.

SUMMARY OF INCREASES AND DECREASES	(in thousands of dollars)
1981 Water Quality Program	$337,680
Salaries and Expenses	-7,034
The net decrease reflects the personnel reductions associated with the management of the areawide waste treatment and construction grants programs, as well as the reductions associated with the Clean Lakes, Great Lakes, and Chesapeake Bay research and development efforts.	
Research and Development	-13,488
The net decrease reflects the progress made in assessing water quality concerns in the Chesapeake Bay, the termination and completion of the Clean Lakes and Great Lakes programs, and the research related to effluent guidelines support and monitoring nearing completion.	
Abatement, Control and Compliance....	-69,825
The net decrease reflects the elimination of the areawide waste treatment management resources program, the Clean Lakes grant program, reductions in the effluent guidelines program, and progressive State delegation in the construction grants management program.	
1982 Water Quality Program	247,333

SUMMARY OF BUDGET ESTIMATES

1. Summary of Budget Request

A total of $247,332,900 is requested in 1982. This request, by appropriation account, is as follows:

Salaries and Expenses.....	$108,698,900
Research and Development.....	24,456,200
Abatement, Control and Compliance..	114,177,800

This represents a decrease of $90,346,700 over the 1981 level. The decrease is due primarily to the elimination of the areawide waste treatment management resource program and the effluent standards and guidelines program policy decisions to promulgate standards and guidelines over a longer-time frame.

2. Changes from Original 1981 Budget Estimate

Changes from the budget are as follows:

	(in thousands of dollars)
Original 1981 estimate	$338,798
Congressional Changes and Carter:	
ADP	-282
Travel	-214
Consulting Services	-765
SES Bonuses	-186
Abatement, Control and Compliance general reduction	-2,689
Research and Development general reduction	-411
Aquatic weeds program	-545
Urban systems activities	-250
Clean Lakes	-2,500
Congressional increases:	
Add-on for Academic Training	+614
Great Lakes increase	+2,000
Control Agency resource supplementation	+2,500
Cold Climate research	+950
Advanced waste treatment support	+300
Waukegan Harbor PCB	+1,500
Transfer to support the Administrative Law Judges	-22
Transfer to support the Radiation Policy Council	-14
Transfer to support the Office of Inspector General	-144
Reprogramming to support Three Mile Island activity	-5
Reprogramming for authorized workyear	+623
Proposed pay raise supplemental	+1,642
Miscellaneous reprogrammings	-1,143
March Changes to budget	
Travel	-529
Consulting Services	-631
Moratorium or Procurement of Equipment	-31
Equipment costs	-1,478
Other contractual services	-298
One percent transfer	-3,165
Increases to fund PC&B	+4,354
Miscellaneous programmings	-299
Current 1981 estimate	337,680

Congressional changes to the water quality media include a reduction of $282,000 from ADP, $214,000 from travel, $765,000 from consulting services, $186,000 from SES Bonuses, general reductions of $2,689,000 from Abatement, Control and Compliance and $411,000 from Research and Development, $545,000 from aquatic weeds, $250,000 from urban systems, and $2,500,000 from clean lakes program. Also, included are congressional increases of $614,000 for academic training, $2,000,000 for Great Lakes, $2,500,000 for control agency resource supplementation, $950,000 for the cold climate research, $300,000 for advanced waste treatment program, $1,500,000 for PCBs in Waukegan Harbor.

A transfer of $22,000 was made to the management and support media to support the Office of Administrative Law Judges. A transfer of $14,000 was made to the radiation media to support the Radiation Policy Council. A transfer of $144,000 was made to the management and support media to support the Office of Inspector General. A reprogramming of $5,000 was made to the radiation media to support Three Mile Island activities. An overall Agency reprogramming to redistribute salary funds resulted in an increase of $623,000 to this media. The proposed supplemental for partial funding of the October 1980 pay raise will increase the water quality media by $1,642,000.

In accordance with OMB Bulletins, the March 1981 changes are as follows; travel (-$529,100); consulting services (-$631,000); and moratorium on procurement of equipment (-$31,100).

A one percent transfer authority decreases this media by $3,165,300.

Internal agency reprogrammings to fund PC&B deficits are as follows: equipment costs (-$1,478,100); contractual services (-$298,500); agencywide increases (+$4,353,800); and, miscellaneous reprogrammings (-$298,900).

ANALYSIS OF INCREASES AND DECREASES TO OBLIGATIONS

	Current Estimate 1981	Estimate 1982
	(In thousands of dollars)	
Prior year obligations	$344,918	$336,262
Congressional Changes	+22	...
Effect of March Changes	-2,077	...
Proposed pay raise supplemental	+1,642	...
Reprogrammings	-1,143	...
Change in amount of carryover funds available	-5,417	+1,418
Program Changes	-7,238	-90,347
Change in rate of obligation	+5,555	+894
Total estimated obligations	336,262	248,227
(From new obligation authority)	(329,399)	(239,946)
(From prior year funds)	(6,863)	(8,281)

EXPLANATION OF INCREASES AND DECREASES TO OBLIGATIONS

The items discussed in the previous section -- congressional changes, pay raise supplemental, ADP, consulting services, general reduction, specific reductions and reprogrammings -- result in a net decrease of $1,556,000.

The decrease in budget authority in 1981 is estimated to decrease obligations by $7,238,000; in 1982 the reduced program is expected to decrease obligations by $90,347,000.

WATER QUALITY

PROGRAM LEVELS	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
State and Areawide water quality management (Section 208) plans approved	70	150	100	130	+30
State and areawide water quality management (Section 208) Contiuation Grants Awarded	165	175	180	0	-180
Clean Lakes Projects Awards	126	60	75	0	-75
Clean Lakes Projects Completed	15	20	15	20	+5
Ocean Dumping Permits...	40	47	40	55	+15
Construction Grants Awards	2,392	2,550	2,570	700	-1,870
Step I Awards	(752)	(400)	(590)	(120)	(-470)
Step II Awards	(608)	(1,200)	(900)	(250)	(-650)
Step III & IV Awards..	(1,032)	(950)	(1,080)	(330)	(-750)
Active Construction Grants Projects	11,054	11,000	11,390	8,120	-3,270
State Program Approvals (National Pollutants) Discharge Elimination System).....	33	39	33	33	...
Adjudicatory Hearings Settled (Major Sources)	84	40	126	38	-88
Permits issued by EPA:					
Municipal--					
Major	445	...	460	...	-460
Minor	687	...	...	...	...
Nonmunicipal --					
Major	588	500	249	986	+737
Minor	1,792	...	...	...	...

Enforcement Actions	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
(Administrative Orders), Notices of Violation, and Referrals to U.S. Attorney	771	1,004	930	940	+10
Compliance Inspections...	2,043	2,771	2,860	2,417	-443

79-248 O—80——24

WATER QUALITY

Water Quality Planning and Standards

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
	(dollars in thousands)				
Appropriation					
State Programs Regulations and Guidelines:					
Salaries and Expenses...	$11,616	$11,099	$10,568	$5,293	-$5,275
Abatement, Control and Compliance.....	3,231	3,957	3,209	669	-2,540
Great Lakes Program:					
Salaries and Expenses...	776	664	781	1,462	+681
Abatement, Control and Compliance.....	6,553	5,865	5,424	2,532	-2,892
Chesapeake Bay Program:					
Salaries and Expenses...	259	196	194	405	+211
Abatement, Control and Compliance.....	1,793	1,814	1,814	601	-1,213
NEPA Compliance/EIS Preparation:					
Salaries and Expenses...	208	192	210	...	-210
Total:					
Salaries and Expenses...	12,859	12,151	11,753	7,160	-4,593
Abatement, Control and Compliance.....	11,577	11,636	10,477	3,802	-6,645
Grand Total.....	24,436	23,787	22,200	10,962	-11,238
Permanent Positions					
State Programs Regulations and Guidelines.....	313	301	212	85	-127
Great Lakes Program.....	17	14	15	15	...
Chesapeake Bay Program....	6	5	5	5	...
NEPA Compliance/EIS Preparation.....	6	7	6	...	-6
Total.....	342	327	238	105	-133

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Full-Time Equivalency					
State Programs Regulations and Guidelines	378	359	260	132	-128
Great Lakes Program	21	20	21	21	...
Chesapeake Bay Program	7	6	6	6	...
NEPA Compliance/EIS Preparation	6	7	6	...	-6
Total	412	392	293	159	-134

Budget Request

The Agency requests a total of $10,960,000 of which $7,158,900 is salaries and expenses and $3,801,100 is abatement control and compliance. The decrease is due primarily to the reduction in personnel under State Programs Regulations and Guidelines related to the termination of the Section 208 grant program and the transfer of responsibility for overall State-EPA agreement negotiations to another budget activity. There is also a reduction in the Great Lakes program.

Program Description

The water quality planning and standards subactivity includes four program elements.

State Programs Regulations and Guidelines - This program covers management oversight and technical assistance activities involved in the implementation of Federal, State, and local water quality management programs, authorized under Sections 106, 201, 208, and 303 of the Clean Water Act. Although Section 208 grants are being terminated in 1982, some support to priority nonpoint source (and related point source) control program activities previously funded under Section 208 is expected to continue under other EPA and other-agency funding sources. Section 106 water pollution control agency grants will continue to support State implementation of ongoing and emerging priority program activities.

Great Lakes Program - The program covered by this subactivity is the Great Lakes program, which includes funding for the Great Lakes initiative program and demonstration grants authorized by Section 108(a) of the Clean Water Act of 1977. The Great Lakes National Program Office was established in 1978 to integrate and consolidate EPA Great Lakes activities and to provide coordinated support to the international Joint Commission's (IJC) Great Lakes Water Quality Board, in complying with the 1978 U.S. Canada Water Quality Agreement. In 1982, the program will focus on support of our international agreements.

Chesapeake Bay Program - The Chesapeake Bay Program was developed in response to a Congressional mandate requiring EPA to conduct a study of the Chesapeake Bay, define the factors adversely impacting the environment, develop research to address adverse factors, and define management strategies to ameliorate degradation in the Bay due to pollution. The program has been developed through a cooperative effort between citizen groups, State environmental agencies (Virginia and Maryland), and the EPA.

This program was originally a five-year congressionally mandated program. Resources for 1982 will be used to disseminate information developed during the previous five-years.

The results of integrated studies in three priority areas i.e., toxic substances, eutrophication (nutrient enrichment and submerged aquactic vegetation) will provide a predictive capacity to assess the consequences of pollutant loadings on the Chesapeake Bay in terms of effects on the ecosystem, water quality impacts and uses of the system. Capacity to predict these impacts will aid management decisions at all levels.

NEPA Compliance/EIS Preparation - The fourth element covered by this subactivity involves environmental impact statement (EIS) preparation on Section 208 plans in voluntary compliance with the National Environmental Policy Act (NEPA). This activity will be terminated together with the Section 208 grant program in 1982.

STATE PROGRAM REGULATIONS AND GUIDELINES

1980 Accomplishments

In 1980, the Agency obligated $14,845,900 for this program activity of which $11,615,600 was for intramural purposes and $3,230,300 was for extramural purposes. Grants totalling $37.5 million were awarded under Section 208 to State and designated areawide agencies for nonpoint source control program development. A total of $49.15 million was awarded under Section 106 to support State water pollution control programs. In addition, a total of $3,168,000 in extramural funds was obligated for contracts in 1980, including: $1,456,000 for expert technical support to the Nationwide Urban Runoff Program, groundwater management, point/nonpoint source analysis for Advanced Waste Treatment (AWT) decisions, silviculture training program development, and development of financial and institutional aspects of Water Quality Management (WQM) plans; $460,000 for EPA/USDA IAGs and details supporting the agricultural nonpoint source program; $898,000 for public education, outreach activities, and technology transfer; and $354,000 for the Flathead River Study Major program accomplishments were achieved in several areas including:

State/EPA Agreements (SEA's)

- Signed 59 1981 SEA's with States and other jurisdictions, most of which covered all major EPA and State programs.

- Issued integrated annual program guidance providing comprehensive priorities to States and regional offices.

- Conducted evaluations of all State SEA processes and issued a national report.

Nonpoint Source Control

- Awarded Section 208 grants covering more than 200 projects to State and areawide agencies which were successfully implementing approved initial plans and had identified continuing planning needs in priority problem areas.

- Provided oversight and technical assistance to over 100 prototype projects including 30 National Urban Runoff Projects (NURP); 29 agriculture (ACP/MIP); 13 Rural Clean Water (RCWP); 10 Financial Management Assistance; 10 point/nonpoint source tradeoff; and 10 groundwater management.

- Managed approximately 200 other Section 208 funded projects in designated agencies dealing with mining, construction, hazardous and toxic wastes, residuals management, on-site waste treatment, and other priority State needs.

- Approved 30 certified initial water quality management plans, submitted by States, bringing the total to 210 of the 225 which were funded in previous years under Section 208.

- Participated in national and State Rural Clean Water Coordinating Committees to direct USDA funds to assure focus of implementation cost-share assistance on water quality priority areas; selected jointly with USDA 13 major project areas emphasizing pesticides and hazardous substances control. Funds went directly to farmers to assist them in implementing conservation plans for their lands which will reduce water pollution as well as control erosion.

Sections 208/106 Grants Management

- Awarded over $86 million to 165 designated 208 agencies and 63 State, interstate and territorial jurisdictions.

- Completed a 5-year assessment of State needs covering programs funded with State resources supplemented under Sections 106, 208, and 314.

Information Transfer

- Began implementation of a national information transfer program, which involved information and tracking systems, seminars, conferences, and written materials designed to share costeffective technical, financial, and institutional approaches developed among State and local agencies.

- Conducted a National WQM Conference attended by approximately 400 State, areawide agency, local, and Federal officials.

- Conducted 41 training courses for Regional, State, and local agency staff.

- Distributed 2 WQM Reports covering a general overview of the WQM Program and the status of agricultural NPS control.

1981 Program

In 1981, the Agency has allocated a total of $13,777,000 to this program, of which $10,567,800 is for Salaries and Expenses and $3,209,200 for Abatement, Control and Compliance.

In 1981, a total of $82.7 million in grants will be awarded including $34 million in Section 208 grants and $51.2 million in Section 106 grants. The total of $3,209,200 for Abatement Control and Compliance will support contracts and grants including $519,000 for the National Urban Runoff Project, $375,000 for the Financial Management Assistance Program, $325,000 for groundwater management, $250,000 for municipal waste treatment management; $250,000 for agricultural technical assistance; approximately $781,200 for information/ technology transfer, training, communications, and public participation and $709,000 for the Flathead River Study.

In 1981, major emphasis will be placed on transferring the initial results from prototype and other successful projects to similar problem areas, assisting in State and areawide implementation of initial WQM plans, implementing approved WQM plans in directing construction grants and permitting; and directing available funds to meet highest priority water quality needs. Improved State and local capabilities to obtain and manage implementation resources continues to be a high priority. Specific outputs in 1981 will include:

State/EPA Agreements (SEA's)

- Assess the adequacy of WQM coverage in all 1981 SEA's and improve coordination among all programs.

- Integrate all WQM programs under 1982 SEA's.

Nonpoint Source Controls

- Provide expert technical assistance to State and areawide agencies on nonpoint source control problems including urban runoff, agriculture, groundwater, and silviculture. Also provide assistance on institutional approaches and techniques for financing implementation of control programs.

- Implement 10 new State/local groundwater management prototype projects.

- Analyze and document cause-effect runoff/water quality relationships identified in prototype projects. Prepare preliminary NURP Report to Congress and a State of the Art Report on agriculture.

- Complete long term nonpoint source control strategies in all EPA Regions covering all States.

- Assist State and local governments in implementing WQM programs including control legislation and ordinances. Approximately 30 States and 560 local governments are expected to have strengthened NPS control and cost-share program authorities by the end of 1981.

- Assist EPA and other Federal programs in implementing education and assistance programs for agriculture, silviculture, and Federal land management.

- Work with States and USDA to select additional RCWP implementation cost-share projects which will assist farmers to apply water quality BMPs on their lands.

Sections 208/106 Grants Management

- Assure use of approved WQM plans in directing State and EPA construction grants and permit programs.

- Develop comprehensive policies and priority guidance for Section 106 grants management; work with States to assure that funds address highest priority water quality needs.

- Complete approval of all initial 225 WQM plans; review and approve subsequent additions to WQM plan to ensure that they remain as current and comprehensive as possible.

- As part of grants management improvement assure all funds are awarded by February 1981.

Information Transfer

- Complete Implementation Information System for use by States and EPA.

- Issue four WQM Reports covering Groundwater, Financial Management, Small Alternative Waste Treatment Systems, and the 1990 Construction Grants Strategy.

- Conduct more than 30 seminars on urban runoff, groundwater management, and financial management; a coordinated EPA/Forest Service training program on silviculture water quality management; a National WQM Conference to disseminate technical and other results of the Section 208 program and to develop future program policy directions with State and local participants.

1981 Explanation of Change from Budget Estimate

The net decrease of $1,279,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $66,800.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $4,400 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $60,100 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $34,300 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $12,700 was applied to this activity.

- An increase of $155,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in transfers from water quality permit issuance ($21,300); to standards and regulations (-$7,500); from dredge and fill ($40,800); from public systems supervision program assistance ($51,800); from environmental emergency response and prevention ($34,500); from NEPA compliance-municipal waste facility construction ($2,800); from ambient air quality monitoring ($7,600); from manpower planning and training-water quality ($2,500); from water quality enforcement ($17,500); to stationary source enforcement (-$20,00); and to ambient water quality monitoring (-$600).

- Transfer $177,200 from NEPA compliance/EIS prep-new source discharge, and $177,200 from areawide waste treatment management research, to provide for Flathead River Study.

- Transfer $373,700 from standards and regulations, to support program activities due to reorganization.

- Transfer $20,200 to ambient water quality monitoring within Region 1, to realign contract funds.

- Transfer $1,000 from dredge and fill; and $700 from standards and regulations within Region 2 to properly reflect the clean lakes function.

- Transfer $3,300 from manpower planning and training-water quality; $5,200 from public systems supervision program assistance; and $16,500 from energy review and permitting within Region 4, to fund an interagency agreement for a soil conservation expert.

- Transfer $104,100 to uncontrolled hazardous waste sites for an analytical contract to expand the regions capability to analyze high priority quick turnaround samples.

- Transfer $6,000 from water quality enforcement within Region 9, to realign contract funds.

- Transfer $30,000 from Corps of Engineers within Region 10 to support an interagenc agreement.

- Transfer $1,700 to uncontrolled hazardous waste sites within Region 4, to reallocate travel funds.

- Transfer $2,504,600 to standard and regulations to reflect a program restructuring: the movement of the clean lakes program.

- Transfer of $29,400 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance under Section 20 of the Clean Air Act.

- OMB Bulletin #81-7, January 24, 1981 "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $79,000.

- OMB Bulletin #81-8, January 24,1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting service; the reduction applied to this activity is $9,500, which is to be rescinded.

- An internal agencywide reduction of $6,550,00 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $12,300.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $2,000

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $34,400.

- Angencywide increase are required in order to fund the PC&B deficits; the increase applied to this activity is $599,800.

1982 Plan

The Agency requests a total of $ 5,961,200 and 85 permanent work years for this program, of which $5,292,500 is for salaries and expenses and $668,700 is for Abatement Control and Compliance. The decrease of 127 permanent workyears and $7,815,800 reflects a reduction in those resources related to the terminated funding of the 208 grant program and the transfer of responsibility for overall State-EPA agreement negotiations to another budget activity. From the Abatement Control and Compliance funds, $410,000 is to be used for the Flathead River Study. The remaining $258,700 will be used for non - point source information transfer.

In 1982 the WQM Program will continue to emphasize assistance in developing and implementing cost-effective State and local source control programs. Assistance activities will include developing and issuing integrated funding and management policies and guidance based on long-term national strategies; developing water quality priorities based on demonstrated national, State, and local needs; developing needs based funding allocation procedures; providing national and regional technical assistance; sharing cost-effective technological and institutional approaches; and conducting evaluation programs to review and improve regional and State activities.

The WQM Program will assure that all available funding sources are directed to identified priority water quality needs. The Agency will permit the use of available Section 205(g) funds in delegated States to support all municipal waste management-related activities previously supported under Section 106. Section 106 assistance priorities will be revised to support emerging State priority activities and state and local NPS priorities previously funded under section 208. Support from other Federal funds and staff (e.g., USDA) will be encouraged and used to the extent possible.

106 Grants Management

- Section 106 grants will be negotiated as part of the SEA process with 63 States, Territories, and Interstate agencies. Priorities will include strengthening toxics monitoring and analytical capabilities, review of water quality standards for attainability and appropriate revisions, operation of dredge and fill programs, nonpoint

source (NPS) control programs administration, and NPS control program development previously funded under Section 208, particularly comprehensive groundwater management. Outputs will also be negotiated for ongoing programs including: permitting, enforcement, monitoring, emergency response program development and administration, and construction grants management and related activities in States not having Section 205(g) delegations.

Nonpoint Source Controls

- Some national prototype and State priority projects funded under Section 208 grants in 1980 and 1981 will continue to operate through 1982 and will be provided EPA technical assistance to the extent possible. To the extent resources will allow, cost-effective technological and institutional approaches developed through WQM projects will be transferred for State and locally funded application in other priority NPS problem areas. Remaining needs for non-point source control, point/non-point source tradeoff analyses, and plan updates with respect to construction grants and permits will be supported by other available Federal and State Resources.

- Interim NURP Report will be submitted to Congress on cause-effect water quality relationships; results of the 28 NURP projects will be documented and transferred to other urban locations.

- USDA resources will be expected to complete, evaluate and tranfer result of RCWP, MIP, and ACP prototype water quality projects.

- Groundwater management priority demonstration projects funded in 1980-81 will be completed.

Information Transfer

- Cost effective technological, financial and institutional approaches in developing and implementing WQM plans will be documented and transferred to other State and local agencies.

Change from January Request

This request represents a decrease of $4,777,400 and 88 permanent workyears from the January budget, of which $2,903,000 is for Salaries and Expenses and $1,874,400 is for Abatement, Control and Compliance. This decrease eliminates 88 workyears and all national extramural support for management oversight and technical assistance to States in achieving implementation of approved Section 208 plans and for the tansfer of technologies developed previously under the 208 grant program.

GREAT LAKES PROGRAM

1980 Accomplishments

In 1980, the Agency obligated $7,329,000 for this program of which $776,000 was for Salaries and Expenses and Expenses appropriation and $6,553,000 for Abatement, Control and Compliance appropriation. In 1980 the Great Lakes National Program continued in the directions resulting from the intensive Agency review in 1979. The basic directions are: to serve as a catalyst to actively involve the Agency's operating divisions and the States in an accelerated Great Lakes effort; to monitor Lake conditions, trends and responses; and to demonstrate new techniques of controlling pollution within the Great Lakes. Some program accomplishments include:

- Funded demonstrations of management practices which provide control of agricultural nonpoint sources pollution, particularly alternative tillage techiques which limit erosion and save fuel.

- Completed an intensive surveillance survey on Lake Huron.

- Investigated inplace sediment pollutants was initiated in Indiana harbor in Lake Michigan.

- Provided sediment expertise in the Waukegan harbor enforcement case on PCB's.

- Initiated fish tissue sampling for toxics in cooperation with the States and the U.S. Fish and Wildlife Service to detect the presence of toxics in fish from the open waters.

- Developed a strategy for locating toxic hot spots in harbors and estuary areas using fish flesh and sediment.

1981 Program

In 1981, the Agency has allocated $6,205,100 and 15 permanent workyears to this program, of which $781,200 is for the Salaries and Expenses appropriation and $5,423,900 is for extramural purposes under the Abatement, Control and Compliance appropriation.

Discovery of toxic hot spots will be initiated through sampling of non-migratory fish and sediment in estuary and harbor areas. Highest priority areas throughout the Lakes will be addressed during 1981.

- Trend analysis will continue to establish baseline toxics data by sampling throughout the Lakes.

- An intensive survey for the Niagara River, emphasizing toxics, will be conducted in cooperation with the State of New York.

- An agricultural nonpoint source control initiative will be undertaken in the Lake Erie basin in cooperation with the States, the U.S. Department of Agriculture and the U.S. Army Corps of Engineers with particular emphasis on control of phosphorus.

- Atmospheric loading data will be gathered from the network of stations establish in 1980 and others to be installed during the current year.

- Section 108(a) grants will focus on demonstrating agricultural nonpoint source control techniques, particularly fuel efficient tillage practices supportive of improved water quality.

- Lake Huron survey data will be analyzed by program staff and an extramural technical assistance team.

- The Lake Michigan intensive survey report will be published.

- Technical expertise in toxic sediments will be provided to support the Waukegan Harbor remedial program.

- The catalyst role will continue and state efforts will be formalized in State/EPA Agreements.

1981 Explanation of Changes from Budget Estimate

The net decrease of $324,200 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $3,400.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $15,000 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $350,100 was applied to this activity.

- An increase of $10,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropritation. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropiations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $91,000.

- Agencywide increase are required in order to fund the PC&B deficits; the increase applied to this activity is $125,000.

1982 Plan

The Agency requests a total $3,993,200 and 15 permanent workyears of which $1,461,500 is for the Salaries and Expenses appropriation and $2,531,700 is for the Abatement, Control and Compliance appropriation.

Major program emphasis will be directed toward support of the U.S. Canada Great Lakes WAter Quality Agreement. Particular attention will be given to severly polluted toxic "hot spots" and to achievement of the Agreement requirements to further reduce phosphorus inputs from municipal treatment plants and agricultural non point sources.

The surveillance program will continue to collect and analyze Great Lakes fish and sediments to identify levels of toxicants and probable sources for remedial action. Special investigations and technical assistance will be directed toward significant transboundary pollution issues such as Dioxin, the Niagra River and the control of airborne toxic substances.

Change from January Request

This request represents a decrease of $3,004,800 from the January budget, of which $4,800 is for Salaries and Expenses and $3,000,000 is for Abatement, Control and Compliance. Remaining resources will be devoted to carrying out functions of the international agreement. This reduction eliminates the following: Section 108(a) demonstration grants to test new or innovative wastewater techniques, water intake and high flow tributary monitoring to determine water quality trends and pollutant loadings to the Lakes, research vessel operations with contractual scientific crews, support to other EPA programs.

CHESAPEAKE BAY PROGRAM

1980 Accomplishments

In 1980 the Agency obligated $2,052,000 for this program activity including $259,000 for Salaries and Expenses and $1,793,000 for Abatement, Control and Compliance.

- The toxics program developed Chesapeake Bay sediment characterization (physical and chemical parameters) maps of value in assessing dredging projects and critical in defining the State of the Bay.

- The eutrophication program conducted a Bay-wide survey providing a synoptic set of data for chemical and physical parameters essential to water quality model verification and establishing a baseline against which future water quality can be measured.

- The submerged aquatic vegetation program assessed ambient herbicide concentrations in the the shallow water portions of the Bay to aid in determining the role of herbicides in the decline of bay grasses.

- A data management system composed of both hardware and software was established and is storing, analyzing and displaying Chesapeake Bay research data.

- Coordination continued with State agencies in Maryland, Virginia and Pennsylvania responsible for water quality to plan and manage the Chesapeake Bay Program.

1981 Program

In 1981, the Agency has allocated $2,007,600 and 5 permanent workyears of which $193,900 is for the Salaries and Expenses appropriation and $1,813,700 is for extramural purposes under the Abatement, Control and Compliance appropriation.

The program will complete many of the studies initiated in 1978 and initiate the comprehensive effort to integrate the results of research so that management decisions at all the government levels can be based on a capability to assess the consequences of pollutant loadings on the Chesapeake Bay.

This will be done in terms of effects on the ecosystem, water quality, aquatic grasses, and on the impact of uses of the system. The three highest priority problem area studies are being integrated through ecosystem simulation, data analysis and synthesis, and identification and evaluation of control alternative in conjunction with the abatement and control decision units of this program.

The toxics substances study effort will extend the baseline inventory of the abundance and distribution of toxics in the Chesapeake Bay sediments, pore water, water column, and biota into major tributaries. These efforts are designed to allow identification of the identification of the flux of materials between the Chesapeake Bay and the subestuaries. Comprehensive research tasks are assessing both natural and authropogenic sources of toxic chemicals in sediments, water, and biota and determining their rates of transport and transformation within the system. Study results will serve to delineate options to reduce environmental hazard.

The bay grasses study effort is addressing the impact of water quality factors upon Submerged Aquatic Vegetation (SAV) and living resources known or suspected to be dependent upon SAV. The role of bay grasses will be determined relative to their relationship to fish and wildlife, their nutrient dynamics and the impact of man-induced factors (herbicides, turbidity) suspected to be involved in the decline in grass populations. Results will provide a knowledge base rom which water quality control alternatives can be developed for the enhancement of SAV and associated living resources.

Eutrophication (nutrient enrichment) studies are assessing the nutrient loadings to the Bay system and the impact of those loadings on the ecosystem. Current research is directed towards: 1) assessing point source information on municipal and industrial sources; 2) compiling statistics on land use and population trends in the Bay basin; 3) measuring nutrient loadings from the major tributaries to the Bay; 4) estimating nutrient fallout from the atomosphere; 5) calculating nutrient fluxes from the sediments; 6) verifying nonpoint source runoff from data collected on five test drainage basins; and 7) calibrating and verifying mathematical models, including nonpoint source loading models, stream transport models and water quality models.

To research the overall goals of the program synthesis and integration will occur using a geo-based approach, called segmentation. The segmentation approach is designed to define the Chesapeake Bay in mangeable units. Natural and cultural parameters will be displayed geographically to identify regions of commonality and assess the health of various segments. As work is completed in the program areas, intermediary reports will be prepared supporting the segmentation analysis by providing both qualitative and quantitative information on the relationship to the ecosystem of the parameters intended for use in the segmentation analysis.

Development of a data management system is continuing. This system will handle the data produced by this program and provide the basis for a centralized data bank for use by all local, State and Federal groups on the Bay. State participation programs, with the States of Maryland and Virginia, and citizen participation programs are also continuing to provide key coordination links between the States, the public and the Chesapeake Bay Program.

1981 Explanation of Change from Budget Estimate

The net decrease of $1,600 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,000.

- An increase of $2,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- OMB Bulletin #81-7, January 24, 1981 "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personned compensation and benefits (PC&B) deficits. The reduction applied to this activity is $2,000.

- An internal agencywide reduction of $6,550,000 to equipement costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $1,400.

1982 Plan

The Agency requests a total of $1,005,600 and 5 permanent workyears, of which $404,900 is for the Salaries and Expenses appropriation and $600,700 is for the Abatement, Control and Compliance appropriation.

In 1982 the Chesapeake Bay Program will complete its integration approach to research in the areas of toxic pollutant effects, submerged aquatic vegetation, and eutrophication. This will include the completion of all technical studies, the integration of their results, and the use of an ecological segmentation concept to assess existing information about the biological, chemical, physical, and cultural aspects of the Chesapeake Bay. Major accomplishments and outputs will include:

Chesapeake Bay Primer: Explains important ecological relationships and will serve as a reference for the following reports.

Nutrients: Explains changes in Bay over time, future conditions, sources, key processes, and effects of toxics.

Bay Gasses: Explains changes in bay grasses overtime, current Distribution and Abundance, what is know about he causes of decline and the role and value of SAV of the ecosystem.

Segmentation: Describes the basic concept, its use elsewhere, how it will be done, water quality objectives, monitoring, and the various institutional alternatives alternatives available to administer it.

Management Alternatives: Identifies control alternatives for agriculture, sewage treatment plants, industry, urban runoff, and construction; estimates costs and effectiveness of different approaches to remedy "hot spots."

Changes from January Request

This request represents a decrease of $2,300 from the January budget for Salaries and Expenses.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE/ENVIRONMENTAL IMPACT STATEMENT PREPARATION - WATER QUALITY

In 1980, the Agency obligated $208,500 for this activity. All final EIS's on initial Section 208 plans were completed. Section 208 plans prepared under grants for continuing planning were reviewed to ensure that environmental assessments required in the WQM planning process were conducted in a manner consistent with the spirit and intent of the NEPA. Seventy (70) such plans were approved in 1980.

1981 Program

In 1981, the Agency has allocated $210,400 under the Salaries and Expenses appropriation for this activity. More than 100 Section 208 plans prepared under grants for continuing planning will be reviewed to assure that required environmental assessments have been conducted.

1981 Explanation of Change from Budget Estimate

The net increase of $18,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,300.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $5,900 was applied to this activity.

- An increase of $3,400 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a net transfer of $14,300 from standards and regulation ($12,300); from water quality enforcement ($3,200); to ambient water quality monitoring (-$2,700), and from municipal waste treatment facility construction ($1,500).

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", requried agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $2,100.

- Agencywide increase are required in order to fund the PC&B deficits; the increase applied to this activity is $9,600.

1982 Plan

No resources are requested for this activity in 1982 due to the termination in funding of the Section 208 grant program. Activities to assure that required environmental assessment are conducted in previously funded Section 208 planning will be carried out with resources under the State Programs Regulations and Guidelines section.

Change from January Request

There is no change from the January request for this activity.

WATER QUALITY

Effluent Standards and Guidelines

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
		(dollars in thousands)			
Appropriation					
Salaries and Expenses	$5,084	$6,367	$5,958	$5,832	-$126
Abatement, Control and Compliance.....	21,380	23,678	22,192	10,238	-11,954
Grand Total.....	26,464	30,045	28,150	16,070	-12,080
Permanent Positions...	108	112	109	85	-24
Full-time Equivalency.	132	147	138	116	-22

Budget Request

An appropriation of $16,069,700 and 85 permanent workyears is requested for 1982. This is a decrease of $12,080,100 and 24 permanent workyears from the 1981 level of $28,149,800 and 109 permanent workyears. The decreased funding and permanent workyears reflect policy decisions to: 1) promulgate effluent standards and guidelines over a longer time-frame; 2) stretch-out contract support for litigation due to slippages in the effluent standards and guidelines schedule; 3) transfer contract dollars associated with hazardous waste regulatory development to the Office of Solid Waste to ensure better accountability and consistent implementation of the OSW strategy; and 4) accelerate completion of the revised publicly owned treatment works study with FY 1982 resources.

Program Description

The Federal Water Pollution Control Act Amendments of 1972 established a comprehensive program to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Existing industrial dischargers were required by July 1, 1977, to apply the best practicable control technology currently available (BPT) to effluent limitations (Section 301(b)(1)(A)) and by July 1, 1983, the best available technology economically achievable ("BAT") (Section 302 (b)(2)(A)). These will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants ("BAT"). New industrial direct dischargers are required to comply with Section 306 new source performance standards (NSPS), based on best available (BAT) demonstrated technology; and new and existing dischargers to publicly owned treatment works (POTWs) are subject to pretreatment standards under Sections 307(b) and (c) of the Act. While the requirements for direct dischargers are to be incorporated into National Pollutant Discharge Elimination System (NPDES) permits issued under Section 402 of the Act, pretreatment standards are made enforceable directly against dischargers to POTWs (indirect dischargers).

Section 304(b) of the Act requires the Administrator to promulgate regulations providing guidelines for effluent limitations, setting forth the degree of effluent reduction attainable through the application of BPT and BAT. Moreover, Sections 304(c) and 306 of the Act require promulgation of regulations for NSPS, and Sections 304(f), 307(b), and 307(c) require promulgation of regulations for pretreatment standards. In addition to these regulations for designated industry categories, Section 307(a) of the Act requires the Administrator to promulgate effluent standards applicable to all dischargers of toxic pollutants. Finally, Section 501(a) of the Act authorizes the Administrator to prescribe any additional regulations "necessary to carry out his functions" under the Act.

The EPA was unable to promulgate many of these regulations by the dates contained in the Act. In 1976, EPA was sued by several environmental groups, and in settlement of this lawsuit EPA and the plaintiffs executed a "Settlement Agreement" which was approved by the Court. This Agreement required EPA to develop a program and adhere to a schedule for 21 major industries (37 industry categories) and to promulgate for BAT effluent limitations guidelines, pretreatment standards, and new source performance standards for 65 "priority" pollutants and classes of pollutants (129 specific pollutants). (See Natural Resources Defense Council, Inc. v. Train, 8 ERC 2120 (D.D.C. 1976), modified March 9, 1979).

On December 27, 1977, the President signed into law the Clean Water Act of 1977. Although this law makes several important changes in the Federal water pollution control programs, its most significant feature is its incorporation into the Act of several of the basic elements of the Settlement Agreement program for toxic pollution control. Sections 301(b)(2)(A) and 301(b)(2)(C) of the Act now require the achievement by July 1, 1984 of effluent limitations requiring application of BAT for "toxic" pollutants, including the 65 "priority" pollutants and classes of pollutants which Congress declared "toxic" under Section 307(a) of the Act. Likewise, EPA's programs for new source performance standards and pretreatment standards are now aimed principally at toxic pollutant controls. Moreover, to strengthen the toxics control program, Section 304(e) of the Act authorizes the Administrator to prescribe "best management practices" ("BMPs") to prevent the release of toxic and hazardous pollutants from plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage associated with, or ancillary to, the manufacturing or treatment process.

In keeping with its emphasis on toxic pollutants, the Clean Water Act of 1977 also revises the control programs for non-toxic pollutants. Instead of BAT for "conventional" pollutants identified under Section 304(a)(4) (including biochemical oxygen demand, suspended solids, fecal coliform and pH), the new Section 301(b)(2)(E) requires achievement by July 1, 1984, of "effluent limitations requiring the application of the best conventional pollutant control technology" ("BCT"). The factors considered in assessing BCT for an industry include the costs of reducing effluent and the benefits derived compared to the costs and effluent reduction benefits from the discharge of publicly owned treatment works (Section 304(b)(4)(B)). For non-toxic, nonconventional pollutants, Sections 301(b)(2)(A) and (b)(2)(f) require achievement of BAT effluent limitations not later than July 1, 1987.

The Agency continues to address toxic pollutants through regulations for BAT, new source performance standards and pretreatment standards as required by the Clean Water Act of 1977. These regulations are aimed at controlling the water discharge of 129 specific toxic chemicals from 34 primary industry categories. All of these 34 industry categories are under study. Many of the studies are nearly completed, and proposed regulations have been issued in 12 industrial categories. Each category requires examination of processes in the industry, water usage, wastewater characteristics, and treatment technologies either in use or potentially applicable. In addition, the requirement for economic achievability has led the Agency to conduct exhaustive studies of the financial and economic achievability of various regulatory options.

In those industry categories which require hazardous waste controls under the Resource Conservation and Recovery Act (RCRA), the Agency is formulating best management practices (BMP) under Section 304(e) of the Clean Water Act. These will be used to control toxic pollutants originating from plant site runoff, spillage or leaks, sludge or other waste disposal, and drainage from raw material storage facilities.

The new technology-based limitations for conventional pollutants cannot be less stringent than BPT or more stringent than BAT standards. On August 29, 1979, the Agency promulgated its review of existing BAT limitations for conventional pollutants of industries not included in the 34 specifically covered by the 1977 Clean Water Act. This regulation also detailed the methodology which will be used to evaluate BCT when it is established in the future. The BCT regulations will save these industries up to $200 million in water pollution control costs, or about 50 percent of previously estimated future clean-up and control expenditures.

Consistent with Section 307(b) and (c) of the Clean Water Act, pretreatment standards for both existing and new industrial sources are forthcoming, with approximately 12 industrial categories now proposed. These standards will include pretreatment limitations on the discharge of toxic pollutants that pass through or interfere with the operation of POTWs, consistent with the demonstrated operating performance of POTWs.

In developing new regulations and in reviewing existing ones, there is a major effort to incorporate legislative requirements of the Clean Water Act with those of other statutes in a systems approach to water quality control. As an example, in the development and review of BAT regulations, new technology for recycle and reuse of industrial wastewater is being developed and incorporated with the related RCRA requirements for disposal of hazardous wastes. Studies of how best to integrate the regulatory requirements of the BAT toxics control effort with RCRA are ongoing. The Office of Water Regulations and Standards is providing data support and formulating specific best management practice regulations for the control of residues and sludges in coordination with both the Office of Water Enforcement and the Office of Solid Waste.

In 1982, the Agency will continue to collect and analyze technological, economic, health, and general environmental factors for the development of specific regulations required by the Clean Water Act and RCRA. To complete the revision of the existing BAT limitation guidelines, the Agency will continue to characterize effluents with respect to the 129 specific toxic chemicals and metals and to evaluate the effectiveness of appropriate treatment technology and control measures. However, the Agency will consider the extent to which the marginal environmental benefits of BAT and categorical pretreatment standards are worth their marginal costs. Additionaly, all future guidelines will be consistent with the Agency's toxic integration strategy. Technical, statistical, and economic support will be provided to respond to litigation against promulgated BAT regulations. The Agency will also provide technical assistance to Regional and State permit writers in translating BAT, BCT and BMP technical studies with particular emphasis on the toxic pollutants.

To complete the best conventional pollutant control technology (BCT) regulations, new technical, economic, and statistical data bases will be compiled to determine the necessity of revising BAT regulations to meet the added test of economic reasonableness imposed by the Clean Water Act for conventional pollutants. This will ensure the most appropriate control mechanism define the required level of technology and that select the most technically viable regulatory approach. Thorough economic impact analyses of affected industries will be conducted to assess alternative limitations and, in particular, to assure that the ultimate regulations are economically achievable and equitable.

1980 Accomplishments

In 1980, the Agency obligated $26,464,400 for this activity, including $5,084,300 for the Salaries and Expenses appropriation and $21,380,100 for the Abatement, Control and Compliance appropriation. The latter includes $20,880,700 for contracts, $301,900 for ADP costs and $197,500 for interagency agreements. Contract obligations included $13,364,400 for technical analytical studies, $3,733,000 for economic and statistical analysis, $1,744,200 for determination of health effects; and $2,274,100 for analysis of environmental distributions of pollutants and exposure risk. The technical and analytical studies included work on proposal and promulgation of best available

79-248 O—80——25

technology economically achievable effluent guidelines, new source performance standards (NSPS), and pretreatment standards for new sources and existing sources for the 34 industries specified in the NRDC Settlement Agreement and the 1977 Clean Water Act. These studies also provided for the continution of the development of regulations for BMPs, for RCRA related hazardous sludges, BCT regulations, development of a preliminary POTW toxic pollutant regulatory strategy, and conducting the first phase of the synfuel investigations with priority on gasohol manufacture.

During 1980, program accomplishments included:

- Completed technical studies for the development of proposed regulations in eight primary industries. This work included detailed laboratory analysis of effluent samples collected from plants in each subcategory of each industry, evaluation of the treatment performance of pollution abatement equipment currently used in each industry, accounting for variations in plant size, expansion space availability, location, age, and production processes. The technical studies also explored the feasibility of process changes to recycle or reuse water and the range of treatment technologies used in other industries that might apply to the industry under study. For each treatment option, process change, and alternative technology, the costs incurred by plants in the industry were determined.

- Published proposed regulations establishing national effluent limitations and standards for eight industries as mandated by the NRDC Settlement Agreement and the 1977 Clean Water Act.

- Completed economic studies for development of proposed regulations in eight of the 34 industries. Because full economic impact information is required before a preferred treatment option is selected, each treatment alternative must be subjected to an economic analysis. These analyses become successively more detailed as the range of options narrows; the final small group of options considerd are examined separately for impacts on prices, production, employment, industry size and concentration, foreign trade, regional economics, and the economics of related industries. A precursor to this step is the analysis of economic data on the industry to determine the economic and financial structure of model plants most appropriate for regulatory economic assessment of the industry. When necessary, economic impacts are determined according to several alternative economic organizational assumptions.

- Continued to incorporate requirements of other statutes, particulary RCRA, into technical and economic studies to develop industrial effluent guidelines. Information on sludge generation, storage, and disposal and associated costs, and the handling of hazardous materials and other solid wastes played a major role in the development and proposal of effluent guidelines regulations. Support for this work included collection of initial data on sludge generated by two industrial point source categories and by POTW. These data provided a technical input to the Office of Solid Waste on sludges generated by industrial BAT requirements as well as POTW sludges controlled under Sectfon 405(d) guidelines as part of an expanded complementary activity for RCRA. This effort will reduce corporate and governmental administrative burdens in date collection, permit issuance and compliance.

- Proposed and promulgated Agency analytical methods of analyses of toxics in industrial wastewater and continued investigations of methods applicable to toxic analysis of sludges and other complex industrial complex industrial waste streams.

- Incorporated into new regulations consideration of innovation and alternative treatment technologies (including cost and energy), and enhanced recycling and reuse of wastewater to reduce industrial costs, alleviate economic impacts, and enhance environmental benefits.

- Began development of data to define model plants for synfuels in gasohol, high BTU coal gasification, low BTU gasification, direct coal Liquefaction, and oil shale synfuel technologies. The model model plants will be used to establish baseline discharges, baseline capital costs and operation and maintenance costs for synfuel facilities using the best available data from existing pilot scale facilities.

- Continued to investigate levels of toxic pollutants discharged to and by POTW through wastewater and sludge. The results will guide the Agency's approaches to implementation of pretreatment policies and programs, to sludge disposal or beneficial uses, and to re-examination of standards for wastewater discharges from POTW.

- Conducted environmental studies, including geographical and quantitative industrial profiles for an overall environmental risk assessment of eight additional BAT industries. This study involved extensive data gathering in each region of the Nation to determine the concentration of pollutants in the environment in those regions. This information will identify the regions and industries that require special attention because of the severity of their point source pollution problems.

- Performed best conventional pollutant control technology studies for eight of the 34 industries mandated by the NRDC Settlement Agreement and the 1977 Clean Water Act. This required examination of data on incremental cost of conventional pollutant removal to determine a reasonable level for treatment of conventional pollutants in each subcategory.

- Initiated technical support for implementation of the standards in the NPDES integrated permits. The individual plants in each industry will face different limitations, depending on their own process mixes and water use. For NPDES permit writing, methods will be developed in interpret each regulation or set of regulations applicable to each plant in the light of process wastewater and sludge generation, wastewater treatment, and waste stream combination within the plant. Recycle and reuse of wastewaters as well as other innovative technologies will be major factors incorporated into permit writing procedures. Because of this, and because of many possibilities for chemical reaction and waste dilution within the plant, these methods will be based on a process and chemical engineering knowledge of the plant's production and discharge practices, and their relationship to the standards.

- Initiated further measures to add substances to the Administrator's list of toxic polluants, as required in Section 307(a) of the Clean Water Act, by developing a selection rationale for choosing pollutants; and by documenting the human health and environmental effects to those pollutants.

- Continued ongoing studies of industrial BMPs for raw material storage and handling, and control of in-plant spills. Incorporated BMP study results into industrial effluent guidelines regulations where appropriate.

- Effluent and sludge from an additional 20 POTWs were sampled for the "priority 129 toxic pollutants." In addition, two special surveys were conducted to assess the impact of industrial pretreatment standards on POTW influents.

1981 Program

For 1981, the Agency requested $28,149,800 and 109 permanent workyears for this activity, including $5,958,100 for the Salaries and Expenses appropriation and $22,191,700 for the Abatement, Control and Compliance appropriation. Extramural funds were requested for technical investigations, economic and statistical support, exposure and risk assessments, analytical and sampling support, and support for court litigation and remands. In 1981, the program will:

- Propose twelve and promulgate three regulations for BAT effluent guidelines, new source performance standards, pretreatment standards for existing sources, and pretreatment standards for new sources for 15 of the 37 industries specified in the 1977 Clean Water Act.

- Complete economic analyses for 18 industries. Because full economic impact information is required before a preferred treatment option is selected, each treatment alternative must be subjected to an economic analysis. These analyses become successively more detailed as the range of options narrows; the final small group of options considered are examined separately for impacts on prices, production, employment, industry size and concentration, foreign trade, regional economics, and the economics and capacities of related industries. A precursor to this step is the analysis of economic data on the industry to determine the economic and financial structure of model plants most appropriate for regulatory economic assessment of the industry. When necessary, economic impacts are determined according to several alternative economic organizational assumptions.

- Promulgate BCT regulations for the above 18 industries to serve as back-up to BAT (toxics) regulations. Supporting industry technical studies will be prepared and will include discussions for relevant alternatives and decision criteria as assistance to the National Pollutant Discharge Elimination System (NPDES) permit authorities. Efforts will include final promulgation of amendments or issuance of guidance, for BCT limitations for several food commodity industries in compliance with the review requirements of Sections 301 and 306 of the Clean Water Act.

- Conduct detailed analyses and sampling for expedited regulatory schemes for snyfuels. Included will be a technical effort encompassing an investigation of several major aspects of each of the synfuel technologies, and an economic analysis which includes a review of all existing information on the potential financial and economic structure of the industry for the development of appropriate economic models.

- Develop and reescribe best management partices (BMP) in support of RCRA controls of hazardous wastes (e.g., treatment and disposal of sludges containing toxic chemicals) for several major primary industries. The data from the sampling and analysis of "spills" and sludge waste streams will be incorporated into this effort to help define the potential for toxic discharges into surface waters as well as potential mechanisms for treatment or control by traditional or innovative management schemes.

- If possible, complete documentation of "innovative" technology to minimize the overall discharge of all toxics for ten industry categories, representing over 300 subcategories. Concepts which reduce costs of pollution control or result in improved production system efficiency by recycle and reuse of by-products and wastes will be emphasized in "innovative" technology review.

- Provide technical support to regional and State permit authorities for non-conventional waivers and how best to interpret and apply regulations in situations where pollutants have been excluded from the regulations. This technical assistance will provide advice on those industry subcategories or facilities excluded from national standards or problems involving BAT regulation of non-conventional pollutants.

- Continue treatability studies focusing on larger pilot studies for actual industrial waste streams. Specific emphasis will be placed on those pollutants that cannot be readily removed or treated by traditional methods.

- Provide contract management support to the Office of Solid Waste in managing industrial waste evaluation programs (see detailed program descriptions for solid waste, waste management strategies, regulations, and guidelines).

- Formulate recommendations and publish reports on specific POTW regulatory strategies, including support for mechanisms for pretreatment credits at the local level. Provide support to Office of Water Program Operations and Office of Water Enforcement Program efforts and guidance to regions and States on POTW toxics problems. Recommendations will incorporate definitions of best practicable waste treatment technologies for POTWs and implications for sludge disposal and associated program aspects for municipal grants.

- Provide technical and economic analyses to respond to anticipated litigation covering 1 industry category cited in the 1977 Amendments. Assistance in the preparation of court records for five promulgated BAT (toxics) regulations will also be required.

1981 Explanation of Changes from Budget Estimate

The net decrease of $1,895,700 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $29,200.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $81,500 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $696,900 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $71,100 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $11,500 was applied to this activity.

- An increase of $66,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- A transfer of $50,000 was made to the radiation media in order to support the Radiation Policy Council.

- A transfer of $13,500 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $14,200 was applied to this activity.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction" required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $8,800.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $263,900, of which $244,900 is to be rescinded and $19,000 is being redirected to fund PC&B deficits.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $187,700.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $494,700.

- Transfer $39,000 to program management to fund participation in the University of Southern California/Environmental Management Institute.

1982 Program

For 1982, the Agency requests $16,069,700 and 85 permanent workyears for this activity, including $5,831,700 for the Salaries and Expenses appropriation and $10,237,800 for the Abatement, Control and Compliance appropriation. Extramural funds are requested for technical investigations, economic and statistical support, exposure and risk assessments, analytical and sampling support, and support for court litigation and remands. This decrease reflects a policy decision to promulgate Effluent Standards and Guidelines over a longer time-frame and to stretch-out contact support litigation due to slippages in the Effluent Guidelines schedule. In 1982, the program will:

- Complete rulemaking activities for best available technology economically achievable effluent guidelines, new source performance standards, pretreatment standards for existing and new sources for nineteen industries specified in the 1977 Amendments.

- Complete economic analysis for the above nineteen industries. Because full economic impact information is required before a preferred treatment option is selected, each treatment alternative must be subjected to an economic analysis. These analyses become successively more detailed as the range of options narrows; the final small group of options considered are examined separately for impacts on prices, production, employment, industry size and concentration, foreign trade, regional economics, and the economics and capacities of related industries. A precursor to this step is the analysis of economic data on the industry to determine the economic and financial structure of model plants most appropriate for regulatory economic assessment of the industry. When necessary, economic impacts are determined according to several alternative economic organizational assumptions.

- Complete rulemaking activities for BCT regulations for the above nineteen industries to serve as back-up to BAT (toxics) regulations. Supporting industry technical aspects studies will be prepared and will include discussions of relevant alternatives and decision criteria as assistance to the NPDES permit authorities.

- Propose regulations for BAT effluent guidelines, new source performance standards, pretreatment standards for existing sources, pretreatment standards for new sources for synfuels. These standards are being developed in support of the national synfuel program, and thus are accorded a high priority in keeping with national energy priorities.

- Complete economic impact analyses for the synfuels industries. Because full potential economic impact information is required before preferred treatment options are selected, each treatment option must be subjected to an economic analysis. These analyses become successively more detailed as the range of options narrows; the final small group of options considered are examined separately for impacts on potential prices, production, employment, industry size and concentration, regional economics, and the economics and capacities of related industries. A precursor to this step is the analysis of economic data on these new industries to determine the economic and financial structure of model plants most appropriate for regulatory economic assessment of the potential industry. When necessary, economic impacts are determined according to several alternative economic organizational assumptions.

- Provide technical, economic, and statistical support to respond to anticipated litigation covering 16 industry categories. Assistance in the preparation of court briefs and records will be required.

- Develop analytical and sampling methods in support of BAT and BCT toxics control.

- Complete the study of POTW operating capabilities, including an analysis of separate and combined sewer flows to determine the potential impact of toxic metals from urban runoff on POTW operating capabilities. The results of the POTW study will be used to assess the Agency Pretreatment Strategy. Provide guidance to regions, States, and cities on pretreatment and sludge disposal. Provide support to the Office of Water Program Operations and Office of Water Enforcement efforts on POTW toxics problems. Recommendations will incorporate definitions of best practicable waste treatment technologies for POTWs and implications for sludge disposal and associated program aspects for municipal grants.

Change from January Request

This request represents a decrease of $3,178,100 and 15 permanent workyears, of which $502,000 is for Salaries and Expenses and $2,676,100 is for extramural support. This request represeents a change of output as follows:

- Schedule slippages will occur from 1981 to 1982 due to integration of RCRA costs into industry impact analyses, reductions in 1981 funds and workyears, and the influence of Executive Order 12291. The effect of the 1981 slippages had been an increase in 1982 promulgations from 7 to 19 industries.
- This proposed 1982 budget reduction will further delay approximately one-half of these promulgations.

- Provision of technical, economic, and statistical support to respond to anticipated litigation covering 16 instead of 18 NRDC Consent Agreement industries due to the above schedules slippages.

WATER QUALITY

Grants Assistance Program

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Control Agency Resource Supplementation (Section 106): Abatement, Control and Compliance	$49,158	$48,730	$51,230	$51,200	-$30
Areawide Waste Treatment Management Resources (Section 208): Abatement,, Control and Compliance	37,902	34,000	33,823	...	-33,823
Training Grants (Section 104): Abatement, Control and Compliance	2,513	...	764	...	-764
Clean Lakes Program:* Abatement, Control and Compliance	20,235	13,500	11,000	...	-11,000
Total	109,808	96,230	96,817	51,200	-45,617
Full-time Equivalency					
Control Agency Resource Supplementation	7	7	7	...	-7

*Clean Lakes positions are included in Water Quality Strategies Implementation category in 1980 and 1981.

Budget Request

The Agency requests a total of $51,200,000 for 1982 under the Abatement, Control and Compliance appropriation. Included in this total is a decrease of $33,822,800 from the 1981 level in Section 208 areawide waste treatment management resources reflecting termination of this planning grant program, a decrease of $30,000 grants for State water pollution control programs, a decrease of $11,000,000 in the Clean Lakes program, and a decrease of $764,300 in Section 104 Training Grants due to a nonrecurring 1981 Congressional add-on for academic training.

Program Description

The water quality grants assistance program under the Clean Water Act includes four elements: water pollution control State program grants under Section 106, Section 208 planning grants, Clean Lakes grants under Section 314 and Section 104 training grants.

Control Agency Resource Supplementation

Section 106 grants supplement State resources for water pollution control programs. They are negotiated annually as part of the State/EPA Agreements (SEAs) with 50 States, 7 Territorities, and 6 Interstate agencies. Funds have been directed to cover a wide range of water quality programs including permits, enforcement, monitoring, municipal facilities construction and management, oil and hazardous materials spill response, and other priority programs. As States receive Section 205(g) delegations of construction grants management responsibilities, funding is provided primarily under that Section for construction grants management.

Areawide Waste Treatment Management Resources

The Clean Water Act provides for financial support of State and designated areawide water quality planning agencies under Section 208. This authority, combined with Sections 106 and 303 of the Act, provides the basis for control of nonpoint and point sources under the Act. Section 208 grants are awarded to State and designated areawide planning agencies for continuing planning programs which address National, State and local nonpoint source pollution priorities. The Clean Water Act provides for financial support of State and designated areawide water quality planning agencies under Section 208. This authority, combined with Sections 106 and 303 of the Act, provides the basis for control of nonpoint and point sources under the Act. Section 208 grants have been awarded to State and designated areawide planning agencies for development of continuing planning programs which address highest National, State, and local pollution control priorities. Initial plans have been completed by all 225 funded agencies establishing a basic water quality management framework.

Clean Lakes Program

Under the Clean Lakes Grant program, financial assistance is provided to States to classify their publicly owned fresh water lakes according to trophic conditions and to carry out methods and procedures to restore and protect the quality of those lakes. To date the Agency has received 267 applications for lake restoration and has funded 206 projects.

Training Grants

Academic training grants are awarded to institutions of higher education to meet professional manpower needs. Efforts in this area are divided into three primary categories: the professional graduate training program, the State agency fellowship program, and undergraduate training grants. Curriculum development and other special training projects in critical areas of water pollution control are also supported.

CONTROL AGENCY RESOURCE SUPPLEMENTATION (Section 106)

1980 Accomplishments

In 1980, $49,158,200 was obligated for Section 106 grants, matched by approximately $100 million in State resources. Traditional State activities funded under Section 106 included NPDES permits issuance and enforcement, monitoring, municipal waste treatment operations and maintenance (O&M), operator training, the State continuing planning process, Water Quality Standards (WQS) adoption, and construction grants program management in States which had not yet signed Section 205(g) delegation agreements. Emerging national program priorities were also funded to a limited extent under Section 106. Toxics considerations were introduced into NPDES permitting, monitoring, and WQS development. Other priority areas included emergency response program administration and contingency planning; pretreatment programs; Section 404 dredge and fill programs; and administration of nonpoint source (NPS) control programs. With the support provided by Section 106 grants:

- 33 States issued, reissued, and modified permits, and conducted compliance inspections and enforcement activities under NPDES delegations; the other States assisted EPA in most aspects of permits development.

- All States progressed in developing full Basic Water Monitoring Programs (BWMP) with special emphasis on improved utilization of intensive surveys in problem assessment and solution design.

- The States reviewed and certified Corps of Engineers dredge and fill permits as required under Section 401, and worked toward assuming Section 404 responsibilities.

- The State emergency response program enabled more than 2000 responses to oil and hazardous materials emergencies.

- All States progressed in developing pretreatment programs.

- Some States gave priority to overseeing and coordinating Statewide NPS control implementation programs developed under Section 208 planning grants.

1981 Program

In 1981, the Agency allocated $51,230,000 for Section 106 grants under the Abatement, Control and Compliance appropriation. Consistent with overall national priorities and State needs, States and EPA will negotiate complementary activities and funding levels in the State/EPA Agreements. In addition to continued support of traditional State water pollution control activities, new 1981 national priorities include:

- toxics criteria in WQS reviews and revisions; strengthening of municipal waste treatment O&M and operator training to improve POTW continuing compliance and operation up to design capabilities;

- pretreatment program development; establishment of BWMP limited fixed station network with toxic monitoring capabilities; compliance monitoring of toxics, pretreatment, and BAT permits; toxics considerations in permitting and enforcement;

- POTW continuous compliance enforcement.

No NPDES delegations are expected. Five additional States will sign initial 205(g) delegation grants in FY 1981, raising the total number of states with grants to 43. Non-delegated States will continue to receive available Section 106 support for their construction grants management and permitting activities as determined in the SEA process.

1981 Explanation of Change from Budget Estimate

The Congress increased the Abatement, Control and Compliance appropriation by $2,500,000 to support the Section 106 State Water Grants.

1982 Plan

In 1982, the Agency requests $51,200,000 for Section 106 grants under the Abatement, Control and Compliance appropriation, a decrease of $30,000 from the 1981 level. The Agency will work through the State/EPA agreeements with the States to ensure that available funds for 106 grants are directed to national priorities and water quality needs identified in the national needs assessment and in State Section 305(b) reports. The request will also cover limited support of emerging priority activities including: toxics monitoring and analytical capabilities, review of water quality standards for attainability and appropriate revisions, operation of dredge and fill programs, and nonpoint source control programs administration. Ongoing programs such as permitting monitoring, and compliance will also continue to receive assistance based on national priorities, SEA priorities, and availability of funds. Two new NPDES delegations are expected in 1982. In 1982, 46 States are expected to have signed a Section 205(g) delegation agreement, an increase of 2 States and the District of Columbia. Section 205(g) funds can be targeted in these delegated States to support all municipal waste management-related activities. Construction grants management-related activities will include: pretreatment, operations and management, operator training, municipal compliance monitoring, and point and nonpoint source planning related to construction grants decisions. Other activities eligible for funding under 205(g) include development of Section 402/404 delegations.

Change from January Request

This request represents a decrease of $2,100,000 from the January budget under the Abatement, Control and Compliance appropriation. It includes a decrease of $7,100,000 previously identified with comprehensive groundwater program development offset by an increase of $5,000,000 for other emerging and ongoing State point and nonpoint source control activities.

AREAWIDE WASTE TREATMENT MANAGEMENT (Section 208)

1980 Accomplishments

In 1980, the Agency obligated $37,901,500 among 165 designated agencies for Section 208 grants under the Abatement, Control, and Compliance appropriation. National priorities for grant awards emphasizes the major national problem areas of urban runoff, agricultural nonpoint source (NPS), and ground water management, as described in the 1980 Water Quality Management (WQM) 5-year strategy and the funding guidance. Funding was targeted through State/ EPA Agreements to develop solutions to one or more priority NPS problems identified in those agencies' initial WQM plans. All funded agencies had successfully completed initial plans and were determined by the regions to be making acceptable progress in implementing significant portions of their initial plans. Another 60 agencies were not funded in 1980, but continued previously funded projects. Additional information on the WQM program will be found under the State Program Regulations and Guidelines Section. In 1980 Section 208 grants:

- Supported 30 National Urban Runoff Projects (NURP) designed to establish cause-effect water quality relationships and provide basis for recommendations in 1983 Report to Congress.

- Initiated ground water management demonstration projects designed to establish State and local management programs using effective Best Management Practices (BMP).

- Funded designated agencies to develop Statewide and local nonpoint source control programs for urban runoff, agriculture, silviculture, ground water, hydromodification, construction runoff and other State priority needs.

- Under agreement with USDA, supported cause-effect monitoring and evaluation of BMP implementation in 13 cost-share projects funded under the USDA Rural Clean Water Program. Conducted 29 joint USDA/EPA model agriculture NPS programs under the Model Implementation Program (MIP) and Agricultural Conservation Program (ACP).

- Developed State/areawide implementation action programs identified in WQM plans including essential institutional and financial arrangements to support self-sustaining management capability. Cost-effective approaches identified through prototype projects were documented and disseminated widely.

- Assisted the development and adoption of agriculture NPS cost-share control programs in 13 States and strengthened control program authorities in 20 States and 370 local governments.

1981 Program

In 1981, the Agency allocated $33,822,800 for Section 208 grants under the Abatement, Control and Compliance appropriation. In completing Section 208 grant funding, grants will be awarded for projects which will solve specific nonpoint source water pollution problems. The WQM Strategy and annual funding guidance for

1981 emphasizes continued concentration of limited funds on national priority NPS problems, particularly ground water protection, agricultural NPS, and urban runoff. Potential transferability of project results to other areas with similar problems is also stressed as a selection criterion. Specific grant awards are negotiated in the SEA process with each State. There are 180 out of 220 eligible agencies which are expected to receive awards for one or more projects in 1981. The others will continue work on previously funded projects. Additional information on the 1981 program will be found under the State Programs Regulations and Guidelines section. Highlights of the 1981 program include:

- Completion of funding for 30 NURP projects initiated in 1979 and 1980 which will continue in operation through 1982.

- Continued funding of BMP implementation monitoring and evaluation in 29 joint USDA/EPA MIP and ACP projects.

- Continued funding of 10 prototype groundwater management projects to develop comprehensive State ground water management programs and site-specific BMPs; funding for 5 new projects.

- Results of 10 financial management assistance projects will be documented and disseminated to assist other agencies with similar financial management problems. Fifteen additional projects will be initiated in 1981, concentrating on implementation of NPS Control programs and development of self-sustaining planning and management capabilities.

- Funding for 29 State/local urban runoff projects to apply interim findings of NURP projects; 90 State/local priority ground water projects; 61 agricultural NPS projects to apply prototype technical; and financial management approaches to specific State/local priority problem areas.

1981 Explanation of Change from Budget Estimate

The Congress directed a reprogramming to support the Flathead River project; a transfer of $177,200 was made to state programs regulations and guidelines to implement this directive.

1982 Plan

Based on prior year accomplishments of the Section 208 Grant program and competing national budget priorities for limited funds, the Agency requests no funds for this program in 1982. However, financial assistance to State and areawide agencies for high priority nonpoint source control program development will be provided to the extent possible through Section 106 grants. Some national prototype and State priority projects funded under Section 208 grants in 1980 and 1981 (for groundwater management, urban, agricultural, and other nonpoint sources) will continue to operate through 1982 and will be provided EPA technical assistance to the extent possible. To the extent resources will allow, cost-effective technological and institutional approaches developed through these WQM projects will be transferred for State and locally funded application in other priority NPS problem areas. Completing and updating WQM plans to assure statutory consistency of construction grants and permitting decisions will be funded through Section 106 grants or State resources, depending on priorities and funds available.

Change from January Request

There is no change.

ACADEMIC TRAINING GRANTS

1980 Accomplishments

In 1980, the Agency obligated $2,513,200 for academic training grants, including a Congressional add-on to the professional training grant program of $405,000 for training

graduate level students in water-related engineering and environmental sciences. The amount of $105,000 was used to support 32 graduate trainees at 28 institutions. The State agency fellowship program provided $125,000 for 57 State employees from 29 State and territorial water pollution control agencies. Upon completion of this training, the employees returned to their respective agencies to work at least two years for each full year of financial support. An undergraduate training grant of $75,000 was provided to two institutions in water-related environmental disciplines to support approximately 15 students. A total of $100,000 was allocated to a pilot curriculum development project and for support of a minority dual degree program.

1981 Program

Beginning in 1981, a large percentage of the $764,300 academic training funds will be used to support curriculum development projects in areas of critical water development project begun in 1980. Also in 1981, the program of State agency fellowships will be evaluated and continued, if justified.

1981 Explanation of Change from Budget Estimates

The net increase of $764,300 results from several actions as follows:

- The Congress increased the Abatement, Control and Compliance appropriation by $1 million to support academic training; an increase of $614,300 was applied to water quality training.

- Transfer of $150,000 from Water Quality Waste Treatment Operation and Maintenance to support a grant with the New England Interstate Commission to develop a program aimed at improving plant management.

1982 Plan

There are no Agency plans for an academic training program in 1982.

Change from January Request

There is no change.

CLEAN LAKES GRANTS

1980 Accomplishments

In 1980, $20,235,400 was obligated under Clean Lakes Program cooperative agreements to initiate 126 projects, including 10 urban lake projects. In addition, 15 projects were completed.

1981 Program

In 1981, the Agency has allocated $11 million for Clean Lakes Program cooperative agreements. With promulgation of the Section 314 regulations, the Clean Lakes Program has shifted from a demonstration to an implementation program. Therefore, in 1981 more funding emphasis will be given to implementation and less to diagnostic/feasibility planning than in 1980. Continued emphasis will be given to implementing lake restoration efforts in urban areas. Because many lake problems involve toxic pollution, the program will also to focus on toxic lake problems nationwide. Currently planned program activities include:

- Funding 35 diagnostic/feasibility studies
- Funding 20 implementation efforts.
- Funding 5 State lake classification efforts.

- Funding 1 toxic lake restoration pilot project.

1981 Explanation of Change from Budget Estimate

The Congress reduced this program by $2.5 million.

1982 Plan

In 1982, the Agency does not request funds for the Clean Lakes program. The Agency believes that the program has matured so that the States are now able to integrate restoration of priority lakes into their total water quality management program. Also, the limited health effects and geographic impacts of this program recommend its assumption by the States.

Change From January Request

This request represents a decrease of $11,500,000 for Abatement, Control and Compliance from the Janaury submission. It eliminates the clean lakes grants program.

WATER QUALITY

Water Quality Strategies Implementation

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
		(dollars in thousands)			
Appropriation					
Environmental Emergency Response and Prevention:					
Salaries and Expenses...	$4,887	$4,970	$5,060	$4,231	+ $829
Abatement, Control and Compliance.....	5,544	4,295	5,506	1,991	-3,515
Standards and Regulations:					
Salaries and Expenses...	2,915	3,573	4,688	5,832	+1,144
Abatement, Control and Compliance.....	573	1,433	2,235	964	-1,271
Regulatory EIS Prep-Water Quality:					
Salaries and Expenses...					
Abatement, Control and Compliance.....	682	500	500	...	-500
Ocean Disposal Permits:					
Salaries and Expenses...	1,115	879	1,021	1,084	-63
Abatement, Control and Compliance	598	159	128	3,128	+ 3,000
Total:					
Salaries and Expenses...	8,917	9,422	10,769	11,147	+378
Abatement, Control and Compliance.....	7,397	6,387	8,369	6,083	-2,286
Grand Total	16,314	15,809	19,138	17,230	+1,908
Permanent Positions					
Environmental Emergency Response.....	119	129	126	92	-34
Standards and Regulations.	85	110	137	138	+1
Regulatory EIS Prep-WQ....	...	...	...	...	...
Ocean Disposal Permits....	29	24	23	24	+1
Total.....	233	263	286	254	-32
Full-time Equivalency					
Environmental Emergency Response.....	131	138	133	101	-32
Standards and Regulations.	96	121	154	161	+7
Regulatory EIS Prep-WQ...	...	...	...	...	...
Ocean Disposal Permits...	34	29	28	29	+1
Total.....	261	288	315	291	-24

Budget Request

The Agency requests a total of $17,230,100 and 253 permanent workyears for 1982, an increase of $1,907,500 from 1981. Included in this total is $11,147,000 for the Salaries and Expenses appropriation and $6,083,000 for the Abatement, Control, and Compliance appropriation, with an increase of $387,000 and a decrease of $2,286,000 respectively. The increase in the standards and regulations program element will provide additional assistance to State and local agencies in assessing water quality problems and in revising standards for toxics control. The increase in the ocean disposal permits program element will cover the study and survey of 23 new dump sites being considered for designation. Also included in this element is the environmental impact statement element, shown separately in 1981.

Program Description

The water quality strategies implementation subactivity covers the Environmental Emergency Response and Prevention Program, the Ocean Disposal Permits Program, and the Standards and Regulation Program.

Environmental Emergency Response and Prevention

The primary objectives of EPA's Environmental Emergency Response and Prevention Program have been to protect water quality by preventing and responding to oil and hazardous substances spills, and providing emergency assistance to hazardous waste site incidents. Section 311 of the Clean Water Act of 1977 contains the Congressional mandate to provide a nationwide capability to respond to and prevent spills of oil and designated hazardous substances into the navigable waters of the United States. The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 expanded the mandate to include response to and prevention of hazardous releases to all environmental media (e.g. air, land, ground and surface waters) which cause or threaten danger of public health and welfare or sensitive ecological systems. Activities in 1982 related to hazardous substances spills and hazardous waste site incidents are budgeted under the Superfund Appropriation. The Environmental Emergency Response and Prevention Program element covers only oil spills and prevention activities beginning in 1982.

EPA continues to share responsibility for the Environmental Emergency Response and Prevention Program with the U.S. Coast Guard (USCG). Jurisdictional lines between the agencies for spill response actions in navigable waters are drawn geographically with EPA having responsibility for inland water excluding the Great Lakes. EPA's on-scene coordinator and/or his designated representatives will assume a monitoring role or a Federal removal role, as dictated by the situation. To assure that responses are efficient and coordinated, national and regional contingency plans are required which delineate procedures, techniques, and responsibilities of the various Federal, State, and local authorities.

In order to augment the resources of the program, the Environmental Response Team (ERT) was established early in 1979. It is a team of experienced personnel which provides on-site consultation services to the OSC including spill response and mitigation alternatives ecological damage assessment during an incident, determination of information needs, as well as onsite deployment of prototype spill control devices. In addition to the ERT providing immediate field assistance, the regions also receive technical support from the Technical Assistance Team (TAT) contract. The contract was awarded in 1979 and will remain in effect through 1981 to assist the regions and the ERT in responding to Section 311 spills and environmental emergencies. A new contract will be negotiated for 1982.

Ocean Disposal

The ocean disposal programs authorized by the Marine Protection, Research and Sanctuaries Act of 1972 and the Federal Water Pollution Control Act, as amended, have been in operation since 1973. These authorities require EPA to regulate ocean disposal by outfalls and by dumping, designate disposal sites, develop ocean related policies, and participate in interagency programs that deal with development of ocean resources.

To carry out the ocean disposal permitting functions, the Administrator of EPA is authorized to regulate the disposition of all materials except dredged material (which is regulated by the Corps of Engineers). The Marine Protection, Research and Sanctuaries Act further prohibits the transportation and dumping in ocean water of chemical, biological, and radiological warfare agents and high level radioactive materials. EPA has statutory responsibility for designating all ocean dumping sites, including those for dredged material. There are currently 141 sites approved on an interim basis which must be surveyed by an ocean-going vessel and tested by laboratory prior to formal designation. Of these, 127 sites are for disposal of Corps of Engineers' dredged material, which comprises more than 90 percent of all material dumped in the ocean. EPA is currently surveying and preparing EIS's for some of these sites using a major, multi-year contract that began in 1977. The contract is jointly funded by the Corps of Engineers, which is the primary source of funding for field surveys and data analysis. EPA contributes to data base development and funds EIS preparation for the site designation effort.

In 1982, the contract is being increased and accelerated to meet statutory and litigation requirements. With the requested funding, EPA expects to designate a total of 42 sites by the end of 1982, and to develop and implement the necessary ocean monitoring program to assess the impact of ocean disposal practices and resource development on the outer continental shelf. At that time, an additional 23 sites will be under contract for survey and impact review prior to designation. EPA expects to have completed all required activities for designating all interim approved sites by 1985, if budget levels equivalent to this request can be maintained.

The ocean program activities ensure that EPA authorities will be applied to the significant new and changing activities in the exploration and development of multiple uses of open ocean resources. The program utilizes water quality criteria, effluent guidelines and ocean discharge criteria to establish the framework for EPA assistance and influence over uses of the ocean resources. Major coordination with the ocean related programs of other agencies is necessary.

Standards and Regulations - The standards and regulations program includes several discrete functions.

Under Sections 304(a) and 307(a), water quality criteria are developed and published to reflect the latest scientific knowledge on the kind and extent of all identifiable effects on human health and welfare. Assistance in the development and review of State water quality standards is provided to ensure that acceptable standards are established in each State. Basic hazardous substances regulations are developed based on aquatic organisms, and designations are being expanded under Section 311 to include protection of human health. Guidelines, standards and regulations are developed to correct water pollution problems resulting from such sources as in-place toxicants and discharges from vessels and aquaculture projects.

Management of the Clean Lakes grant program under Section 314 of the Clean Water Act addressed the assessment and implementation of watershed and in-lake restorative procedures to insure that Federal grant dollars are used in a manner that will provide cost-effective methods for the improvement or maintenance of the quality of publicly owned fresh water lakes.

Finally, national management, coordination and program development regulating the discharge of dredge or fill material (Section 404) are carried out under this program, including the review and approval of requests from States for Section 404 permit authority for specific waterways.

Environmental Emergency Response and Prevention

1980 Accomplishments

In 1980, the Agency obligated a total of $10,430,500 for the Environmental Emergency Response and Prevention program, of which $4,887,000 was for Salaries and Expenses and $5,543,500 was for extramural purposes.

79-248 O—80——26

Over 8,900 notifications of environmental emergencies were received by the regional offices during 1980. The program responded to 152 spills which required a Federal On-Scene Coordinator (OSC) to direct Federal removal actions and monitored 8771 clean-up actions taken by the spiller. The spill prevention program was continued by the regions during 1980, with a combined regional effort totalling over 2800 spill prevention actions at non-transportation-related facilities.

The 8-person Environmental Response Team (ERT), as defined in the program description, responded to 53 incidents through September 1980. It provided assistance during the fiscal year at the request of the region OSCs both within EPA and outside the Agency.

Contract funding of approximately $3.1 million was used for additional technical field support for emergency response. The Technical Assistance Team (TAT) contract provided 33 contractor personnel to help the regions and the ERT respond to oil and hazardous materials spills and uncontrolled hazardous waste site emergencies, perform inspections for compliance with oil and hazardous substance prevention regulations, prepare enforcement cases, and assess spill damages. An additional $1 million was used to fund aerial surveillance and emergency mapping for major incidents, operation and maintenance of the spill prevention management information system, and operation and maintenance of the oil and hazardous materials technical assistance data system (OHM-TADS) which provides technical information to OSCD, and development of a safety training program.

A supplement of $1.25 million in extramural funds was used under Section 104 of the Clean Water Act to pay for extramural expenses incurred during emergency responses at incidents outside of the authority of Section 311. These funds were used for clean-up contractor costs, environmental damage assessments, and special studies at uncontrolled hazardous waste sites.

During 1980, the emergency response and prevention program initiated Section 311 or 104 emergency response actions at 61 uncontrolled hazardous waste sites. Technical assistance, investigation, or other types of support were provided at 446 sites where Section 311 or 104 was not applicable. Response activities at these sites are highly resource-intensive due to the complexities involved in handling hazardous wastes of unknown compostion and origin.

1981 Plan

In 1981, the Agency has allocated a total of $10,565,400 and 125.5 permanent workyears to this program, of which $5,059,600 is for Salaries and Expenses and $5,505,800 is for extramural purposes under the Abatement, Control, and Compliance appropriation. These resources will be used to continue the current oil program under Section 311 and to begin to implement the expanded hazardous spills response program under Superfund.

EPA is projected to receive 10,000 notifications of environmental emergencies during this fiscal year. The environmental emergency response and prevention program expects to respond during 1981 to 118 oil spills and 85 hazardous spills which will require a Federal OSC to direct Federal removal actions. EPA will monitor 2,771 oil spills and 2,007 hazardous spills where clean-up actions are taken by the responsible party or State and local agencies. Emergency response action will be provided at 69 uncontrolled hazardous waste sites. The increase from 1980 is due to the expected increase of emergencies reported to EPA as a result of increased public awareness of the new reporting requirements under Superfund.

The spill prevention program will continue in 1981. It is expected that over 2,000 prevention inspections will be performed following major spills. Inspections at hazardous substances facilities will be a significant factor in the increase in prevention activity.

Contract funding of $5,506,000 will be used to provide major technical assistance and support to current EPA efforts. Of these funds, $3,100,000 will be used for the TAT which will provide the regions and the ERT with 33 contract workyears, to assist the regions in response to oil spill emergencies, prevention inspections at both oil and hazardous substance facilities, and Federal Emergency Management Agency Mission assignments.

$906,000 in contracts will provide for expansion of the Oil and Hazardous Materials Technical Assistance Data System (OHM-TADS) to include newly designated hazardous substances, priority pollutants and uncontrolled hazardous waste site data fields; aerial surveillance and photo mapping for spill prevention inspections, contingency planning and emergency response; and maintenance of the Spill Prevention Control and Counter-measure (SPCC) management information system during 1981.

Congress directed that the Agency initiate the clean-up of PCB's from Wankegan Harbor. $1.5 million will be utilized in this effort.

Highest priority will continue to be on protecting public health and the environment by emergency response to pollutant spills or discharges. A major EPA emphasis will be on controlling hazardous substance discharges from hazardous waste sites using emergency assistance actions.

1981 Explanation of Changes from Budget Estimate

The net increase of $1,300,800 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $28,800.

- A 1981 budget amendment for hazardous waste programs and related activities was submitted to the Congress. This amendment resulted in an increase of $200,000 to this activity.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $17,400 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $2,500 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $128,600 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $33,800 was applied to this activity.

-The Congress reduced agencywide ADP services by $2 million; a decrease of $13,000 was applied to this activity.

- An increase of $69,900 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in transfers to ambient water quality monitoring (-$57,700); from public systems supervision program assistance ($22,200); from drinking water enforcement ($29,900); from uncontrolled hazardous waste sites ($24,900); from hazardous waste management regulatory strategy implementation ($8,100); to State programs regulations and guidelines (-$34,500); to water quality enforcement (-$48,900); to stationary source enforcement (-$9,400); and from water quality permit issuance ($11,000).

- Transfer $15,000 from NEPA compliance-municipal waste facility construction to realign contract funds.

- Transfer $18,800 from underground injection control program to support the hazardous materials emergency response program.

- Transfer of $56,000 was made to the radiation media in order to support the Radiation Policy Council.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $22,600.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $27,200 which is to be rescinded.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The redution applied to this activity is $5,900.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $104,500.

- An internal agencywide reudction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $2,000.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $92,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $85,800.

- The Congress directed an increase of $1,500,000 for the Waukegan Harbor PCBs which was applied to this activity.

1982 Plan

The Agency requests a total of $6,222,100 and 92 permanent workyears for this program, of which $4,230,800 is for the Salaries and Expenses appropriation and $1,991,300 is for the Abatement, Control, and Compliance appropriation. In addition, a total of $5,401,500 and 36.2 permanent workyears which was associated with this program in 1981 has been transferred to the Superfund program and is included in its appropriation request for implementation of the expanded hazardous response program under Superfund. Therefore, emergency response to spills of hazardous substances and uncontrolled hazardous waste sites will no longer be funded under the Water Quality Strategies Implementation subactivity.

The major program plans during 1982 include continuation of the oil response and prevention program. The program is projected to respond to approximately 118 oil spills which require a Federal OSC to direct Federal removal actions when there is no other readily identifiable party with the capacity for clean-up. $1.9 million will be used to support the TAT contract providing the regions and ERT with 20 contract workyears. These workyears will support response in oil emergencies, Federal Emergency Management Agency mission assignments and prevention inspections. EPA will monitor 3,490 oil spills where clean-up actions are taken by the responsible party or State and local agencies to insure adequate clean up.

The spill prevention program will also continue in 1982. It is expected that over 2,500 prevention inspections will be performed following major spills, with a major emphasis on hazardous substance facilities.

CHANGE FROM JANUARY REQUEST

This request represents a decrease of $121,300 from the January budget, of which $54,300 is for Salaries and Expenses and $67,000 is for Abatement, Control and Compliance. The decrease will result in a reduced level of monitoring of clean-up actions taken by responsible parties, State or local agencies, and prevention inspections performed following major spills.

Standards and Regulations

1980 Accomplishments

In 1980 $3,488,700 was obligated under this program activity. Major emphasis was placed on development of a national water quality standards strategy, completion of the criteria documents for 65 classes of toxic pollutants, Section 404 State program development for implementation of the dredge and fill program, management of the Clean Lakes grant program and development of program guidance to assist in revising State water quality standards (WQS) programs. Included in this total was $573,200 for the Abatement, Control and Compliance appropriation of which $482,700 was for dredge and fill activities and $90,500 for criteria development.

Accomplishments in 1980 Included:

Criteria and Standards

- Published human health and aquatic toxicity water quality criteria for 64 classes of toxic pollutants mandated by the Clean Water Act and the Natural Resources Defense Council Settlement Agreement.

- Initiated development of regulations to revise water quality standards program.

- Promulgated Federal water quality standards for two States and proposed Federal standards for an additional two States to meet minimum requirements of the Clean Water Act.

- Evaluated standards revisions for 26 States for approval or disapproval consistent with applicable rules and policies.

- Reviewed 57 AWT/AST projects for applicability of water quality standards to ensure that selected projects were the most cost-effective means of achieving the desired environmental result.

- Proposed regulations for the removal of oil and hazardous substances spills from the U.S. waters and shorelines.

- Proposed a rulemaking to delete freon and bis-(chloromethyl) ether (BCME) from section 307(a) list of toxic pollutants; finalized response to two petitions for removing eight toxic pollutants from the section 307(a) list and completed initial action on two additional petitions.

- Proposed denial of two petitions to designate phosphate, ammonia, and sulfides as conventional pollutants under Section 304(a)(4).

- Published 28 digests which summarize State-adopted water quality standards for public information purposes.

- Developed criteria for designating 12 new hazardous substances under Section 311 on the basis of chronic effects, such as carcinogenicity, mutagenicity and bioaccumulation.

  Completed review of Virginia's petition to establish no-discharge zones under the provisions of Section 312 of the Clean Water Act, regarding the prohibition of discharge of sewage from vessels into State waters.

- Initiated Congressionally mandated National Estuarine Study, conducted every six years, to provide a report to Congress regarding the status of pollution and its impact on the nation's estuaries.

- Provided section 115 grant to the State of Michigan to study feasibility of removing polychlorinated biphenyls and polybrominated biphenyls from the Pine and Saginaw Rivers.

Dredge and Fill

- Reviewed over 1,500 controversial Section 404 permit applications; developed national policy for review and comment on general and individual permit applications and provided recommendations to higher management on controversial permits.

- Promulgated Section 404 State program regulations for State assumption of program responsibility.

- Developed strategies and policies for transfer of Section 404 programs to States and provided assistance to six States in developing their programs.

- Coordinated Section 404 activities with other Federal agencies (Corps of Engineers and the Fish and Wildlife Service), involved in the section 404 program or related programs.

- Executed a Memorandum of Agreement with the Corps of Engineers regarding determination of the extent of U.S. waters for the purpose of coverage under Section 404 of the Clean Water Act, and procedures for resolving disputes between the Corps of Engineers and the Agency. Developed ancillary guidance for Corps district engineers and regional offices.

- Reviewed and provided comment on Environmental Impact Statements (EIS) associated with Congressionally authorized construction projects for their conformity with the Section 404(b)(1) guidelines for evaluating permit applications for the discharge of dredged or fill materials into waters of the United States.

Clean Lakes Management

- Provided management assistance to 120 ongoing Clean Lakes projects.
- Assisted 35 States with the implementation of State/EPA agreements on Clean Lakes program requirements.
- Completed evaluation of lake restoration techniques and the economics of Clean Lakes projects, which indicated that benefits exceeded costs by 8:1.
- Assisted 15 States to classify publicly owned fresh water lakes according to trophic condition.
- Published final regulation and program guidance to administer the Clean Lakes program under Section 314.
- Initiated development of a national management information system by incorporating Clean Lakes grant water quality data into STORET, and the Grant Information Control System (GICS).
- Conducted four EPA regional/State workshops to explain operational procedures of the Clean Lakes program, completed and distributed public awareness information about lake restoration methods and benefits, and published a users' manual on grant assistance offered under the Clean Lakes program.
- Sponsored an international (North American/European) symposium, on Clean Lakes restoration. The objective of the symposium was to transfer information available on methods and procedures for lake restoration for inclusion in the Administrator's Section 304(j) report to Congress in 1981.

1981 Plan

The current 1981 allocation for this effort is $6,923,300 and 137 permanent workyears, of which $4,688,300 is for the Salaries and Expenses appropriation. In 1981, $2,235,700 is planned for the Abatement, Control and Compliance appropriation, of which $1,257,900 is for dredge and fill activities and $977,100 for aquatic toxicity studies, criteria work on priority pollutants and technology transfer.

Continuing emphasis is being placed on the dredge and fill program, with additional assistance to State programs, full review of State Section 404 program submissions, and assistance to regions in specifying disposal sites. Increasing attention is being given to the technical implications of this program, such as energy development, waterways and agricultural ramifications. Continuing water quality standards assistance is being rendered to States and regional offices in developing standards for toxic and non-toxic pollutants. The hazardous substances program is stressing designation of substances whose spills contain immediately active agents. A Clean Lakes Technical Assistance Program will be implemented to assist States and substate grantees. In 1981, the program plans include:

Criteria and Standards

- Issue regulations for water quality standards which provide for a flexible approach on attainability of uses and focus on coverage of toxics in State water quality standards. Develop criteria modification methodologies for use by States in revising State water quality standards.

- Assist States in developing water quality standards for traditional non-toxic pollutants with coverage of selected toxics pollutants in areas where technology-based controls will not adequately protect stream uses.

- Develop policy guidance documents on the economic, environmental, and technological attainability of standards for both toxic and non-toxic pollutants.

- Promulgate State water quality standards for four States and prepare Federal standards for an additional three States.

- Develop proposals for additions or deletions to the Section 307(a) list of toxic pollutants and for the development of water quality criteria for toxic pollutants beyond the list of 65; develop criteria for 14 additional compounds.

- Develop water quality criteria for 14 toxic pollutants, in addition to the list of 65 toxics covered by the 1977 Amendments to the Clean Water Act.

- Complete twenty-eight additional aquatic life criteria for the list of 129 priority toxic pollutants.

- Evaluate 50 advanced waste treatment proposed projects to ensure that the projects will be cost-effective for the attainment of stream uses.

- Provide assistance on 18 water quality standards reviews for approval or disapproval based on applicable rules and policies.

- Designate new hazardous substances as required under Section 311 of the Clean Water Act, on the basis of protection of human health from spills of acute or immediately acting agents (as opposed to chronic or long-term toxic effects).

Dredge and Fill

- Review between 1,500 and 2,000 major/controversial permits and exercise Section 404(c) authority in cases where unacceptable discharges are proposed. Refer major issues to headquarters for resolution.

- Review and comment on major/controversial proposals and authorized projects that have not reached the permit stage (accounting for up to half the total permit review workload). Review major permits referred to headquarters (under Memorandum of Agreement with the Corps of Engineers) for top-level management resolution.

- Provide technical assistance for cases in litigation and assistance to enforcement attorneys in actions against unpermitted discharges and in cases involving litigation against EPA on Section 404 issues.

- Provide assistance to States in the development of a Section 404 program and provide full review of State Section 404 program submissions for compliance with delegation requirements.

- Review EIS' submitted for major Federal projects for Section 404(b)(1) guidelines compliance.

- Assess need for improvements in existing systems of Section 404 related environmental monitoring and work with State, Federal and local offices/agencies to improve effectiveness.

- Provide special technical analyses for dredged or fill discharge environmental problems which are region-specific and increase assistance on analyses of technical and policy issues involved in major permit review. Areas of particular concern include energy development, agriculture, and waterway development.

- Complete final regulations for Section 404(b) for evaluating permit applications in regard to potential environmental impacts.

Clean Lakes Management

- Provide technical review for over 150 clean lake grant applications and recommend appropriate award actions for up to 75 projects.

- Provide management assistance to approximately 120 operating Clean Lakes projects.

- Assist 50 States and Territories in developing comprehensive plans that address lake watershed pollution controls and multi-year priority lists for over 150 Clean Lakes applications.

- Conduct a Clean Lakes Technical Assistance Program to assist States and substate grantees to resolve complex technical, institutional, and financial problems and transfer the technology and/or approach to other State grantees with similar problems.

- Conduct four policy and technical assistance workshops/meetings with State officials.

- Evaluate the duration of lake restoration techniques, as well as the economic benefits of completed Clean Lakes projects.

- Evaluate Agency Management of the Clean Lakes Program.

- Publish proceedings from the international symposium on lakes restoration which serves as the Administrator's Section 304(j) report, and transfer proven technology on the Clean Lakes program.

1981 Explanation of Change from Budget Estimate

The net increase of $1,917,400 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $22,700.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $11,600 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $23,700 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $77,200 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $7,200 was applied to this activity.

- An increase of $71,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in transfers from water quality permit issuance ($7,800); to State programs regulations and guidelines (-$33,300); from hazardous waste management regulatory strategy implementation ($19,900); from NEPA compliance-municipal waste facility construction ($8,600); to personnel management (regions) (-$1,200); to regional council (-$12,700); to ambient water quality monitoring (-$21,600); to NEPA compliance/EIS preparation-water quality (-$12,300); to stationary source enforcement (-$16,600); to municipal waste treatment facility construction (-$3,000); and from regional management ($1,000).

- A transfer of $400 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- Transfer of $373,700 to State programs regulations and guidelines Salaries and Expenses ($68,300) and Abatement, Control and Compliance ($305,400) to support program activities and program reorganization.
- Transfer of $700 to State programs regulations and guidelines to properly reflect the clean lakes function.

- Transfer of $2,504,600 from State programs regulations and guidelines Salaries and Expenses ($1,238,000) and Abatement, Control and Compliance ($1,266,600) to reflect a program restructuring the movement of the clean lakes program.

- Transfer $20,500 to municipal waste treatment facility construction to support travel costs.

- Transfer $3,400 to ambient water quality monitoring to realign contract funds.

- Transfer $1,000 to State programs regulations and guidelines to properly reflect the clean lakes function.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reducton of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $9,200.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $29,500, of which $23,500 is to be rescinded and $6,000 is being redirected to fund PC&B deficits.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $2,200.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $55,200.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $42,800.

1982 Plan

In 1982, $6,795,800 and 137 permanent workyears are requested for this activity, which is a decrease of $127,500. Included in this request is $5,831,900 for the Salaries and Expenses appropriation and $963,900 for the Abatement, Control and Compliance appropriation. Contractual support for the Agency's dredge and fill program has also been reduced by $718,000.

The program will provide an assessment of toxics problems on a State by State basis. In 1982 the program will include:

Criteria and Standards

- Assist States to develop capability for development and implementation of water quality standards.
- Assist States in applying economic, technological and environmental considerations in the designation of attainable stream uses.
- Assist States in utilizing criteria modification guidance in developing site-specific standards.
- Assist States in identifying local areas that will require more stringent control measures due to inadequate point source controls for toxic chemicals.
- Evaluate seven regional and State water quality standards programs to determine their use in decisions regarding the construction of sewage treatment plants.
- Review 38 State water quality standards revisions to determine if the standards incorporate attainable uses and if criteria are adequate to protect those uses, with special consideration of specific toxic pollutant problems in each State.
- Conduct water quality standards reviews of Advanced Waste Treatment/Advanced Secondary Treatment projects to ensure that the funded projects will provide for the attainment of designated uses and that the selected projects are the most cost-effective means of achieving the desired environmental results.
- Complete development of 20 national water quality criteria documents for toxic pollutants as required by the 1977 Amendments to the Clean Water Act.
- Develop information on 10 petitions identifying and designating pollutants as conventional, toxic or non-conventional.
- Continue development of selection criteria for designation of hazardous substances that enter the environment other than through effluent discharges and which present an imminent and substantial danger to the public health or welfare.
- Promulgate regulations adding to list of section 311 hazardous substances, with emphasis on compounds having multimedia exposure.
- Develop responses to State requests to prohibit the discharge of vessel wastes within State waters, as provided under the Marine Sanitation provisions of the Clean Water Act, Section 312.
- Assist regions to develop, propose and promulgate standards for up to 15 States where State revisions are inadequate to meet minimum requirements of the Clean Water Act.

Dredge and Fill

- Review major/controversial permits and exercise Section 404(c) authority in cases where unacceptable discharges are proposed. Refer major issues to headquarters.
- Review and comment on major/controversial proposals and authorized projects that have not reached the permit stage (accounting for up to half of the total permit review workload).
- Review major permits referred to headquarters (under Memorandum of Agreement with the Corps of Engineers) for top-level management resolution.
- Provide technical assistance for cases in litigation and assistance to enforcement attorneys in actions against unpermitted discharges and cases involving litigation against EPA on Section 404 issues.
- Develop a management information system to track dredge and fill program activities, better account for personnel and resource uses and provide information regarding the disposition of permits.
- Provide assistance to States in the development of a Section 404 program and provide full review of State Section 404 program submissions for compliance with delegation requirements.
- Review environmental impact statements submitted for major Federal projects for Section 404 guidelines compliance.
- Assess need for improvements in existing systems of Section 404 related environmental monitoring and work with State, Federal and local offices/agencies to improve effectiveness.

Clean Lakes Management

Management of the Clean Lakes grant program under Section 314 of the Clean Water Act has been eliminated from this request due to the termination of the grant program. The Agency believes that the program has matured so that the States are now able to integrate restoration of priority lakes into their total water quality management program.

Change from January Request

This request represents a decrease of $4,415,600 and 23 permanent workyears from the January submission of which $809,400 is for Salaries and Expenses and $606,200 is for Abatement, Control and Compliance support to clean Lakes grants management. The reduction eliminates the management of Clean Lakes grants program, in concert with the elimination of grant dollars.

The request also represents a decrease of $860,500 and 4 permanent workyears for dredge and fill activities, of which $153,900 is for Salaries and Expenses and $706,600 is for Abatement, Control and Compliance. This reduction will postpone the development of a dredge and fill activity management information system and reduce assistance to states in the development of a Section 404 program.

There is no change from the January request for Regulatory EIS Preparation - Water Quality.

OCEAN DISPOSAL PERMITS PROGRAM

1980 Accomplishments

The ocean disposal permits program obligated $1,712,800 in 1980. This funding included contract support for the development of impact statements for ocean disposal site designation. Baseline surveys were conducted on sites included in the continuing contract. By the end of 1980, 33 dumpsites had field surveys, five Environmental Impact statements (EIS) had been completed, and four sites had been designated as official EPA dumpsites. Dredged material dumpsite surveys for the Corps of Engineers (COE) were completed on 15 sites of the 33 sites.

The program reviewed environmental impact statements (EIS) for offshore oil and gas lease sales and participated in an on-going interagency project which uses the Flower Garden Banks in the Gulf of Mexico as a model for measuring the environmental effects of oil and gas drilling and production on sensitive environmental underwater areas on the outer continental shelf. The program was also involved in a multiyear effort with the National Oceanic and Atmospheric Administration (NOAA) and the Department of Interior (DOI) to determine the quality of open ocean waters and the state of marine technology against which conditions were established for permitting specific ocean-related industrial operations, such as ocean thermal energy conversion and deep seabed mining.

1981 Program

In 1981, the Agency has allocated a total of $1,148,900 and 23 permanent workyears to this program of which $1,020,700 is for Salaries and Expenses and $128,200 is for Abatement, Control and Compliance. The extramural resources are to develop impact statements for ocean disposal site designations. Also, $1,500,000 is to be provided by the Corps of Engineers to support studies on dredged material disposal sites. The Agency expects to continue its 1980 ocean program, dealing with the following highest priority activities:

- Issue revised ocean dumping criteria and bioassay procedures.
- Designate 16 dumpsites, conduct baseline surveys for site designations on six new dumpsites, monitor existing sites and prepare environmental analyses and dumpsite EIS's using contract support. (Impact-monitoring will be required under revised criteria.)
- Review and issue approximately 40 special permits for compliance with ocean dumping criteria and regulations.
- Provide cursory review and coordination for Corps of Engineers' permits and Federal project proposals.

Because of the statutorily required termination of ocean dumping of harmful sewage sludge as well as the termination of all interim permits by the end of 1981, alternative disposal practices will increase. The volume of ocean dumping under special permits will continue at present or slightly higher levels as a result of implementation of the Resources Conservation and Recovery Act, the elimination of marginal and unsatisfactory disposal landfills, and an increase in incineration-at-sea applications which will require site designations and monitoring. Probable changes in the International Ocean Dumping Convention will require revisions in U. S. ocean dumping criteria, particularly in radioactive waste disposal and incineration at sea. The program is responsible for both international negotiation of the Convention and revision of criteria. The rate of ocean disposal site designations is being increased; approximately 20 site will have been designated by the end of 1981.

The ocean program will concentrate on environmental effects of offshore oil and gas activities with emphasis on special NPDES permit conditions, definition of sensitive marine areas, environmental guidance, and technical assistance. The Agency will continue to participate in an on-going, multiyear interagency project with the Department of Commerce (DOC), NOAA, DOI, and Department of State of measure the environmental effects of oil and gas drilling and production on sensitive environmental underwater areas on the outer continental shelf (the Flower Garden reef off Texas and the Georges Bank off Massachusetts). EPA will also continue to participate in multiyear interagency effort with the Department of Energy (DOE), and NOAA to establish conditions for permitting specific ocean-related industrial operations such as ocean thermal energy conversion and deep seabed mining.

1981 Explanation of Change from Budget Estimate

The net increase of $110,400 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $5,500.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $18,200 was applied to this activity.

- An increase of $15,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in transfers from water quality permit issuance ($7,400); from water quality enforcement ($119,500); from NEPA compliance-municipal waste facility construction ($700); from uncontrolled hazardous waste sites ($9,000); and from public systems supervision program assistance ($34,500).

- OMB Bulletin #81-7, Januray 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $2,500.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $6,800.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $12,800.

- Agencywide reprogrammings are required in order to fund the PC&B deficits; the decrease applied to this activity is $30,200.

1982 Plan

The Agency requests a total of $4,212,200 and 24 permanent workyears for this program, of which $1,084,200 is for Salaries and Expenses and $3,128,000 is for Abatement, Control and Compliance, an increase of $2,999,800 in extramural funds. The increase in Abatement, Control and Compliance will provide support for designation of 22 additional dumpsites and initiation of field surveys on 23 new sites. It includes $500,000 previously budgeted under Regulatory EIS Preparation which will continue to be used for the preparation of impact statements as part of the dumpsite designation process.

Under the contract in 1982, 22 additional dumpsites will be designated bringing the total to 42. A three-year designation effort will be initiated on 23 new sites, requiring collection of field survey data during at least two different seasons.

In 1982 the Agency will:

- Manage the EIS contract to complete 32 EIS/EIAs on ocean dumping sites and designate 22 dumpsites.

- Review and issue 55 special permit applications for ocean dumping , and screen and coordinate Corps of Engineers' permits and Federal project proposals.

- Respond to major crises by issuing emergency and research permits and waiver requests and provide technical support against litigation.

- Compile data and prepare annual reports as required by statute for Congress and the International Ocean Dumping Convention.

- Coordinate open ocean-related programs within EPA and with outside Agencies including Outer Continental Shelf (OCS) oil and gas operations (DOI, DOC), ocean thermal energy conversion (DOC, DOE), and deep-sea mining (DOC, DOI).

- Analyze major open ocean related documents of other agencies (DOI, DOC DOE) under responsibilities of National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

- EPA will achieve coordinated approaches to permit issuance for OCS activities in some key open ocean areas. Through its analyses of OCS EISs for oil/gas operations, some major environmental problems are anticipated which will effect changes in DOI's lease stipulations and DOC's marine sanctuary regulations.

CHANGE FROM JANUARY REQUEST

This request represents a decrease of $167,400 from the January submission of which $166,000 is for Abatement, Control and Compliance, and $1,400 if for Salaries and Expenses. The reduction is extramural resources will delay the completion of 1 to 2 of 32 projected Environmental Impact Statements necessary for the designation of Corps of Engineers' dredge disposal sites.

WATER QUALITY

Water Quality Monitoring and Analysis

Appropriation	1980 Actual	1981 Budget Estimate	1981 Current Estimate	1982 Estimate	1982 vs. 1981 Increase + Decrease -
		(dollars in thousands)			
Water Quality Monitoring and Analysis: Salaries and Expenses.....	$7,961	$8,209	$8,750	$8,479	+$271
Abatement, Control and Compliance.....	2,731	2,436	2,400	880	-1,520
Grand Total.....	10,692	10,645	11,150	9,359	1,791
Permanent Positions.....	195	191	180	161	-19
Full-time Equivalency.....	247	241	229	211	-18

Budget Request

An appropriation of $9,359,100 and 161 permanent workyears is requested for 1982 including $8,479,200 for the Salaries and Expenses appropriation and $879,900 for extramural purposes under the Abatement, Control and Compliance appropriation. This represents an decrease of $1,790,600. Included in the extramural funds is $429,900 for contracts and $450,000 for interagency agreements.

Program Description

This program's responsibilities include: Development of systematic monitoring systems to provide consistent measures of environmental quality; toxic pollutant data collection and analysis to determine discharge rates, transport characteristics, and environmental risks; review and management of Regional and State monitoring programs; wasteload allocation guidance and review; analysis to measure changes in water quality; analysis of point and non-point sources of pollutants; and maintenance, enhancement, and user assistance for ADP systems used to manage EPA's water data. Specific activities pursued by this program are described below.

This program coordinates State and EPA monitoring efforts to provide specific information on water quality and to implement a monitoring strategy to provide statistical sampling to support regulatory controls. In response to the requirements stipulated under the Clean Water Act of 1977, this program provides: pollutant control strategies based on assessments of environmental pollutant distribution, exposure/risk analysis and fate studies for evaluating pathways through which human and aquatic life are exposed to pollutants, calculating the consequent risks of that exposure and recommending necessary levels of pollutant control for the 65 classes of toxic pollutants stipulated in the 1977 Amendments to the Clean Water Act, area-by-area regulatory strategies and guidance to the States for geographic areas where best available technology (BAT) may not be adequate to control pollution, including identification of toxic pollutant "hot spots"; industrial/environmental assessments for the 21 primary industrial categories to assist in the development and defense of BAT regulations; assessments of the sources of toxic pollutants entering publicly owned treatment works (POTW and recommendations for appropriate regulatory strategies); implementation of the State Basic Water Monitoring Program to provide more intensive surveys, biological monitoring, and toxic pollutant monitoring; and resources devoted to field sampling and analysis to detect and measure the 129 priority pollutants.

In support of the Agency's toxic pollutant strategy, this program coordinates its analytic activities with the Effluent Standards and Guidelines program. Additional activities included in this program are: operation of EPA's water quality data systems for management of toxic pollutant and other data, including standardization of storage protocols and quality assurance; ongoing evaluations of ambient water quality trends to measure the success of EPA control strategies and development of wasteload allocation regulations and guidance. It also includes management overhead for the regional Surveillance and Analysis Divisions which are responsible for monitoring in all media (water, air, toxics, enforcement, and pesticides) and for coordinating surveillance and analysis among States and other Federal agencies.

1980 Accomplishments

In 1980 the Agency obligated a total of $10,691,900 to water quality monitoring and analysis, including $7,961,300 for Salaries and Expenses and $2,730,600 for Abatement, Control and Compliance. This program used approximately $2,730,600 for contracts and interagency agreements to determine geographic distributions, to assess exposure/risk of toxic pollutants to evaluate toxic pollutant contributions to publicly owned treatment works (POTW), and to perform biological and chemical monitoring. Accomplishments included:

- Assessment of environmental exposure/risk and geographic distribution of toxic pollutants to set revised Best Available Technology (BAT) regulations, pretreatment and New Source Performance Standards, and water quality criteria, and to make additions/deletions from the 307(a)(1) list of toxic substances.

- Investigation of 15 potential toxic "hot spots" to determine actual levels or toxic pollutant contamination in geographic areas where BAT regulations will not satisfy toxics criteria.

- Providing technical review of 25 proposals for advanced waste treatment (AWT) projects.

- Development of detailed assessment of the sources of toxic pollutants to publicly owned treatment works (POTW), with resultant analysis of regulatory strategies, including controls under TSCA and RCRA.

- Continued evaluation of quality assurance procedures in selected State and contractor water laboratories for accurate detection and measurement of toxic and other pollutants in ambient waters and effluents.

- Operation of water quality and toxic pollutants data management systems to provide access to and analysis of available information on toxics and other pollutants.

- Analysis and publication of reports of water pollution improvement in six geographic areas to describe and document programs which are successful and may be adaptable to other areas. Developed Environmental Profiles for water quality.

- Development and beginning implementation of a water monitoring strategy to collect and analyze water quality information for use in policy decisions and in measuring effectiveness of programs.

- Initiation of a review and redesign of water monitoring networks to improve statistical coverage and utility of data for national analyses.

- Management of the State Basic Water Monitoring Program, which included toxic pollutant and biological monitoring, and intensive surveys.

79-248 O—80——27

- Implementation of a data system for storage and analysis of toxic pollutant data; continued and improved data systems to provide pollution control agencies, at all levels of government, with widespread access to toxic and other pollutant data.

- Performance of limited biological sampling and data interpretation to screen for presence of toxics, to pinpoint needs for chemical monitoring, and to evaluate effects of chemical pollutants.

- Continuation of an interagency agreement with the National Fish and Wildlife Service and the U.S. Geological Survey to collect and analyze water samples and fish tissue. (This helps determine geographic distributions and exposure/risk of toxic pollutants, and measures trends in overall water quality).

- Publication of State water quality assessment reports as required by Section 305(b) of the Act.

1981 Program

In 1981 the Agency has allocated a total of $11,149,700 and 180 permanent workyears for this program, including $8,750,200 for the Salaries and Expenses appropriation and $2,399,500 for the Abatement, Control and Compliance appropriation. Abatement, Control and Compliance funds support contracts and interagency agreements to determine geographic distributions and to assess exposure/risk of toxic pollutants and contracts to assess toxic pollutant contributions to publicly owned treatment works (POTW). Major accomplishments planned for 1981 include continued efforts to manage toxic pollutants and continued implementation of a toxic water monitoring strategy. Program objectives include the following:

- Expand the assessment of sources of toxic pollutants to publicly owned treatment works (POTWs), and assess the effectiveness of pretreatment.

- Collect and analyze effluent samples and develop environmental exposure/risk and fate data to identify and recommend which toxic pollutants require further regulatory controls or which should be added or deleted from the Section 307(a) list of toxic substances.

- Identify and rank 20 toxic "hot spots," and develop control strategies for selected geographic areas.

- Provide detailed technical evaluations for use in water quality based decisions, including review of 25 Advanced Waste Treatment (AWT) proposals and proposed revisions to water quality standards.

- Collect/analyze toxic pollutant samples to determine geographic coverage and ambient concentrations of toxic pollutants in the Nation's waterways. Ten pollutants will be screened for possible inclusion on the 307(a) list of toxic pollutants.

- Continue development and implementation of a national water monitoring strategy to collect and analyze data (including biological monitoring data) needed for policy decisions and program evaluation.

- Provide policy and technical guidance on the use of wasteload allocations in water quality standards review and AWT review studies.

- Operate a clearinghouse of water and other related monitoring programs to maintain an inventory of what data is being collected and help screen new monitoring programs to ensure that they are integrated with efforts of other offices in EPA. Provide computer systems support to approximately 742 water quality data users.

- Guide the implementation of quality assurance programs for collection and analysis for Headquarters, Regions and States.

- Complete Environmental Profiles for all EPA regions, detailing environmental progress and remaining environmental concerns.

1981 Explanation of Change from Budget Estimate

The net increase of $505,100 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $43,700.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $11,300 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $22,400 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $77,300 was applied to this activity.

- The Congress reduced agencywide Senior Executive Services bonuses by $750,000; a decrease of $10,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $17,200 was applied to this activity.

- An increase of $125,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a net transfer of $592,200 from water quality permit issuance ($67,500); from environmental emergency response and prevention ($57,800); from uncontrolled hazardous waste sites ($9,000); from hazardous waste management regulatory strategy implementation ($178,300); from NEPA compliance-municipal waste facility construction ($89,800); from water quality manpower planning and training ($42,000); from uncontrolled hazardous waste sites ($30,500); from water quality enforcement ($91,100); from State programs regulations and guidelines ($600); from water quality NEPA compliance/EIS preparation ($2,700); from dredge and fill ($21,100); and from municipal waste treatment facility construction ($1,800).

- A transfer of $1,000 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil non-compliance penalties under Section 120 of the Clean Air Act.

- Reprogrammings of $65,100 from the underground injection control program to cover basic operating costs of ADP support to the Central Regional Lab.

- Reprogrammings to realign contract funds resulted in a transfer of $34,800 from State programs regulations and guidelines ($20,200); from dredge and fill ($3,400); from ambient air quality monitoring ($4,300); and from NEPA compliance municipal waste facility construction ($6,900).

- Reprogrammings to realign contract funds resulted in a transfer of $82,200 from municipal waste treatment facility construction ($52,800); from water quality permit issuance ($27,600); and from water quality enforcement ($1,800).

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $24,100.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $21,000 which is to be rescinded.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $305,000.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $1,900.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $55,100.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $201,800.

- Transfer $6,500 to program management to support participation in the University of Southern California/Environmental Management Institute.

1982 Plan

In 1982, the Agency requests a total of $9,359,100 and 161 permanent workyears for this program, including $8,479,200 for the Salaries and Expenses appropriation and $879,900 for the Abatement, Control and Compliance appropriation. Major accomplishments planned for 1982 include development of a national assessment of water quality conditions and a strategy for coordinating with other Agency monitoring program particularly in support of the Drinking Water program and RCRA. Program objectives will include the following:

- Develop an initial assessment of national water quality conditions and problems based on biological and ambient water analyses conducted as part of the water monitoring strategy; provide preliminary analyses of causes of selected key problems.

- Participate in the initial multimedia monitoring programs needed for the Agency's integrated toxics control strategy, including a systematic approach to identifying remaining toxics problems through exposure analyses; operation of a toxics data system; and review of the suitability of data for inclusion in the system.

- Analyze the national extent and severity of nonpoint source problems, based on literature search, State reports, extrapolations from site studies, and review of ambient and biological data.

- Evaluate the environemental benefits of alternative regulatory controls using available data and information, where possible; and consider the likelihood of controls performing as planned.

- Provide environmental fate and transport information in relation to the Agency integrated toxic control strategy.

- Implement the basic toxic pollutant management program for the areas that require WQ based controls, providing pollutant-by-pollutant and area-by-area studies, conducted mainly through analysis of existing data.

- Collect and analyze toxic pollutant samples to help determine environmental exposure and fate; analyze toxics samples from industrial waste streams; and conduct selected sampling to help determine causes of local toxics problems.

- Complete the analysis of sources of toxic pollutants in publicly owned treatment works (POTW's) to develop recommendations for deleting or adding pollutants to the Section 307(a)(1) toxic pollutant list.

- Review the water quality justifications in proposals for advanced waste treatment (AWT) projects.

- Coordinate the Regions' participation in the Agency's mandatory quality assurance program; conduct on-site evaluations of State quality assurance programs.

- Work with each State to redirect and improve State monitoring programs, including operation of field monitoring networks, conduct of intensive surveys, performance of limited biological monitoring, analysis of toxic pollutants, and implementation of quality assurance procedures. Assist States in developing their toxic pollutant monitoring programs.

- Perform analyses of ambient water data and review wasteload allocations and intensive surveys to help make Regional decisions on attainability of water quality standards in selected States and areas, and to assist in making decisions on permits and other regulatory actions.

Change From January Request

This request represents a decrease of $2,007,500 and 30 permanent workyears from the January submission of which $964,500 is for Salaries and Expenses and $1,043,000 is for Abatement, Control and Compliance. This decrease will result in reduced oversight of State monitoring programs. Also, there will be some reduction in sampling and anlyses for toxic organic pollutants which are not as prevalent in surface water as oringinally believed. Finally, there will be greater reliance on existing data and reduced emphasis on pollutants which pose less of an environmental problem.

WATER QUALITY

Municipal Source Control

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
			(dollars in thousands)		
Appropriation					
Municipal Waste Treatment Facility Construction:					
Salaries and Expenses.....	$24,007	$22,692	$24,867	$22,406	-$2,461
Abatement, Control and Compliance	3,839	4,940	4,511	4,279	-232
NEPA Compliance-Municipal Waste Facility Construction:					
Salaries and Expenses.....	2,467	2,682	2,635	2,680	+45
Abatement, Control and Compliance	6,102	6,600	6,210	6,600	+390
Corps of Engineers: Abatement, Control and Compliance	20,709	21,955	20,844	21,518	+674
Waste Treatment Operation and Maintenance:					
Salaries and Expenses.....	1,064	1,040	1,104	1,540	+436
Abatement, Control and Compliance	98	542	277	80	-197
Subtotal, Construction Grants Program Management:					
Salaries and Expenses.....	27,538	26,414	28,606	26,626	-1,980
Abatement, Control and Compliance.....	30,748	34,037	31,842	32,477	+635
Manpower Planning and Training-Water Quality:					
Salaries and Expenses.....	1,412	1,345	1,300	...	-1,300
Abatement, Control and Compliance.....	2,412	2,692	2,655	...	-2,655
Grand Total:					
Salaries and Expenses.....	28,950	27,759	29,906	26,626	-3,280
Abatement, Control and Compliance	33,160	36,729	34,497	32,477	-2,020
Total	62,110	64,488	64,403	59,103	-5,300

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
			(dollars in thousands)		
Permanent Positions					
Muncipal Waste Treatment Facility Construction.....	777	766	683	595	-88
NEPA Compliance-Municipal Waste Facility Construction..	85	95	89	94	+5
Operation and Maintenance.....	25	28	25	35	+10
Manpower Planning and Training-Water Quality	34	25	23	...	-23
Total.....	921	914	820	724	-96
Full-time Equivalency					
Municipal Waste Treatment Facility Construction.....	888	894	806	718	-88
NEPA Compliance-Municipal Waste Facility Construction..	89	95	90	95	+5
Operation and Maintenance.....	26	29	26	37	+11
Manpower Planning and Training	43	39	37	...	-37
Total.....	1,046	1,057	959	850	-109

Budget Request

The Agency requests a total of $59,103,000 and 724 permanent workyears for 1982, a decrease of $5,300,000 from 1981. Included in this total request is $26,625,900 for Salaries and Expenses and $32,477,100 for Abatement, Control, Compliance with decreases of $3,280,100 and $2,020,200 respectively. The decrease is made possible by the delegation of major day-to-day project management construction grant activities to the States and the elimination of the Manpower Planning and Training program. Additionally, there is an increase to fund 301 (h) ocean waiver activities, and a decrease associated with the elimination of a nonrecurring 1981 Congressional add-on of 10 permanent workyears for the headquarters review of advanced waste treatment projects with an incremental cost over $3 million.

Program Description

The municipal source control subactivity is composed of two program areas: construction grants program managment, and waste treatment training and technical assistance. A general description of each of these areas is as follows:

Construction Grants Program Management

This area involves the management of the program which awards grants for planning, design, and construction of municipal wastewater treatment facilities. The grants are made by EPA to municipalities who, in most cases, contract with architects/engineers and construction firms to do the actual planning, design and construction. The objective of the program is to eliminate the discharge of untreated or inadequately treated pollutants into the Nation's waters and, thereby, restore and maintain the quality of these waters.

For budgetary purposes, construction grants program management is dividied into the following four principal program elements:

- Municipal Waste Treatment Facility Construction This program includes most of the day-to-day in-house management activities associated with the consturction grants program both in Headquarters and the EPA Regional Offices.

- NEPA Compliance. This involves environmental evaluation activities, including the assessment of environmental information documents and negative declarations, and the preparation and oversight of environmental impact statements. The purpose of these activities is to assure that municipal wastewater treatment facilities are planned and constructed in conformance with the National Environmental Policy Act (NEPA).

- Corps of Engineers. This program covers a series of construction management activities assigned to the Corps of Engineers to assure the technical and fiscal integrity of projects under construction.

- Operation and Maintenance. This part of the program involves the continuous assessment of publicly owned treatment works (POTWs) in accordance with Section 210 of the Clean Water Act. It also provides for the support of State, local, and private sector efforts to achieve compliance with established effluent standards through improved operations and management. EPA provides support for both new and existing POTWs by developing guidance materials, conducting demonstration projects and public awarenees activities, identifying research needs, and developing and supporting training projects.

In the past, direct grants management activities were performed primarily in the EPA regional offices. EPA is in the process of delegating many of these grant-related activities to the State under Section 205(g) of the Clean Water Act. Delegation agreements between EPA and the States provide for delegation in phases. Although 46 States and territories will have signed delegation agreements through 1982, full delegation responsibilities will not be assumed in many of these States until 1983 or later. With the U.S. Army Corps of Engineers also assisting in construction management activities, EPA is changing its management orientation from project-by-project management to overall program management. However, the Agency must still provide considerable training and assistance to the States, before the goals of the delegation program can be accomplished.

The Agency is undergoing a major evaluation and planning effort, the "1990 Strategy", to determine the long-term goals for the construction grants program and the steps needed in the 1980's to reach these goals. This effort will result in recommendations for program changes as necessary.

Waste Treatment Training and Technical Assistance

The activities in this program area include: (a) program support (courses, materials, etc.) for training and certification of municipal wastewater treatment facility operators and related personnel to improve plant efficiency in existing plants and to assure efficient and reliable operation of new federally-funded plants; and (b) training of EPA, State and private sector agency personnel in the technology of abatement and control of water pollution through short-term training courses, development of audiovisual training aids, and delivery of course packages and other training resources for the purpose of developing effective State and local water pollution control training programs.

CONSTRUCTION GRANTS PROGRAM MANAGEMENT

1980 Accomplishments

The construction grants program management obligations for 1980 totalled $58,286,100 of which $27,538,000 was for salaries and expenses and $30,748,100 for extramural activities. EPA awarded 2,392 grants totalling $4,673 million. Approximately 11,054 projects were in the preconstruction or construction stages by year end, including 4,982 facility planning projects, 1,538 design projects, 600 combined design and construction projects, and 3,934 projects under construction. The following table summarizes the program for 1980.

Item	1980	
	Number	Amount (dollars in millions)
Total Obligations - Gross a/		$4,673
Total Outlays		4,343
Awards Processed:		
Step 1 Awards	752	
Step 2 Awards	608	
Step 3 Awards	279	
Step 2+3 Awards	303	
Step 3 Completions (including Step 2+3)	845	
Active Projects	11,054	
New EISs and Related Studies Inititated	56	

a/ This represents gross obligations during the year. Net obligations, reflecting recoveries from past awards, totalled $4,376 million.

The $4,673 million in gross 1980 obligations represents a decrease of $127 million from the level projected in EPA's budget request to Congress last year. This decreased level of obligation activity occurred largely because of the deferral of 1980 funds during the year. This deferral caused many States to slow down their grant activities because of lack of available funds.

Additional progress was made in delegating major management responsibilities for the program to the State under Section 205(g) of the Act. Eight States signed delegation agreements in 1980, bringing the total number of States with 205(g) agreements to 38. EPA continued to train and assist the States to fully assume the delegated functions.

The U.S. Army Corps of Engineers and EPA extended their interagency agreement for an indefinite period, subject to annual funding. The terms of the revised agreement are basically the same as those in the original agreement, with most of the Corps' efforts devoted to conducting interim inspections on projects under construction, providing full-time on-site presence on large complex projects, serving as project officers on grants for actual construction, and reviewing plans and specifications to assure that plans are bidable and constructable before contract awards are let.

In 1980 EPA began a major reassessment of the construction grants program. Issue papers were prepared in the areas of compliance, funding, operations, management, and planning; and meetings were held on a regular basis with approximately 15 interest groups, including State and local governments, consulting engineers, sewerage agency administrators, and rural residents.

The National Municipal Policy and Strategy was published at the beginning of 1980. The purpose of this policy and strategy is to improve the degree of compliance of publicly owned treatment works by integrating the activities of the grants, enforcement and NPDES permit compliance programs. This is a joint strategy for EPA and the States which will focus initially on non-compliance in major urban areas and be carried out through the municipal management system.

The operation and management program continued to develop a coordinated, broad-based approach to impact the design of new POTWs to assure their meeting effluent objectives. Three on-site demonstration projects were initiated in three States to assess procedures for encouraging the private sector to market techical service's to POTWs not currently in compliance. Also, two region-wide pilot projects began, which are designed to identify POTWs not in compliance, assure a remedial program is established for them, and track all action necessary to achieve compliance. The first year that the innovative and alternative (I/A) technologies program was fully operational was in 1980. The purpose of I/A technologies program is to promote reduced costs, energy savings, improved treatment of toxic substances, better operations and management, recycling of wastewater, and better joint treatment by municipalities and industries. EPA initiated an "active" I/A technology program, which is a joint effort of the construction grants and research and development staffs, to encourage greater use of I/A technologies and to generate more I/A projects. Under the "active" program, the Agency identifies potential I/A projects and provides technical assistance in the design of these projects. In 1980, EPA established a special advisory board to help the administrator review and make recommendations for the I/A program. The Agency has funded 549 I/A projects as of September 30, 1980.

In 1980, EPA initiated 56 EIS's and related studies, began processing grants for the development of pretreatment programs, and issued policy prohibiting retroactive requirements. The Agency also evaluated 535 advanced treatment projects. Thirty-five of these projects involved incremental costs above secondary treatment levels of more than $3 million and EPA's evaluation of these 35 produced a total capital cost savings of $80 million. In addition, the Agency reviewed 12 applications for waiver of secondary treatment requirements for communities with ocean outfalls, and completed all of the field work and analysis on the joint State-EPA Needs Survey in compliance with Section 205(a) and 516(b)(2) of the Clean Water Act of 1977.

1981 Program

In 1981, the Agency has allocated a total of $60,448,400 and 797 permanent workyears to this program of which $28,606,600 is for the Salaries and Expenses appropriation and $31,842,400 is for extramural purposes under the Abatement, Control and Compliance appropriation. Concurrent with the submission of this budget the Administration has implemented a rescission of $1.7 billion in construction grants appropriations ($1.0 billion from the FY 1981 appropriation. $586 million from the FY 1980 appropriation, and $114 million of Talmadge/Nunn funds) which will reduce the planned level of obligations for the year by approximately 10%. EPA expects to award approximately 2,570 grants totalling $3.8 billion. Approximately 11,390 projects will be in the preconstruction or construction status by year end, The following table summarizes the reduced program planned for 1981:

Item	1981	
	Number	Amount (dollars in millions)
Obligations - Gross a/		$3,800
Total Outlays		$4,180
Awards Processed:		
Step 1 Awards	590	
Step 2 Awards	900	
Step 3 Awards	710	
Step 2+3 Awards	370	
Step 3 Completions (including Step 2 and 3)	1,487	
Active Projects (all steps)	11,390	
New EISs and Related Studies Inititated	51	

a/ This represents gross obligations during the year. Net obligations, reflecting recoveries from past awards, are projected to total $3.5 billion.

EPA will complete a major assessment of the construction grants program in 1981. The assessment is being developed to analyze the program's current problems, to evaluate alternative directions for the program in the future, and to recommend revisions to the program. The study was initiated in light of: 1) the expanded role of the States and the Corps of Engineers in the management program, 2) extremely large needs for funds in a period of national fiscal austerity, and 3) problems related to the achievability of legislative goals, lengthy grants processing and completion times, inadequate performance in municipal operations and compliance, and problems in achieving municipal self-sufficiency.

Among the activities being delegated to the States are data entry and use of the construction grants management system (GMS). With delegation of the day-to-day management activities to the States, it is essential that GMS be responsive to the new management orientation of EPA, as well as to the needs of the States. Therefore, at the beginning of 1981, the Agency organized a Grants Management System Work Group, comprised of EPA and State representatives, to improve both the management system and the training of State staffs.

During 1981, EPA will develop action plans for implementing the Municipal Management System and will identify and track several projects on a nationwide scale, with particular emphasis on facilities in the largest metropolitan areas which have not yet achieved minimal secondary treatment requirements. Also in the area of compliance, the operations and management program will continue initiatives begun in 1980. The results of the three State demonstration projects, designed to stimulate the marketing of operational services to POTWs by the private sector, will be published and disseminated. The two region-wide projects designed to assure non-complying POTWs are brought into compliance will continue and four additional projects in other regions will begin. EPA will develop a Community Guidebook to assist communities in dealing with the consulting community when procuring O&M services and will develop training courses for design consultant on factoring O&M considerations into the construction grants process.

In 1981, EPA will continue to promote the development and use of innovative/alternatives technologies. Guidelines will be developed for a national I/A excellence award for consulting engineers. The Water and Wastewater Equipment Manufactures Association, Inc. and EPA will continue the I/A seminars that began in 1980. EPA will also continue its "active" program to promote the development and use of I/A technologies. The current 3-year I/A program will expire on September 30, 1981.

EPA has established a detailed review process related to funding of advanced waste treatment projects. This evaluation ensures that such funding is strictly limited to those situations where the higher level of treatment is both necessary to meet water quality standards and be effective in meeting higher standards. In accordance with the Conference Report of the 1981 appropriation for construction grants, the EPA Administrator will continue to evaluate all waste treatment projects involving treatment levels more stringent than secondary where the incremental cost of the advanced component is greater than $3 million. The evaluation of these projects will not be delegated to the regions but will be performed by staff in headquarters; the regional offices will be responsible for review of similar projects with an incremental cost of $3 million or less.

Other activities planned for 1981 are the issuance of guidance for streamlining program compliance with 57 Federal laws and Executive orders, the evaluation of 469 advanced treatment projects, the issuance of revised policy to improve the review procedures for advanced treatment projects, and the preparation of three generic model facility plans to simplify and speed-up facility planning for small communities. In addition,

the Agency will summarize and report the results of the joint State-EPA Needs Survey to Congress, and as part of the 201 Construction Grant program, award over 1,000 grants for the development of pretreatment programs and over 500 grants for the purchase of monitoring equipment and construction of facilities needed for pretreatment. As part of the 301h program, EPA will also evaluate at least 24 applications for waiver of secondary treatment requirement for communities with ocean outfalls and begin making decisions on these applications.

1981 Explanation of Budget Estimate

Municipal Waste Treatment Facility Construction - The net increase of $1,746,300 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $141,800.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $44,800 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $193,700 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $188,800 was applied to this activity.

- The Congress increased the Salaries and Expenses appropriation by $300,000 to support 10 advanced waste treatment positions.

- An increase of $386,900 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings of +$878,300 to realign salary and related costs to meet on-board needs resulted in a transfer from uncontrolled hazardous waste sites($13,700); from solid waste management program implementation($36,700); from toxics management($11,900); from planning, evaluation and analysis($31,200); from manpower planning and training - water quality($80,900); from water quality permit issuance($7,200); from hazardous waste management regulatory strategy implementation($453,600); from solid waste technical assistance delivery - regions($4,200); from hazardous waste enforcement($1,600); from pesticides enforcement($4,400); from public systems supervision program assistance ($102,400); from regional management($67,100); from standards and regulations($3,700); from hazardous permit enforcement($80,000); from ambient air quality monitoring($16,900); from ambient water quality monitoring($1,800); and to NEPA compliance/EIS prep-water quality($1,600); to ambient air quality monitoring ($16,900); and to ambient Water Quality monitoring ($1,800).

- A transfer of $5,300 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- Transfer $27,800 to program management OWWM, to support the needs of the DAA, Office of Water Program Operations.

- Transfer $92,800 from standards and regulations($20,500) and from underground injection control program($72,300), to cover travel costs.

- Transfer $45,400 to uncontrolled hazardous waste sites for an analytical contract to expand the regions capability to analyze high priority quick turn-around samples.

- Transfer $52,800 to ambient water quality monitoring, to realign contract funds.

- A transfer of $76,300 was made to the Office of Inspector General in order to provide additional resources to that Office.

- Transfer $98,300 to financial management (regions) to support construction grants activities.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $152,500.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $34,800, which is to be rescinded.

- OMB Bulletin #81-9, January 24, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $1,200.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $8,000.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $5,000.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $107,200.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $1,285,000.

- Transfer $13,000 to program management to support participation in the University of Southern California/Environmental Management Institute.

NEPA Compliance-Municipal Waste Facility Construction - The net decrease of $437,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $16,300.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $5,600 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $117,600 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $212,300 was applied to this activity.

- An increase of $37,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfers from hazardous waste management regulatory strategy implementation($26,000); to State programs regulations and guidelines(-$2,800); to ambient water quality monitoring(-$89,800); to ocean disposal permits(-$700); dredge and fill(-$15,400); to waste treatment operations and maintenance(-$4,000); and from standards and regulations($6,800).

- Transfer $20,000 from water quality permit issuance, $10,000 from underground injections control program, and $20,000 from uncontrolled hazardous waste sites to support EIS statements.

- Transfer $6,900 to ambient water quality monitoring, and $1,200 to uncontrolled hazardous waste sites to realign contract funds.

- Transfer $15,000 to environmental emergency response and prevention; $13,900 to water quality enforcement, and $13,000 to noise regional program implementation to realign contract funds.

- Transfer $49,700 from underground injection control program to cover required printing of EIS.

- OMB Bulletin #81-7, January 24, 1981, Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $9,600.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $127,400, which is to be rescinded.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $43,700.

Corps of Engineers - The net decrease of $1,111,200 results from several actions:

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $668,600 was applied to this activity.

- Transfer of $30,000 to State program regulations and guidelines, to support an interagency agreement.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one perment transfer authority between appropriations. This one perment authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $412,600.

Waste Treatment Operations and Maintenance - The net decrease of $200,400 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $5,400.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $6,100 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $30,000 was applied to this activity.

- The Congress applied a general reducion of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $14,700 was applied to this activity.

- An increase of $15,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in transfers from uncontrolled hazardous waste sites($25,200); from pesticides enforcement($6,600); from radiation program implementation($500); from noise regional program implementation($6,300); from NEPA compliance-municipal waste facility construction($4,000); from public systems supervision program assistance ($3,000); and from manpower planning and training - water quality($1,800).

- A transfer of $7,400 was made to the Office of Inspector General in order to provide additional resources to that Office.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $2,700.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $2,100.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $55,000.

- Transfer $250,000 to Water Quality manpower planning and training ($100,000) and to Water Quality training grants ($150,000) to develop grants aimed at improving management of municipally owned treatment plants.

1982 Plan

In 1982 the President is proposing reduced appropriations and a more cost-effective targeting of the municipal waste treatment grant program administered by the Environmental Protection Agency. Through major reforms to the program, it will also relieve the burden on the Federal Government for financing projects that improve the environment only marginally or not at all. The change in the program will be achieved by the following three actions: (1) rescission of $1 billion in FY 1981 funds, $586 million in FY 1980 funds and approximately $114 million in Talmadge/Nunn funds; (2) legislative amendments to provide Federal funding for only those projects that are selected and designed to significantly improve the quality of the receiving waters in the near term; and (3) the withdrawal of the request to appropriate 1982 funds until the reforms have been enacted. The legislation will concentrate the program on treatment projects that directly enhance the quality of receiving waters. Projects, or features of projects, that do not result in direct environmental improvement, or which focus on future community growth will have to be built, if at all, without Federal assistance. To the extent that needed reforms are enacted expeditiously, the Administration will be prepared to request $2.4 billion for FY 1982.

With a zero appropriation in FY 1982 EPA will have approximately $1.1 billion in carryover funds to continue awarding grants during the year. At this funding level EPA expects to award approximately 700 grants totalling $1.4 billion. The reason that the total of grants awarded is greater than the carryover is that we expect approximately $300 million in deobligations. Approximately 8,120 projects will be in the preconstruction or construction stage by year end. The following table summarizes the program planned for 1982 at the zero appropriation level:

Item	1981	
	Number	Amount (dollars in millions)
Obligations - Gross a/		$1,400
Total Outlays		$3,840
Awards Processed:		
Step 1 Awards	120	
Step 2 Awards	250	
Step 3 Awards	230	
Step 2+3 Awards	100	
Step 3 Completions (including Step 2 and 3)	1,623	
Active Projects (all steps)	1,623	
New EISs and Related Studies Inititated	8,120	

a/ This represents gross obligations during the year. Net obligations, reflecting recoveries from past awards, are projected to total $1.1 billion.

Additionally, in 1982 EPA will be primarily concerned with many of the day-to-day project management related activities to the States and to the Corps of Engineers and the EPA role away from project management to overall program management. In addition to exercising overall program management responsibilities and training the States, EPA will continue to be responsible for day-to-day project level activities for non-delegated states.

In 1982, EPA will develop a State delegation quality assurance program, emphasizing program oversight rather than project monitoring. EPA specialists in planning, finance, engineering, and environmental protection will do on-site financial and program management evaluations of each delegated program on a routine basis. The objective will be to minimize risk, assure environmental and technical integrity, minimize costs, reduce the impact of political factors, and provide for uniformity and consistency in the national program. Followup reviews will be conducted as needed to assure that problems identified in the financial and program management reviews have been resolved. Additional assistance and training will be provided when necessary. By the end of 1982, 46 States will have signed State delegation agreements.

With significant problems having been identified in the compliance of municipal waste water treatment facilities with permit or design requirements, EPA will significantly enhance operations and management functions in several ways. First, the muncipal management system, which links grant, permit, and enforcement activities will be fully implemented to assure that non-complying facilities are identified and subjected to enforcement action, where appropriate. Non-complying facilities with poor operations and management practices will be encouraged to obtain expert assistance from the private sector to

solve their problems. Second, EPA will place increased emphasis on operations and management throughout the entire grant process, including intensified efforts at the front end facility planning and design stages. Third, States will be encouraged to assure that non-complying facilities in need of grant assistance are placed on the priority list. Finally, no newly constructed treatment facility will be accepted for grant close out unless compliance with operational requirements is achieved.

Change From January Request

This request represents a decrease of $4,898,800 and 124 permanent workyears from the January budget, of which $3,998,000 is for Salaries and Expenses and $900,000 is for Abatement, Control and Compliance. These decreases include:

- Municipal Waste Treatment Facility Construction - Net decrease of $3,911,100 and 124 permanent workyears of which a $4,011,100 decrease in Salaries and Expenses is offset by a $100,000 increase in Abatement, Control and Compliance.

- Waste Treatment Operations and Maintenance - An increase of $12,300 in Salaries and Expenses.

- Corps of Engineers - A decrease of $1,000,000 in Abatement, Control and Compliance.

- NEPA Compliance - There is no change from the January request.

The decreases in Municipal Waste Treatment Facility Construction are made possible by the reduced appropriation resulting in fewer awards to be processed. Additionally, staff decreases will reduce the scope of efforts to implement new program thrusts related to municipal self sufficiency, integrated waste management, Federal oversight of delegated programs and expanded use of innovative/alternative technology. Within the Corps of Engineers activity, there will be a minimal reduction in Step 3 inspection.

WASTE TREATMENT TRAINING & TECHNICAL ASSISTANCE

1980 Accomplishments

In 1980, the manpower and training program expended 34 permanent workyears and $3,823,600 of which $1,411,800 was for Salaries and Expenses and $2,411,800 for extramural purposes under the Abatement, Control and Compliance appropriation. Training activities continued to encourage and support the development of water pollution control manpower planning and training capabilities at the State and local levels. Manpower planning and training activities in 1980 concentrated on:

- Development and delivery of training programs, curricula, and courses to support construction grants and municipal operations program objectives (i.e., Section 205(g) State delegation).

- Grant funding to the National Joint Training Coordinating Committee and State Operator Training Coordination Committees for the development and coordination of operator training at the State and local levels.

- Grant funding to the Association of Boards of Certification.

- Development, demonstration, and distribution of course packages and materials in support of State and local training programs.

- Continued development of the Instructional Resource Center in Cincinnati, Ohio, to provide training course packages, instructional material and information to the private and public sectors.

79-248 O—80——28

- Initiation of a pilot area training center (ATC) at the University of Massachusetts to develop curriculum and determine the feasibility of establishing additional ATCs.

1981 Program

In 1981, the Agency has allocated a total of $3,954,900 and 23 permanent workyears to this program of which $1,300,000 is for Salaries and Expenses and $2,654,900 is for extramural purposes under the Abatement, Control and Compliance appropriation.

With the exception of four permanent workyears in the regional offices to perform liaison and coordination between State and local training programs, the total training program has been consolidated at the National Training and Operational Technology Center (NTOTC) in Cincinnati, Ohio.

With these resources the training center will be engaged in:

- Developing, demonstrating and delivering training courses supporting State agency delegations under Section 205(g).
- Providing POTW operator training program support (courses, materials, and consultation) and developing operational technology for waste water treatment facilities.
- Conducting a new program to provide specialized instructor training through establishment of National Trainers Institutes at selected sites.
- Developing and expanding the operations of the Instructional Resources Center at NTOTC, Cincinnati, Ohio.
- Continuing area training center demonstration project and expanding support to program by placing five additional area training centers.
- Assisting States in initiating State training facilities and programs for Operator training under Section 109(b).
- Providing training assistance to new environmental programs for hazardous waste site control and ground water protection programs.

1981 Explanation of Change from Budget Estimate

The net decrease of $81,900 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $7,800.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $54,800 was applied to this activity.

- An increase of $17,700 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in transfers to municipal waste treatment facility construction (-$80,900); from hazardous waste management regulatory strategy implementation ($4,100); to ambient water quality monitoring (-$42,000); to water quality EIS reviews (-$10,500); to State programs regulations and guidelines (-$2,500); from public systems supervision program assistance ($4,100); from underground injection control program ($13,100); and to waste treatment operations and maintenance (-$1,800).

- Reprogrammings of $3,300 to State program regulations and guidelines, to fund the interagency agreement for a soil conservation expert.

- Reprogrammings of $4,000 to toxic substances enforcement for PCB compliance inspections and PCB and asbestos lab analysis.

- Reprogrammings of $2,900 to energy review and permitting to support an interagency agreement for a NOAA meteorologist.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $10,000.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $33,100 which is to be rescinded.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $1,900.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $38,900.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $73,500.

- Transfer $100,000 from waste treatment operations and maintenance to develop a grant aimed at improving management of municipally owned treatment plants.

1982 Plan

There are no Agency plans to continue this program in 1982. EPA will look to the States to establish their own training programs. Funding support for training will be available particularly from Section 205 (g) funds.

Change From January Request

This request represents a decrease of $4,103,000 and 26 permanent workyears from January budget, of which $1,477,800 is for Salaries and Expenses and $2,625,200 is for Abatement, Control and Compliance. With the elimination of this program, the Federal Government will terminate targeted support for Publicly Owned Treatment Works (POTW) operator training; for specialized training of instructors; for developing, demonstrating, and delivering training courses; and for the Instructional Resources Center in Cincinnati, Ohio.

WATER QUALITY

Permits Issuance

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase+ Decrease- 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Salaries and Expenses.....	$7,089	$7,949	$7,462	$7,972	+$510
Abatement, Control and Compliance.....	2,701	5,927	5,565	6,985	+1,420
Total.....	9,790	13,876	13,027	14,957	+1,930
Permanent Positions.....	229	242	213	204	-9
Full-time Equivalency.....	257	295	264	258	-6

Budget Request

The Agency requests a total of $14,956,200 for National Pollutant Discharge Elimination System (NPDES) permits issuance in 1982, an increase of $1,929,900 from 1981. Included in this is $7,971,700 for Salaries and Expenses and $6,984,500 for Abatement, Control, and Compliance. The 204 permanent workyears requested reflect a decrease of 9 positions from 1981 levels.

Program Description

The NPDES permit program is part of a comprehensive effort provided by the Clean Water Act (CWA), to reduce or eliminate point source pollution from industrial, municipal, commercial, and agricultural discharges. The Act prohibits the discharge of pollutants into all waters of the United States unless a permit is issued by EPA or an EPA approved State program.

The permit is a mechanism for imposing on point source dischargers the uniform national effluent limitations and national performance standards for new source facilities which EPA is required to promulgate. These effluent limitations and standards, set by the Office of Water and Waste Management, establish maximum amounts of various pollutants which can be legally discharged by a facility. Where effluent limitations or standard regulations have not been promulgated for a particular industrial discharger, the effluent limits are set by available and economically feasible abatement technology. Such Best Professional Judgement (BPJ) permits are issued on a case-by-case basis. Additionally, if at a given facility, established national effluent limits will not reduce pollutants enough to meet the ambient water quality standards set by the State or EPA, the permit can impose more stringent limitations as necessary in order to meet the water quality standards. Permits also include time schedules which specify deadlines for pollutant reductions.

Controlling discharges of toxic pollutants is the major emphasis of the NPDES permit program. Direct discharges of toxic pollutants into navigable waters are controlled by the addition of Best Available Technology (BAT) limits into the permits of industries which discharge toxics. The pretreatment program gives municipalities and States the responsibility of enforcing national pretreatment standards against industries discharging toxic pollutants into municipal waste treatment facilities.

As part of its effort to improve the regulatory process, EPA has consolidated procedures for permits issued under five separate programs, including NPDES. The Consolidated Permit Regulations were promulgated May 19, 1980, and the Agency is currently refining its permitting mechanism to complement these regulations. Coordinating and consolidating permit regulations is of benefit, both to the public and the Agency, by reducing delay and simplifying the permit process.

Another important function of the NPDES program is the resolution of evidentiary hearings held on the terms, conditions, and effluent limitations in permits and requests for variances from permit effluent limitations. These activities clear the way for a finally effective and enforceable permit. EPA also conducts non-adversary panel hearings for municipalities which have requested marine discharge modifications under Section 301(h) of the Clean Water Act. Non-adversary panel hearings are used to process any first issuance of an NPDES permit to a discharger that has not previously held an NPDES permit, as well as a first decision on any variance requested by a direct discharger.

A primary function of the permit program is the encouragement of State assumption of responsibility for the NPDES program. At present, 33 States have approved NPDES programs and several other States are in the process of program development.

EPA is committed to involving the public in all of its permit issuance activities by publishing and disseminating informational materials, answering questions, and holding public hearings and meetings.

1980 Accomplishments

In 1980, EPA issued a total of 1,033 major and 2,479 minor permits, 2,380 to industrial dischargers and 1,132 to municipal sources. During the year, $2,701,500 was obligated for contract support of permit issuance activities, including pretreatment program assistance, evidentiary hearing support, and information system development.

EPA also began collecting toxics data from applications and preparing technical documents in order to issue "second round" permits designed to ensure control of toxic pollutants. The Natural Resources Defense Council (NRDC) Consent Decree of June 1976 (modified in March 1979, to resolve litigation against the Agency regarding its control of toxic pollutants under the Clean Water Act) requires that EPA regulate up to 129 priority pollutants for 34 industrial categories. The Decree requires that permits issued to dischargers in these 34 industries incorporate the Best Available Technology (BAT) guidelines when they are promulgated. Because most BAT toxic effluent limitation guidelines in the 34 industrial categories identified by the NRDC Consent Decree were not available in 1980, the issuance of second round permits was difficult.

In June 1979, the Agency proposed consolidated permit regulations and application forms outlining procedures for coordinating five permit programs, including NPDES. Final regulations were promulgated in May 1980. The regulations are increasing the quality of environmental protection while reducing the regulatory burden on industry and the government.

The development of the pretreatment program in 1980 continued to focus attention on the indirect discharge of industrial toxics through Publicly Owned Treatment Works (POTWs). Resources were used to assist municipalities and States in developing pretreatment programs and to implement recently developed construction grants/permit guidance on the pretreatment program.

For a variety of technical, financial and administrative reasons, a large number of POTWs are not in compliance with the Clean Water Act's treatment requirements. The development of the National Municipal Strategy to deal with these cases has paved the way for effective control of noncomplying POTWs by coordinating EPA's construction grants, permit issuance, and water enforcement programs.

The permit program continued to strive for the goal of maximum State participation in the NPDES program by working with States in their development of NPDES programs. In 1980, EPA also reviewed and approved state programs to permit discharges from Federal facilities and to implement the pretreatment program.

1981 Program

In 1981, the Agency has allocated a total of $13,026,300 for the permits issuance program, of which $7,461,700 is for the Salaries and Expenses appropriation and $5,564,600 is for the Abatement, Control and Compliance appropriation. Contracts provide support for pretreatment program assistance, for technical assistance for permit writers, and for general program operations.

In 1980, permit program activities focused on reducing discharges from secondary industries and on preparing for second round toxics permitting for the most significant sources of pollution. In 1981 a detailed strategy for second round permits issuance is being developed which focuses primarily on BAT permits issuance for toxic discharges. This strategy addresses setting priorities for permits issuance, using industry teams, and developing training programs for EPA regions and States. The issuance of permits to major municipal facilities will be emphasized in 1981 while BAT guidelines for industrial discharges are issued by the Office of Water and Waste Management. Permits for major industrial dischargers for which guidelines are available will be written during the final quarter of 1981. It is estimated that EPA will issue approximately seven hundred major municipal and industrial permits in 1981. The permit program will also resolve approximately one hundred and twenty-six evidentiary hearings to clear the way for effective and enforceable permits.

Permit program resources in 1981 are also being devoted to implementing the general pretreatment regulations (40 CFR 403) promulgated in June of 1978. These regulations are designed to control toxic pollutants introduced by sources discharging into municipal systems. The number of industrial facilities affected is comparable to that covered by the NPDES regulations for direct dischargers. Efforts in 1981 are focused on approving State pretreatment programs, establishing compliance schedules for municipal permittees which require them to develop pretreatment programs, and reviewing and approving such programs.

1981 Explanation of Change From Budget Estimate

The net decrease of $849,100 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $49,600.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $6,300 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $91,300 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $164,500 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $2,200 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $4,100 was applied to this activity.

- An increase of $109,700 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a net transfer of -$71,900: to dredge and fill (-$7,800); to State programs regulations and guidelines (-$21,300); to ambient water quality monitoring (-$67,500); to ocean disposal permits (-$7,400); to municipal waste treatment facility construction (-$7,200); to air quality management implementation (-$5,800); from noise regional program implementation ($400); from EIS review-air ($3,200); from NEPA compliance/EIS preparation-new source discharge ($2,500); from regional management ($1,100); from stationary source enforcement ($30,300); from uncontrolled hazardous waste sites ($12,400); to environmental emergency response and prevention (-$11,000); from water quality enforcement ($5,900); and from public systems supervision program assistance ($300).

- Transfer $20,000 to NEPA compliance-municipal waste facility construction to provide for the printing of EIS statements.

- Transfer $26,800 to toxic substances enforcement for PCB compliance inspections and PCB and asbestos lab analysis.

- Transfer $13,200 to uncontrolled hazardous waste sites for an analytical contract to expand regional capability to analyze high priority, quick turnaround samples.

- Transfer $27,600 to ambient water quality monitoring in order to realign contract funds.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $29,000.

- OMB Bulletin #81-8, January 24,1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $1,900 which is being redirected to fund PC&B deficits.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $1,000.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $85,700.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $19,600.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $129,900.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $81,200.

- Reprogramming of $295,400 in order to realign the Office of Enforcement PC&B funds, to Air Mobile Source Enforcement $192,400; to Noise Enforcement $47,600; to Water Quality Enforcement $51,200; and to Toxic Substances Enforcement $4,200.

1982 Plan

The Agency requests a total of $14,956,200 for the NPDES permits issuance program in 1982, of which $7,971,700 is for the Salaries and Expenses appropriation and $6,984,500 in the Abatement, Control, and Compliance appropriation. The two hundred and four workyears requested represents a decrease of 9 positions from 1981.

Virtually all of these resources will be used for the control of direct or indirect toxic discharges. Control of direct toxic discharges will be achieved by imposing new and more stringent controls on industrial dischargers through the issuance of "second round" permits using BAT guidelines or, in the absence of guidelines, using BPJ. The Clean Water Act mandates that industries meet toxic standards by July 1984. Of the one thousand major nonmunicipal permits EPA will issue in 1982, about seven hundred will be to industries covered by the NRDC consent decree. Emphasis will be given to assisting State programs in the issuance of NPDES permits. The pretreatment program will provide control over indirect discharges of toxic pollutants into municipal treatment systems. EPA's pretreatment responsibilities in States without pretreatment program authority include providing technical assistance directly to municipalities, developing pretreatment compliance schedules and including them in permits, and approving local pretreatment programs. Nationally, EPA will be developing legal and technical pretreatment guidance. Additional resources will also be devoted to approving State pretreatment programs.

As part of its efforts to improve the regulatory process during 1982, EPA will continue to implement the consolidated permit regulations that were promulgated during 1980. By coordinating permit issuance procedures for five separate permit programs, EPA expects to reduce delay to permit applicants and simplify permitting procedures.

Using technical and legal resources, the resolution of evidentiary and panel hearings for major industrial discharge permits will continue to be important activities in 1982. Particular attention will focus on resolving evidentiary hearings relating to permits with toxic concerns.

Resources will also be used in 1982 to issue permits with Section 301(h) modifications to municipalities discharging into marine waters. This provision is intended to reduce the economic impact of complying with Clean Water Act standards when municipalities discharge into marine waters.

Change From January Request

This request represents a decrease of $2,141,300 and 56 permanent workyears from the January budget, of which $1,796,200 is for Salaries and Expenses and $345,100 is for Abatement, Control and Compliance. The decrease will result in less overview of approved NPDES state programs and state and local pretreatment programs in non- NPDES states.

WATER QUALITY ENFORCEMENT

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase+ Decrease- 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Salaries and Expenses.....	$15,532	$16,277	$16,198	$17,902	+$1,704
Abatement, Control and Compliance.....	2,467	3,909	3,716	2,514	-1,202
Total.....	17,999	20,186	19,914	20,416	+502
Permanent Positions.....	497	511	477	494	+17
Full-time Equivalency.....	573	575	538	551	+13

Budget Request

The Agency requests a total of $20,416,100 for 1982, a increase of $501,400 from 1981. Included in the total is $17,901,900 for Salaries and Expenses and $2,514,200 for Abatement, Control and Compliance. This represents an increase of $1,703,600 and a decrease of $1,202,200 respectively. The 494 permanent workyears requested for 1982 is a 17 permanent workyear increase from the 1981 level. The increase in Salaries and Expenses will go to implement the continuous compliance and municipal enforcement programs and to regional investigations of suspected criminal activities. The decrease in Abatement, Control and Compliance is primarily due to the completion of the Waukegan Harbor project, as well as the reprogrammings to other high priority Agency activities.

Program Description

The highest priority of the water quality enforcement program is response to emergency situations that threaten public health and safety. The second major goal is the initiation of enforcement actions against municipal violators who have failed to achieve secondary treatment by July 1, 1977, as required by the Clean Water Act (CWA).

The water quality enforcement program also emphasizes compliance monitoring and enforcement of the National Pollutant Discharge Elimination System (NPDES) wastewater discharge permits. Other activities include enforcement actions necessary to achieve compliance with regulations on spills and hazardous substances, ocean dumping, dredge and fill, and other related requirements of the CWA, the Rivers and Harbors Act (Refuse Act), and the Marine Protection, Research, and Sanctuaries Act. Most water quality enforcement activities are conducted cooperatively with the States; maximum State assumption of these activities is a primary goal.

EPA's NPDES compliance monitoring program includes compliance review, compliance inspections, and enforcement actions initiated because of noncompliance. Compliance review is the evaluation of all compliance schedule reports (on construction) and discharge monitoring reports (effluent quality) submitted by permittees to EPA. These reports provide information on facility planning, construction progress, plant operation, and the characteristics of the effluent. Compliance inspections include all field activities conducted to determine the status of compliance with statutory audit (nonsampling) inspections, sampling inspections, and surveillance and analysis in response to emergencies and toxics enforcement.

The CWA provides for various enforcement mechanisms to ensure compliance with the requirements of the Act. Primarily, these are issuance of Section 309(a)(1) Notices of Violations to States with approved NPDES permit programs; issuance of Section 309 (a)(3) Administrative Orders to dischargers with EPA-issued permits and to dischargers with State-issued permits if State responses do not have a positive effect; and referrals to U.S. Attorneys for civil or criminal relief for violations or NPDES permits and Administrative Orders. The law provides for $10,000 civil penalties and $35,000 criminal fines per day of violation.

The non-NPDES enforcement program is responsible for providing legal support to achieve compliance with Section 311 and 404 of the CWA. Section 311 controls oil and hazardous substance spills or releases to surface water and Section 404 controls the disposal of dredged and fill material. The latter is a shared responsibility with the Corps of Engineers. In addition, the non-NPDES enforcement program is responsible for enforcement actions initiated under the ocean dumping provision of the Marine Protection, Research and Sanctuaries Act.

1980 Accomplishments

With expenditures of $17,998,500 during 1980, the Water Quality Enforcement Program continued its efforts against major industrial permittees not in compliance with the July 1, 1977 deadline for meeting specified, technology-based, effluent criteria, and against Publicly Owned Treatment Works (POTWs) for compliance schedule violations. By the end of 1980, 73 percent of cases planned under the Major Source Enforcement Effort (MSEE) have been concluded.

In States without approved NPDES programs, Regional offices reviewed all industrial and municipal self-monitoring reports. In addition, 1,027 compliance evaluation inspections, 560 compliance sampling inspections, 147 performance audit inspections, 227 biomonitoring inspections and 82 toxics inspections were completed during FY 1980.

From these reports and inspections, violations were identified and reviewed for possible enforcement action. Follow-up enforcement activity for 1980 consisted of 569 Administrative Orders, 89 Notices of Violation, 63 civil and criminal cases initiated, and 50 cases concluded.

The Agency continued to monitor and bring enforcement actions in accordance with the oil spill requirements of Section 311 of the Clean Water Act and the Ocean Dumping Provision of the Marine Protection, Research and Sanctuaries Act. Regional offices referred 985 oil spill civil cases to the Coast Guard, and conducted 490 proceedings for violations of oil spill prevention and countermeasure and control plans (SPCC program). During 1980, five Section 404 cases were referred to DOJ.

By the end of 1980, several new programs were well under way. The Municipal Management System was developed and is now being tested in the regions. Contract compliance inspections were completed in Regions IV, VI and VII. These are a major test of the private sector's ability to conduct compliance inspections. Finally, the Discharge Monitoring Report Quality Assurance Program is operational with performance samples sent to permittees. These samples will be used as a means of assessing precision and accuracy of their analytical laboratories.

For 1980, approximately $2,467,000 was obligated for contract support to water enforcement activities and was used to meet ADP information needs, evaluate on-going programs, conduct feasibility studies, provide technical and legal case support, implement pretreatment program enforcement, and conduct monitoring and inspection training.

1981 Program

The Agency has allocated a total of $19,914,700 and 477 permanent workyears to this program for 1981, of which $16,198,300 is for Salaries and Expenses and $3,716,400 is for

extramural purposes under the Abatement, Control and Compliance appropriation. During 1981, the activities supporting enforcement actions in emergency situations involving substantial threats to public health and safety will continue to receive the highest program priority.

Next in priority is enforcement against those municipal facilities which did not meet the requirement for secondary treatment by the statutory deadline of July 1, 1977. Under the guidance of the municipal management system, permit, enforcement and construction grant activities will be coordinated so as to expedite municipal construction and increase municipal compliance.

A third major priority for the year is the conclusion of major source enforcement (MSEE) actions against industrial facilities. Any MSEE case not yet completed will be brought to conclusion.

Enforcement of pretreatment regulations will be continued along with the implementation of a compliance monitoring program, the issuance of Administrative Orders (AOs) and Notices of Violations (NOVs) to major permittees in violation of pretreatment requirements, and the referral of civil actions to the Department of Justice (DOJ).

In states without approved NPDES programs, EPA will review all major industrial and POTW discharger self-monitoring reports for compliance with permit conditions. To support compliance activities, the regional offices will conduct approximately 2,800 compliance inspections to verify permittee selfmonitoring information. Where necessary, appropriate enforcement actions will be initiated, including issuance of NOVs, AOs, and referral of cases to the DOJ.

An automated system to detect discharge monitoring report violations is being implemented in 1981 to provide for automated processing and initial review of all discharge self-monitoring reports.

Non-NPDES enforcement of Section 311 oil spill requirements and the Ocean Dumping Act will be held to 1980 levels.

Enforcement of Section 404 provisions will receive higher priority during 1981 than in previous years. Increased attention will be given to identifying illegal discharging activities, those incidents performed by individuals not possessing a permit, and appropriate legal action will be taken against the violators.

In 1981, contract funds totalling $3,716,400 have been allocated to provide for the following activities: specific case support, litigation training for Regional personnel, performance samples (self-monitoring quality assurance) for major NPDES permittees or labs used by permittees, technical manuals development, biomonitoring activities, and NPDES compliance sampling inspections.

1981 Explanation of Change from Budget Estimate

The net increase of $271,700 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $94,500.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $17,500 was applied to this activity.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $26,300 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $145,400 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $75,200 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $95,600 was applied to this activity.

- An increase of $236,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation .

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in transfers of $506,800; to ocean disposal permits ($117,700); air quality management implementation ($12,300); ambient air quality monitoring ($71,100); stationary source enforcement ($271,800); uncontrolled hazardous waste sites ($18,300); state programs regulations and guidelines ($17,500); NEPA compliance/EIS preparation-water quality ($3,200); ocean disposal permits ($1,800); ambient water quality monitoring ($91,100); and from solid waste enforcement ($3,800); from water quality permits issuance ($45,300); and from environmental emergency response and prevention ($48,900).

- Transfer of $13,900 from NEPA compliance-municipal waste facility construction to realign contract funds and support interagency agreements.

- Transfer of $335,300 to hazardous waste enforcement ($165,800) and hazardous waste permit enforcement ($169,500) to provide additional support for hazardous waste funding and, a level of funding consistent with prior year's experience.

- Transfer of $35,900 from underground injection control program to cover fixed operating costs of regional lab support.

- Transfer of $23,200 to hazardous waste enforcement to cover costs of providing expert witnesses and case support for hearing and/or trials.

- Transfer of $7,800 to toxic substances enforcement for PCB compliance inspections and PCB and asbestos lab analysis.

- Transfer of $12,100 to ambient water quality monitoring ($1,800); state programs regulations and guidelines ($6,000) and toxic substances enforcement ($4,300) to realign contract funds in needed areas.

- A transfer of $23,500 was made to the Office of Inspector General in order to provide additional resources to that Office.

- A transfer of $500 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal year 1981 Travel Reduction," required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $100,300.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Service," required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $1,300, which is being redirected to fund PC&B deficits.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $92,400.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $9,100.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981 permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $88,500.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $1,097,300.

1982 Plan

The Agency requests a total of $20,416,100 for this program of which $17,901,900 is for the Salaries and Expenses appropriation and $2,514,200 for the Abatement, Control and Compliance appropriation.

Enforcement action in emergency situations that threaten public health and safety will continue to have the highest program priority in 1982. Enforcement will continue to provide any legal and technical assistance needed in preparation for emergency actions taken under the authority of the Clean Water Act (CWA) and any assistance in preparation and expeditious conclusion of major enforcement referrals.

The enforcement program's second major priority will be the initiation of enforcement actions against those POTWs that have failed to achieve secondary treatment as required by the CWA. These POTWs now represent the largest categorical source of surface water pollution. The scope of this effort will be similar to the successful enforcement effort against industrial violators of the July 1, 1977 CWA deadline and it will include compliance inspection activity and appropriate enforcement actions.

The enforcement program will emphasize toxic pollutant control using toxics compliance/monitoring and enforcement programs. These programs will use bioassay screening techniques and compliance sampling inspections to determine compliance by the permittee with existing effluent limitations. This will identify those permittees who have potential toxicants in their effluent which were not identified in the permit. In addition, it will provide toxicity data for permit issuance.

In those States without approved permit programs, EPA will review all major industrial and POTW self-monitoring reports for compliance with permit conditions. An automated system to detect discharge monitoring report violations will provide automated processing and initial review of all discharge monitoring reports for major permittees. Regional offices will conduct approximately 2,417 compliance inspections to verify permitee self-monitoring information. Where necessary, appropriate enforcement action will be initiated, including issuance of NOVs, AOs, and referral of cases to the DOJ.

In 1982, the Regions will implement a continuous compliance program. This program will be directed at municipal permittees that have constructed facilities to meet Best Practicable Treatement or secondary treatments as required by the CWA. The continuous compliance program will emphasize permittees meeting their effluent limitations as specified in their permit. Where the permittee fails to meet those limitations, appropriate enforcement actions will be initiated.

Permit program legal assistance will be provided in 1982 in support of adjudicatory hearing requests.

Assessment of administrative civil penalties for violations of Spill Prevention Control and Countermeasure plans and referral of oil spills to the Coast Guard will remain at 1981 levels. In addition, approximately twenty enforcement actions will be initiated for unauthorized operations in violation of Section 404 provisions of the CWA. Emphasis will be given to identifying illegal dumping activities, i.e., those incidents performed by individuals not possessing a Section 404 permit.

In 1982, contract funds totalling $2,514,200 will be used to support responses to emergencies, litigation development, compliance monitoring, state and local pretreatement enforcement activities, quality assurance, and data processing activities.

Change from January Request

The request represents a decrease of $839,200 and 20 permanent workyears from the January budget, all of which is for salaries and Expenses. This reduction will result in a decrease in pretreatment enforcement activities.

WATER QUALITY

Water Quality-Non-Energy

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Scientific Assessment:					
Salaries and Expenses.....	$1,074	$1,011	$1127	$815	-$312
Research and Development...	766	1,147	941	671	-270
Technical Information:					
Salaries and Expenses.....	242	243	221	215	-6
Research and Development...	2	14	14	14	...
Monitoring Systems and Quality Assurance:					
Salaries and Expenses.....	2,568	2,779	2,633	2,791	+158
Research and Development...	1,311	1,198	1,297	925	-372
Health Effects:					
Salaries and Expenses.....	543	892	909	1,069	+160
Research and Development...	2,847	2,664	2,012	2,096	+84
Environmental Processes and Effects:					
Salaries and Expenses.....	8,155	7,820	7,677	7,284	-393
Research and Development...	5,753	3,764	4,161	2,174	-1,987
Chesapeake Bay:					
Salaries and Expenses.....	798	410	420	...	-420
Research and Development...	2,547	2,503	2,503	...	-2,503
Great Lakes:					
Salaries and Expenses.....	936	945	844	...	-844
Research and Development...	2,596	654	2,655	...	-2,655
Total:					
Salaries and Expenses.....	14,316	14,100	13,815	12,174	-1,641
Research and Development...	15,822	11,944	13,583	5,880	-7,703
Grand Total.....	30,138	26,044	27,398	18,054	-9,344

	Actual 1980	Estimate 1981*	Estimate 1981	Estimate 1982	Decrease - 1982 vs 1981
Permanent Positions					
Scientific Assessment	15	19	17	9	-8
Technical Information and Liaison	4	4	4	3	-1
Monitoring Systems and Quality Assurance	60	56	56	49	-7
Health Effects	11	14	14	14	...
Environmental Processes and Effects	182	163	158	137	-21
Chesapeake Bay	8	6	3	...	-3
Great Lakes	7	7	4	...	-4
Total	287	269	256	212	-44
Full-Time Equivalency					
Scientific Assessment	25	33	30	17	-13
Technical Information and Liaison	5	6	6	5	-1
Monitoring Systems and Quality Assurance	77	73	72	65	-7
Health Effects	15	22	23	23	...
Environmental Processes and Effects	265	269	247	225	-22
Chesapeake Bay	10	11	3	...	-3
Great Lakes	14	13	4	...	-4
Total	411	427	385	335	-50

*January 1980 President's Budget as adjusted by the Office of Research and Development restructing.

Budget Request

The Agency requests a total of $18,055,900 and 214 permanent workyears for 1982, and 214 a decrease of $9,344,000 from 1981. Included in this total is $12,173,000 for Salaries and Expenses and $5,882,900 for Research and Development, with an decrease of $1,642,500 and $7,701,500, respectively.

Program Description

This program has been developed under the auspices of the Water Quality Research Committee. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency needs in this subject area.

The overall program provides the necessary scientific information, techniques and technical assistance to select the most appropriate water quality goals; assess current and future water quality problems; and identify cost-effective water quality management strategies. Specifically, the program:

- Provides reports and information used to establish the relationship between assumed exposure to pollutants and potential adverse toxicity to human health and aquatic life;

- Develops monitoring technology capable of quantifying those environmental measurements of importance to the Agency;

- Provides health effects data for use in developing water quality criteria and in defining sound watershed management approaches;

- Develops: 1) water quality criteria for the protection of aquatic life; 2) exposure analysis predictive techniques for conducting toxic materials balances necessary to identify major sources, pathways and fates of toxic pollutants and to devise cost-effective nationwide, regional, or local control strategies; 3) watershed analysis techniques for identifying water quality problems and selecting cost-effective point and nonpoint source control strategies; 4) techniques for assessing water quality problems in lakes and selecting cost-effective restoration measures; 5) techniques for assessing the impacts of dredge and fill operations on wetlands and other aquatic environments; and 6) techniques for assessing the impacts of ocean discharge and dumping activities on the marine environment.

- Provides, through a field assessment program, the scientific information needed to effectively manage water quality in the Great Lakes and Chesapeake Bay.

SCIENTIFIC ASSESSMENT

1980 Accomplishments

In 1980, the Agency used a total of $1,839,500 for this sub-program, of which $1,073,900 was for Salaries and Expenses and $765,600 was for extramural research activities.

- A preliminary mutagenicity test battery for non-conventional pollutants was developed for possible use under Section 301(g) of the Clean Water Act.

- Carcinogenicity summaries and final calculations of water quality criteria for thirty-three carcinogenic chemicals of the sixty-five chemicals on the water quality criteria list were completed. Responses were also made to rebuttal comments on each chemical and on the methodology for calculating the criterion calculation for carcinogenicity.

- Final criteria documents were completed for the 65 water pollutants which were in the public comment phase in 1979.

79-248 O—80——29

- Health summaries were completed for eleven 301(g) water pollutants to address the Agency's enforcement needs in developing scientific criteria for waste water permit waivers.

- Water quality criteria documents with a total exposure analysis component, were initiated for 12 new pollutants (Mirex/Kepone, Malathion, Parathion, Acetone, chlorophenoxy herbicides, methoxyclor, dibenzofuran, iron, manganese, ammonia, barium, and chlorine).

1981 Program

In 1981, the Agency has allocated a total of $2,068,900 and 17 permanent work-years to this sub-program, of which $1,126,600 is for the Salaries and Expenses appropriation and $942,300 is for extramural purposes under the Research and Development appropriation.

- Criteria documents for twelve new water pollutants which were begun in 1980 are being completed and work on two others have been initiated. These documents will be used by the Office of Water Regulations and Standards as a scientific basis for proposing water quality criteria under Section 304 of the Clean Water Act.

- Work has been started on up to ten new criteria documents which are being selected by the Office of Water Regulations and Standards based on their current prioritiies which will include a section on carcinogenicity, mutagenicity, and reproductive risk assessment. If needed, because of new data, revisions will be made to the criteria documents for the 65 water pollutants which were completed in 1980 to satisfy the mandates of the Consent Decree.

- Work will be accomplished on four to eight 301(g) waiver documents for the Office of Enforcement. These documents will provide a scientific basis for evaluating the merit of granting a waiver for waste-water discharge permits under Section 301(g) provisions.

- Consultation, on an as-needed basis, is being provided to the Regional Offices and Program Offices on the use and adjustment of water criteria to local conditions for the revision or establishment of local water quality standards.

1981 Explanation of Change from Budget Estimate

The net decrease of $89,100 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter submitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $5,300.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $3,200 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $8,400 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $45,000 was applied to this activity.

- An increase of $12,400 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign contract funds resulted in a transfer of $52,800 to scientific assessment-air ($17,900); scientific assessment-air ($21,900) and scientific assessment - pesticides ($13,000).

- A transfer of $105,000 to monitoring and quality assurance-uncontrolled sites to support efforts on Love Canal and Three Miles Island activities.

- A transfer of $5,000 was made to the radiation media in order to support the Radiation Policy Council.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $1,900.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $2,000 of which $1,500 is to be rescinded and $500 is being redirected to fund PC&B deficits.

- OMB Bulentin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $1,800.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $85,500.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $21,600.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $236,000.

1982 Plan

The Agency requests a total of $1,489,300 and 9 permanent workyears for this sub-program, of which $814,600 is for the Salaries and Expenses appropriation and $674,700 is for extramural purposes under the Research and Development appropriation.

This reflects a decrease of $579,600 which will provide a decreased level of effort for preparation of water quality criteria documents.

- Drafts and/or final documents for up to 8 water quality criteria document begun in 1981 will be completed. These will include a section on carcingenicity, mutagenicity, and reproductive risk assessment.

- Four new criteria documents will be started using pollutant priorities established by the Office of Water Regulations and Standards.

- Four 301(g) waiver documents will be produced for the Office of Enforcement. These will provide the scientific basis for granting a waiver for wastewater discharge permits under Section 301(g) provisions.

- Continuing technical assistance will be given to the regional offices and program offices on the interpretation and use of the 65 Water Quality Criteria released by November 1980.

Change From January Request

This request represents a decrease of $28,800 from the January budget, of which $14,300 is for Salaries and Expenses and $14,500 is for Research and Development. This decrease will have no significant effect on this program.

TECHNICAL INFORMATION AND LIAISON

1980 Accomplishments

In 1980, the Agency used a total of $244,800 for this sub-program, of which $242,500 was for Salaries and Expenses and $2,300 was for extramural research activities.

In 1980, the Technical Information Program supported the preparation and publication of the Research Outlook, the Research Highlights, technical information plans and guidance, and other general documents of interest to the environmental decison making community. It also provided ORD with information systems necessary to effectively plan and manage its research projects and resources. Specific accomplishments in the area of Water Quality included:

- The preparation, publication and dissemination of a manual on the Clean Lakes Program. The Manual was prepared to guide the States in developing their own lake restoration and protection programs, in obtaining Federal Clean Lakes Program Assistance, and in methods for the assessment and clean-up of polluted lakes.

- The conduct of seminars on inland waters and lake restoration and on biological monitoring and its use in the NPDES Permit Program.

The Regional Services Staff provided effective communications between ORD and the regions. Specifically, they:

- developed and implemented the Regional Support Management Information System;

- carried out regional liaison activities to provide technical assistance;

- conducted ORD/Regional Senior Staff Meetings;

- advised ORD on all aspects of regional operations;

The Technical Information and Liaison activities helped enable ORD to communicate its research information to EPA's regional offices and to the environmental decision making community. Further, they assisted in enhancing coordination between ORD and the regions allowing each to better fulfill its role and meet the needs of the Agency and the public more efficiently.

1981 Program

In 1981, the Agency has allocated a total of $235,800 and 4 permanent workyears to this sub-program, of which $221,400 is for the Salaries and Expenses Appropriation and $14,400 is for extramural purposes under the Research and Development Appropriation.

This part of the program is providing various research program and project summaries, decision series documents, and technology transfer publications to meet Research Committee requirements. Technical Information Plans, listing the explicit information products for this research effort have been prepared. Throughout the year, support will be provided to develop these information products and to distribute them to the appropriate users. Support is also being provided to manage information systems which track ORD's research project and resources.

Regional liaison activities are continuing as in 1980. To this end, such activities will:

- Continue the Regional Support Management Information System.

- Conduct ORD/Regional Staff Meetings and other liaison activities to provide technical assistance. These will include preparing reports, conducting special staff and policy studies, developing regional problem statements, and identifying research and technical assistance requirements.

- Develop and implement a process to address the research needs of state and local government in the ORD planning process.

1981 Explanation of Change from Budget Estimate

The net decrease of $22,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submittted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,500.

- An increase of $2,600 results from the cost of the October 1980 pay raise is included in a proposed supplemental appropriation.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $33,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $9,900.

1982 Plan

The Agency requests a total of $228,800 and 3 permanent workyears for this sub-program, of which $214,800 is for the Salaries and Expenses appropriation and $14,000 is for extramural purposes under the Research and Development appropriation.

This reflects a decrease of $7,000 which will slightly affect the development and dissemination of technical information products and will eliminate regional liaison activities in this sub-program.

In 1982, this sub-program will continue to provide the same types of services as in 1981. This includes the development and production of technical information products to ensure that research information is properly and adequately communicated to the environmental decision making community. Specific products planned by the appropriate Research Committee will be developed. Support to managing systems which track ORD's research projects and resources will be provided.

Change From January Request

This request represents a decrease of $32,400 and 1 permanent workyear from the January budget, of which $32,000 is for Salaries and Expenses and $400 is for Research and Development. This decrease will have no significant effect on this program.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1980 Accomplishments

In 1980, the Agency used a total of $389,600 for this sub-program, of which $2,568,500 was for Salaries and Expenses and $1,311,100 was for extramural research activities.

- A master analytical scheme was developed for the systematic identification and quantification of volatile organic pollutants. This scheme significantly improves analytical productivity by reducing the costly pre-analysis trial-and-error approach to evaluation.

- Quality control calibration standards were distributed to laboratories measuring pollutants regulated under Section 104,106,208,304(h) and 307(a) of PL 95-217. Standards were also supplied to the Chesapeake Bay Program and other marine monitoring projects.

- A project was initiated to design a national water quality monitoring program. The project consists of several components: (1) providing consultation services to the Office of Water Regulations and Standards in the development of a national water quality strategy; (2) characterization of present water quality monitoring networks (NASQAN and AWQSS) in terms of the statistical validity of their data, and the adequacy of this data to support EPA control policy decisions; (3) design of water quality networks to monitor priority toxic pollutants; and (4) the development of new statistical techniques specifically for the analysis of water quality monitoring data.

- A field survey of 25 toxic hot spots was completed. The apparently paradoxical finding in the Agency's water quality data base, STORET, that areas with highly toxic heavy metal pollution concentrations did not show corresponding loss in biological activity in the water body was confirmed.

- A guidance document was developed for use in determining the feasibility of implementing advanced waste treatment based on the biological effects of the waste on receiving waters. This document should prove very useful in the Advanced Waste Treatment decision-making process.

1981 Program

In 1981, the Agency has allocated a total of $3,930,400 and 56 permanent work-years to this sub-program, of which $2,633,100 is for the Salaries and Expenses appropriation and $1,297,300 is for extramural purposes under the Research and Development appropriation.

- Reference methods for priority pollutants toxic and hazardous substances and chlorinated organics are being developed which are applicable to the ambient water matrix.

- Development of bioassay techniques applicable to monitoring industrial effluent plumes and marine discharges has been initiated. Deficiencies in currently existing reference methods are being corrected. A surrogate biological screening method is to be standardized as a toxic monitoring alternative to chemical testing.

- Work on the development and refinement of sampling, preservation and transport regimes which assure the validity of the environmental water quality sample prior to analysis is being conducted.

- Distribution of 6-10 thousand quality control samples to assure the accuracy of water quality measurements is continuing.

- Current water quality monitoring networks are being studied statistically to ascertain their adequacy in trend monitoring as well as their ability to detect episodic events.

- Specialized support is being provided to regional and program offices as well as to enforcement projects. For example, the adequacy of EPA Regional Biological Quality Assurance Programs is being evaluated and overhead photography using the Enviro-pod and photo interpretation is continuing to be made available to support specialized monitoring projects.

1981 Explanation of Change from Budget Estimate

The net decrease of $46,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $15,800.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $5,900 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease

of $16,600 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $6,800 was applied to this activity.

- An increase of $35,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Transfer of $200 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- A transfer of $8,800 was made to the radiation media in order to support the Radiation Policy Council.

- A transfer of $400 from Water Quality-monitoring systems and quality assurance to realign contract funds.

- A transfer of $100,000 from Water Quality-monitoring systems and quality assurance to support efforts on Love Canal and Three Mile Island Activities.

- A transfer of $160,000 from Water Quality-monitoring systems and quality assurance to provide support for the development of monitoring of ambient water quality.

- A transfer of $196,200 to Water Quality-monitoring systems and quality assurance to maintain and prepare one standardized quality control sample for distribution to analytical labs to check the ability of analysts to perform analytical measurements.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied
to this activity is $3,600.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $2,400.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $70,000.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $20,000.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $131,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $135,700.

1982 Plan

The Agency requests a toal of $3,715,800 and 49 permanent workyears for this sub-program, of which $2,791,000 is for the Salaries and Expenses appropriation and $924,800 is for extramural purposes under the Research and Development appropriation.

The reflects a decrease of $214,600. A reduced level of effort in the development, standardization and validation of measurement methods for priority pollutants and overhead imagery for special studies will be provided, and the number of sampling sites will be reduced for the toxics hot spot field studies.

- Methodologies will be developed to monitor the quality of ambient fresh and marine waters. The methodologies will include:

  o Standardized biological screening tests that will promote rapid, inexpensive demonstration of toxicity to aquatic lifeforms.

  o Chemical methods for newly identified toxic pollutants.

  o Improved measurement techniques for monitoring levels of trace organic chemicals which cannot be positively identified by conventional Gas Chromatographic/Mass Spectrometric techniques but which are known to exhibit toxic properties.

  o Expansion of the Master Analytical Scheme to inorganic chemicals.

  o Techniques for extraction, concentration, separation, identification and measurement of organic and inorganic materials bound to sediment or particulates.

- Water quality network design studies will continue to evaluate monitoring networks and develop statistical data reduction and analysis techniques.

- Quality Assurance support will continue to assure the development of a sound data base through interlaboratory validation testing of proposed priority pollutant methods, protocol development to assure the validity of virus enumeration, and provision of calibration samples for toxic substances monitoring in drilling fluids.

- Analytical studies will be performed to supply needed data to evaluate instrument systems, to test analytical techniques for toxic hot spot analysis studies which will ascertain the recovery zone definition, to evaluate biomonitoring techniques, and to process overhead imagery.

Change From January Request

This request represents a decrease of $45,200 from the January budget, of which $26,500 is for Salaries and Expenses and $18,700 is for Research and Development. This decrease will have no significant effect on this program.

HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $3,389,800 for this sub-program, of which $543,000 was for Salaries and Expenses and $2,846,800 was for extramural research activities.

- Marine recreational water quality criteria were completed and published. They were reviewed by peers and have been well received by experts in the field.

- Toxicological studies were begun on ten of the sixty-five priority pollutants in order to resolve deficiencies in the health data bases which were identified

when the water quality criteria for these pollutants were initially produced. The results will be available late 1981.

1981 Program

In 1981, the Agency has allocated a total of $2,921,400 and 13 permanent work-years to this sub-program, of which $909,400 is for the Salaries and Expenses appropriation and $2,012,000 is for extramural purposes under the Research and Development appropriation.

- Freshwater recreational water quality criteria are being completed. The data base for these criteria include data from epidemiological studies which link infectious disease in swimmers to water quality characteristics.

- Efforts to fill deficiencies in the health data base for the consent decree pollutants are continuing. Research on the first set of pollutants which began in 1980 is being completed. Several more will be selected and studied each year until the total number of 65 is complete.

1981 Explanation of Change from Budget Estimate

The net decrease of $634,300 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document (96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,700.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,300 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $14,100 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $23,900 was applied to this activity.

- An increase of $7,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- A transfer of $300 from radiation-health effects to realign contract funds.

- A transfer of $203,200 to water quality-health effects ($306,400); and from health effects ($103,200) to realign funds between the Water Quality Research Committee; the Municipal Wastewater Research Committee, and the Industrial Research Committee.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $2,200.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $25,700, which is to be rescinded.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $50,000.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $320,000.

1982 Plan

The Agency request a total $3,164,600 and 13 permanent workyears for this sub-program, of which $1,068,700 is for the Salaries and Expenses Appropriation and $2,095,900 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $243,200. This will affect the development of short-term test for identifying health-effects other than cancer.

- Toxicological studies for the consent decree pollutants started in 1981 will be completed and the next phase of studies begun. Much of this research emphasizes fetotoxic effects, although some address carcinogenicity.

- A technology transfer publication will be prepared to assist local officials in applying the dose response curves generated in 1980 and 1981 during the development of marine and freshwater recreational water quality criteria. The publication will make it possible for local officials to determine the most reasonable action necessary to protect the public health.

- Research will be initiated to develop curves which relate water quality to illness in swimmers for swimming areas receiving almost solely AST/AWT effluent and for those impacted primarily by pollutants from non-point sources.

- Research will continue to seek improved toxicological methods for predicting the impact of water contaminants on human health.

Change From January Request

This request represents a decrease of $75,800 permanent workyears from the January budget, of which $15,800 is for Salaries and Expenses and $60,000 is for Research and Development. This decrease will have no significant effect on this program.

ENVIRONMENTAL PROCESSES AND EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $13,907,700 for this sub-program, of which $8,154,600 was for Salaries and Expenses and $5,753,100 was for extramural research activities.

- Procedures for generation and interpretation of aquatic life effects data were completed for use in preparation of water quality criteria for the sixty-five Consent Decree pollutants. The procedures were applied in the preparation of proposed freshwater criteria for twenty-two and marine criteria for thirty-one of the sixty-five pollutants. Results will be used by the Office of Water

Regulations and Standards in the publication of water quality criteria for these pollutants, consistent with the Consent Decree requirements.

- A first-generation multi-species test for determining ecological impacts of contaminated sediment was developed. This improved solid phase testing methodology will be used by the Agency to regulate disposal of dredged material under the Federal Water Pollution Control Act of 1972 (P.L. 92-500) and the Marine Protection, Research and Sanctuaries Act of 1972 (P.L. 92-532).

- Methods for predicting impacts of reduced nutrient loadings into lakes were completed for use in screening the effectiveness of proposed lake restoration measures. The Clean Lakes Program of the Office of Water Regulations and Standards will incorporate these methods into guidelines for use by local and state agencies in deciding which restoration technique to use when they apply for clean lakes grants, and to determine which restoration techniques are most cost effective in achieving in-lake nutrient control over extended periods of time.

- Guidelines for defining wetland boundaries and characterizing their structure and function were completed. This information will be used by the Office of Environmental Review to assist state agencies in reviewing and processing wetland dredge and fill permit applications.

- The first generation EXposure Analysis Modeling System (EXAMS), designated for use Agency-wide in calculating expected environmental concentrations of toxic organic chemicals, was completed. It will be used in assessing environmental risks associated with alternative pollution control strategies. (This work was funded jointly with the Toxic Substances and Energy Research activities.)

- The Center for Water Quality Modeling was established, providing a central file and distribution point for four carefully selected water quality models, and offering workshops and seminars on their use and specific instruction in the application of individual simulation techniques. The primary use of the models is to translate water quality goals into point and nonpoint source control requirements.

- Two mathematical models, describing loading and transport and transformation processes to toxic organic chemicals were completed. They are designed for developing site-specific estimates of contaminant concentrations in runoff and stream channels in both coastal rivers and estuaries and in upland watersheds and river systems.

- National estimates of pollutants discharges from agricultural nonpoint sources were revised. They permit comparisons to be made of water quality impacts from point versus rural nonpoint sources and identification of those areas where implementation of rural nonpoint source controls will and will not produce significant water quality benefits.

1981 Program

In 1981, the Agency has allocated a total of $11,837,800 and 158 permanent work-years to this sub-program, of which $7,677,200 is for the Salaries and Expenses appropriation and $4,160,600 is for extramural purposes under the Research and Development appropriation.

- The preparation of proposed water quality effects criteria for the Consent Decree and other priority toxic pollutants is continuing at the rate of approximately of five pollutants per year.

- Improved ecological effects assay procedures are being developed for use in

generating more reliable chronic and acute toxicity data sets used in developing water quality criteria for priority pollutants.

- Interim procedures are being developed and tested for adapting current water quality criteria to site specific field situations.

- Work has been undertaken on the development of field techniques for documenting source (NPS) pollution ecological effects in surface waters.

- Work is continuing on procedures for defining wetland boundaries.

- Work is continuing on the development and testing of watershed management models for assessing impacts and benefits of alternative NPS and point sources control of conventional and selected toxic pollutants.

- Operation of the Water Quality Modeling Center is continuing at a minimal level.

- Characterization of the effectiveness of selection/evaluation of proposed/completed clean lakes projects is being undertaken.

- Improvement of a marine benthic bioassay method to assess acute and chronic effects and bioaccumulation potential of contaminants in settleable components of dredged material is continuing.

- Development and validation of bioassay procedures (acute, chronic, bioaccumulation) for assessing the impacts of waste discharge to marine waters is continuing.

- Work is continuing on a methods manual for evaluating sediment toxicity in marine waters.

- Technical assistance is being provided in the preparation and revision of regulations and associated guidance materials concerning the discharge and dumping of wastes in marine waters.

- A research program is being planned and will be implemented in early 1981 to fulfill the highest priority needs associated with cold climate-related environmental problems.

1981 Explanation of Change from Budget Estimate

The net increase of $254,200 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $47,700.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $14,200 was applied to this activity.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $26,100 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $43,800 was applied to this activity.

- The Congress directed that a reduction of $545,000 be transferred to Pesticides-

environmental processes and effects for aquatic weeds.

- The Congress applied an increase of $950,000 for Cold Climate research.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $13,100 was applied to this activity.

- An increase of $111,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $47,600 from within Office of Research and Development.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $23,200.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $5,300.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $135,000.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Abatement, Control and funds from the Research and Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $8,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $6,700.

1982 Plan

The Agency requests a total of $9,457,400 and 137 permanent workyears for this subprogram, of which $7,283,900 is for the Salaries and Expenses Appropriation and $2,173,500 is for extramural purposes under the Research and Development Appropriation.

This decrease of $2,380,400 reflects a transfer of resources to the higher priority area of hazardous waste. This reduction will affect the development of water quality criteria for priority pollutants, watershed analysis techniques (modeling), and wetlands impact and value assessments. This decrease also reflects the termination of the Clean Lakes program.

In 1982, the environmental processes and effects program will pursue the following activities.

- Work will continue on the generation of minimum data sets needed for preparation of water quality (ecological) criteria for the priority toxic pollutants.

- Guidelines will be developed for translating laboratory-derived water quality criteria (derived under one set of conditions) to the range of conditions

encountered in the field, as necessary to ensure the promulgation of reasonable and valid State Federal water quality standards.

- Operation of the Center for Water Quality Modeling will be continued at a minimal level, providing technical assistance to EPA operating programs in the conduct of wasteload allocations and assessment of nonpoint source problems and alternative solutions.

- Test methods will be developed for determining the overall "state of health" of biointegrity of rivers and streams that will allow an assessment of how effective existing controls are and which new controls, if any, are needed.

- Work will be undertaken to characterize the extent and seriousness of the problem of toxicants in lake sediments deposits and potential adverse environmental impacts of their attempted removal.

- Work will be continued on the development and validation of testing methods for estimating the ecological impacts of dredged material disposal in marine waters.

- Work will be continued on the development of techniques for use in assessing the impacts of reduced treatment levels (as permitted under Sec. 301(h) of the Clean Water Act) and of other discharge and dumping activities on the marine environment.

- Technical assistance will be provided in the preparation and revision of marine discharge and dumping related regulations and associated guidance materials.

Change From January Request

This request represents a decrease of $1,387,600 and 5 permanent workyears from the January budget, of which $222,000 is for Salaries and Expenses and $1,165,600 is for Research and Development. This decrease will result in the termination of the Clean Lakes research efforts and the renewable resources program.

CHESAPEAKE BAY

1980 Accomplishments

In 1980, the Agency used a total of $3,345,000 for this sub-program, of which $797,700 was for Salaries and Expenses and $2,547,300 was for extramural research activities.

- The toxics program developed Chesapeake Bay sediment characterization (physical and chemical parameters) maps. These were of value in assessing dredging projects, and critical in defining the state of the Bay.

- The eutrophication program conducted a Bay wide survey providing a synoptic set of data for chemical and physical parameters essential to water quality model verification and establishing a baseline against which future water quality can be measured.

- The Submerged Aquatic Vegetation (SAV) program assessed ambient herbicide concentrations in the shallow water portions of the Bay to aid in determining the role of herbicides in the decline of bay grasses.

- A data management system composed of both hardware and software was established and is storing, analyzing and displaying Chesapeake Bay research data.

- Coordination continued with state agencies in Maryland, Virginia and Pennsylvania responsible for water quality, development of Chesapeake Bay Program plans and management.

1981 Program

In 1981, the Agency has allocated a total of $2,907,000 and 3 permanent workyears to this sub-program, of which $403,700 is for the Salaries and Expenses Appropriation and $2,503,300 is for extramural purposes under the Research and Development Appropriation.

- Intergrated studies, initiated in 1978, are continuing so that management decisions at all the government levels can be based on a predictive capability to assess the consequencies of pollutant loadings on the Chesapeake Bay. This will be done in terms of effects on the ecosystem, on organisms, and on the economic impact of the uses made of the systems. The three highest priority problem area studies are being continued through ecosystem simulation, data acquisition and synthesis, and through identification and evaluation of control alternatives in conjunction with the abatement and control decision units of this program.

- The toxics substance study effort is developing a baseline inventory of the abundance and distribution of toxics in the Chesapeake Bay sediments, pore water, water column, and biota. Comprehensive research tasks are assessing both natural and anthropogenic sources of toxic chemicals in sediments, water, and biota and determining their rates of transport and transformation within the Chesapeake Bay system. Study results will serve to delineate options to reduce environmental hazard.

- The Bay grasses study effort is addressing the impact of water quality factors upon SAV and living resources known or suspected to be dependent upon SAV. Results will provide a knowledge base from which water quality control alternatives can be developed for the enhancement of SAV and associated living resources.

- Eutrophication (nutrient enrichment) studies are assessing the nutrient loadings to the Bay system and the impact of these loadings on the ecosystem. Current research is directed towards:

  o assessing point source information on municipal and industrial sources;

  o compiling statistics on land use and population trends in the Bay basin;

  o measuring nutrient loadings from the major tributaries to the Bay;

  o estimating nutrient fallout from the atmosphere;

  o calculating nutrient fluxes from the sediments;

  o verifying nonpoint source runoff from data collected on five test drainage basins;

  o calibrating and verifying mathematical models, including nonpoint source loading models and stream transport models.

- Development of a data management system is continuing. This system will handle the data produced by the Chesapeake Bay program and provide the basis for a

centralized data bank for use by all local, state and Federal groups on the Bay. State participation programs, with the states of Maryland and Virginia, and citizen participation programs are also continuing to provide key coordination links between the states, the public and the Chesapeake Bay Program.

- This program will terminate at the end of fiscal year 1981.

1981 Explanation of Change from Budget Estimate

The net decrease of $6,000 results from several actions, as follows:

- Shortly after the 1981 budget estimated was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revision resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,400.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,500 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $7,400 was applied to this activity.

- An increase of $4,900 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer $1,400 from within the Office of Research and Development.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,000 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $2,000.

1982 Plan

Since all fundamental research has been completed for the Cheaspeake Bay, the Agency is requesting no resources for this program in 1982. However, five permanent workyears and $1,005,600 of Abatement and Control resources will be necessary to dissiminate the research results of this program. Additionally this program is geographically specific and does not have nationwide applicability.

Change From January Request

This request represents a decrease of $1,983,100 and 6 permanent workyears from the January budget, of which $1,114,700 is for Salaries and Expenses and $868,400 is for Research and Development. This decrease will result in the termination of the Chesapeake Bay research program.

GREAT LAKES

1980 Accomplishments

In 1980, the Agency used a total of $3,532,000 for this sub-program, of which $936,300 was for Salaries and Expenses and $2,595,700 was for extramural research activities.

- A study was completed of the sources and losses fo PCB in Lake Superior; this study provides a basis for separating local and long-range atmospheric inputs of PCB to Lake Superior.

79-248 O—80——30

- Various mathematical models describing the fate of hazardous materials in Saginaw Bay were evaluated.

1981 Program

In 1981, the Agency has allocated a total of $3,498,600 and 4 permanent workyears to this sub-program, of which $844,100 is for the Salaries and Expenses appropriation and $2,654,500 is for extramural purposes under the Research and Development appropriation.

- The quantity of PCBs entering Lake Huron from atmospheric deposition is being determined as well as the identity of other atmosphere transported, prevalent organic substances in Lake Huron.

- Manuals are being developed on sampling and analysis of dredged spoil and on assessing water quality impacts of confined site and open lake disposal; evaluation of physical, chemical, and biological changes that have occurred at existing disposal sites will also be completed.

- The effects on fish populations of power plants using open-cycle cooling technology is being evaluated.

- Mathematical models describing the movement, fate, and loses of PCBs in Lake Michigan and Huron are being developed.

- This program will terminate at the end of 1981.

1981 Explanation of Change from Budget Estimate

The net increase of $1,899,100 results from several actions, as follows:

- Shortly after the 1981 budget estimated was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $2,700.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $3,600 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $1,800 was applied to this activity.

- The Congress applied an increase of $2,000,000 to support this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $46,400 was applied to this activity.

- An increase of $6,100 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $2,700 from within the Office of Research and Development.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The

reduction applied to this activity is $11,000.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $4,200.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $40,000.

1982 Plan

Since all eutrophication research, the primary mission of this program, has been completed, the Agency is requesting no resources for this program in 1982. Since the program is a joint effort with the Canadian government, the Agency is requesting fifteen permanent workyears and $3,993,200 under the Abatement, Control and Compliance appropriation to implement the research findings in abating pollution of the Great Lakes.

Change From January Request

This request represents a decrease of $1,605,600 and 7 permanent workyears from the January budget, of which $993,700 is for Salaries and Expenses and $611,900 is for Research and Development. This decrease will result in the termination of the Great Lakes research program.

WATER QUALITY

Industrial Wastewater - Non-Energy

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Technical Information and Liaison:	$195	$193	$183	$196	+$13
Salaries and Expenses.....					
Research and Development.....	2	11	12	10	-2
Monitoring Systems and Quality Assurance:					
Salaries and Expenses.....	2,231	2,339	2,420	2,576	+156
Research and Development.....	4,100	4,302	3,713	2,178	-1,535
Health Effects:					
Salaries and Expenses.....	40	67	...	42	+42
Research and Development.....	200	186	251	153	-98
Environmental Engineering and Technology:					
Salaries and Expenses.....	1,363	1,485	1,569	1,041	-528
Research and Development.....	8,015	7,678	7,158	4,202	-2,956
Environmental Processes and Effects:					
Salaries and Expenses.....	...	...	...	184	+184
Research and Development.....	...	...	...	15	+15
Total:					
Salaries and Expenses.....	3,829	4,084	4,172	4,039	-133
Research and Development.....	12,317	12,177	11,134	6,558	-4,576
Grand Total.....	16,146	16,261	15,306	10,597	-4,709
Permanent Positions					
Technical Information and Liaison	3	3	3	3	...
Monitoring Systems and Quality Assurance.....	45	48	44	37	-7
Health Effects.....	1	1	...	1	+1
Environmental Engineering and Technology.....	24	28	18	8	-10
Total.....	73	80	65	49	-16
Full-Time Equivalency					
Technical Information and Liaison	4	5	5	5	...
Monitoring Systems and Quality Assurance.....	60	64	60	54	-6
Health Effects.....	1	1	...	1	+1
Environmental Engineering and Technology.....	29	36	24	15	-9
Total.....	94	106	89	75	-14

*January 1980 President's Budget as adjusted by the Office of Research and Development restructuring .

Budget Request

The Agency requests a total of $10,597,900 for 1982, a decrease of $4,707,600 from 1981. Included in this total is $4,039,300 for Salaries and Expenses and $6,558,600 for Research and Development, with a decrease of $133,000 and $4,574,600, respectively.

Program Description

This program has been developed under the auspices of the Industrial Wastewater Research Committee. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

The overall program provides the necessary technical information and tools to support the Agency's regulatory, permitting and enforcement programs relating to the control of industrial wastewater effluents.

TECHNICAL INFORMATION AND LIAISON

1980 Accomplishments

In 1980, the Agency used a total of $196,700 for this sub-program, of which $194,800 was for Salaries and Expenses and $1,900 was for extramural research activities.

In 1980, the Technical Information Program supported the preparation and publication of the Research Outlook, Research Highlights, technical information plans and guidance, and other general documents of interest to the environmental decision making community. It also provided ORD with information systems necessary to effectively plan and manage its research projects and resources. Specific accomplishments in the area of Industrial Wastewater included the preparation, publication and dissemination of a five volume manual on wastewater treatment performance data.

The Regional Services Staff provided effective communication between ORD and the regions. Specifically, they:

- developed and implemented the Regional Support Management Information system
- carried out regional liaison activities to provide technical assistance
- conducted ORD/Regional Senior Staff Meetings
- advised ORD on all aspects of regional operations

The Technical Information and Liaison activities helped enable ORD to communicate its research information to EPA's regional offices and to the environmental decision making community. Further, they assisted in enhancing coordination between ORD and the regions, allowing each to meet the needs of the Agency and the public more efficiently.

1981 Program

In 1981, the Agency has allocated a total of $194,900 and 3 permanent workyears to this sub-program, of which $183,400 is for the Salaries and Expenses appropriation and $11,500 is for extramural purposes under the Research and Development appropriation.

This part of the program is providing various research program and project summaries, decision series documents, and technology transfer publications to meet Research Committee requirements. Technical Information Plans, listing the explicit information products for this research effort have been prepared. Throughout the year, support will be provided to develop these information products and to distribute them to the appropriate users. Support is also being provided to manage information systems which track ORD's research projects and resources.

Regional liaison activities are continuing as in 1980. To this end, such activities will:

- continue the Regional Support Management Information System; and
- conduct ORD/Regional Senior Staff meetings and other liaison activities to provide technical assistance. These will include preparing reports, conducting special staff and policy studies, developing regional problem statements, and identifying research and technical requirements.
- develop and implement a process to address the research needs of state and local government in the ORD planning process.

1981 Explanation of Change from Budget Estimate

The net decrease of $10,100 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activitiy is $400.
- An increase of $2,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.
- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $21,000.
- Agencywide increases are reqired in order to fund the PC&B deficits; the increase applied to this activity is $2,000.
- Transfer of $7,000 from program management in order to realign PC&B costs.

1982 Plan

The Agency requests a total of $206,400 and 3 permanent workyears for this sub-program of which $196,100 is for the Salaries and Expenses appropriation and $10,300 is for extramural purposes under the Research and Development appropriation.

This reflects an increase of $11,500 in the dissemination of technical information products.

This sub-program will continue, in 1982, to provide the same types of services as in 1981. This includes the development and production of technical information products to ensure that research information is properly and adequately communicated to the environmental decison making community. Specific products planned by the appropriate Research Committee will be developed. Support to managing systems which track ORD's research projects and resources will be provided as will strong liaison with Regional offices, of a similar nature to that conducted in 1981.

Change from January Request

There is no change from the January request.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1980 Accomplishments

In 1980, the Agency used a total of $6,331,900 for this sub-program, of which $2,231,600 was for Salaries and Expenses and $4,100,300 was for extramural research activities.

Major accomplishments of the program:

- Methodology for analysis of toxic pollutants in the National Pollutant Discharge Eliminaton System (NPDES) were validated, and standarized for seven categories for pollutants, and additional reference methods were developed, proposed, or corrected for toxic and hazardous substance and Consent Decree pollutants in wastewater and sludges.

- Computer software was developed as required for computerized spectral matching of organic compounds recorded on Gas Chromatograph/Mass Spectral tapes for the Effluents Guidelines Division, Office of Water and Waste Management, and 9,781 of 20,000, GC/MS data runs from analysis of industrial effluents were processed and 950 different organic compounds, other than consent decree chemicals, were detected.

- The initial protocol was developed for the Master Analytical Scheme to detect, identify and quantitate unsuspected volatile organic pollutants in industrial wastewaters.

- Five equivalent methods for nationwide use and 30 evaluation for case-by-case were evaluated and approved for use in NPDES.

- EPA-approved automatic sampling and monitoring instrumentation specifications were developed for enforcement of existing and planned standards and regulations.

- Sample preservation and transportation techniques were developed for conventional and toxic pollutants to comply with Department of Transportation regulations and to assure integrity of sample.

- The quality control reference materials were developed for seven categories of pollutants.

- National guidelines were developed to assure uniformity in laboratory evaluation of the NPDES compliance monitoring laboratories.

- The mandatory quality assurance program was established to provide technical guidance, support, and overview to assure that the Agency will have environmental data of known quality that is appropriate for the EPA needs.

1981 Program

In 1981, the Agency has allocated a total of $6,132,800 and 44 permanent workyears to this sub-program, of which $2,419,600 is for the Salaries and Expenses appropriation and $3,713,200 is for extramural purposes under the Research and Development appropriation.

- Reference method validation studies for the priority toxic pollutants are being completed and deficiencies in currently approved methods identified and corrected.

- An approved bioassay technique for monitoring the toxicity of industrial waste water is being developed.

- Continuous monitoring systems for measuring toxic substances are being developed for more cost-effective compliance monitoring.

- Alternate test procedures are being approved for the National Pollutant Discharge Elimination System (NPDES).

- More cost-effective ab-initio techniques are being developed for identification of previously undetected organic chemicals in industrial wastewaters, suspended solids and sediments, and a method is being developed to identify toxic metals by chemical species. These techniques are critical in developing correlations between toxicity-based pollution control and technology-based effluent limitations.

- Vertification and identification of all the important compounds on the compounds on the Effluent Guidelines Divison gas chromatographic/mass spectrometric survey tapes is being completed.

- The quality assurance reference material repository is being expanded to include materials which are critical to the agency enforcement programs.

- Assistance is being provided to the Office of Water Enforcement in the evaluation of analytical performance of discharger laboratories.

- The mandatory quality assurance program continues to provide technical quidance, support and overview to assure that the Agency will have environmental data of known quality that are appropriate for EPA needs. Emphasis is being place on the application of the Agency wide program to contract and grant activities.

1981 Explanation of Change from Budget Estimate

The net decrease of $508,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $11,700.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $2,200 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 millions; a decrease of $35,700 was applied to this activity.

- An increase of $28,400 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- A transfer of $200 was made to the Administrative Law Judges is to provide additional resources to support a new program for instituting civil non-compliance penalties under Section 120 of the Clean Air Act.

- A transfer of $190,000 from monitoring systems and quality assurance water quality non-energy to maintain and prepare one standardized quality control sample for distribution to analytical laboratories to check the ability of analysts to perform analytical measurements.

- A transfer of $148,500 to monitoring system and quality assurance water quality non-energy to provide support for the development of monitoring methods for ambient monitoring of water quality.

- A transfer of $440,000 to solid waste monitoring systems and quality assurance water quality non-energy ($100,000) and monitoring and quality assurance/uncontrolled sites, solid waste ($340,000) to support efforts on Love Canal and Three Mile Island.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $8,600.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $15,400 which is being redirected to fund PC&B deficits.

- OMB Bulletin #81-9 January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $9,300.

- An internal agencywide reduction of $6,550,000 to equipment cost is being made in order to fund PC&B deficits; the reduction applied to this activity is $208,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $153,200.

1982 Plan

The Agency request a total of $4,754,000 and 37 permanent workyears for this sub-program, of which $2,576,000 is for the Salaries and Expenses appropriation and $2,178,000 is for extramural purposes under the Research and Development appropriation.

This signifies a decrease of $1,378,800 reflecting the reduced need for industrial wastewater research in support of the Agency's regulatory program.

Major activities planned for 1982 to support the Agency's regulatory, permitting and enforcement programs to control industrial wastewater effluents are:

- New and improved sampling and analytical procedures for pollutants in industrial wastewater will be developed including: improved Gas Chromatography/Mass Spectroscopy techniques; Gas Chromatography/Fourier transform infrared Spectroscopy applications; and correcting deficiencies in newly developed analytical reference methods.

- Methods validation studies for high priority wastewater analytical procedures, will be conducted and alternate test procedures for National Pollution Discharge Elimination System support evaluated.

- Analytical surrogate/indicator test procedures for selected classes of organics will be developed.

- One biological parameter testing procedure for quantitative expression of an effluent limitation for one industrial class will be adapted and standardized.

- Quality assurance support will be provided, including: Preparing and maintaining repository of performance evaluation samples and conducting performance evaluation as part of the Mandatory Quality Assurance program; maintaining quality control sample repository and distributing quality control samples; developing new performance evaluation/quality control samples and developing new protocols and key performance evaluation samples.

- Support to the Mandatory Quality Assurance Program will provide technical guidance, support and overview to assure that the Agency will have environmental data that are appropriate for the EPA needs.

Change from January Request

This request represents a decrease of $1,134,500 and 6 permanent workyears from the January budget, of which $197,400 is for Salaries and Expenses and $937,100 is for Research and Development. This decrease will result in the elimination of gas chomatography/mass spectroscopy methods validation for compounds on the Section 311 list, and of support for evaluation of National Pollution Discharge Elimination System dischargers' laboratory analytical performance.

HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $239,500 for this sub-program, of which $40,000 was for Salaries and Expenses and $199,500 was for extramural research activities.

- Investigation of the potential health problems resulting from organic chemicals and pesticides in two food processing industries was initiated. The data from these two studies will be used to write interim criteria for reuse of wastewater in the food industry.

1981 Program

In 1981, the Agency has allocated a total of $250,600 to this sub-program, all of which is for extramural purposes under the Research and Development Appropriation.

- Research to support development of interim criteria for the safe reuse of industrial wastewater in specific food processing industries is being completed.

1981 Explanation of Change from Budget Estimate

The net decrease of $1,900 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salary and Expenses. The reduction applied to this activity is $300.

- A net transfer of $1,600 to health effects - municipal spills ($204,800); and from health effects - water quality non-energy ($203,200) to realign funds between the Water Quality Research Committee; the Municipal Wastewater Research Committee, and the Industrial Wastewater Research Committee.

1982 Plan

The Agency requests a total of $195,000 for this sub-program, of which $42,000 is for the Salaries and Expenses appropriation and $153,000 is for extramural purposes under the Research and Development appropriation.

This reflects a decrease of $55,600 due to a phase out of the new and innovative technologies program.

- Efforts to develop bioassay techniques which will serve as a rapid means of determining the health effects of toxic compounds in industrial wastewater will be accelerated.

- Research activities to support the development of bioassay biomonitoring techniques, specifically for industrial wastewater, will begin in Fiscal Year 1982. This research supports the Agency's efforts to develop guidelines and permits for industrial discharges under the NPDES program.

- Appropriate wastewater reuse guidelines in the food industry will be developed. These guidelines will be useful in writing interim criteria for water reuse in certain food industries and to encourage private industry to apply innovative technologies to control their pollutant discharges as well as to recover a valuable resource.

Change from January Request

This request represents a decrease of $4,600 from the January budget, of which $600 is for Salaries and Expenses and $4,000 is for Research and Development. This decrease will have no significant effect on this program.

ENVIRONMENT ENGINEERING AND TECHNOLOGY

1980 Accomplishments

In 1980, the Agency used a total of $9,377,900 for this sub-program, of which $1,362,700 was for Salaries and Expenses and $8,015,200 was for extramural research activities.

The following 1980 accomplishments addressed the development and demonstration of economically achievable technology which assisted in the development of industry specific effluent guidelines and provided treatability data for the issuance of discharge permits on a pollutant by pollutant basis. In addition, a comprehensive program leading to the development and demonstration of reuse/recycle systems for the iron and steel, textile, organic chemicals, and petrochemical industries was initiated.

- Preliminary tests showed that powdered activated carbon is effective for treating leather tanning wastes.

- Pilot scale tests showed that ion exchange technology can remove chlorinated organics from pulp and paper wastewaters.

- Plant tests showed that color can be removed from Kraft pulp mills by the use of ultrafiltration.

- An economical hyperfiltration process was developed for the treatment and renovation of textile wastewater.

- A closed loop reuse system was demonstrated in a full scale fiberglass textile plant. This demonstration will serve as the basis for the effluent guidelines for this industry.

- Treatability studies were performed on various pesticides, such as atrazine/carbaryl, and glyphosate, manufacturing wastewaters to provide a basis for the issuance of discharge permits on a pollutant by pollutant basis.

- Field tests showed that soluable sulfide precipitation can be used for the treatment of copper-lead smelting wastewater.

- A full scale demonstration showed that a microfiltration system can be used for the treatment of battery manufacturing wastewaters.

- An on-site pilot unit successfully demonstrated the treatability of several organic process wastewaters, such as chlorinated aliphatics, chlorinated benzenes, and aromatics by use of activated carbon adsorption.

- A "Treatability Manual" was prepared for use by discharge permit writers in instances where industry effluent guidelines were not available.

- A mobile wastewater treatment system was used to demonstrate advanced treatment technology for coke plant and blast furnace wastewaters.

- Solvent extraction treatment of wastewater from the manufacture of acetic acid was demonstrated on a plant scale.

- The extent to which heavy metal and organic chemicals interfere with the operation of municipal treatment systems was determined by laboratory and pilot plant tests. This information will be used as a basis for the determination of pretreatment requirements for industrial facilities which discharge to publicly-owned treatment works.

- A quick response inhouse testing and evaluation capability for performing industrial wastewater treatability studies was established.

1981 Program

In 1981, the Agency has allocated a total of $8,727,200 and 18 permanent workyears to this sub-program, of which $1,569,300 is for the Salaries and Expenses Appropriation and $7,157,900 is for extramural purposes under the Research and Development Appropriation.

In 1981, research activities are continuing to support the effluent guideline regulations program, consisting mainly of the development of back up data to assist in final promulgation of effluent guidelines and court challenges to Agency regulations.

The major thrust of the research program is shifting from support of guideline regulations development on an industry by industry basis in support of enforcement for regional and state permit programs. The treatability research effort is defining the extent to which existing and new technology can be applied to treating toxic pollutants. This data provides the basis for writing discharge permits in situations not covered by existing regulations.

The new program initiated in 1980, for the demonstration of reuse and recycle options for industrial wastewater discharge is being continued at a high level. Background studies in specific industrial areas are being completed; they will be followed where indicated by pilot plant or demonstration scale projects. Industrial areas under specific study are iron and steel, textiles, organic chemicals, and petrochemicals. Development efforts underway will yield the necessary data for the implementation of full scale industrial wastewater reuse/recycle system.

1981 Explanation of Change from Budget Estimate

The net decrease of $435,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $6,100.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $5,500 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $366,000 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $7,900 was applied to this activity.

- An increase of $18,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- A transfer of $109,900 between appropriations from environmental engineering and technology-industrial wastewater ($109,900) to environmental engineering and technology - municipal wastewater ($109,900) in the research and development appropriation; and from environmental engineering and technology - industrial wastewater ($109,900) in the salaries and expenses appropriation to realign contract funds with operating costs.

- A transfer of $700 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil non-compliance penalties under Section 120 of the Clean Air Act.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $5,100.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction appled to this activity is $2,000.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $44,000.

- Agencywide reprogrammings are required in order to fund the PC&B deficits; the decrease applied to this activity is $17,000.

1982 Plan

The Agency requests a total of $5,243,700 and 8 permanent workyears for this subprogram, of which $1,041,400 is for the Salaries and Expenses appropriation and $4,202,300 is for extramural purposes under the Research and Development appropriation.

This reflects a decrease of $3,483,500 due to a phase out of activities in support of regulations development and reductions in control technology development for lower priority industrial wastewater sources.

The 1982 program will focus on problem solving investigations of treatability of toxic industrial wastewaters to reduce toxicity, and demonstration of cost reductions for wastewater treatment by highly impacted industries.

Major research results to be achieved in 1982 include:

- Demonstration of toxicity reduction by application of control technologies.

- Demonstration of major reduction in cost of wastewater treatment for a highly impacted industry by achievement of economies of scale.

- Investigation of treatability of organic chemicals in industrial wastewaters.

- Development of advanced cost-effective treatment technology.

Change from January Request

This request represents a decrease of $1,540,600 and 12 permanent workyears from the January budget, of which $371,600 is for Salaries and Expenses and $1,169,000 is for Research and Development. This decrease will result in the phase out of activities in support of regulations development, and reductions in development of control technology for lower priority industrial wastewater sources.

ENVIRONMENTAL PROCESSES AND EFFECTS

1980 Accomplishments

No resources were requested for this research in 1980.

1981 Program

No resources were requested for this research in 1981.

1982 Plan

The Agency requests a total of $199,800 for this sub-program, of which $183,800 is for the Salaries and Expenses appropriation and $15,000 is for extramural purposes under the Research and Development appropriation.

This reflects an increase of $198,800, which will provide methods for quantifying toxicity levels of a select number of industrial wastewater effluents.

- A generic screen or screens to be used in identifying a toxic problem will be developed and evaluated.
- Guidelines similar to the water quality guidelines for determining a permit based on the toxicity unit concept will be developed.
- The need to test the toxicity discharge unit concept on a pilot basis will be determined.
- A toxicity-reduction manual will be developed.

Change from January Request

This request represents a decrease of $500 from the January budget for Salaries and Expenses. This decrease will have no significant effect on this program.

WATER QUALITY

Municipal Wastewater/Spill Prevention

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Technical Information and Liaison:					
Salaries and Expenses.....	$365	$360	$360	$377	+17
Research and Development.....	39	248	248	248	...
Monitoring Systems and Quality Assurance:					
Salaries and Expenses.....	664	552	530	518	-12
Research and Development.....	227	313	301	384	+83
Health Effects:					
Salaries and Expenses.....	710	1,166	955	860	-95
Research and Development.....	2,388	2,233	2,475	2,178	-297
Environmental Engineering and Technology:					
Salaries and Expenses.....	5,335	5,108	5,105	5,616	+511
Research and Development.....	11,293	11,447	10,203	9,204	-999
Total:					
Salaries and Expenses.....	7,074	7,186	6,950	7,371	+421
Research and Development.....	13,947	14,241	13,227	12,014	-1,213
Grand Total.....	21,021	21,427	20,177	19,385	-792
Permanent Positions					
Technical Information and Liaison.....	5	5	5	5	...
Monitoring Systems and Quality Assurance.....	10	7	7	7	...
Health Effects.....	13	18	18	17	-1
Environmental Engineering and Technology.....	121	116	115	109	-6
Total.....	149	146	145	138	-7

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Full-Time Equivalency					
Technical Information and Liaison	8	9	8	8	...
Monitoring Systems and Quality Assurance	15	12	11	12	+1
Health Effects	18	27	28	26	-2
Environmental Engineering and Technology	144	136	133	129	-4
Total	185	184	180	175	-5

* January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Budget Request

The Agency requests a total of $19,384,900 for 1982, a decrease of $790,700 from 1981. Included in this total is $7,370,200 for Salaries and Expenses and $12,014,700 for Research and Development, with an increase of $421,300 and a decrease of $1,212,000, respectively.

Program Description

This program has been developed under the auspices of the Municipal Wastewater Research Committee. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produced outputs clearly focused on Agency research needs in this subject area.

The overall program has two distinct facets: Municipal Wastewater Engineering and Technology and Hazardous Materials Spills.

This program furnishes the engineering and technology support for the Agency Construction Grants Program, the Sec. 208 Areawide Waste Treatment Management Program, the National Urban Runoff Program, the Clean Lakes Program, the Effluent Guidelines Program, the NPDES program and the Solid Waste Program (sludge management regulations). These programs are major activities within the Office of Water Enforcement and the Office of Solid Waste.

Another part of the program furnishes the engineering and technology support required by the Oil and Special Materials Control Division within the newly created Office of Environmental Emergency Response and Prevention within the Office of Water Program Operations (OWPO). The engineering design and equipment development, field control techniques and on-scene technical assistance are provided for the control and mitigation of spills of hazardous materials.

TECHNICAL INFORMATION AND LIAISON

1980 Accomplishments

In 1980, the Agency used a total of $4,041,000 for this sub-program, of which $364,700 was for Salaries and Expenses and $39,400 was for extramural research activities.

In 1980, the Technical Information Program supported the preparation and publication of the Research Outlook, the Research Highlights, technical information plans and guidance and other documents of general interest to the environmental decision making community. It also provided ORD with information systems necessary to effectively plan and manage its research projects and resources. Specific accomplishments in the area of Municipal Wastewater included:

- The preparation, publication and dissemination of a technology transfer manual on Onsite Wastewater Treatment and Disposal Systems and of a revision of the technology transfer design manual on Sludge Treatment and Disposal.

- Conduct of seminars for target technical audiences on the following subjects:

  a. Wastewater Treatment Facilities for Small Communities.

  b. Water and Waste Management in the Arctic Environment.

  c. Innovative and Alternative Technology Assessment.

  d. Overland Flow Technology for Municipal Wastewater.

- Support for the Small Wastewater Flows Information Clearinghouse.

The Regional Services Staff provided effective communications between ORD and EPA's regional offices. Specifically, they:

- Developed and implemented the Regional Support Management Information System.

- Carried out regional liaison activities to provide technical assistance.

- Conducted ORD/Regional Senior Staff Meetings.

- Advised ORD on all aspects of regional operations.

The Technical Information and Liaison activities helped enable ORD to communicate its research information to EPA's regional offices and to the environmental decision making community. Further, they assisted in enhancing coordination between ORD and the regions allowing each to meet the needs of the Agency and the public more efficiently.

1981 Program

In 1981, the Agency has allocated a total of $607,500 and 8 permanent workyears to this sub-program, of which $359,500 is for the Salaries and Expenses appropriation and $248,000 is for extramural purposes under the Research and Development appropriation.

This sub-program is providing various research program and project summaries decision series documents, and technology transfer publications to meet Research Committee requirements. Technical Information Plans listing the explicit information products for this research effort are being prepared. Throughout the year, support will be provided to develop these information products and to distribute them to the appropriate users. Support is also being provided to manage information systems which track ORD's research projects and resources.

Regional liaison activities are continuing as in 1980. To this end, such activities will:

- Continue the regional support Management Information System.

- Conduct ORD/Regional Senior Staff Meetings and other liaison activities to provide technical assistance. These will include preparing reports, conducting special staff and policy studies, developing regional problem statements, and identifying research and technical assistance requirements.

- Develop and implement a process to address the research needs of state and local governments in the ORD planning process.

79-248 O—80——31

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $1,100 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); the revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,600.

- An increase of $4,000 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $500 to areas within the Office of Research and Development.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $13,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $10,000.

1982 Plan

The Agency requests a total of $625,100 and 9 permanent workyears for this sub-program, of which $377,100 is for the Salaries and Expenses appropriation and $248,000 is for extramural purposes under the Research and Development appropriation.

This reflects an increase of $17,600 which will provide support for the development and dissemination of a number of technical information products.

This sub-program will continue, in 1982, to provide the same types of services as in 1981. This includes the development and production of technical information products to ensure that research information is properly and adequately communicated to the environmental decision making community. Specific products planned by the appropriate Research Committee will be developed. Support to management systems which track ORD's research projects and resources will be provided as will strong liaison with Regional Offices, of a similar nature to that conducted in 1981.

Change From January Request

There is no change from the January request.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1980 Accomplishments

In 1980, the Agency used a total of $891,200 for this sub-program, of which $664,500 was for Salaries and Expenses and $226,700 was for extramural research activities.

- Ten spill prevention control and countermeasure studies and 10 oil and hazardous spill emergency spill response projects were completed. Study results were utilized by EPA Regions for compliance monitoring.

- Overhead monitoring and data analysis support was provided to the Regions and Program Offices for land use, thermal pollution discharges and industrial spill analyses.

- Overhead monitoring and data analysis support was provided to the Chesapeake Bay, Beaumont/Lake Charles, Poplar River and Atchafalaya River special projects.

- Fifty field studies were completed for the regions and Program Offices. The studies included thermal pollutant surveys, wetland and land use surveys, point and non-point surveys and leachate and septic tank problem analyses.

- Expert witness and overhead monitoring data acquisition support for the enforcement case preparation was provided to the Office of Enforcement and the regional enforcement divisions.

- The 301(h) Ocean Discharge Program received overhead monitoring support and data analysis.

1981 Program

In 1981, the Agency has allocated a total of $831,300 and 12 permanent workyears to this sub-program, of which $530,200 is for the Salaries and Expenses appropriation and $301,100 is for extramural purposes under the Research and Development appropriation.

- Resources have been provided to respond to ten spill prevention and countermeasures and fifteen emergency spill requests. The data obtained from these requests will be used by the Regions for compliance monitoring and support of on-scene coordinators.

- Staff are participating in approximately 150 hazardous waste site investigations by providing aerial photography and multi-spectral scanner imagery and analysis support.

- Fifteen Environmental Impact Statements are being prepared for the Regions. These studies support the Construction Grants Program.

- Ten septic field analyses are being completed for the Regions. These studies will provide data supporting the Construction Grants Program.

- Technical assistance is being provided to more that 70 regional projects covering land use, thermal pollution discharges and industrial spill analyses.

- Expert support to the Regions and the Hazardous Waste Enforcement Task Force is being provided.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $33,700 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $3,300.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $2,000 was applied to this activity.

- An increase of $6,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $9,800 to areas within the Office of Research and Development.

- Transfer $400 to monitoring systems and quality assurances to realign contract funds.

- Transfer $11,500 to monitoring systems to provide support for the development of monitoring methods for ambient monitoring of water quality.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $11,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activitiy is $2,000.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $26,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $15,000.

1982 Plan

The Agency requests a total of $902,200 and 12 permanent workyears for this sub-program, of which $517,800 is for the Salaries and Expenses appropriation and $384,400 is for extramural purposes under the Research and Development appropriation.

This reflects an increase of $70,900 which will provide an additional level of support for the Agency's Mandatory Quality Assurance Program.

- Analysis of 10-14 septic tank fields will be made for the Regional Construction Grants Program.

A portable, airplane-mounted camera system which can provide aerial photography of spill sites to determine the extent of contamination is called "Enviro-Pod". Enviro-Pod support will be provided to the regions and program offices.

- In support of compliance monitoring, this program will produce 10 Spill Prevention Control and Countermeasure Studies for the Office of Water Program Operations and the Regions.

- Response to Regional requests for support on 15-20 emergency oil and hazardous spills will provide data to the on-scene coordinators.

- Aerial photography, multi-spectral scanner imagery and enviro-pod support will be provided for industrial spills and approximately 150 hazardous waste site investigations.

- Data to complete 10-12 Environmental Impact Statements will be provided for the Regions, Office of Environmental Review and the Construction Grants Program.

- Support to the mandatory quality assurance program will provide technical guidance, support and overview to assure that the Agency will have environmental data of known quality that are appropriate for EPA needs.

Change From January Request

This request represents a decrease of $15,300 from the January budget, of which $7,600 is for Salaries and Expenses and $7,700 is for Research and Development. This decrease will have no significant effect on this program.

HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $3,097,500 for this sub-program, of which $709,900 was for Salaries and Expenses and $2,387,600 was for extramural research activities.

- A symposium on the evaluation of health risks associated with animal feeding and land application of municipal sludge brought together most of the investigators studying this problem. The data presented at the symposium is being used in developing policy on the disposal of municipal sludges on land and for the use of these sludges as possible animal feed products.

- Epidemiological studies of sludge composting workers completed at several sites within the U.S., indicate that exposure may cause inflammation. The exact cause of the inflammation is unknown, but one possible cause may be the presence of endotoxins in the compost dust. It was recommended that compost workers be protected from sludge compost dust by wearing protective masks.

1981 Program

In 1981, the Agency has allocated a total of $3,429,400 and 28 permanent workyears to this sub-program, of which $954,700 is for the Salaries and Expenses appropriation and $2,474,700 is for extramural purposes under the Research and Development appropriation.

Highlights of the 1981 research program include:

- Studies of the health implications of land application for treatment and disposal of wastewater and sludge are being continued.

- Criteria for the safe reuse of municipal wastewater for aquaculture and potable purposes is being developed.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net increase of $30,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $5,100.

- The Congress reduced agencywide consulting services by $3.8 million, a decrease of $20,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $4,200 was applied to this activity.

- An increase of $9,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $2,000 to areas within the Office of Research and Development.

- Transfer $204,900 from health effects to realign funds between the Water Quality Research Committee; the Municipal Wastewater Research Committee; and the Industrial Wastewater Research Committee.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $2,900.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $150,000.

1982 Plan

The Agency requests a total of $3,037,800 and 27 permanent workyears for this subprogram, of which $859,600 is for the Salaries and Expenses appropriation and $2,178,200 is for extramural purposes under the Research and Development appropriation.

This reflects a decrease of $391,600, which will provide a reduced level of effort in determining the health effects of municipal wastewater specifically in the areas of urban runoff and water reuse.

- Major emphasis will continue on the health effects resulting from the use of wastewater and sludge from land treatment. The most critical research is related to the impact of bacteria viruses and parasites in sludge as well as heavy metals and toxic organics in sludge on human health through this bioconcentration in the food chain or their contamination of groundwater. Pretreatment requirements, particularly disinfection, are to be deferred in large measure, pending the outputs of this program.

- Investigation of the health effects resulting from the reuse of wastewater for aquacultural and potable purposes will continue.

  ° The emphasis on aquaculture arises from recognition that, although nutrients can be utilized in aquaculture systems, more data are needed to determine if the products themselves will create a public health problem.

  ° Research in the area of potable reuse will be concerned with determining: whether the treatment system affects the nature and toxicity of organic substances, the health risk resulting from viruses in water intended for reuse; and whether groundwater aquifers recharged with treatment effluents have a health impact on humans. Data from this research will support the development of criteria or guideline documents for the safe reuse of wastewater.

Change From January Request

This request represents a decrease of $74,800 from the January budget, of which $11,800 is for Salaries and Expenses and $63,000 is for Research and Development. This decrease will have no significant effect on this program.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1980 Accomplishments

In 1980, the Agency used a total of $16,627,700 for this sub-program, of which $5,334,600 was for Salaries and Expenses and $11,293,100 was for extramural research activities.

WASTEWATER RESEARCH PROGRAM

- Reports on control technologies such as biodegradation, activated carbon adsorption, and air stripping for the removal of priority pollutants from municipal wastewaters were published.

- A sampling apparatus and analytical protocol for the quantitative measurement of the transfer of volatile priority pollutants to the atmosphere as they pass through municipal wastewater treatment facilities were developed.

- The utility of the Composite Correction Program (CCP) concept was developed and demonstrated. It is now being used by the Agency as a major tool in the New Publicly Owned Treatment Works Compliance Strategy.

- The Innovative and Alternative (I/A) Technology Assessment Manual was published for use by the regional and state officials and design engineers.

- A report on Urban Stormwater Management and Technology based on 12 case-histories was published. These case histories represent the most promising approaches to stormwater control.

- The current state-of-art technology in the design and operation of overland flow systems was presented in the First National Seminar on Overland Flow Technology for Municipal Wastewater.

- The Design Manual for Onsite Wastewater Treatment and Disposal Systems was completed. The manual presents site evaluation, design, construction, operational and managerial information in a form useful to planners, engineers, sanitarians, and regulatory agencies concerned with onsite wastewater systems for small community applications.

HAZARDOUS SPILLS PROGRAM

- A portable battery-operated automatic enzyme-based system for detecting spills of organophosphate and carbamate pesticides in water was developed and demonstrated.

- An in-stream warning system consisting of a number of individual probes and sensors (total organic carbon, conductivity, UV absorption, etc.) for the continuous detection of a broad variety of spilled hazardous chemicals in water was demonstrated.

- A new and more effective system for collecting and treating rinsates from agricultural pesticides spraying operations for the purpose of protecting groundwaters was demonstrated.

- Fire-fighting foams to reduce the rate of vaporization of spilled hazardous liquids were developed.

- Alternative techniques (e.g., classification, bromination, alkali fluxing) for the ultimate disposal of spilled refractory chemicals were evaluated.

1981 Program

In 1981, the agency has allocated a total of $15,307,400 and 133 permanent workyears to this sub-program, of which $5,104,500 is for the Salaries and Expenses appropriation and $10,202,900 is for extramural purposes under the Research and Development appropriation.

WASTEWATER RESEARCH PROGRAM

Sludge Management

The sludge management program continues to hold a high priority due to the Agency's new regulations and policies resulting from implementation of RCRA and the 1977 Clean Water Act (CWA) amendments.

- Design and operation of anaerobic digestors that maximize solids reduction and energy production are being approved.

- Best management practices for land application are being developed.

Toxic Pollutants Control

The toxic pollutants control program is designed to produce information on the characterization and sources of toxic pollutants, on the treatability by conventional and/or innovative technology to provide cost analyses to enable selection of the most cost-effective solution.

- Data bases from a 25 city survey on priority pollutants in terms of sources contributing to POTW's, occurrence and concentration in POTW influents, effluents and sludges, and removals obtainable by unit processes are being developed.

- Treatability and removability of priority pollutants and other toxic organics by a variety of conventional and advanced waste treatment processes are being assessed.

I/A Program

The ORD innovative and alternative (I/A) technology program is continuing to provide technical support to the Construction Grants Program for implementing I/A projects. The program is also assessing emerging technologies and providing technology transfer to state and local governments.

Operation and Design

The plant operation and design program is continuing to focus on the development of methods and practices that improve plant performance and reliability, reduce operating costs and support enforcement activities.

Urban Runoff

The urban runoff program develops methods for controlling pollution from stormwater runoff and combined sewer overflows through development of such things as a storage/sedimentation design manual to assist the user in choosing a system to meet specific needs.

Process Development

The process development program is developing and evaluating new technologies that enhance the ability of municipalities to meet discharge limitations in a cost-effective manner. This program focuses on four areas: new biological process development; biodegradation of specific pollutants; wastewater disinfection; potable water reuse and water conservation.

Wastewater Disinfection

The wastewater disinfection program is being directed toward completing a number of projects which will serve as input to specific manuals of practice. Areas of research include ozonation, ultraviolet light and chlorination. Ultimate product of this program will be a disinfection manual of practice expected to be completed in December 1983.

Potable Water Reuse

Activities in the potable water reuse area are being phased out. The only activity in 1981 will involve monitoring a few existing projects. The major project here is the Congressionally mandated demonstration project in Denver, Colorado which if fully funded and is expected to be completed in about five to seven years.

Small Wastewater Flows

The small wastewater flows program develops alternative treatment systems for individual homes and small communities. In order to meet the changing needs of the operating programs, the program is broadening its activities from technical research and development to activities which emphasize the applicability, economics, management, health implications and other areas which will promote the adoption and use of alternative small flows technologies by the user community.

Land Application

The Land Application of Wastewater program is directed to design and operating criteria for the three major land treatment processes (overland flow, rapid infiltration and slow rate infiltration). The principal effort in 1981 will be devoted to providing additional design and operational data on rapid infiltration and overland flow systems for updating the design manual Land Treatment of Municipal Wastewater. This is a priority need for the construction grants program. The first design manual revision is being completed in 1981. The evaluation of the first full scale overland flow project is being completed and transport and transformation of toxic substances through soil treatment systems are being studied.

Aquaculture

In the area of municipal wastewater treatment by aquaculture, several studies are continuing to provide design and operational data for the Construction Grants Program. Among them are the studies of the effectiveness of a variety of plants and of natural and artifical wetlands receiving municipal wastewater, and the effectiveness of filter-feeding fish for removal of pollutants from municipal wastewater effluents.

Land Treatment

The Land Treatment Task Force is continuing to provide technical assistance to Region VI and VII and the nine state governments in those regions with the objective of increasing land treatment systems funded by the Construction Grant Program.

Spills Prevention

The hazardous incident program continues the development of technology for the prevention, identification, and control of hazardous and toxic material spills. Major emphasis will be on the finalization of the new portable incineration system and contingency planning for spill response.

- A portable incineration system, complete with air pollution control equipment, for on-site destruction of spilled organic hazardous chemicals collected during-cleanup operations is being demonstrated.

- A system to detect the location of insoluble spilled hazardous materials which have settled on stream bottoms is being developed.

- Guidelines for use by state and local government officials in preparing contingency plans for effective local level response to hazardous chemical spills is being developed.

1981 Explanation of Change from Budget Estimate

The net decrease of $1,247,300 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $26,000.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $3,000 was applied to this activity.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $2,000 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $1,500 was applied to this activity.

- The Congress applied a reduction of $250,000 to the urban systems activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $10,000 was applied to this activity.

- An increase of $68,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $12,100 from other areas within the Office of Research and Development.

- A transfer of $7,700 was made to the Office of Inspector General in order to provide additional resources to that Office.

- A transfer of $109,900 between appropriations from environmental engineering and technology-industrial wastewater ($109,900) to environmental engineering and technology - municipal wastewater ($109,900) in the research and development appropriation; and from environmental engineering and techology - municipal wastewater ($109,900) to environmental engineering and technology - industrial wastewater ($109,900) in the salaries and expenses appropriation to realign contract funds with operating costs.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $15,200.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $53,700, which is to be rescinded.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $36,500.

- Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $1,050,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $128,000.

1982 Plan

The Agency requests a total of $14,819,800 and 129 permanent workyears for this sub-program, of which $5,615,700 is for the Salaries and Expenses appropriation and $9,204,100 is for extramural purposes under the Research and Development appropriation.

This reflects a decrease of $487,600 which will provide a reduced level of effort for process development in the area of water reuse, urban runoff and natural treatment systems.

MUNICIPAL WASTEWATER

- Sludge management program will continue research work on:

  ° evaluation of thermal processes and energy recovery;
  ° evaluation of composting and other conversion processes; and
  ° characterization of emissions of sludge disposal facilities.

- In the land application management and disposal of municipal sludge, the following will be completed.

  ° fate and effects of toxic organics in sludge applied to agricultural land;
  ° assessment of high rate application; and
  ° evaluation of sludge landfilling.

- The toxic pollutant control program will continue to develop a data base assessing the magnitude, composition and source of toxics in municipal wastes.

- Full scale plants using conventional and non-conventional technology for the removal of metals will be evaluated.

- New treatment processes which enhance removal of priority pollutants from wastewater will be developed.

- The plant operation and design program will continue its effort on the development of procedures to develop the design, cost, and energy effectiveness of new and upgraded wastewater treatment plants, improve methods to assure proper performance of existing facilities through improved operation and maintenance, and increase systems reliability and the application of instrumentation and automation to process control and system management. Design operation and maintenance guidelines for conventional systems and land application/alternative technology will be developed and an energy effectiveness report on wastewater and residuals will be produced. Technical support to selected POTW's on operation and maintenance problems will continue.

- The specific goal of the I/A technology program is greater use of systems that reclaim and reuse wastewater, productively recycle wastewater constituents and otherwise eliminate the discharge of pollutants or recover energy. The program will consist of:

  - * review of Step 1 facility plans involving I/A technology applications; and;
  - * completion of effectiveness studies of I/A program and development and presentation of regional I/A technology assessment seminars for consulting engineers, and federal/state personnel.

- The urban runoff research program will compile BMP's for urban runoff pollution control; and extend research related to infiltration inflow control technology.

- Treatment Process Development will include new biological process development, biodegradation and specific pollutants removal, wastewater disinfection and conservation and wastewater reuse.

- Novel technologies for more efficiently dissolving oxygen in wastewater while reducing overall aeration costs will continue to be developed and demonstrated. Included in this work will be an evaluation of the deep shaft activated sludge process, and an evaluation of the two zone reactor/clarifier.

- A final report on the degradation protocol for priority pollutants will be prepared.

- The conservation and reuse program will be phased out, but the Denver project will be monitored.

- The small wastewater flows program will continue to support the operating program without significant changes. The small flows information clearinghouse will be continued, as will the operating and monitoring of the specific technologies being studied at the Center for Small Flow Technology. The comprehensive Septage Treatment and Disposal Handbook will be completed.

- The natural treatment systems program includes the land treatment and aquaculture programs. The baseline data on the Lubbock project and associated research will be continued.

SPILLS

- The hazardous substances spill program will continue to develop and demonstrate technology in the five areas outlined under the 1981 program, namely: information transfer and prevention; pre-spill response planning, safety and assessment; containment, confinement, separation and concentration; ultimate disposal; and restoration. Major emphasis will be on the development of information and procedures for use by hazardous spill coordinators and "first-on-scene" personnel.

- Specialized techniques will be developed for ensuring personnel safety during spill cleanup operations, and procedures will be demonstrated for the decontamination of personnel and equipment following these operations.

- A manual will be prepared to assist spill coordinators in evaluating alternative spill cleanup and disposal techniques to determine the most cost-effective approaches and the extent of required cleanup ("How Clean is Clean?").

- A computerized system will be developed for storage and retrieval of spill control information, including cleanup options and disposal alternatives.

Change From January Request

This request represents a decrease of $1,155,100 and 7 permanent workyears from the January budget, of which $254,600 is for Salaries and Expenses and $900,500 is for Research and Development. This decrease will result in a reduced level of effort in process development for water reuse, urban runoff, and natural treatment systems.

DRINKING WATER

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
			(dollars in thousands)			
Appropriation						
Salaries and Expenses.....	$18,822	$22,719	$21,729	$24,664	+$2,935	
Abatement, Control and Compliance.....	47,359	44,664	42,500	42,092	-408	
Research and Development	16,211	20,769	18,664	20,910	+2,246	
Total	82,392	88,152	82,893	87,666	+4,773	
Permanent Positions.....	489	551	513	514	+1	
Full-time Equivalancy.....	581	653	619	636	+17	
Outlays.....	69,333	74,000	67,509	66,353	-1,156	
Authorization Levels.....	85,569	107,447	107,447	90,000		
PROGRAM HIGHLIGHTS						
Drinking Water Non-Energy:						
Salaries and Expenses...	6,807	7,924	7,680	8,802	+1,122	DW-31
Research and Development	16,211	20,769	18,664	20,910	+2,246	
Total, Research and Development Program.....	23,018	28,693	26,344	29,712	+3,368	
Criteria, Standards, and Guidelines:						
Salaries and Expenses...	4,521	5,458	5,298	5,619	+321	DW-11
Abatement, Control and Compliance.....	4,903	3,837	3,658	3,595	-63	
State Program Resource Assistance:						
Abatement, Control and Compliance.....	41,401	39,575	37,682	37,525	-157	DW-17
Drinking Water Management:						
Salaries and Expenses...	6,839	8,582	7,957	9,305	+1,348	DW-21
Abatement, Control and Compliance.....	1,008	1,243	1,160	972	-188	

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
			(dollars in thousands)			
Total, Abatement, Control and Compliance Program:						
Salaries and Expenses...	11,360	14,040	13,255	14,924	+1,669	
Abatement, Control and Compliance.....	47,312	44,655	42,500	42,092	-408	
Total.....	58,672	58,695	55,755	57,016	+1,261	
Drinking Water Enforcement:						
Salaries and Expenses...	655	755	794	938	+144	DW-27
Abatement, Control and Compliance.....	47	9	...	...	...	
Total, Enforcement Program	702	764	794	938	+144	
Permanent Positions						
Drinking Water Non-Energy, Total, Research and Development Program.....	143	153	146	151	+5	DW-31
Criteria, Standards, and Guidelines.....	91	100	95	96	+1	DW-11
State Program Resource Assistance.....	...	...	...	...	...	DW-17
Drinking Water Management.	237	270	246	239	-7	DW-21
Total, Abatement and Control Program.....	328	370	341	335	-6	
Drinking Water Enforcement, Total, Enforcement Program.	18	28	26	28	+2	DW-27
Full-time Equivalency						
Drinking Water Non Energy, Total, Research and Development Program.....	189	204	195	201	+6	DW-27
Criteria, Standards, and Guidelines.....	111	118	117	114	-3	DW-11
State Program Resource Assistance.....	...	...	...	...	...	DW-17
Drinking Water Management.	258	299	276	290	+14	
Total, Abatement and Control Program.....	369	417	393	404	+11	
Drinking Water Enforcement, Total, Enforcement Program	23	32	31	31	...	DW-27

* January 1980 President's Budget as adjusted by Office of Research and Development restructuring.

OVERVIEW AND STRATEGY

EPA's drinking water program is primarily a public health protection effort to ensure the quality of the nation's drinking water. The Safe Drinking Water Act (SDWA) requires that EPA develop national drinking water standards, that utilities undertake periodic monitoring to ensure compliance with these standards and that a cooperative Federal-State effort oversee the implementation of the associated programs. Two major regulatory programs were established under the legislation which provide the foundation for EPA's activities: the Public Water Systems Supervision (PWS) program, to assure the compliance by utilities with appropriate quality standards and the Ground Water Protection (GWP) program, to protect present and future sources of drinking water from contamination related to injection wells. In addition, financial assistance to States to support their delegated implementation efforts is authorized.

The Agency's strategy is to implement the Drinking Water Program in stages: first, establishing the institutional framework and defining specific regulations and procedures; and second, ensuring that high levels of compliance are attained and maintained. The Interim Primary Drinking Water Regulations, which contain numerical standards for the traditional contaminants of health concern in drinking water, were promulgated in 1976 and have been in effect since 1977. These were amended in 1979 to limit harmful by-products of disinfection, to add a maximum contaminant level (MCL) for trihalomethanes, the most frequently found carcinogens in drinking water. Work is now underway to detect and control human exposure to new contaminants of concern, especially man-made organic chemicals (including carcinogens) that are now being detected in drinking water. In addition to monitoring to determine occurrence, EPA is assessing the cost of treatment and the appropriateness of national standards. Secondary Regulations, specifying standards for aesthetic quality such as taste, odor, color and appearance, were promulgated in 1979.

The SDWA places primary responsibility for implementation and enforcement of the standards with the States. EPA worked closely with the States in formulating the Public Water Systems program (PWS) and by the end of 1980, 49 States and territories assumed primary enforcement responsibility for the program. Final program regulations for the Ground Water Protection Program, designed to protect underground drinking water sources from contamination related to injection wells, were promulgated in June 1980. Initial State grants were awarded to conduct a national assessment of the threat to ground water quality from surface impoundments and to prepare for State delegations of the UIC program. Now that the regulations defining minimum requirements for States to assume delegation responsibility for the program have been promulgated, major emphasis is being placed on helping States develop effective programs and qualify for primacy. EPA will promote delegations to States for the underground injection control program as well as initiate Federal implementation of both public water system and underground injection control programs in States which are unable or unwilling to assume primary enforcement responsibility.

In 1982 added emphasis will be placed on the safety of drinking water which is being contaminated with synthetic chemicals not previously regulated. The major priorities are as follows: expanding monitoring for organic contaminants; expanding the basis for defining safe levels for previously unregulated organic contaminants which are now being found in ground water supplies; pursuing full nationwide compliance with traditional standards; and providing assistance in dealing with instances of significant contamination as they are detected. This latter activity will require close coordination with activities under the Resource Recovery and Conservation Act and Superfund to assure that EPA's efforts to protect ground water are well coordinated, particularly in relation to the disposal of hazardous wastes.

Expanded Public Health Protection

Drinking Water is a significant route of human exposure to natural and synthetic substances which pose a risk to health. The greatest concern is contamination by synthetic organic chemicals, especially those associated with toxic and hazardous wastes. Setting safe levels for organic chemicals in drinking water presents exceptional difficulties. First, the ever growing number of synthetic organics being used in our society outrun both the methods to detect their occurrence and knowledge about their effects on human health. This requires a considerable investment by EPA to generate health effects information, expand monitoring, assess new cost-effective treatment technologies, and determine appropriate regulatory responses. Historically, these organic contaminants have not been measured on a widespread basis in drinking water and expanded monitoring efforts to determine which chemicals are in fact invading the nation's drinking water are required.

A major challenge in expanding public health protection related to drinking water is the development of Revised Primary Drinking Water Standards which are required by the SDWA. This will include standards for a number of man-made organic chemicals, (many of which are carcinogenic), and a reassessment of a number of the traditional standards based on new scientific data. The results will form a basis for reducing future regulatory burdens when it is appropriate to do so.

Of particular concern are the contaminants found in drinking water from underground sources which are in proximity to improperly disposed hazardous wastes. States and localities have an acute need for prompt Federal assistance in dealing with the growing number of incidents of significant contamination. Consequently, EPA will be expanding its capability to provide guidance and advisory information on the health effects and control methods for unregulated contaminants. In 1981 maximum contaminant levels (MCLs) for six to ten organic chemicals, primarily solvents found in drinking water derived from ground water, will be proposed. In addition, during 1982 EPA plans to issue 10 additional formal health effect guidances for contaminants for which MCLs have not yet been established.

Other sources of harmful organic contaminants are direct and indirect additives to drinking water. These are substances added to drinking water supplies either deliberately (as contaminants in chemicals used in the treatment process) or incidentally (e.g., leaching from pipe coatings, etc.). EPA agreed to assume responsibility for their control in an agreement with the Food and Drug Administration in 1980. Although its full implementation will be delayed in 1982, the additives program will begin to develop protocols for providing technical advice to States on the health implication of products used in water treatment. In addition, EPA has funded the National Academy of Sciences to develop a CODEX (quality control standards) for chemicals used to treat drinking water. Not only is the program necessary to assure the quality of drinking water from a heretofore uncontrolled source of contamination, but information developed may reduce the need for formal and extensive national standards saving resources and limiting the need for added regulations.

Promoting Compliance with Standards and Regulations

Now that the institutional framework for the PWS program is in place, comprehensive monitoring for the traditional contaminants of concern has begun and overall data are becoming available. Nearly 9,000 public water systems out of a universe of 62,000 community systems, or about 14 percent of the national total, are currently estimated to be out of compliance with one or more maximum contaminant level standards. For many of these, the prinicipal obstacle to compliance is the capital costs involved, especially for the small systems which service populations of 2,500 or less. These make up about 90 percent of the water sytems. In response, EPA has prepared a small systems strategy

which prescribes a uniform plan of action to promote compliance through a combination of technical assistance and selective enforcement. The strategy is intended to prioritize response to instances of noncompliance based upon relative health risk, size of exposed population, the availability of remedial actions and level of cooperation. The strategy provides a framework for the States to identify those systems which have feasible options for compliance and it permits flexibility in dealing with systems which are unable to comply. EPA will continue to provide technical assistance to States to facilitate the application of cost effective technologies for small systems.

An important activity in 1982 will be providing expanded technical assistance to States on the control of organic contaminants in drinking water. Compliance with new regulations related to harmful organic chemicals involves complex analytical techniques and new applications of control technologies which are often beyond the conventional expertise of many water plant operators and State regulators. EPA will work extensively with the States to meet these new requirements for technical expertise and sophisticated monitoring procedures.

Implementing a Coordinated Ground Water Protection Program

Ground water is the source of drinking water for more than half the nation's population. However, when EPA's role in protecting drinking water supplies and sources was established in 1974 with the SDWA, protection of ground water was a secondary concern, eclipsed by the need to establish national regulation for public water systems. Ground water was generally thought to be naturally protected from contamination by man-made organic chemicals. Recently the Nation has been confronted with a growing number of cases in which chemical contamination has been detected at relatively high concentrations resulting in abandonment of some water supply wells. While many of these situations are related to improper disposal of hazardous wastes, the full magnitude of the problem will not be known until the conclusion of national monitoring studies now in progress. The threat to ground water quality is one of the most acute contemporary environmental problems now facing the nation.

The drinking water program is responsible for protecting present and potential sources of drinking water, as well as for taking an active part in protecting ground water through the Underground Injection Control (UIC) program. The UIC program has been formally defined with promulgation of the program regulations, clearing the way for full nationwide implementation. To fully establish UIC programs, the process of promoting state delegations was initiated with grants to States. Developing effective delegated programs will be a critical priority in 1982, as part of a comprehensive effort to protect ground water quality in the future. The SDWA specifies implementation timetables which require regulatory programs in operation one year after final promulgation, either by States granted primacy or by EPA--with a nine month extension available. EPA is aggressively pursuing the delegation of UIC responsibilities, in accord with statutory intent. The importance attributed to implementing a nationwide UIC program is reflected in the increase in resources requested. A significant portion of this increase comes from a corresponding reduction of PWS program resources.

The Safe Drinking Water Act Amendments of 1980 provide an alternative means for States to achieve primary enforcement responsibility for the portion of their underground injection control program related to oil and gas production. Rather than meeting specific technical and administrative requirements established by regulation, a State may qualify for primacy if its existing program meets general statutory requirements and is effective in preventing contamination which endangers drinking water sources. EPA is working with the States to develop an approach to implement this provision which should accelerate UIC delegations.

79-248 O—80——32

In addition, EPA is implementing other ground water protection programs, such as the sole source aquifer program mandated by the SDWA. The drinking water program is working with all EPA programs which impact ground water in order to improve coordination of Federal and State programs to protect ground water quality. An important goal is the coordination of the many disparate programs and authorities which function separately to meet some part of the problem. SDWA, RCRA, CWA, FIFRA, and TSCA all contain authorities related to some aspect of the problem: regulating specific contamination sources, monitoring, or technology development.

Enforcement

For 1982, the highest priority of the drinking water enforcement program will continue to be enforcement response in emergency situations presenting substantial endangerment to public health and safety. Drinking Water Enforcement will focus on support for enforcement actions in non-primacy States. UIC activities will increase with a reprogramming of 21 workyears of effort from PWS enforcement to the issuance of UIC permits and enforcement activities. A total of 210 UIC permits will be issued in 1982. Enforcement program activities for 1982 will also include review and approval of the enforcement sections of primacy applications for both the PWS and UIC programs, and overview of UIC enforcement programs in delegated States.

SUMMARY OF INCREASE AND DECREASE

	(in thousands of dollars)
1981 Drinking Water Program.....	$82,893
Salaries and Expenses.....	+2,936
The primary increase is for additional regional implementation resources for the UIC and the drinking water treatment and ground water protection; standards and regulations development and drinking water enforcement.	
Research and Development.....	+2,246
The increase of ($2.2 million) represents expanded research on transport and fate of pollutants in groundwater and development of sampling procedures and equipment for groundwater analysis	
Abatement, Control and Compliance.....	-408
The net decrease of $.4 million represents $.2 million decrease in extramural contract funds for program implementation in non-primacy States and Territories. An additional $.1 million decrease is due to non-recurring training activity.	
1982 Drinking Water Program.....	87,666

SUMMARY OF BUDGET ESTIMATES

1. Summary of Budget Estimate

An appropriation of $87,666,100 is requested for 1981. This request, by appropriation account, is as follows:

Salaries and Expenses	$24,663,900
Research and Development	$20,911,700
Abatement, Control and Compliance	$42,090,500

This request represents an increase of $4,773,100. An increase of $2.2 million will support development of sampling procedures and equipment for ground water analysis as well as transport and fate studies of groundwater pollutants.

2. Changes from Original Budget Estimate

Changes from the budget are as follows:

	(in thousands of dollars)
Original 1981 estimate	$88,152
Congressional change:	
Presidential $7m reduction	-128
Travel	-43
Consultant Services	-183
Abatement Control & Compliance	-2,080
Research and Development	-1,848
ADP	-132
SES	-9
Academic Training	+107
Proposed pay raise supplemental	+277
Miscellaneous reprogramming	-1,026
Current 1981 estimate	$82,893
March changes to budget:	
Travel	-59
Consulting Services	-45
Moratorium on Procurement of Equipment	-1
Equipment Costs	-226
Other Contractual Services	-71
One Percent Transfer	-73
Increase to Fund PCB	+233
Miscellaneous reprogrammings	+48
Current 1981 estimate	$82,893

In accordance with OMB bulletins, the March 1981 changes are as follows: travel (-$59,200); consulting services (-$45,100); and, moratorium on procurement of equipment (-$1,000).

A one percent transfer authority decreases this media by $73,200.

Internal agency reprogrammings to fund PC&B deficits are as follows: equipment costs (-$225,700); contractual services ($70,700); agencywide increases (+$232,700); and miscellaneous reprogrammings (-$200).

ANALYSIS OF INCREASES AND DECREASE TO OBLIGATIONS

	Current Estimate 1981	Estimate 1982
	(in thousands of dollars)	
Prior year obligations	$82,392	$82,368
Effect of congressional changes	-4,316	...
Effect of March changes	-243	...
Effect of reprogrammings	-1,027	...
Proposed pay raise supplemental	+277	...
Change in amount of carryover funds available	-5,167	+525
Program increase	+501	+4,773
Change in rate of obligation	+9,951	+1,527
Total estimated obligations	82,368	89,193
(From new obligation authority)	(78,334)	(84,634)
(From prior year funds)	(4,034)	(4,559)

Congressional changes, reprogrammings, and the proposed pay raise supplemental discussed in the previous section are expected to result in a decrease of $5,315,000.

The amount of carryover funds to be obligated in 1981 is $4,034,000, a decrease of $5,167,000 over the 1981 level. In 1982, it is estimated that $4,559,000 of carryover funds will be obligated, an increase of $525,000 from the 1981 level.

The 1981 increase in budget authority was previously estimated to increase obligations by $501,000. In 1982, the program increase is expected to result in increased obligations of $4,773,000. A change in the rate of obligation is expected, thereby increasing obligations by $9,951,000.

Purpose - Research and Development Program

The research and development effort provides scientific and technical information relating to contaminants in drinking water. Research and evaluations are conducted relating to: (1) the detection and characterication of harmful substances occurring in drinking water supplies; 2) the causes, diagnosis and prevention of diseases and other adverse human health effects resulting directly or indirectly from those contaminants; 4) the procedures & protocols for laboratory analysis and quality assurance of drinking water monitoring samples; and 5) the characteristics of ground water sources of drinking water and the movement, fate and ecological effects of ground water contamination.

Purpose - Abatement and Control Program

The abatement and control program provides for the protection of the public health by assuring the safety of the Nation's drinking water supplies and underground sources of drinking water. The quality of the drinking water is assured through the development of primary drinking water standards which specify maximum permissible levels of contaminants in drinking water and minimum monitoring frequencies. In addition, secondary drinking water standards which prescribe guidelines for the aesthetic quality of water

have been developed and minimum requirements for State public water systems supervision and underground injection control programs have been designed to protect the public health and underground sources of drinking water.

The priority of the drinking water program is protecting the public from harmful contaminants such as synthetic organic chemicals found in drinking water. To meet this goal, EPA is developing and implementing standards and regulations to protect the public from harmful contaminants in drinking water, such as man-made organic chemicals which are finding their way into the nation's sources of drinking water with increasing frequency.

Financial assistance is provided to those State that assume primary enforcement responsibility to help defray the increased administrative cost associated with establishing and implementing programs which assure the safety of drinking water sources and supplies. Technical assistance is available to help States in the implementation of their programs. However, direct Federal implementation of public water systems and/or underground injection control programs is required when a State is unwilling or unable to assume primary enforcement responsibilities for the programs. The abatement and control program is divided into the following activities:

Criteria, Standards and Guidelines - This subactivity is related to the development of standards and regulations designed to control the quality of the Nation's drinking water, to establish minimum requirements for State enforcement of public water systems supervision and underground injection control programs and to develop guidance documents to assure uniform implementation of the Safe Drinking Water Act. This activity also includes the development, review and assessment of information on health effects, occurrence, monitoring, and control technology of hazardous substances such as toxic chemicals from natural and synthetic sources for the purpose of establishing or revising primary drinking water regulations and providing guidance on unregulated contaminants in response to detected instances of contamination. Economic analyses are performed to determine the cost and financial impact of all proposed regulations. In addition, EPA provides national oversight and evaluations of the public water systems, underground injection and sole source aquifier programs.

State Program Resource Assistance - This subactivity provides for financial assistance to support state activities in the implementation of the public water system supervision and underground injection control programs. In the UIC grant program, should a State fail to qualify for a grant, EPA may use the grant funds to directly implement a program in that State. Financial assistance in the form of grants is also provided to State rural water associations which assist small rural drinking water suppliers in complying with the primary drinking water regulations.

Drinking Water Management - This subactivity supports Federal implementation and oversight of the public water systems and underground injection control programs. EPA provides oversight and technical assistance to those States with primary enforcement responsibility and provides for full implementation activities on Indian lands and in States unable or unwilling to enforce such programs.

Other activities include managing the sole source aquifer program, assisting in ground water contamination cases which threaten drinking water sources and supplies, and coordinating State implementation of water protection programs.

Purpose - Enforcement Program

The drinking water enforcement program assures compliance with standards and regulations established under the SDWA relating to public water system and underground

injection operations. This entails initiation of enforcement actions in response to emergency situations if required, as well as provision of legal assistance and oversight to states which have implemented enforcement programs for PWS and UIC standards & regulations to ensure that their requirements are adequately enforced. The enforcement program issues permits in States, Territories, and Indian lands which have not achieved program delegation.

DRINKING WATER

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
PROGRAM LEVELS					
Number of States with primary enforcement responsibility Public Water Systems Supervision programs.....	49	51	51	51	...
Number of States with primary enforcement responsibility for Underground Injection Control programs.....	...	11	11	24	+13
Underground Injection Control grants.....	41	57	57	57	...
Variances and exemptions granted by EPA in non-primacy States..	1	150	20	15	-5
Sole source aquifer petitions received.....	5	5	3	7	+4
Sole source aquifer designations	3	3	3	...	-3
Laboratories certified.....	46	100*	60	60	...
Enforcement actions.....	6	40	23	10**	-13

*Labs in non-primacy States.

**Includes compliance agreements and court cases.

DRINKING WATER

Criteria, Standards, and Guidelines

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Criteria, Standards and Guidelines:					
Salaries and Expenses.....	$4,521	$5,458	$5,298	$5,619	+$321
Abatement, Control and Compliance.....	4,903	3,837	3,658	3,595	- 63
Total.....	9,424	9,295	8,956	9,214	+ 258
Permanent Positions.....	91	100	95	96	+ 1
Full-time Equivalency.....	111	118	117	114	- 3

Budget Request

The Agency requests a total of $9,213,600, and 96 permanent workyears, an increase of $256,900 from 1981. Of the total, $5,619,000 will be used for Salaries and Expenses and $3,594,600 will be used for Abatement, Control and Compliance. These figures represent an increase of $320,600 for Salaries and Expenses and a decrease of $63,700 for Abatement, Control and Compliance. The program will focus on controlling synthetic organic and other toxic chemicals in drinking water as a means of controlling a significant route of human exposure. As such, EPA will promulgate maximum contaminant levels (MCLs) for six to ten contaminants most frequently found in ground water, oversee compliance with trihalomethane (THM) standards and expand its effort to issue formal health effect guidances for unregulated contaminants. These funds will support the development of comprehensive revised primary drinking water regulations including MCLs for microbiological, inorganic, pesticide and radionuclide contaminants, and corrosion control procedures; continuation of the program to control direct and indirect additives to drinking water; and national review of compliance and implementation activities of both the public water system supervision and the underground injection control programs.

Program Description

The Safe Drinking Water Act (SDWA) requires EPA: 1) to set standards for drinking water quality which specify maximum permissible levels of contamination and minimum monitoring frequencies; 2) to protect sole or principal sources of drinking water from contamination by Federally assisted projects, 3) to protect underground drinking water sources from contamination through underground injection: 4) to establish regulatory programs for assuring compliance with these standards and criteria; 5) to ensure proper implementation of these programs, either through oversight and technical assistance to State programs or, if necessary, through direct implementation; 6) to provide financial assistance to States in their implementation of programs; and 7) to better understand the current state of drinking water quality by collecting and analyzing information about nationwide drinking water supplies and drinking water sources.

The drinking water program's principal regulatory mechanism is the National Primary Drinking Water Regulations (NPDWR). These regulations specify the maximum permissible levels of contamination that may be present in drinking water to protect public health, considering economic feasibility. These maximum contaminant levels (MCLs) have been established for bacteriological, microbiological, and radiological quality; and for specific organic and inorganic chemical contaminants. The NPDWRs also specify monitoring frequencies and methods. Alternatively, treatment criteria may be specified which provide effective general protection without specifying MCLs for specific substances.

Interim Primary Drinking Water Regulations which cover a limited number of bacteriological, turbidity, inorganic chemical, pesticide and radionuclide contaminants have been in effect since 1977. Amendments were promulgated in 1980 setting MCLs for trihalomethanes (THMs) to limit the presence of unwanted disinfectant by-products in drinking water. Maximum contaminant levels for six to ten additional man-made organic chemicals (mostly carcinogenic) will be proposed in 1981. In 1982, the priority will be the proposal of revised primary drinking water Regulations including new contaminants of concern, synthetic organic contaminants (mostly carcinogenic), and the reassessment of traditional standards.

In order to support the problems of spills and migration of hazardous wastes into drinking water sources, EPA will expand its capacity to provide health effects guidance documents on previously unregulated contaminants. This is necessary to facilitate responses to the growing number of ground water contamination instances being detected. In addition, programs to control direct and indirect additives to drinking water will be developed to limit these sources of harmful organic contaminants in drinking water.

The SDWA's mandate for the program places primary responsibility for implementation and enforcement of standards with the States. EPA regulations, which set minimum requirements for States seeking delegation, are intended to be reasonable and flexible in order to accommodate varying State and local conditions.

In addition to developing drinking water standards, the Criteria, Standards and Guidelines program is responsible for developing the underground injection control (UIC) program requirements to ensure that the underground sources of drinking water are protected from contamination from injection wells.

The UIC program complements the sole source aquifer program. Section 1424(e) of the SDWA provides for protection of aquifers designated as sole or principal sources of drinking water by EPA. Any project receiving Federal financial assistance may have those funds denied if it is determined that the project poses a significant contamination threat to the aquifer. EPA designated 8 sole source aquifers and expects 5 new petitions for designation to be reviewed in 1982.

DRINKING WATER STANDARDS AND REGULATIONS

1980 Accomplishments

During 1980, obligations totalled $9,424,300, of which $4,521,300 was for the Salaries and Expenses appropriation, and $4,903,000 was for the Abatement, Control and Compliance appropriation. Significant strides have been achieved in the drinking water program since the National Interim Primary Drinking Water Regulations became effective in 1977. In 1969, 64% of the 19,200 public water systems met chemical and bacteriological standards. Currently 86% of the 62,000 community systems are in compliance. The organic contamination problem resulting in the formulation of trihalomethanes, a human carcinogen, was addressed by regulations which were promulgated in November 1979.

EPA continues to build a strong, cooperative relationship with its counterpart State agencies. Forty-nine States have assumed primary enforcement responsibility for the public water system supervision program.

EPA has increased its effort to reduce the number of violations which involve immediate health threats: gastrointestinal illnesses, giardiasis, gastroenteritis and other serious diseases. The majority of these violations occur among a small number of systems. EPA developed a Small Systems Strategy which sets forth an action plan for States to set priorities in dealing with systems out of compliance and to bring such systems into compliance wherever feasible.

EPA and the Food and Drug Administration signed an agreement under which EPA will be responsible for evaluating the safety of direct additives (those mixed into the water during treatment) and indirect additives (those which leach into the water from paints and coatings used in pipes, storage tanks, etc.). EPA initiated a program to examine the use and potential health risks of additives and their alternatives.

To further ground water protection and to set forth a coherent Agency plan of action, EPA initiated the development of a ground water protection strategy. In addition, the Agency is working to marshal the authorities of all environmental statutes, including RCRA and Superfund, into an integrated attack on the pollution of ground water. As an integral part of this effort, the underground injection control regulations were promulgated in June 1980. These regulations set forth minimum requirements for State programs to prevent injection through wells that endanger drinking water supplies. These regulations will become effective in March 1981.

Other program accomplishments include the completion of the study of the reaction of chlorine and humic acids, and the effects of the resulting contaminants on the public health; national oversight of the implemention of the public water system supervision program through Regional and State evaluations; completion of the national study of the ground water contamination potential of surface impoundments; administration and development of data management activities relating to the public water system and underground injection control programs; completion of public hearings on the underground injection control regulations; and development of program guidance documents on program implementation. In addition, EPA devoted considerable attention to defending the THM regulation under court challenge by the American Water Works Association.

1981 Program

In 1981 the Agency has allocated a total of $8,956,700 to this program, of which $5,298,400 is for Salaries and Expenses and $3,658,300 is for Abatement, Control and Compliance. The program focuses on the development of maximum contaminant levels for some of the most prevalent ground water contaminants, and the review of the basis for some of the traditional contaminants covered by existing regulations. Concurrently, guidance documents on unregulated contaminants will be developed to provide the States with scientific advice to help deal with detected instances of contamination. Work is being initiated to revise the drinking water standards on radiation. As part of this effort a uranium criteria document is being developed, data on radiotoxicity of radium evaluated, existing policies will be reassessed and revisions to the drinking water standards are in preparation. Extramural funds are providing assistance in performing assessments of the occurrence of contaminants in drinking water, including a determination of the applicability of technology, costs and economic impact of proposed regulations; in maintaining data management activities; and in the development of technical guidance.

National activities relating to the public water system supervision program will be directed at program oversight to ensure that regions and States are implementing delegated programs. Oversight and guidance activities will emphasize addressing noncompliance problems, particularly in small systems. A compliance strategy which integrates previously issued policies relating to enforcement, noncommunity and small systems will be developed to integrate State compliance actions.

To improve the Agency's ground water protection programs, the proposed ground water protection strategy will be analyzed in view of public comments and recommendations developed. A joint EPA-State ground water monitoring survey is being undertaken to determine the presence of volatile and aromatic organic chemicals in drinking water derived from ground water.

The requirements of Underground Injection Control regulations will become effective in March 1981. Guidance documents on EPA implementation of UIC programs in nonprimacy States and on Indian lands will be issued; primacy applications for an estimated 11 States will be reviewed, data management systems will be developed and administered; and a public awareness/participation program will be initiated. The final report on the assessment of surface impoundments will be completed.

1981 Explanation of Change from Budget Estimate

The net decrease of $338,200 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $25,800.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $13,000 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $50,400 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $80,100 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $91,800 was applied to this activity.

- An increase of $61,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- A transfer of $28,300 was made to the radiation media in order to support the Radiation Policy Council.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $6,900.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $42,000 which is to be rescinded.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $57,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $15,000 from regulations, guidelines and policies/ hazardous waste.

- Transfer of $19,500 to program management to support participation in the University of Southern California/Environmental Management Institute.

1982 Plan

The Agency requests a total of $9,213,600 for this program, of which $5,619,000 is for the Salaries and Expenses appropropriation and $3,594,600 is for the Abatement, Control and Compliance appropriation. The Abatement, Control and Compliance funds will be used to support development of regulations, and to conduct economic analysis of regulations.

The drinking water program activities will focus on expanding public health protection. Efforts to control synthetic organic contaminants and other toxic contaminants primarily found in underground drinking water sources will be continued. Maximum contaminant levels for six to ten solvents will be promulgated. Revised Primary Drinking Water Regulations including the establishment of MCLs for chloroform, turbidity, inorganics and pesticides, organic chemicals and disinfectants, and corrosion control and radionuclides will be developed. In addition, in order to assist State and local officials in dealing with the growing incidences of detected contamination of drinking water sources, the program for providing guidance on health effects for unregulated contaminants will be accelerated.

Studies and analyses to be conducted during 1982 include the completion of the ground water monitoring survey directed at the evaluation of the occurrence of organic contaminants in ground water, and evaluation and analysis of organic contaminants and the development of additional MCLs if necessary, continued analysis of the causes of ground water contamination, and economic analysis in support of regulation development. In addition, EPA will continue implementation of the program to evaluate direct and indirect additives to drinking water. This will include promulgation of test protocols to evaluate the toxicity of additives in drinking water and the periodic revision of these protocols, issuance of new toxicological opinions and the review of past informal toxicological opinions, compilation and analyses of existing toxicological data, and maintenance of an information retrieval system on various additives.

Guidance documents to promote compliance with new standards such as the organics MCLs will be prepared. Activities in the PWS program will include the continued review of compliance and implementation activities of the public water system supervision program which will include monitoring of State program grants. Other activities will include monitoring of the Regional implementation of the small systems strategy to increase compliance with the NPDWR, continued monitoring and technical assistance in support of program regulation development activities, implementation of THM regulations, and providing ADP support for data management.

In the Ground Water Protection program, major program emphasis will be on Federal implementation of the underground injection control program in nonprimacy States. EPA, however, will continue to promote delegation for the underground injection control program. An estimated 13 primacy applications will be reviewed; guidance on priority activities to be included in UIC grants will be developed; national policy direction to assist the Regions in addressing unique problems in non-cooperating UIC States on a case-by-case basis will be provided; and an evaluation of regional implementation activities on Indian lands and nonprimacy States will be conducted. In addition, an estimated five sole source aquifer petitions will be reviewed. Data management support will continue to be provided. In addition, coordination with other EPA programs which contribute to ground water protection will be continued.

Change from January Request

The request represents a decrease of $652,500 and 13 permanent workyears from the January request, of which $419,300 is for Salaries and Expenses and $233,200 is for Abatement, Control and Compliance. Promulgation of protocols for evaluating additives and the subsequent issuance of toxicological opinions will be delayed. Proposal of Revised Primary Drinking Water Regulations will be delayed until early 1983. In addition, criteria for consistent State ground water protection strategies will not be developed.

DRINKING WATER

State Program Resource Assistance

Appropriation	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
	(dollars in thousands)				
Public Water Systems Supervision Program Grants: Abatement, Control and Compliance	$30,779	$29,450	$29,450	$29,450	...
Underground Injection Control Grants: Abatement, Control and Compliance	9,823	8,575	6,575	6,575	...
Special Studies, Demonstrations, and Training: Abatement, Control and Compliance	799	1,550	1,657	1,500	-$157
Total: Abatement, Control and Compliance	41,401	39,575	37,682	37,525	-157
Permanent Positions	...	...	...	...	...
Full-time Equivalency	...	...	...	...	...

Budget Request

The Agency requests a total of $37,524,500 in 1982 for Abatement, Control and Compliance, a decrease of $156,800 from 1981. The request includes funds for continuation of State public water system supervision program grants, for State underground injection control grants, and for State rural water associations which provide assistance to small systems.

Program Description

Under the Safe Drinking Water Act, (SDWA) the States are encouraged to assume primary responsibility for implementing and enforcing the public water system supervision and underground injection control regulations. In recognition of State financial needs in implementing these regulatory requirements, grants are provided to support State programs that meet minimum program requirements designed to protect the public from potential health threats caused by unsafe drinking water, and to protect underground sources of drinking water from contamination resulting from underground injection practices. In both the public water system supervision and underground injection control programs, only those States which have assumed primary enforcement responsibility (primacy) for these programs are eligible for grants. In the underground injection control program, should a State not elect to assume primacy, EPA may use the grant funds for its UIC implementation activities which include permit review, on-site visits, data processing, etc.

Financial assistance is extended to State rural water associations to provide additional assistance to small systems in their efforts to achieve compliance with existing regulations covering the traditional drinking water contaminants-bacteria, turbidity, ten inorganic contaminants, six pesticides and radiation.

PUBLIC WATER SYSTEM SUPERVISION PROGRAM GRANTS

1980 Accomplishments

In 1980, the Agency obligated $30,779,400 for public water system supervision grants. Grants were awarded to 49 States that had assumed primacy. The States used these funds to establish, implement and maintain public water systems supervision programs; implement the trihalomethanes regulation; process compliance and monitoring data; enforce the National Interim Primary Drinking Water Regulations, implement public participation, public notification and public awareness activities and conduct training programs for State personnel.

1981 Program

Grants totalling $29,450,000 will be awarded to 51 States for the continuous maintenance and implementation of State public water systems supervision programs. In 1981, State grants emphasize the expansion of non-compliance follow-up activities including enforcement programs, implementation of the small systems strategy, assistance to communities in locating potential Federal and State funding sources for improvements to public water systems and implementation of the regulations on trihalomethanes, and radionuclides.

1981 Explanation of Change from Budget Estimate

There is no change in this activity.

1982 Program

The Agency is requesting a total of $29,450,000 in 1982 to provide continued support to States with primary responsibility for the implementation and enforcement of the public water system supervision program. Continued emphasis will be placed on non-compliance followup activities. State activities directed at ensuring compliance by small systems serving a population of 2,500 or less are expected to increase. The States will improve their ability to respond to contamination incidents, especially those involving organic compounds in ground water.

Change from January Request

There is no change from the January budget.

STATE PROGRAM RESOURCE ASSISTANCE - UNDERGROUND INJECTION CONTROL PROGRAM - (UIC)

1980 Accomplishments

A total of $9,822,600 was obligated in 1980 to 41 States. In those 11 States which did not elect to apply for grants, EPA used the funds to initiate required activities. During these first years of the grant program, the States have applied their grant dollars to onetime data collection activities such as the identification of aquifers; inventory of injection wells; identification and assessment of Class IV and V injection wells; establishment of areas of review and identification and investigation of polluted aquifers. These represent basic activities essential to the development and implementation of UIC programs.

1981 Program

In 1981, $6,574,500 is available to all 57 States and territories to assist them in developing and administering their underground injection control programs. EPA will use the funds earmarked for those States failing to participate and for Indian lands to develop and implement a program. State activities that will lead to the establishment of institutional and administrative frameworks for implementing primary enforcement responsibility for the program will be funded. While many States will be pursuing the completion of the one-time data collection activities, the primary emphasis will be on recruiting qualified personnel to enable State program implementation, developing permit procedures, increasing their data management capabilities, preparing primacy applications and conducting public hearings on their proposed UIC program.

1981 Explanation of Change from Budget Estimate

The Congress reduced this activity by $2 million. The decrease will reduce the level of State implementation estimated in the January request, since grant funding primarily supports State personnel salaries. It is anticipated that there will be delays in the issuance of UIC permits, and technical assistance to injection well operations will be curtailed.

1982 Program

The Agency requests a total of $6,574,500 to support State or EPA implementation of underground injection control programs. Both EPA and State activities will focus on program implementation which will include such activities as review of permit applications for new Class II wells and existing Class I, II, III wells; compliance inspections on regulatory schemes; and regulation of a limited number of wells by rule, etc. EPA will use part of these funds to collect and evaluate data necessary for permit review, to conduct on-site technical reviews on injection facilities, and to train State personnel.

Change from January Request

This request represents a decrease of $2 million from the budget, all of which was for UIC grants.

SPECIAL STUDIES, DEMONSTRATIONS AND TRAINING

1980 Program

Grants totalling $798,700 were awarded in this program during 1980. Of this total, $400,000 was awarded to State rural water assocations to maintain their current program of providing technical assistance, training, and public awareness activities for owners/operators of small rural water systems. Also, 104 fellowships and university grants totalling $398,700 were awarded to increase State expertise relating to drinking water and ground water technology and management.

1981 Program

A total of $1,656,800 supports the 1981 program. Of that amount, $1,550,00 maintains current rural water assistance programs in 24 States. In addition to continuing technical assistance and training programs for local operators, interested citizens and owners/operators of rural water systems, the associations will focus on compliance problems of small systems. The remaining $106,800 was used to support academic training.

1981 Explanation of Change from Budget Estimate

The Congress increased the Abatement, Control and Compliance appropriation by $1 million to support academic training. An increase of $106,800 was applied to this activity.

1982 Program

The Agency requests a total of $1,500,000 for 1982 to fund programs in 23 State rural water associations, a decrease of $156,800 from 1981. Technical assistance in the form of workshops, printed material, training programs, reporting systems, and coordination with other rural programs will emphasize methods by which the small systems may achieve compliance with standards for the traditional contaminants found in drinking water e.g., bacteria, turbidity, and inorganic chemicals.

Change from January Request

There is no change from the January budget.

79-248 O—80——33

DRINKING WATER

Drinking Water Management

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Public Water Systems:					
Salaries and Expenses.....	$5,702	$6,199	$6,131	$5,482	-$ 649
Abatement, Control and Compliance.....	936	1,208	1,125	937	- 188
Underground Injection Control:					
Salaries and Expenses.....	1,137	2,383	1,826	3,823	+ 1,997
Abatement, Control and Compliance.....	72	35	35	35	...
Total					
Salaries and Expenses.....	6,839	8,582	7,957	9,305	+ 1,348
Abatement, Control and Compliance.....	1,008	1,243	1,160	972	- 188
Grand Total.....	7,847	9,825	9,117	10,277	+ 1,160
Permanent Positions					
Public Water Systems.....	197	209	190	157	- 33
Underground Injection Control.....	40	61	56	82	+ 26
Total.....	237	270	246	239	- 7
Full-time Equivalency					
Public Water Systems.....	216	232	214	179	- 35
Underground Injection Control.....	42	67	62	111	+ 49
Total.....	258	299	276	290	+ 14

Budget Request

The Agency requests a total of $10,277,100 for 1982, an increase of $1,160,600 from 1981. Included in this total are $9,305,300 for Salaries and Expenses and $971,400 for Abatement, Control and Compliance. The figures represent an increase of $1,349,300 and a decrease of $188,700 respectively. The increase is for regional activities in the ground water protection program which will focus on encouraging State assumption of primary enforcement responsibility for the underground injection control program as well as fulfilling EPA's implementation responsibilities for the program.

Drinking Water Management-Public Water Systems activities performed in the regions will emphasize compliance with existing and new standards. The regions provide limited technical assistance to States in implementing the THM regulations and in applying the small systems strategy to increase compliance by the small systems with traditional standards, e.g., turbidity, bacteria, inorganic chemicals.

DRINKING WATER MANAGEMENT - PUBLIC WATER SYSTEM SUPERVISION

1980 Accomplishments

During 1980 a total of $6,638,600 was obligated of which $936,400 was used for extramural purposes. EPA successfully worked to assist five States to assume primary enforcement responsibility, thus making a total of 49 primacy States. EPA also implemented a program in 8 States and on 25 Indian lands. The Regions worked with the States to promote compliance with the existing standards. Examples of region-specific activities included assistance in the Bucks and Montgomery Counties (PA) emergencies involving trichloroethylene, investigating and providing advice to the States on the leaching of tetrachloroethylene from vinyl lined pipes, and technical assistance in the Manassas/Fredericksburg (VA) oil spill which threatened local drinking water supplies.

1981 Program

The Agency has been allocated a total of $7,255,700 of which $6,130,600 is for the Salaries and Expenses appropriation and $1,125,100 is for the Abatement, Control and Compliance appropriation. Two additional States and territories are expected to achieve primacy for the public water system supervision program, for a total of 51; the Regions will continue to implement programs in the remaining 6 States and on Indian lands. Because most States have achieved primacy, program emphasis shifted from program implementation in non-primacy States to oversight of program implementation in primacy States to ensure full compliance with the requirements of the SDWA. The regions will continue to provide guidance and technical assistance to the States in implementing the THM and other standards, will ensure that necessary revisions are made by the States to their legislation and regulations to meet the new requirements, and will conduct evaluations of State programs. In non-primacy States and Indian lands, EPA Regions will include the conduct of sanitary surveys, issuance of public notifications for violations of the primary drinking water regulations; recordkeeping; data management and the review of exemption requests. Abatement, Control and Compliance appropriation funds will support these activities in the non-primacy States and Indian lands.

1981 Explanation of Change from Budget Estimate

The net decrease of $151,300 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $38,200.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $12,300 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $64,200 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $4,800 was applied to this activity.

- An increase of $90,400 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a net transfer of $265,900; to stationary source enforcement ($28,400); to State programs regulations and guidelines ($51,800); to ocean disposal permits

($34,500); to environmental emergency response and prevention ($22,200); to municipal waste treatment facility construction ($102,400); to waste treatment operations and maintenance ($3,000); to Water Quality manpower planning and training ($4,100); to regional counsel ($3,700); to Water Quality permit issuance ($300); to drinking water enforcement ($23,600); to hazardous waste management regulatory strategy implementation ($16,400) and to pesticides use management ($6,100), and from UIC Program ($23,100); and from regional management ($7,500).

- Transfer $20,000 to uncontrolled hazardous waste sites to realign contract funds.

- Transfer $32,000 from ambient air quality monitoring to realign contract funds.

- Transfer $5,200 to State programs and guidelines to fund the intragency agreement for a Soil Conservation expert.

- Transfer $125,800 from underground injection control program to cover necessary lab support contracts.

- Transfer $73,200 to toxic substances enforcement for PCB compliance inspections and PCB and asbestos lab analysis.

- OMB Bulletin #81-7, Januray 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $32,700.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $10,000.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $3,600.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $16,200.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $146,800.

1982 Program

The Agency requests a total of $6,419,300 of which $5,482,400 will be used for Salaries and Expenses and $936,900 will be used for Abatement, Control and Compliance. The Abatement, Control and Compliance funds will be used to support regional efforts in training, general program augmentation and activities in non-primacy States and on Indian lands. ADP funds totalling $415,800 will be used for operation of MSIS and to enter annual Reporting Data into the Federal Reporting Data System. Regional oversight and the capacity to provide technical assistance to states in emergency situations will be reduced, in FY 82. Regional efforts will be directed to assisting States in incorporating the requirements of the TNM regulations and implementing the national strategy to maximize small sytems' compliance.

Activities in non-primacy States and on Indian lands will include the establishment of a cooperative effort with the Indian Health Service to develop a coordinated surveillance program to meet monitoring and reporting requirements of the Safe Drinking Water Act. The regions will also conduct sanitary surveys; maintain an inventory of systems and catalogue of compliance standings; issue notices of violations of MCLs and monitoring requirements; establish an emergency response plan; and follow up activities for MCL violations. In non-primacy States, the regions plan to emphasize the surveillance and compliance portions of the public water system supervision program which will include the conduct of sanitary surveys; issuance of public notices for MCL violations and of monitoring and reporting requirements. Also, regional staffs will begin implementing the THM regulations and provide technical advice and input for emergencies involving water supplies.

Change from January Request

The latest request represents a decrease of $604,000 and 20 permanent workyears from the January request, of which $513,900 is for Salaries and Expenses and $90,100 is for Abatement, Control and Compliance. These decreases will primarily affect regional oversight of primacy States' programs to assure consistent compliance with standards and regulations, with some reduction in the Federal administration of the program in non-primacy States and Indian lands. Specifically, regional evaluations of primacy State programs will be curtailed in 1982, and some technical assistance to these States will be deferred.

DRINKING WATER MANAGEMENT - UNDERGROUND INJECTION CONTROL PROGRAM (UIC)

1980 Accomplishments

During 1980, a total of $1,209,800 was obligated, of which $71,600 was used for extramural purposes. In 1980, the program vigorously encouraged State assumption of primary responsibility for the implementation and enforcement of underground injection control programs. Priority was given to regional efforts directed at assisting States in building and expanding their existing institutional framework for the regulation of underground injection. Accomplishments included the completion of the assessment of surface impoundments; awards of grants to States (or EPA use of funds in those State not electing to receive grants); and review of five petitions for the designations of sole source aquifers. For those States in which EPA used the UIC grant funds to initiate program activities, (because the State declined to take a grant), contracts and/or grants were awarded to initiate the inventory of injection facilities and identification of exempted aquifers.

1981 Program

In 1981, a total of $1,860,800 has been allocated for this program, of which $1,825,800 is for Salaries and Expenses and $35,000 is for Abatement, Control and Compliance. EPA will be working with the States in their assumption of primary enforcement responsibility (primacy) and expects to delegate primacy to 11 States during 1981. The regions will continue to provide assistance in developing programs to the remaining States that are working toward primacy. General ground water protection assistance such as emergency response, advice on ground water contamination problems, consultation on the implementation of the Resource Conservation and Recovery Act and review of Environmental Impact Statements will be provided. In addition, the regions will administer the UIC grant program and continue to develop and implement programs in non-primacy States and on Indian lands. In the sole source aquifer program, five petitions for sole source designations are being evaluated and the Regions will hold public hearings prior to the designation of three aquifers.

1981 Explanation of Change from Budget Estimate

The net decrease of $557,100 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted , President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $11,300.

- The Congress reduced agencywide travel costs by $850,000, a decrease of $5,900 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $31,100 was applied to this activity.

- An increase of $26,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a net transfer of $143,800; to public systems supervision program assistance ($23,100); to drinking water enforcement ($47,700); to regional counsel ($30,100); to pesticides enforcement ($68,100); to water quality manpower planning and training ($13,100); to radiation program implementation ($1,600); to EIS review-air ($22,200); and to EIS review-water quality ($12,400); and from hazardous waste management regulatory strategy implementation ($11,800); hazardous waste enforcement ($23,300); and from regional management ($39,400).

- Reprogrammings of $15,000 to provide for the printing of EIS statements resulted in transfers to NEPA compliance-municipal waste facility construction ($10,000); and to NEPA compliance/EIS preparation-new source discharge ($5,000).

- Reprogrammings of $18,800 to provide support to the hazardous material emergency response program resulted in a transfer to environmental emergency response and prevention.

- Reprogrammings of $65,100 to cover basic operating costs of ADP support to the Central Regional Lab resulted in a transfer to quality monitoring.

- Reprogrammings of $72,300 to cover travel costs resulted in a transfer to municipal waste treatment facility construction.

- Reprogrammings of $35,900 to cover fixed operating costs of regional lab support resulted in a transfer to water quality enforcement.

- Reprogrammings of $49,700 to cover required printing of EIS report resulted on a transfer to NEPA compliance-municipal waste facility construction.

- Reprogrammings of $125,800 to cover necessary lab support contracts resulted in a transfer to public systems supervision program assistance.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $4,700.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Proccurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $12,100.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $7,600.

1982 Program

The Agency requests a total of $3,857,800 for 1982 of which $3,823,300 is for Salaries and Expenses and $34,500 is for Abatement, Control and Compliance. The protection of underground drinking water sources from contamination resulting from improper injection practices will be a high Agency priority. In the underground injection control program, program delegations to the States will be pursued. EPA will continue to work with cooperating States by reviewing the adequacy of existing programs, legislation and regulations and by providing assistance in emergency responses in an effort to promote delegation of the program in the future. The regions will implement programs on Indian lands and in all States that were unwilling or unable to assume primacy. In non-primacy States and on Indian lands, EPA will (1) prescribe individual programs taking into consideration any existing programs, geologic and hydrologic conditions; (2) review permits for Class II wells; (3) issue violation notifications; and (4) evaluate Class I (waste disposal), Class II (oil and gas production and storage) and Class III (mining and special process) injection wells.

The regions will provide the leadership in coordinating the implementation of various EPA programs affecting ground water and for working closely with the States in this effort.

Change from January Request

The request represents a decrease of $2,600 in Salaries and Expenses from the January request which results in a decrease of travel resources for 1982.

DRINKING WATER

Drinking Water Enforcement

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Salaries and Expenses	$655	$755	$794	$938	+$144
Abatement, Control and Compliance	47	9	...	...	...
Total	702	764	794	938	+144
Permanent Positions	18	28	26	28	+2
Full-time Equivalency	23	32	31	31	...

Budget Request

The Agency requests a total of $938,200 for 1982, an increase of $144,200 from 1981. This total is for the Salaries and Expenses appropriation. The 28 permanent positions requested for 1982 reflects an increase of two positions.

Program Description

The Safe Drinking Water Act(SDWA) of 1974, as amended, provides the statutory requirements for a Federal/State drinking water program. The Act ensures the safety of drinking water through two mechanisms: the establishment and enforcement of Primary Drinking Water Regulations, which specify the maximum allowable levels of drinking water contaminants, and Underground Injection Control (UIC) regulations for protection of underground drinking water supplies.

The SDWA provides for State assumption of the drinking water program, and requires EPA to implement the program in States that have not been delegated enforcement responsibility. The Public Water System (PWS) program encompasses the following enforcement activities: investigate violations and take legal action against violators of the Primary Drinking Water Regulations in primacy States which request such assistance and in all non-primacy areas; review variances and exemptions granted by primacy States to assure compliance with the regulations; issue variances and exemptions in non-primacy areas; and where necessary initiate emergency enforcement actions.

The UIC program requires that EPA designate States which can assume the UIC program. It is projected that all programs will be delegated to the States by 1985. Enforcement program activities will include approval of the enforcement sections of primacy applications for State UIC programs, issuance of UIC permits in non-primacy states, preparation for implementation of UIC permits, investigations and initiation of enforcement actions against violators of the regulations and response to emergencies when necessary.

1980 Accomplishments

In 1980, a total of $702,500 was obligated of which $655,400 was used for Salaries and Expenses and $47,100 for extramural purposes under the Abatement, Control and Compliance appropriation. Included in this amount was $10,000 for purchase of a mobile microbiologic laboratory to support investigations where long travel time prevents microbiologic samples from reaching the regular laboratory within the recommended holding time.

During 1980, six civil actions for violations of the SDWA were initiated by the Agency. Three of these actions were subsequently referred to the Department of Justice (DOJ) for filing and prosecution. The remaining three actions are presently under review at headquarters prior to being forwarded to DOJ. These actions represent a significant increase from the 2 cases initiated in 1979 and indicate that the Regions will now use the judicial enforcement option in cases that cannot be resolved administratively.

Drinking water enforcement activities also included oversight responsibility in 49 primacy States and territories, enforcement responsibility in 8 non-primacy States and territories and review of the enforcement aspects of 2 State primacy applications. In addition, an overall enforcement strategy for PWS was developed. Implementation of the strategy begins in 1981.

1981 Program

In 1981, the Agency has allocated $794,000 to this program, all of which is for the Salaries and Expenses appropriation.

During 1981, the highest priority of the drinking water enforcement program is response to emergency drinking water situations that involve imminent and substantial hazards to public health and safety. Drinking water enforcement is also focusing on two programs: PWS implementation and UIC. For the PWS implementation program, activities will include review of and assistance to drinking water enforcement programs in primacy States, providing legal support for variance and exemption activities in non-primacy States, support for the initiation of 23 new enforcement actions, and continued support for enforcement proceedings initiated in 1980. Activities will also include issuance of Notices of Violation to primacy States that have not adequately enforced provisions of the Act. Implementation of the UIC program will begin in 1981. The implementation plan includes legal and technical support for review of and assistance to 11 States by the end of 1981, as well as compliance monitoring and enforcement activities in non-primacy States. If necessary, a limited number of UIC permits will be issued by EPA in non-primacy States.

1981 Explanation of Change from Budget Estimate

The net increase of $29,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million of EPA's request for Salaries and Expenses. The reduction applied to this activity is $4,900.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,800 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $4,100 was applied to this activity.

- An increase of $12,100 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a net transfer of $62,600 from underground injection control program support ($47,800); from hazardous waste permit issuance ($4,400); from hazardous waste enforcement ($10,000); from public systems supervision program assistance ($23,600); from financial management ($6,700); and to water quality environmental emergency response and prevention ($29,900).

- A transfer of $9,300 to toxic substances enforcement for PCB compliance inspection and PCB and asbestos lab analysis.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $5,900.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $1,000.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $400.

- Agencywide reprogrammings are required in order to fund the PC&B deficits; the decrease applied to this activity is $22,100.

- A transfer of $4,300 from uncontrolled hazardous waste sites to support the Office of Enforcement PC&B realignments.

1982 Plan

In 1982, the Agency requests a total of $938,200 for this program, all of which is for the Salaries and Expenses appropriation. The request for 28 permanent workyears, represents an increase of two workyears. During 1982, the highest priority of the drinking water enforcement program will continue to be in response to emergency drinking water situations that involve imminent and substantial hazards to public health and safety. Drinking Water Enforcement will continue to focus on two programs: PWS and UIC. PWS activities will focus on support for enforcement actions in non-primacy States. UIC activities will increase with a reprogramming of 21 workyears of effort from PWS enforcement activities to the issuance of UIC permits. A total of 210 UIC permits will be issued in 1982.

Enforcement program activities for 1982 will also include review and approval of the enforcement sections of primacy applications for both PWS and UIC programs and review of and assistance to UIC enforcement programs in delegated States.

Change from January Request

This request represents a decrease of $32,700 from the January budget, all of which is for salaries and expenses.

DRINKING WATER

Drinking Water - Non-Energy

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase+ Decrease- 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Technical Information & Liaison					
Salaries and Expenses.....	$237	$238	$221	$240	+19
Research and Development	2	14	14	14	...
Monitoring Systems and Quality Assurance:					
Salaries and Expenses.....	760	875	858	1,077	+219
Research and Development.....	423	433	318	720	+402
Health Effects:					
Salaries and Expenses.....	2,719	3,054	2,896	3,007	+111
Research and Development.....	8,624	9,380	8,242	8,711	+469
Environmental Engineering and Techology:					
Salaries and Expenses.....	2,353	2,958	2,856	3,255	+399
Research and Development.....	5,955	9,221	8,471	7,729	-742
Environmental Processes and Effects:					
Salaries and Expenses.....	738	799	848	1,222	+374
Research and Development.....	1207	1721	1620	3,737	+2,117
Total:					
Salaries and Expenses	6,807	7,924	7,679	8,801	+1,122
Research and Development.....	16,211	20,769	18,665	20,912	+2,247
Total:					
Research and Development.....	23,018	28,693	26,344	29,713	+3,369
Permanent Positions					
Technical Information and Liaison	3	4	4	4	...
Monitoring Systems and Quality Assurance.....	17	16	16	17	+1
Health Effects.....	58	52	46	46	...
Environmental Engineering and Technology.....	48	62	60	60	...
Environmental Processes.....	17	19	19	24	+5
Total	143	153	145	151	+6

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase+ Decrease- 1982 vs. 1981
			(dollars in thousands)		
Full-time Equivalency					
Technical Information and Liaison	5	6	6	6	...
Monitoring Systems and Quality Assurance	21	20	20	21	+1
Health Effects	83	73	67	67	...
Environmental Engineering and Technology	61	83	79	81	+2
Environmental Processes	19	21	22	26	+4
Total	189	203	194	201	+7

*January 1980 President's Budget as adjusted by the ORD restructuring.

Budget Request

The Agency requests a total of $29,712,700 and 151 permanent workyears for this program of which $8,801,000 is for the Salaries and Expenses appropriation and $20,911,700 is for the Research and Development appropriation. This represents an increase of $1,121,600 and $2,246,600 respectively.

Program Description

This program has been developed under the auspices of the Drinking Water Research Committee. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

The Drinking Water program 1) identifies substances that occur in drinking water supplies at a sufficient number of locations to warrant regulations; 2) defines drinking water contamination effects on human health; 3) establishes analytical procedures to monitor contaminants; and 4) describes changes in treatment processes or new treatment technologies to minimize contaminant formation or reduce concentration levels. The contaminants addressed here fall into four categories; organic, inorganic (including asbestos), microbiological, and those affecting groundwater.

Technical Information and Liaison

1980 Accomplishments

In 1980, the Agency used a total of $239,100 for this sub-program, of which $236,800 was for Salaries and Expenses and $2,300 was for extramural research activities.

In 1980, the Technical Information Program supported the preparation and publication of the Research Outlook, the Research Highlights, technical information plans and guidance and other general documents of interest to the environmental decision making community. It also provided the Office of Research and Development (ORD) with information systems necessary to effectively plan and manage its research projects and resources. Specific accomplishments in the area of Drinking Water included:

- The preparation, publication, and dissemination of two reports:
  - o Prescribed Procedures for Measurement of Radioactivity in Drinking Water, and
  - o Treatment for Control of Trihalomenthanes in Drinking Water.

- The conduct of a conference in May of 1980, on Corrosion Control in Water Distribution Systems.

The Regional Services Staff provided for effective communications between ORD and the regions. Specifically, they:

- Developed and implemented the Regional Support Management Information System.
- Carried out regional liaison activities to provide technical assistance.
- Conducted ORD/Regional Senior Staff Meetings.
- Advised ORD on all aspects of regional operations.

The Technical Information and Liaison activities helped enable ORD to communicate its research information to EPA's regional offices and to the environmental decision making community. Further, they assisted in making better coordination between ORD and the regions possible, allowing each to meet the needs of the Agency and the public more efficiently.

1981 Program

In 1981, the Agency has allocated a total of $235,600 and 4 permanent workyears to this sub-program, of which $221,200 is for the Salaries and Expenses Appropriation and $14,400 is for extramural purposes under the Research and Development Appropriation.

This part of the program is providing various research program and project summaries, decision series documents, and technology transfer publications to meet Research Committee requirements. Technical Information Plans, listing the explicit information products for this research effort have been prepared. Throughout the year, support will be provided to develop these information products and to distribute them to the appropriate users. Support is also being provided to manage information systems which track ORD's research projects and resources.

In 1981, the program will:

- Continue the Regional Support Management Information System.
- Conduct ORD/Regional Senior Staff Meetings and other liaison activities to provide technical assistance. These will include preparing reports, conducting special staff and policy studies, developing regional problem statements, and identifying research and technical assistance requirements.
- Develop and implement a process to address the research needs of state and local governments in the ORD planning process.

1981 Explanation of Change from Budget Estimate

The net decrease of $16,700 results from several actions, as follows:

- Shortly after the 1982 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,400.
- An increase of $2,700 results from the cost of the October 1980 pay raise and in included in a proposed supplemental appropriation.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $27,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $2,000.

- Transfer of $7,000 from program management in order to realign PC&B costs within the Office Research Development.

1982 Plan

The Agency requests a total of $254,000 and 4 permanent workyears for this sub-program, of which $239,600 is for the Salaries and Expenses Appropriation and $14,400 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $18,400 in technical information services.

Specific activities planned for 1982:

- The development and production of technical information products to insure that research information is properly and adequately communicated to the environmental decision-making community.

- Specific products planned by the appropriate Research Committee will be developed.

- Support to managing systems which track ORD's research projects and resources will be provided as will strong liaison with Regional offices, of a similar nature to that conducted in 1981.

Change From January Request

This request represents a decrease of $1,500 from the January budget for Salaries and Expenses. This decrease will result in no significant programmatic impact.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1980 Accomplishments

In 1980, the Agency used a total of $1,183,200 for this sub-program, of which $759,900 was for Salaries and Expenses and $423,300 was for extramural research activities.

- Studies to optimize the liquid-liquid extraction method for volatile halides were completed; a total organic halide analyzer was developed; and a simple, rapid field test for visible detection of trihalomethanes was developed.

- Methodology was developed and provided in support of Drinking Water programs. This included methodology for chlorine dioxide and low levels of total organic carbon (TOC) monitoring for use by water supply laboratories.

- Quality assurance support for the Drinking Water Laboratory Certification Program included: (a) semi-annual performance evaluation studies of 700 EPA, State and local laboratories for trace metals, nitrates, fluoride, pesticides, herbicides, trihalomethanes, turbidity, and residual chlorine measurements; (b) distribution of 10,000 quality control check samples; and (c) formal interlaboratory method validation studies conducted for organic compounds in the Safe Drinking Water Act (SDWA) regulations.

- A repository for toxic and hazardous reference materials was established.
- Twenty-two alternate test procedures applications were processed.
- Laboratory certification actions were completed for Regions, II, VI, VII and X.

1981 Program

In 1981, the Agency has allocated a total of $1,175,900 and 16 permanent workyears to this sub-program, of which $857,900 is for the Salaries and Expenses Appropriation and $318,000 is for extramural purposes under the Research and Development Appropriation.

- Standard samples and reference materials are being distributed to water supply laboratories.
- Methods validation and performance evaluation studies for EPA, State and local laboratories are being conducted.
- Sampling and analytical methodology and quality control guidelines and manuals to support the Agency's Drinking Water Program are being developed.
- On-site evaluations are being conducted for three Regional Surveillance and Analysis Laboratories for certification as water supply laboratories.
- Quality control and performance evaluation samples for the water supply laboratory certification program are being produced and distributed.
- Methods validation studies are being conducted for organic compounds in support of the SDWA regulations.

1981 Explanation of Change from Budget Estimate

The net decrease of $131,900 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $5,100.
- An increase of $9,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.
- A transfer of $120,700 to solid waste monitoring and quality assurance/uncontrolled sites to support efforts in Love Canal.
- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $15,600.

1982 Plan

The Agency requests a total of $1,797,900 and 17 permanent workyears for this sub-program, of which $1,077,400 is for the Salaries and Expenses Appropriation and $720,500 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $622,000. This increase will accelerate the development of sampling procedures and equipment for groundwater analysis and augment the development of procedures to document pollutant concentration and migration in drinking water sources.

- Procedures for measurement of radionuclides in drinking water will be evaluted and improved.

- Alternative membrane filter media will be developed for the analysis of total coliforms in public drinking water supplies.

- Sample holding times will be evaluated for microbiological analyses of public drinking water supplies.

- Deficiencies in measurement of coliform group in drinking water samples will be corrected.

- Evaluation of alternate test procedures to meet requirements of Safe Drinking Water Act will be continued.

- Quality control and performance evaluation samples for water supply laboratory certification program will be produced and distributed.

- On-site evaluation of EPA regional laboratories for the Drinking Water Certification Program will be conducted.

- A repository of 1,500 radioactive standards and reference samples will be maintained and distributed to Federal, state and local laboratories.

- Twenty laboratory performance studies will be conducted for radiochemical analysis of public drinking water. These studies will include up to ten on-site inspections and performance evaluations for principal State and other laboratories making radiochemical measurements of public drinking water.

- The following areas for groundwater research will be investigated:

  o Modify well sampling equipment to control contamination.
  o Demonstrate operational sampling procedures for groundwater analysis.
  o Locate abandoned wells nationally.
  o Determine movement of fluids in injected wells.
  o Develop optional sampling for 15 aquifer types.
  o Determine monitoring schemes condensing aquifer, soil and climatic characteristics.

- Support to the mandatory quality assurance program will provide technical guidance, support and overview to assure that the Agency will have environmental data of known quality that are appropriate for the EPA needs.

Change From January Request

This request represents a decrease of $19,900 from the January budget, of which $5,300 is for Salaries and Expenses and $14,600 is for Research and Development. This decrease will result in no significant programmatic impact.

HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $11,342,700 for this sub-program, of which $2,719,000 was for Salaries and Expenses and $8,623,700 was for extramural research activities.

- The data from two clinical studies of humans were found to indicate that the ingestion of as few as ten virus particles caused infections in a significant portion of the exposed population. Similar studies of pigs indicated that infection may also occur when lower numbers of viruses are fed to pigs over a longer period of time. These data may be important in determining the role of disinfection in the drinking water treatment process and in developing potable reuse treatment criteria.

- An epidemiological study found a statistically significant correlation between water chlorination and cancer in the gastrointestinal and urinary tracts. This finding will be useful in reevaluating water treatment processes, particularly chlorination.

- The first conference on algal toxin successfully brought together world scientists for the exchange of information and ideas, and for discussion of problems encountered in case studies and laboratory research. The conference was extremely useful in conveying EPA's expertise, e.g., the States of Pennsylvania and South Dakota requested assistance in investigating such illnesses.

- Several waterborne disease outbreaks were investigated for municipalities and the causative agents were sucessfully isolated. Appropriate improvements were also recommended to alleviate the problem.

1981 Program

In 1981, the Agency has allocated a total of $11,138,600 and 46 permanent workyears to this sub-program, of which $2,896,500 is for the Salaries and Expenses appropriation and $8,242,100 is for extramural purposes under the Research and Development appropriation.

Health effects research on drinking water continues to focus on organic contaminants and is concentrated on carcinogens. Epidemiological, chemical, and toxicological data will be used by the Agency to provide guidelines for setting preliminary limits for selected chemicals that are known to be carcinogens and/or toxic. The results of chemical analyses and biological screening tests will potentially provide the data base for the establishment of maximum contaminant levels of several widely occurring carcinogens in drinking water.

Screening tests based upon mutagenic effects are being developed to predict carcinogenic activity for various organics found in drinking water at very low levels (i.e., part per billion). These tests supplement the current bioassay tests which have limitations. Development methods devoted to the preparation of organic concentrates and identification of biologically active fractions will continue. Key compounds such as benzene; 2,4, dichlorophenol and 1,1-dichloroethylene will be the subject of long-term toxicologic study to determine the carcinogenic risk of these organic contaminants.

Research on the health effects of inorganic contaminants in drinking water includes epidemiological studies to establish the relationship of hypertension to sodium and barium level in drinking water and the relationship of heart attack rates to magnesium levels in drinking water. Also, the effects of using home water softeners are being examined since many of these devices increase the level of sodium. Toxicological studies on the impact of various combinations of calcium, magnesium, lead, cadmium, sodium and other chemcial substances found in drinking water are long-term ongoing studies to provide data for verifying the preliminary observations. Other toxicological studies are being continued to

79-248 O—80——34

determine whether blood lead levels, which are currently considered to be in the normal range, delay central nervous system development in children. Epidemiological studies which examine the incidence of cancer are being completed to determine whether asbestos occurring in drinking water from natural erosion, mining operations, and asbestos-cement pipe is a contributing factor to increased cancer rates. This research will provide the necessary data base for deciding if a treatment technique is necessary to reduce leaching of asbestos fibers from pipes.

Efforts which support the assessment of alternative practices for disinfecting drinking water are being completed. Both the epidemiological studies of the carcinogenic effects from by-products of disinfectants and the studies on comparative toxicity of organic reaction products of chloramines, chlorine, chlorine dioxide, and ozone disinfection are included here.

In collaboration with the Center for Disease Control, EPA is continuing to provide technical assistance on microbiological contaminants in drinking water and investigates ongoing waterborne disease outbreaks. In addition, the health effects research is continuing to examine waterborne outbreaks of infectious diseases to determine the causative agent.

Work is continuing on improving methods for the concentration and identification of viruses found in drinking water which are known to be associated with waterborne disease outbreaks. These improvements will permit a more accurate assessment of the significance to health of viruses in drinking water.

Studies on the potential health effects associated with the reuse of highly treated wastewater are being continued. This is part of a ten year program to develop a data base sufficient to set reasonable criteria for reuse standards. Criteria will be developed by 1985 for reuse of treated wastewater in emergency situations.

1981 Explanation of Change from Budget Estimate

The net decrease of $1,295,400 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million of EPA's request for Salaries and Expenses. The reduction applied to this activity is $13,100.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $3,800 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $25,300 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $938,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $20,000 was applied to this activity.

- An increase of $26,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- A transfer of $197,800 to solid waste monitoring and quality assurance/uncontrolled sites to support efforts in Love Canal.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $7,900.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $50,000.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $66,100.

1982 Plan

The Agency requests a total of $11,718,400 and 46 permanent workyears for this subprogram, of which $3,007,600 is for the Salaries and Expenses Appropriation and $8,710,800 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $579,800. This increase will provide for conduct of multiple stress studies to more closely approximate real world exposure to complex mixtures and expanded efforts to correlate in vivo and in vitro short-term tests to quantitatively predict health endpoints when more expensive long-term tests are now in use.

The drinking water health effects research program will continue to focus on five areas: organic contaminants, inorganic contaminants, microbiological contaminants, alternative disinfectants, and the reuse of highly treated wastewater. Research performed in the organic contaminants area will address the occurrence and related health effects of specific organic drinking water contaminants that have been identified by the Office of Drinking Water as being important with regard to health problems. Compounds which have been identified include the chlorinated ethanes, ethylenes, and benzenes; and disinfection by-products. Toxicological tests will be performed to determine the carcinogenic, reproductive and teratogenic human health effects resulting from consumption of water contaminated with these compounds. Further toxicological testing will investigate the effects of complex mixtures of organics extracted from actual drinking water samples taken before and after treatment with granular activated carbon to determine whether this technology is effective in protecting humans.

Research on inorganic contaminants in drinking water is primarily concerned with disease of two health endpoints: cardiovascular and neurological. Studies on the effects which various levels and combinations of inorganic compounds such as sodium, magnesium and calcium have on the development of cardiovascular disease will continue.

The role of toxic metals and viruses as etiological agents of certain neurological disorders such as multiple sclerosis will also be investigated. Research on microbiological contaminants in drinking water will continue to be concerned with investigating waterborne outbreaks of infectious diseases by identifying the causative agents in drinking water, determining route of entry and recommending corrective action.

Research on the health impact of alternative disinfectants and direct and indirect additives will be conducted. The program includes the completion of a study to assess the effectiveness of alternative disinfectants and the impact of the by-products resulting from their use. Data from this work will be useful in the assessment of disinfection techniques other than chlorination which may be used by water suppliers.

Change From January Request

This request represents a decrease of $288,000 from the January budget, of which $37,500 is for Salaries and Expenses and $250,500 is for Research and Development. This decrease will result in no significant programmatic impact.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1980 Accomplishments

In 1980, the Agency used a total of $8,308,000 for this sub-program, of which $2,353,400 was for Salaries and Expenses and $5,954,600 was for extramural research activities. Accomplishments under the program include:

- A state-of-the-art report on trihalomethane treatment techniques and of the impact of trihalomethane control on the microbiologic quality of the treated water has been written. This report will be used by the water utility industry, and by State and local water supply agencies in meeting the trihalomethane standard.

- A second report was made available that describes the results of full scale studies at several utilities in the Ohio River Valley to control trihalomethane levels by treatment plant modifications or changes in plant operations.

- An electric furnace was evaluated to test the cost and effectiveness of reactivating granular carbon. The exhausted carbon was restored to near-virgin conditions and the costs were competitive with fossil fuel furnaces.

- A report on the removal of barium and radium from drinking water has been published and a report on sodium removal has been prepared for publication. These documents are being used as treatment guides by the water utilities, and by State and local water supply agencies.

- A seminar entitled "Corrosion Control in Water Distribution Systems" was attended by approximately 120 researchers and covered topics such as measurement techniques, control strategies, health effects and cost. The seminar defined the present state of knowledge on corrosion control.

- The first generation of a Master Analytical Scheme, a scheme to allow measurement of organic compounds which are difficult to detect, was developed and made available to an initial user community.

1981 Program

In 1981, the Agency has allocated a total of $11,326,200 and 60 permanent workyears to this sub-program of which $2,855,600 is for the Salaries and Expenses Appropriation and $8,470,600 is for extramural purposes under the Research and Development Appropriation.

- A major effort is focused specifically on the needs of small drinking water systems (serving a population of 10,000 and under), which comprise 80 to 90 percent of all drinking water systems and which regularly serve approximately 20 percent of the U.S. population. Research is needed to develop and evaluate information on cost-effective technology and illustrate the use of cooperative arrangements for small systems. This type of data will enable these systems to meet national and state drinking water standards established to protect public health.

- The program is continuing to provide information on economical treatment processes to control specific contaminants of health concern which are discharged to, and are found in, our drinking water sources. Work on specific synthetic organics is being emphasized and includes development of improved analytical methods. Efforts are being made to produce, evaluate and bring together information on the performanace of existing units producing drinking water from questionable or suspect sources. The evaluations will include cost data and information on the effects of treatment and treatment changes on microbiological quality.

1981 Explanation of Changes from Budget Estimate

The net decrease of $853,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $26,100.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $5,300 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $8,400 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development Appropriation; a decrease of $909,900 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $20,000 was applied to this activity.

- An increase of $35,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- A net transfer of $49,200 from environmental processes and effects ($149,900) which affected the Research and Development Appropriation and to environmental processes and effects ($100,700) which affected the Salaries and Expenses Appropriation to realign contract funds with operating costs.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $3,100 which is being redirected to fund PC&B deficits.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $40,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $75,000.

1982 Plan

The Agency requests a total of $10,983,300 and 60 permanent workyears for this subprogram, of which $3,254,700 is for the Salaries and Expenses Appropriation and $7,728,600 is for extramural purposes under the Research and Development Appropriation.

This reflects a decrease of $342,900 in drinking water research, which is part of the overall reduction in EPA program levels.

Various surveys have shown that certain organic compounds of health concern retain their form through rivers, reservoirs, treatment, and distribution systems. They also demonstrated that other organic compounds formed during water treatment are equally persistent. However, data from pilot plant activities and modular and full scale field evaluations have illustrated that by modifying disinfection/chlorination and treatment practices, a considerable reduction in certain organic by-products can be attained. Currently under study are the organic halogen compounds which are of health concern that occur widely where chlorination is practiced. Research will investigate the influence that factors such as precursor concentration, disinfectant dose, temperature, pH, and time have on the rate and quantity of organic halogen material formed. In addition, large scale pilot plant and full-scale plant evaluations will be conducted to determine the fate

of various organics, not only during water treatment but throughout the entire system-from source to tap. The objective of the projects will be to provide more economical and efficient treatment methods.

In FY 1982 several field-scale pilot projects will be conducted in cooperation with drinking water utilities and local and state governments to determine how effectively and at what cost certain experimental treatment processes remove specific environmental contaminants. These research projects are necessary to determine how these technologies will perform under actual operating conditions. Furthermore, the results of these studies will facilitate our ability to describe water treatment methods when a health risk from organics is suggested and monitoring is not practical.

Chlorination has been the primary method used in this country to destroy microbes in drinking water. But, though this disinfection process has proved to be highly successful in reducing waterborne disease, there is concern about the microbiological contaminants in drinking water, particularly in light of the use of alternate disinfectants and possible changes in treatment processes. This concern has been deepened by the discovery of disinfectant-resistant pathogens and because in widespread areas of America only limited treatment is applied to purify water.

Pilot and field-scale studies will determine whether changes in treatment processes bring about new microbiological problems. These studies will examine such changes as shifts in the location of disinfectant application, the use of alternative disinfectants, conversion of rapid sand filters to granular activated carbon filters, and use of biologically activated carbon as a treatment unit process and any other methods used to reduce undesirable by-products. Field studies are planned to evaluate how water turbidity affects the efficiency of microbiologic disinfectants. Also to be studied are the physical, chemical, and microbial characteristics that permit the growth of microbes in water distribution systems with inadequate treatment practices, such as poor pipe corrosion control.

Also, treating water for the removal of inorganics can present technological problems, particularly for small communities. To alleviate these problems, EPA will improve treatment technologies. Field and pilot-scale studies will examine a number of treatment processes for their effectiveness in removing arsenic, barium, cadmium, chromium, flouride, lead, mercury, nitrate, nitrogen, selenium and radionuclides. The effort will include investigations of those polymers that may be used to improve coagulation or filtration.

Analytical methods for the measurement of the toxic species of arsenic, selenium, and chromium will be developed as will measurement methods for monitoring the removal of specific inorganic contaminants by treatment systems. The work will focus on applying technology to small communities. Several studies will provide cost data for technologies capable of removing one or a combination of contaminants from a variety of source waters. Field testing and cost analysis of full-scale facilities will be a necessary aspect of this future work. EPA is examining existing package plant systems being used by small communities to determine the effectiveness of the systems in removing contaminants from a variety of surface waters; a technical evaluation of the package plants will be provided to allow more widespread application of effective systems by small utilities. Methods to minimize costs of successful treatment technologies will be emphasized. The relative value of regionalization of several water utilities is being examined as are the parameters for determining whether or not this approach will solve some of the small system water quality problems.

This program also identifies critical water stabilization factors and will develop cost-effective treatment methods to prevent corrosion of metal or asbestos-cement pipes. Difficulties in drinking water distribution systems and effects of these systems on water quality will likely demand increased attention in the future.

Change From January Request

This request represents a decrease of $330,400 from the January budget, of which $19,400 is for Salaries and Expenses and $311,000 is for Research and Development. This decrease will result in an overall reduction in the technology research program in Drinking water.

ENVIRONMENTAL PROCESSES AND EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $1,944,700 for this sub-program, of which $737,900 was for Salaries and Expenses and $1,206,800 was for extramural research activities.

- A book was published describing indicators which can potentially be used in groundwater investigations to detect biochemical contamination.
- Workshops were held for the groundwater protection community (Federal, State, and local managers, consultants, researchers) on the state-of-the-art of groundwater modeling.
- An article was published describing the behavior of arsenic in the subsurface.
- A geohydrologic study was begun at Love Canal to assess the extent of the imminent hazard resulting from the disposal of hazardous wastes at that site.

1981 Program

In 1981, the Agency has allocated a total of $2,468,200 and 19 permanent workyears to this sub-program, of which $848,200 is for the Salaries and Expenses Appropriation and $1,620,000 is for extramural purposes under the Research and Development Appropriation.

The 1981 program is concentrating on assessing surface methods for detecting subsurface pollution, completing the Love Canal geohydrologic study, determining the mobility of selected organic chemicals in groundwater in different soil regimes, publishing a manual (in cooperation with the municipal technology program) describing how State and local groundwater managers can protect groundwater from pollution by septic tanks, determining the natural microbial populations in groundwater and publishing a manual on groundwater sampling practices. Technical assistance will continue to be provided on the development of a coordinated Agency effort to protect groundwater, implementation of the UIC regulations, and assessment and remedy of uncontrolled hazardous waste sites. Additional resources in the Solid Waste program will allow development of methods for approximating the subsurface mobility of hazardous wastes and predicting their environmental movement. In addition, field evaluation of these methods will begin.

1981 Explanation of Change from Budget Estimate

The net decrease of $51,800 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $3,300.
- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,800 was applied to this activity.
- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $5,900 was applied to this activity.
- An increase of $11,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.
- Reprogramming of $52,500 from other activities within ORD were implemented in order to realign salary and related costs to meet on-board needs.

- An offsetting transfer from toxic substance monitoring systems and quality assurance ($49,200) and to solid waste monitoring and quality assurance/uncontrolled sites ($49,200) to realign support to all programs supported by what was formerly anticipatory research funds.

- A net transfer of $49,200 to environmental engineering and technology ($149,900) which affected the Research and Development appropriation and from environmental engineering and technology ($100,700) which affected the Salaries and Expenses appropriation to realign contract funds with operating costs.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $1,100, which is being redirected to fund PC&B deficits.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $1,000.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $70,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $16,400.

1982 Plan

The Agency requests a total of $4,959,100 and 24 permanent workyears for this subprogram, of which $1,221,700 is for the Salaries and Expenses appropriation and $3,737,400 is for extramural purposes under the Research and Development appropriation.

This reflects an increase of $2,490,900. This increase is directed toward expanded research on transport and fate of pollutants in groundwater.

In 1982, the groundwater research program will, with additional resources described in the solid waste area, concentrate on developing models for predicting the movement and transformation of trace organic chemicals in the subsurface environment. Of great importance to the success of this effort is the characterization of geologic materials in terms of their effects on processes in groundwater. Work will also continue to characterize the pollutants of concern in groundwater from specific polluting sources. The development of methods for conducting groundwater pollution investigations remains a high priority, as does technical assistance for groundwater investigations and development of state-of-knowledge documents.

The program will provide (1) the capability to develop a first-generation classification of subsurface geological materials, a step beyond characterization, (2) accelerated transport and fate research which can be applied in various hydrogeological regimes, (3) guidance for translating quality requirements into source control plans, and (4) quality requirement documents for unregulated groundwater pollutants as well as for non-drinking uses of groundwater.

Change From January Request

This request represents a decrease of $74,400 and 2 permanent workyears from the January budget, of which $74,400 is for Salaries and Expenses. This decrease will result in a decrease in research on transport and fate of pollutants in groundwater.

HAZARDOUS WASTE

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981	Page
			(dollars in thousands)			
Appropriation						
Salaries and Expenses...	$19,760	$33,133	$34,982	$32,296	-$2,686	
Research and Development	11,224	22,674	25,057	22,700	-2,357	
Abatement, Control and Compliance.....	78,791	91,991	91,325	64,805	-26,520	
Total.....	109,775	147,798	151,364	119,801	-31,563	
Permanent Workyears.....	484	778	812	658	-154	
Full-time Equivalency...	617	994	1,037	887	-150	
Outlays.....	77,533	125,500	78,502	77,583	-919	
Authorization Levels....	130,243	166,446	166,446	150,000		
PROGRAM HIGHLIGHTS						
Solid Waste Non-Energy(RCRA):						
Salaries and Expenses...	1,889	4,122	4,585	8,345	+3,760	
Research and Development	11,224	22,674	25,057	22,700	-2,357	HW-58
Total, Research and Development Program....	13,113	26,796	29,642	31,045	+1,403	
Waste Management Regulations, Guidelines and Polices:						
Salaries and Expenses...	5,111	6,369	6,707	6,615	-92	HW-12
Abatement, Control and Compliance.....	9,997	18,637	16,456	19,667	+3,211	
Financial Assistance:						
Salaries and Expenses....	...	...	...	...	...	HW-25
Abatement, Control and Compliance.....	45,992	48,000	42,000	41,700	-300	
Waste Management Strategies Implementation:						
Salaries and Expenses...	4,401	10,130	7,707	7,754	+47	HW-31
Abatement, Control and Compliance.....	108	3,033	4,009	2,958	-1,051	
Technical Assistance:						
Salaries and Expenses.....	1,695	1,600	1,540	...	-1,540	HW-35
Abatement, Control and Compliance.....	5,482	5,094	4,889	...	-4,889	
Uncontrolled Hazardous Waste Sites:						
Salaries and Expenses.....	1,271	1,736	3,967	...	-3,967	HW-41
Abatement, Control and Compliance.....	16,567	16,570	21,034	...	-21,034	
Total:						
Salaries and Expenses..	12,478	19,835	19,921	14,369	-5,552	
Abatement, Control and Compliance.....	78,146	91,334	88,388	64,325	-24,063	
Total, Abatement and Control Program.....	90,624	111,169	108,309	78,694	-29,615	

* January 1980 President's budget as adjusted by ORD's restructuring.

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981	Page
			(dollars in thousands)			
Uncontrolled Hazardous Waste Sites:						
Salaries and Expenses.....	2,711	1,925	4,020	...	-4,020	HW-4[illegible]
Abatement, Control and Compliance.....	2	...	2,271	...	-2,271	
Hazardous Waste Permit Enforcement:						
Salaries and Expenses.....	187	4,090	3,624	4,281	+657	HW-4[illegible]
Abatement, Control and Compliance.....	...	25	24	25	+1	
Hazardous Waste Enforcement:						
Salaries and Expenses.....	2,495	3,161	2,832	5,301	+2,469	HW-4[illegible]
Abatement, Control and Compliance.....	643	632	642	455	-187	
Total:						
Salaries and Expenses.....	5,393	9,176	10,476	9,582	-894	
Abatement, Control and Compliance.....	645	657	2,937	480	-2,457	
Total, Enforcement Program.....	6,038	9,833	13,413	10,062	-3,351	
Permanent Positions						
Solid Waste Non-Energy(RCRA), Total, Research and Development Program....	33	73	75	101	+26	HW-59
Waste Management Regulations, Guidelines and Policies..	112	140	129	131	+2	HW-12
Financial Assistance.....	...	...	...	...	...	HW-25
Waste Management Strategies Implementation.....	138	262	240	197	-43	HW-31
Technical Assistance.....	33	27	21	...	-21	HW-39
Uncontrolled Hazardous Waste Sites.....	23	19	62	...	-62	HW-44
Total, Abatement, and Control Programs.....	306	448	452	328	-124	
Uncontrolled Hazardous Waste Sites.....	71	53	95	...	-95	HW-4[illegible]
Hazardous Waste Permit Enforcement.....	8	121	108	116	+8	HW-18
Hazardous Waste Enforcement.....	66	83	82	113	+31	HW-42
Total, Enforcement Program.....	145	257	285	229	-56	

* January 1980 President's budget as adjusted by ORD's restructuring.

	Actual 1980	Budget* Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
			(dollars in thousands)		
Full-time Equivalency					
Solid Waste Non-Energy (RCRA), Total, Research and Devlopment Program.....	64	105	103	151	+48
Waste Management Regulation, Guidelines and Policies....	143	196	183	181	-2
Financial Assistance.....	...	...	...	...	...
Waste Management Strategies Implementation.....	160	313	285	245	-40
Technical Assistance.....	44	35	29	...	-29
Uncontrolled Hazardous Waste Sites.....	28	19	64	...	-64
Total, Abatement and Control Program.....	375	563	561	426	-135
Uncontrolled Hazardous Waste Sites.....	88	53	112	...	-112
Hazardous Waste Permit Enforcement.....	10	175	163	172	+9
Hazardous Waste Enforcement..	80	98	98	138	+40
Total, Enforcement Program...	178	326	373	310	-63

*January 1980 President's Budget as adjusted by the ORD's restructuring.

OVERVIEW AND STRATEGY

Despite recent legislative and regulatory achievements, hazardous waste management remains an important environmental problem facing the nation. The extent to which the new Federal efforts under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("Superfund") will effectively bring under control the problems caused by decades of improper management depends on strong implementation and enforcement programs in the near-term. Without a concerted Federal and State commitment, as reflected by the resource levels featured in this budget request, thousands of American communities face the possible risk of public health and environmental damages from poor hazardous waste management practices. Incidents at Love Canal, Valley of the Drums and Toone, Tennessee have already demonstrated the high cost to health, quality of life and environment, as well as public dollars, of insufficient governmental attention to industrial waste management practices.

Approximately 500 million metric tons of municipal and industrial wastes are generated each year in the United States. This amount is growing steadily. In 1981, an estimated 41 million metric tons will be classified as hazardous, including toxic organic chemicals, pesticides, acids, caustics, flammables and explosives. EPA estimates that approximately 20 percent of this amount is specifically included in the promulgated lists of hazardous wastes. Another 50 percent can be identified as hazardous by the four RCRA §3001 characteristics of ignitability, corrosivity, reactivity and EP (Extraction Procedure) toxicity. The remaining industrial wastes cannot be identified with enough specificity for inclusion in the hazardous waste system.

Existing coverage of the RCRA hazardous waste program is incomplete. For example, many organic chemical wastes, which are highly toxic, are not covered by the toxicity characteristics. If they are not specifically listed--and many are not--they will not be covered by the RCRA hazardous waste program.

EPA's program is to address the national waste management problem on two fronts: initially, by continuing to develop and administer a regulatory program under RCRA for the current and future management of hazardous wastes; and more recently, by continuing to operate the ongoing program to identify, investigate, evaluate and, as necessary, respond to uncontrolled hazardous waste sites in anticipation of full administration of new Superfund authorities.

Hazardous/Solid Waste Regulatory Program

The Resource Conservation and Recovery Act (RCRA), as amended, establishes the first national program to protect public health and the environment from damages caused by improper waste management operations. To handle prospective hazardous waste problems, EPA will continue to develop and initiate, on a priority basis, the regulatory program outlined by RCRA to reduce risks from improper hazardous waste management practices.

EPA established a phased schedule for issuance of hazardous waste regulations which, in accordance with promulgation commitments made to the Federal District Court, put the core regulatory program in place during 1980:

Phase I

February 1980

Section 3002	Standards for Generators of Hazardous Waste
Section 3003	Standards for Transporters of Hazardous Waste

May 1980

Section 3001	Identification and Listing of Hazardous Wastes
Section 3005/6	Consolidated Permit Regulations
Section 3004	Interim Status Standards

July 1980

Section 3001	Additional Listing of Hazardous Wastes

Phase II

November 1980

Section 3001	Additional Listing of Hazardous Wastes

January 1981

Section 3004	Technical Performance Standards (BEJ) for tanks, piles, containers, site selection, incineration and (proposed) landfills
Section 3004	Financial Responsibility Requirements

The Phase I regulations signaled initial implementation of the hazardous waste program. Since November 19, sixteen States have already been granted interim authorization for Phase I. EPA anticipates that 39 States will be granted interim authorization by FY 1982. Interim authorization allows States to administer their hazardous waste program for two years while continuing to work toward final authorization. To be eligible for final authorization, the State program must be fully equivalent with that of the Federal government. EPA will also negotiate Cooperative Arrangements (CA's). Through Cooperative Arrangements States are encouraged to work toward qualifying for authorization, and to operate selected delegated aspects of the Federal hazardous waste regulatory program as EPA's agent; however, EPA maintains overall responsibility for administering the program until the State achieves interim or final authorization. Under this alternative financial assistance program, States will receive Federal funds commensurate with the elements of the Federal hazardous waste program they administer as EPA's agent.

1982 will be the first full year of RCRA permitting against the §3004 Best Engineering Judgement (BEJ) Standards issued during Phase II. The six-year strategy for EPA and State permitting of the estimated 30,000 hazardous waste management facilities nationwide concentrates 1982 efforts on permitting new facilities, the best facilities, and the worst facilities in order to minimize health and environmental threats while increasing treatment, storage, and disposal capacity.

Permit issuance will require legal review, administrative processing and technical evaluation of individual permit applications against the technical performance standards for treatment, storage and disposal facilities. In unauthorized States, where EPA will issue facility permits, the Regional Abatement and Control and Enforcement Offices will share responsibility for developing the permit conditions and issuing the permits.

The limited scope of the May and July §3001 promulgations and the general nature of the BEJ technical performance standards now being finalized demand that extensive regulatory efforts (Phase III) continue. These efforts will be directed toward tailoring management guidance or standards to specific hazardous wastes or industries.

The hazardous waste enforcement program has been developed to assure that all affected parties comply with standards established under the Resource Conservation and Recovery Act regulating generation, transportation, treatment, storage, and disposal of hazardous wastes.

RCRA enforcement will take place through the permitting of hazardous waste management facilities and subsequent monitoring of those facilities to verify compliance. Permitting and compliance monitoring programs will regulate not only the generators of hazardous wastes, but treatment, storage, and disposal facilities as well. A separate enforcement mechanism, the hazardous waste manifest system, will monitor hazardous waste transporters to ensure that waste transported from a generator to a treatment, storage, or disposal facility actually reaches the intended destination. The system uses "exception reporting" so that the government is notified only if a shipment is delayed or if portions are misplaced en route.

The enforcement activities will center upon the administrative and public hearing requirements of permit issuance, and upon compliance monitoring activities in those States which do not assume responsibility for hazardous waste management. The enforcement program is responsible for developing enforcement provisions of the regulations; mechanisms for Regional oversight of authorized States and enforcement programs in unauthorized States; and mechanisms for taking enforcement or prosecutory actions, and negotiating enforcement agreements. During 1982, Regions will have established compliance monitoring programs in unauthorized States. In these States, EPA will conduct site inspections; initiate enforcement actions (Compliance Orders, Civil and Criminal Actions) where generators, transporters, and storage, treatment and disposal facilities fail to comply with the interim status standards or permit require-

ments, and operate ADP tracking systems to maintain and monitor manifest, inspection, and enforcement information. For authorized states, EPA will conduct oversight activities, including joint inspections with the States, to determine whether or not States are adequately enforcing RCRA requirements. Additionally, EPA will identify and investigate suspected criminal activities.

The Resource Conservation and Recovery Act complements the extensive hazardous waste control program ("Subtitle C" of the Act) with programs for managing other-than-hazardous solid waste and encouraging resource conservation and recovery ("Subtitle D"). In 1982, States will be independently implementing their comprehensive Solid Waste Management Plans. Through EPA's resource recovery activities the Federal government will continue to encourage resource recovery as a preferred industrial and municipal waste management technique.

Financial assistance will continue to be provided to assist the States in implementing their responsibilities under RCRA Subtitle C. Subtitle D grants for Solid waste programs will terminate in 1981 and self-sufficient State non-hazardous waste programs will begin.

Research And Development

The focus of ORD's solid waste research has shifted from non-hazardous waste to hazardous waste to provide support for implementation of the hazardous waste management regulations under the Resource Conservation and Recovery Act and the newly enacted Superfund legislation. Research in the area of non-hazardous waste, including resource recovery, was for the most part phased out in FY 1981.

One of the top priority activities in FY 1982 and a key component of the solid waste research will be the continuation of a program to develop new or improved sampling and analytical methodologies and validation procedures for identification of hazardous waste. Another top priority activity will be the creation of a quality assurance program to ensure the validity of all data generated. Efforts will continue on incineration and land disposal research for hazardous wastes in FY 1982. This effort will provide useful technical data to EPA permit writers for hazardous waste treatment, disposal and storage. Emphasis will be placed on the thermal decompositon and containment of hazardous wastes.

Attention will also be directed to research in the hazardous waste risk assessment area, both for health and ecological effects and pollutants transport and fate. Health effects efforts are directed toward development and application of screening techniques, identification of bioassay methods and evaluation of relative risk of exposure to complex mixtures from hazardous waste sites. Health hazard profiles and exposure analyses and guidance will be developed in support of waste management regulations under the Resource Conservation and Recovery Act and Superfund activities. A new initiative will be undertaken to develop techniques for assessing ecological damage and bioenvironmental stress arising from disposal of hazardous wastes. These results can also be used for detecting and evaluating uncontrolled sites and determining the potential for entry of mismanaged hazardous wastes into the human food chain. In the pollutant transport and fate area, efforts will continue to develop methods and models for predicting the movement of hazardous wastes through the subsurface environment and a new start will adapt existing environment assessment models for use in hazardous waste mismanagement scenarios.

Purpose - Research and Development

The hazardous waste research and development program, consistent with the goals of the Resource Conservation and Recovery Act of 1976 (RCRA), is directed to the development of technologies, methodologies, and the scientific data base necessary to achieve environmentally acceptable, cost-effective solid and hazardous waste management from generation through disposal.

The research program provides the scientific bases which will allow the private and public sectors to (1) reduce the quantities of waste, especially hazardous waste, requiring disposal through process change, waste recycling and reuse, or waste treatment, (2) ensure the environmentally sound disposal or destruction of the future wastes and (3) correct the past mismanagement practices. The major objective is to support the regulatory and enforcement offices: in the identification and listing of hazardous wastes, hazardous waste streams from industry and "polluting" hazardous waste disposal sites; in the development and revision of regulations for disposal of wastes by land disposal, thermal destruction or chemical, biological or physical treatment; in the evaluation of permit applications; and in the assessment of risk from hazardous waste production and mismanagement.

Purpose - Abatement and Control Program

The hazardous waste abatement and control budget activity is composed of activities for promoting the protection of public health and the environment through improved solid and hazardous waste management practices. These activities include developing and promulgating regulations under Subtitles C and D of the Resource Conservation and Recovery Act (RCRA); promoting industrial and municipal resource conservation and recovery; providing technical and policy guidance to accompany these activities; assisting and encouraging State programs; managing the local resource recovery grant program (1979-1981); and, for hazardous waste management, implementing a Federal program in unauthorized States.

States have the primary role in implementing RCRA. The authorization of State hazardous waste management programs is essential to the successful implementation of Subtitle C of RCRA. Federal financial assistance will be available to help States carry out this responsibility. However, the Federal government, along with the States, has a mandated responsibility to protect public health and the environment from improper hazardous waste management practices. Therefore, a Federal program will be operated in States denied or not seeking authorization; Cooperative Arrangements will provide funds to State governments operating aspects of the Federal program on EPA's behalf.

EPA strongly encourages States to implement their responsibilities outlined in Subtitle D of the Act for non-hazardous solid waste, and will provide temporary financial and technical assistance to do so. Federal Subtitle D grant assistance will conclude in 1981, with States expected to move towards self-supporting non-hazardous waste regulatory programs.

EPA has the primary role in establishing national standards and programs to ensure proper management, transportation, treatment, storage, and disposal of hazardous waste; proper disposal of waste not classified as hazardous and promotion of resoure conservation and recovery.

For hazardous waste, EPA responsibility includes developing a list and criteria for determining what constitutes a hazardous waste; developing standards for handlers of hazardous waste, including generators, transporters, and owners and operators of hazardous waste treatment, storage and disposal facilities; implementing procedures for notification of hazardous waste activities; developing technical standards for permitting hazardous waste facilities using "Best Engineering Judgment"; and determining requirements for authorization of State hazardous waste programs. For waste not classified as hazardous, EPA responsibilities to promulgate criteria defining a sanitary landfill, conduct an inventory of all land disposal sites and provide national guidelines for State Solid Waste Management Plans will be complete by 1982.

EPA is also responsible for providing technical and other guidance for implementing the regulations. Through 1981, Technical Assistance Panels will provide an avenue for delivery of expertise to State and local governments encountering problems in waste management.

The Abatement and Control activities are categorized under the following sub-activities:

Waste Management Regulations, Guidelines and Policies: This subactivity involves (1) the development and promulgation of hazardous and solid waste regulations and guidelines; (2) the development of technical and policy guidance for implementing the regulations; (3) the conduct of engineering, design, environmental and economic evaluations and assessments of solid waste management technologies and practices; and (4) national management and oversight of regional program implementation activities.

Financial Assistance: This subactivity provides for grants (1) to States for the development and operation of hazardous waste management programs under Subtitle C of RCRA; (2) to States for the development of State solid waste regulatory programs and conduct of the RCRA-mandated land disposal site inventory under Subtital D of RCRA; and (3) to local governments for feasibility studies and other project development activities leading to the implementation of resource and energy recovery systems.

Waste Management Strategies and Implementation: This subactivity involves (1) oversight of authorized States that are developing and implementing hazardous waste programs; (2) conduct of a Federal Subtitle C program either directly or through States as EPA agents, for unauthorized States, including technical review of permits to hazardous waste facilities using "Best Engineering Judgment"; (3) support for implementation of the solid waste management activities under Subtitle D; and (4) management of grants to local governments for resource and energy recovery projects under the Local Resource Recovery Program.

Technical Assistance: Through 1981 this subactivity provides for (1) national management of the Technical Assistance Panels program; (2) technical assistance to State and local governments on all aspects of solid waste management; (3) public participation and education progams; and (4) the development and distribution of public and technical information materials.

Purpose - Enforcement Program

The goals of the hazardous waste enforcement program are to see that all affected parties comply with standards, established under the Resource Conservation and Recovery Act, regulating generation, transportation, treatment, storage, and disposal of solid and hazardous wastes, and to take legal action to compel responsible parties to take remedial actions at uncontrolled sites which may present an imminent and substantial endanagement to health and the environment. To achieve these goals, EPA has established three program elements: (1) the hazardous waste permit issuance program, (2) the hazardous waste enforcement program, and (3) the uncontrolled hazardous waste site enforcement program.

Hazardous waste enforcement provisions were enacted largely as a result of wide scale, historical mismanagement of hazardous wastes, and are designed to prevent similar mismanagement from occurring in the future. Regulation will take place through the permitting of hazardous waste management facilities and subsequent monitoring of those facilities to verify compliance. Permitting and compliance monitoring programs will regulate not only the generators of hazardous wastes, but treatment, storage, and disposal facilities as well. A separate enforcement mechanism, the hazardous waste manifest system, will monitor hazardous waste transporters to ensure that wastes transported from a generator to a treatment, storage, or disposal facility actually reach the intended destination.

Under the provisions of RCRA, States may assume the responsibility for operating permit and enforcement programs. In cases where a State has interim or final authorization to conduct such programs, EPA is available to assist in State efforts, and will overview authorized programs for adequacy. The Agency will also provide training for State and Regional personnel in the procedures of hazardous waste permitting.

SUMMARY OF INCREASES AND DECREASES	(in thousands of dollars)
1981 Hazardous Waste Program.....	$151,364
Salaries and Expenses.....	-2,684
The net decrease is primarily related to the decreased workyears.	
Research and Development.....	-2,359
The net decrease is primarily related to a reduced monitoring effort at the Love Canal hazardous waste site, coupled with a reduction to the scientific assessments program.	
Abatement, Control and Compliance.....	-26,520
The net decreases are primarily in State solid waste management planning grants, resources recovery grants and regional implementation and/or oversight of hazardous waste programs and the transfer of resources to "Superfund". These decreases are offset by increases for regulatory support under Subtitle C of RCRA and State grants for hazardous waste management.	
1982 Solid Waste Program.....	119,801

SUMMARY OF BUDGET ESTIMATE

1. Summary of Budget Request

An appropriation of $119,801,300 is requested in 1982. This request, by appropriation account, is as follows:

Salaries and Expenses.....	$32,296,300
Research and Development.....	22,700,300
Abatement, Control and Compliance.....	64,804,700

This represents a decrease of $31,562,300 from the 1981 level. This is due to several actions: -$1.4 million for monitoring efforts at the Love Canal hazardous waste site; -$1.0 million for management regulations, guidelines and policies; -$12.0 million for financial assistance; -$2.1 million for waste management strategies implementation; -$6.4 million for technical assistance ; -$31.3 million, which is primarily due to a transfer of uncontrolled hazardous waste site resources to "Superfund". These decreases are partially offset by the following: +$2.1 million for environmental processes and effects; +$4.1 million for management regulations, guidelines and policies; +$11.7 million for financial assistance; +$1.1 million for waste management strategies implementation; and +$2.3 million for hazardous waste enforcement.

79-248 O—80——35

2. Changes from Original 1981 Budget Estimate

Changes from the budget are as follows:

	(in thousands of dollars)
Original 1981 Estimate	$147,798
Congressional increase/decrease:	
Resource recovery grants	-6,000
Travel	-91
Consulting Services	-333
ADP services	-143
Abatement, Control and Compliance general reduction	-1,433
Research and Development general reduction	-2,200
Senior Executive Services bonuses	-15
Presidential reduction of $7 million (House Document 96-294)	-178
Proposed hazardous waste amendment	+12,718
Proposed supplemental for 1980 pay raise	+444
Miscellaneous reprogramming actions	+2,905
March 1981 Changes to budget:	
Travel	-198
Consulting Services	-389
Moratorium on Procurement of Equipment.	-45
Equipment costs	-1,085
Other contractural services	-118
One percent tansfer	-936
Increases to fund PC&B	+725
Miscellaneous reprogramming actions	-62
Current 1981 estimate	151,364

Congressional decreases to the solid waste media request included a reduction of $6,000,000 to resource recovery grants; an $850 thousand decrease to travel resulting in a reduction of $91,100; a $3.8 million decrease to consulting services resulting in a decrease of $333,400; a $2 million decrease to ADP services resulting in a reduction of $143,100; a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation resulting in a decrease of $1,433,400; a $12.2 million general reduction to the Research and Development appropriation resulting in a decrease of $2,200,000; and, a $750 thousand decrease to senior executive service bonuses resulting in a reduction of $14,500.

A supplemental is proposed to fund the October 1980 pay raise and includes $444,000 for this media.

The 1981 hazardous waste amendment submitted to the Congress resulted in an increase of $12,718,000 to this media.

A Presidential reduction of $7 million (House Document 96-294) to the Agency's request for Salaries and Expenses resulted in a decrease of $178,000 to this media.

Miscellaneous reprogrammings result in an increase of $2,905,600 to this media.

In accordance with OMB Bulletins, the March 1981 changes are as follows: travel (-$198,000); consulting services (-$388,500); and moratorium on procurement of equipment (-$44,600).

A one percent transfer authority decreases this media by $936,500.

Internal agency reprogrammings to fund PC&B deficits are as follows: equipment costs (-$1,085,300); contractual services (-$118,100); agencywide increases (+$724,600); and miscellaneous reprogrammings (-$61,700).

ANALYSIS OF INCREASES AND DECREASES TO OBLIGATIONS

	Current Estimate 1981	Estimate 1982
	(in thousands of dollars)	
Prior year obligations	$109,775	$149,619
Effect of congressional changes	-6,215	...
Pay raise supplemental	+444	...
Reprogrammings	+2,905	...
Proposed Hazardous Waste Amendment	+12,718	...
Presidential reduction in Salaries and Expenses	-178	...
Changes in amount of carryover funds available	-8,122	+1,746
Program changes	+31,099	-28,138
Change in rate of obligation	+9,301	...
March 1981 changes to budget	-2,108	...
Total estimated obligations	149,619	123,227
(From new obligation authority)	(143,370)	(115,232)
(From prior year funds)	(6,249)	(7,995)

EXPLANATION OF INCREASES AND DECREASES TO OBLIGATIONS

Congressional changes discussed in the previous section are expected to result in a decrease of $6,215,000 to obligations. The effect of the proposed supplemental for funding of the October 1980 pay raise results in an increase of $444,000.

Reprogrammings result in an increase of $2,905,600 to obligations. The proposed hazardous waste amendment will increase obligations by $12,718,000. The Presidential reduction to salaries and expenses will decrease obligations by $178,000.

The amount of carryover funds to be obligated in 1981 is $6,249,300,a decrease of $8,121,900 from the 1980 level. In 1982, it is estimated that $7,995,000 of carryover funds will be obligated, an increase of $1,745,700 from the 1981 level.

The increase in budget authoritiy in 1981 was previously estimated to decrease decrease obligations by $31 million. In 1982, the program change will increase obligations by $28,138,000.

The effect of the March 1981 changes decreases this media by $3,351,000.

HAZARDOUS WASTE

Waste Management Regulations, Guidelines and Policies

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Regulations, Guidelines and Policies/Hazardous Waste:					
Salaries and Expenses	$3,815	$4,994	$5,921	$5,884	- $ 37
Abatement, Control and Compliance	8,484	17,726	15,260	19,332	+4,126
Regulations, Guidelines and Policies/Solid Waste:					
Salaries and Expenses	920	740	446	345	- 101
Abatement, Control and Compliance	963	600	398	50	- 348
Regulations, Guidelines and Policies/Resource Recovery					
Salaries and Expenses	376	535	340	386	+ 46
Abatement, Control and Compliance	550	311	852	285	-567
Total:					
Salaries and Expenses	5,111	6,369	6,707	6,615	- 92
Abatement, Control and Compliance	9,997	18,637	16,456	19,667	+3,211
Grand Total	15,108	25,006	23,163	26,282	+3,119
Permanent Positions					
Regulations, Guidelines and Policies/Hazardous Waste	75	119	110	112	+ 2
Regulations, Guidelines and Policies/Solid Waste	28	13	10	10	...
Regulations, Guidelines and Policies/Resource Recovery	9	8	9	9	...
Total	112	140	129	131	+ 2

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Full-time Equivalency					
Regulations, Guidelines and Policies/Hazardous Waste	98	150	157	159	+ 2
Regulations, Guidelines and Policies/Solid Waste	33	23	14	10	- 4
Regulations, Guidelines and Policies/Resource Recovery	12	23	12	12	...
Total	143	196	183	181	- 2

Budget Request

The Agency request is 131 permanent workyears and $26,281,600 which includes $6,514,900 for the Salaries and Expenses appropriation and $19,566,700 for the Abatement, Control and Compliance appropriation. An increase of $4,125,900 is provided for 1982 extramural resources to support regulatory refinement of the hazardous waste program under Subtitle C of the Resource Conservation and Recovery Act (RCRA).

Program Description

The Agency's regulatory, guidance and policy-making activities are carried out under the hazardous waste, solid waste and resource recovery program elements described below.

Regulations, Guidelines, Policies/Hazardous Waste

This program provides for management of the national RCRA Subtitle C Hazardous Waste program. Included are the promulgation, implementation and refinement of the criteria and regulations for identification, management and disposal of hazardous wastes and supportive analyses and assessments of management approaches and technologies. Further, guidance to the regions and States for nationally consistent implementation of the Subtitle C regulations is provided.

Regulations, Guidelines, Policies/Solid Waste

This program provides for limited national management of the RCRA Subtitle D program. Activities include guidelines upon which development and approval of comprehensive solid waste management plans are based and guidance on implementation of the criteria for classification of sanitary landfills and conducting the Open Dump Inventory.

Regulations, Guidelines, Policies/Resource Recovery

This program provides continued national management and evaluation of the three-year Urban Policy Local resource recovery grant program (1979-1981); development of guidelines for Federal procurement of products containing recycled materials, evaluation of industrial and municipal resource recovery technologies and promotion of resource recovery as an alternative industrial waste management technique.

REGULATIONS, GUIDELINES, POLICIES/HAZARDOUS WASTE

1980 Accomplishments

Obligations for 1980 totaled $12,299,000. The Agency, in agreement with a schedule approved by the Federal District court, promulgated regulations in February 1980 under the Resource Conservation and Recovery Act (RCRA) covering standards for generators of hazardous waste (Section 3002); standards for transporters of hazardous waste (Section 3003) and a notice on notification requirements (Section 3010). In May 1980, the Agency promulgated additional regulations covering the criteria for identification and listing of hazardous waste (section 3001); interim status standards for owners and operators of treatment, storage and disposal facilities (Section 3004); and requirements for authorization of State programs and permit issuance as part of the Consolidated Permit regulations (Section 3005/6). These Phase I regulations represent the core Subtitle C regulatory program to which initial implementation is geared.

Since May 1980 fifty-one petitions have been filed by trade associations, individual companies, environmental groups and a State to review the regulations. Resolution of issues arising from these suits will lead to further refinement of the regulations through the issuance of amendments.

Successful implementation of the hazardous waste program depends upon the availability of sites where sufficient capacity will be created to safely treat, store and dispose of hazardous wastes. Intense opposition on the part of the local public is the principal difficulty in creating new disposal sites. To address this issue the Agency formed a Siting Policy Committee. The result was Agency policy to encourage private sector solutions to the problem of establishing sites. In cases where governmental involvement is necessary, the States will have the prime responsibility for the establishment of adequate capacity. EPA will asssist States in seeing that adequate capacity is available. To this end EPA developed goals and criteria for assessing proposed siting policies, conducted a preliminary investigation into the use of the ADP system to monitor the status of the hazardous waste disposal industry and began initial efforts toward the development of handbooks to outline possible approaches to siting and State regulatory and legislative differences.

In late 1980 EPA initiated an extensive industrial waste evaluation program to yield data and information to support the future regulatory development needs of the hazardous waste program:

- assessments of industry-specific treatment and disposal practices and impacts to support issuance of permits against Section 3004 performance standards;
- prompt response to petitions to remove hazardous wastes from the initial section 3001 list;
- justification of additional listings under Section 3001; and
- identification of candidate wastestreams for reuse and recovery activities.

The Agency developed a basic strategy for the industry studies program which will be reflected in the development of future programs and regulations under §3001 and §3004 of RCRA. The focus of this strategy is on the development of waste listings and waste or industry-specific standards or guidance that carry the program beyond the more generic standards promulgated in 1980. Based upon the criteria of volume, degree of hazard, economic impact and need to list identified in this early strategy, the Agency identified, in priority order, those industries and wastestreams that should come under Federal regulations.

Further, the Office of Solid Waste began an industry assistance program. Public notice of this program appeared in the May 1980 Federal Register. Under this program the agency will identify industry and community RCRA compliance problems and coordinate assistance activities with the States or other Federal agencies. In 1980 the industry assistance hotline to answer public inquiries on the RCRA regulations was planned. Additionally, an electroplating seminar series was held to discuss impact of RCRA regulations on the electroplating industry.

Initial national strategy and guidance on implementing the regulations was developed and issued to prepare for effective implementation.

With contractor assistance, the Agency undertook analysis of implementation issues such as state authorization and permitting procedures; refinement of ADP systems to facilitate implementation and reporting requirements; and development of the Consolidated Permit ADP System. Publication of the public notice for notification was completed and mailing of notification packages to all candidate individuals and firms was managed. As of September 30, 1980, EPA had received approximately 59,000 notifications.

1981 Program

The current estimate for this program is 110 permanent workyears and $21,126,300 of which $5,920,500 is for Salaries and Expenses and $15,205,800 is for Abatement, Control and Compliance.

In 1981, EPA will promulgate Phase II of the Subtitle C core regulations to include an additional list of hazardous wastes (Section 3001), Best Engineering Judgment (BEJ) technical performance standards (Section 3004) including BEJ standards for tanks, piles, containers, site selection, incineration. EPA will publish interim standards for new land disposal facilities. Also mechanisms will be promulgated to ensure adequate closure and post-closure financial responsibility for hazardous waste facilities.

Under the BEJ concept, EPA will issue permits to any facility that uses "best available technology." As technologies evolve, EPA will translate them into more stringent standards for facilities. Revising permits to incorporate new technology will ensure the continued upgrading of facilities.

Some refinements to existing RCRA regulations were made in early 1981: mining and cement kiln waste exemptions (Sections 1006, 2002(a) and 3001); small quantity generator standards and generator waste accumulations amendment (Section 3002); Hazardous Waste spill response exemption (Section 3004); and clarification of Interim Status requirements (Section 3004). Further refinements of regulations will be carried out through issuance of Regulation Interpretation Memoranda (RIMS) or Technical Amendments to the Regulations (TARS).

In addition, major efforts are being directed towards the full, second year of the industrial waste evaluation program to develop wastestream specific information as the basis for further Section 3001 waste listings and Section 3004 regulations.

Based upon the criteria established for this program to analyze 23 industry segments, the highest priority industries for analysis and regulation are organic chemicals and organic chemical products. These will be the focus of EPA's industrial waste work and contract funding plan.

Activities include:

- conducting special listing studies to provide support for review of delisting petitions, to justify near-term listings, and to provide litigation support;

- developing methods, procedures and tests to identify the harmful contaminants in complex industrial waste streams;

- sampling and analyzing wastestreams to determine their hazardous characteristics and the seriousness of their hazard; and

- conducting economic impact analysis to cost out the regulatory requirements for storage, incineration, treatment and land disposal facilities; determine impact of costs on affected industry; analyze recordkeeping and reporting burden of the regulations; and develop environmental impact statements on regulations

In addition, during 1981 a plan will be developed to begin to address one or more of the other priority industry segments such as inorganic chemicals, agricultural services, wood preserving, textile mill products, electroplating and metal finishing, and paints and allied products.

In support of the synthetic fuels initiative, the Agency will conduct waste management studies for the developing synfuels industry. These studies will be designed to identify and characterize all solid wastes generated from synfuel processes (oil shale, coal liquefication/gasification, gasohol and geothermal). An in-depth characterization study will include toxicity, corrosivity, reactivity and ignitability tests as outlined in RCRA §3001; organic analysis to scan for priority pollutants and metals; and chronic and acute biological tests to identify mutagenic and carcinogenic constituents. Studies to investigate alternative management practices for the purposes of developing best management standards for the synfuels industry will be conducted.

To accompany these activities, a full-fledged industry assistance program to help industry comply with RCRA regulations will be maintained. The RCRA hotline became operational early in 1981 and alternatives for dissemination of industry assistance information, i.e., workshops or training modules, will be planned.

Headquarters will also continue to develop and deliver guidance and training on initial implementation of the regulations. A technical and procedural guidance manual pertaining to RCRA Section 3005 consolidated permit regulations will be developed and guidance on the development of State Work Programs covering authorized State programs, cooperative arrangements and allocation of grant funds is being issued. Further, training modules covering RCRA implementation issues will be continued and Headquarters staff will provide assistance and guidance to regions in development of quality assurance programs and plans.

An evaluation of initial implementation methods, activities and policies and adequacy of basic RCRA strategies will be conducted. Overall evaluation of progress in development and administration of the Subtitle C program will be the basis for enhancing and strengthening program elements, through refinements to regulations, before final authorization of States, in 1983. Policies affecting national progress in hazardous waste management, such as facility siting, will continue to be defined and analyzed.

1981 Explanation of Change from Budget Estimate

The net decrease of $1,593,800 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $28,300.

- The Congress reduced agencywide travel cost by $850,000; a decrease of $5,000 was applied to this activity.

- The Congress applied a general reduction of $7 million to the Abatement, Control and Compliance appropriation; a decrease of $632,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $65,500 was applied to this activity.

- An increase of $71,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a net transfer of $455,700: from solid waste regulations, guidelines and policies ($179,500); from resource conservation regulations, guidelines and policies ($267,500); from technical information development ($23,700); and to drinking water standards and regulations development ($15,000).

- Reprogramming of $107,800 to uncontrolled hazardous waste sites in order to reflect the establishment of the uncontrolled hazardous waste site program.

- Transfer of $55,000 from regulations, guidelines and policies-solid waste, in order to support industrial waste evaluation program activities.

- Transfer of $117,000 to program management, nationwide support costs, in order to meet increased RCRA programmatic requirements.

- Transfer of $80,500 to personnel administration in order to provide additional resources to administer the RCRA programmatic increases.

- Offsetting transfers between hazardous waste management regulatory strategies implementation and regulations, guidelines and policies hazardous waste in order to realign funds required to support hazardous waste activities. Salaries and Expenses (+$1,000,000) and Abatement, Control and Compliance (-$1,000,000). The offsetting transfers are in hazardous waste management regulatory strategies implementation.

- Transfer of $364,000 to regulations, guidelines and policies/resource conservation and recovery in order to support the immediate need to begin evaluation of dioxin contamination in the resource recovery plant stacks.
- A transfer of $54,500 was made to the radiation media in order to support the Radiation Policy Council.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services," required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $25,000, which is to be rescinded.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment," required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $3,500.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $236,500.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $449,700.

- Transfer of $6,300 to program management to fund participation in the University of California/Environmental Management Institute.

1982 Plan

Resources required for this program are 112 permanent workyears and $25,216,000, of which $5,884,300 is for Salaries and Expenses and $19,331,700 for Abatement, Control and Compliance. This reflects an increase of $4,089,700 from 1981. Abatement, Control and Compliance funds will support regulatory refinement of the hazardous waste program under Subtitle C through the industry study program, economic and regulatory analysis of the actual and indirect impacts of RCRA regulations and development of waste disposal guidance for synfuels industries.

The effective development, refinement, and implementation of the regulatory program in the future requires the rapid establishment of an extensive information base on the generation, composition, management, and ultimate fate of wastes produced by industry.

The estimated large number of process streams industry uses to produce its products and the time and costs involved in studying each process stream suggest that a number of years will be required for the industry studies to achieve a broad industry coverage. Thus, it is necessary to continue to focus efforts in 1982 on a few industry segments, based upon the criteria established to prioritize potential impact of waste from an industry on public health and the environment. The outputs of these studies, addressing the organic chemicals industry first, will support the first Phase III Subtitle C regulations through:

- support for and expansion/refinement of the RCRA Section 3001 list of hazardous wastes.

- development of RCRA Section 3004 industry specific waste management guidance or regulations in those cases where unique waste properties or particular environmental impacts necessitate tailored management requirements.
- accomplishment of a more integrated approach to regulations for an industry or industry segment under RCRA and other Acts (e.g. Clean Water Act, Clean Air Act or Toxic Substances Control Act) when significant environmental or economic benefits are achievable from such an approach.

The synfuels program will continue. Identification, characterization and analysis of solid wastes generated from synfuels processes and investigation of alternative management practices will be explored. The output of these activities will be the development of waste disposal guidance for synfuels technologies.

Industry assistance to industries and their trade associations will be expanded by developing technology transfer tools and examining avenues for innovative or cooperative approaches to hazardous waste problems. Manuals and implementation projects will be developed to help affected industries understand Subtitle C regulation and how they apply, in terms meaningful to the concerned industrial sectors.

An important extramural component of the hazardous waste program in 1982 will be economic and regulatory analyses of the actual and indirect impacts of the RCRA regulations on various economic sectors and geographic areas.

Other Office of Solid Waste activities will include the promulgation and defense of additional Section 3001 Hazardous Waste listing and delisting regulations and evaluation of alternative treatment technologies prior to refinement and development of Section 3004 regulations. Maintenance and enhancement of the hazardous waste data management system and continued development of the Consolidated Permit ADP system will occur. Further, assessment of implementation progress during interim authorization;

provision of guidance to States and Regions on implementation policies and requirements, particularly for development of facility permits based on Phase II §3004 technical standards, and oversight of regional implementation of quality assurance plans submitted in 1981 will take place.

Changes from January Request

This request represents a decrease of $1,165,200 from the January budget, of which $249,900 is for Salaries and Expenses and $915,300 is for Abatement, Control and Compliance. As a result of the decrease the industrial waste evaluation program, which establishes an extensive information base on the generation, composition, management and ultimate fate of wastes produced by insudtry, will concentrate only on the organic chemicals sector in 1982. Additionally, travel, printing and ADP services in support of the hazardous waste management program will be cut back.

REGULATIONS, GUIDELINES, POLICIES/SOLID WASTE

1980 Accomplishments

In 1980, obligations totaled $1,883,200, of which $963,100 was used for extramural purposes. Guidance on implementation of the RCRA §4004 Criteria for Classification of Sanitary Landfills, such as Landfill Performance Evaluation, and on conduct of the States' disposal site inventory was developed and distributed. The §4004 criteria specified conditions that must be met regarding flood plains, surface water, ground water, application to land producing food chain crops, disease, air quality and safety before sites are classified as environmentally acceptable. All non-complying land disposal facilities are identified and published in the open dump inventory and put on compliance schedules to either upgrade or close the sites. Approximately 1100-1200 open dumps were identified in 1980, in preparation for the first Inventory publication.

Work continued on development of Clean Water Act (CWA) §405 regulations on municipal wastewater treatment sludge disposal and utilization, particularly for the distribution and marketing (such as give-away or sale) of processed sludge.

Additionally, EPA conducted studies on ground water monitoring, landfill, land spreading and surface impoundment design and operation to support refinement of technical guidance for States and regions on solid waste disposal. A final report on landfill methane recovery was issued.

The Office of Solid Waste participated in the development of the Agency Groundwater Strategy that would use existing laws and programs in a better coordinated, more effective manner to protect the quality of United States ground water.

1981 Program

In 1981, the Agency has allocated 10 permanent workyears and $844,400 to this program, of which $446,400 is for Salaries and Expenses and $398,000 is for Abatement, Control and Compliance. The Headquarters program will continue to concentrate on national management of the Open Dump Inventory and publication of the first installment of the Inventory. States will evaluate the accuracy of this data prior to publication of the Inventory in 1981. A proposed modification to the public participation requirement for State planning guidelines, to provide more input to owners and operators of facilities, will be promulgated upon analysis of public comment.

Given the broad scope of the State solid waste management plans and the number of State agencies and organizations to be involved, EPA will continue to provide comprehensive guidance on implementation as States' plans are approved by EPA in 1981.

Regulations concerning the distribution and marketing of sewage sludge products under Section 405 of the Clean Water Act will be proposed in 1981. The objective of the regulation is to protect the public from toxic substances and pathogens that may be present in some sludges and to encourage resource recovery through the beneficial use of sludge as a fertilizer or soil conditioner. A sludge characterization study will supply information for use in development of further sludge management regulations.

As a result of ongoing groundwater monitoring and protection technology evaluations, the Office of Solid Waste will issue refinements to the groundwater parts of RCRA regulations.

The Office of Solid Waste will participate with the Food and Drug Administration and the Department of Agriculture in the development and publication of Solid Waste Policy Guidance to food processors and growers for use of good quality municipal sludges for production of fruits and vegetables.

1981 Explanation of Change from Budget Estimate

The net decrease of $495,600 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to the activity is $4,800.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $2,300 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $500 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $500 was applied to this activity.

- An increase of $6,900 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $179,500 to regulations, guidelines and policies/hazardous waste.

- A transfer of $9,400 was made to the radiation media in order to support the Radiation Policy Council.

- Transfer of $175,000 to regulations quidelines and policies/resource conservation and recovery in order to support the immediate need to begin evaluation of dioxin contamination in resource recovery plant stacks.

- Transfer of $55,000 to regulations guidelines and polices/hazardous waste in order to support industrial waste evaluation program activities.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction," required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $11,500.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services," required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $2,000, which is to be rescinded.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $25,000.

- Transfer of $12,000 to program management in order to fund participation in the University of Southern California/Environmental Management Institute.

- Transfer of $25,000 to regulations, guidelines and policies/resource recovery to fund a contract.

1982 Plan

For 1982, the Agency requests 10 permanent workyears and $395,000, of which $345,000 is for Salaries and Expenses and $50,000 is for Abatement, Control and Compliance. This reflects a decrease of $449,400 from 1981. Abatement, Control and Compliance funds will be used to support development of Clean Water Act, Section 405 regulations.

The 1982 solid waste activities concentrate on selected wastes of public health and environmental concern, as an adjunct to the hazardous waste program. As required by the 1980 Amendments to the Solid Waste Disposal Act, EPA will conduct limited engineering analysis, sampling and analysis, waste management technology assessment and pollutant fate and effect analysis for significant industrial wastes, such as mining and utility wastes, which may pose public safety and health problems because of volume and presence of contaminants.

The Clean Water Act Section 405 guidelines concerning the marketing and distribution of sludge will be promulgated. Additional guidelines to satisfy requirements of both CWA and RCRA for sludge management will begin to be developed. Sludge incineration, energy recovery, landfilling, landspreading and disposal of industrial and municipal sludges in surface impoundments are expected to be covered.

Change from January Request

This request represents a decrease of 3 permanent workyears and $652,400 from the January budget, of which $249,100 is for Salaries and Expenses and $ 403,300 is for Abatement, Control and Compliance. Headquarters will no longer provide national management and coordination of States' implementation of their approved Solid Waste Management Plans or States' evaluation of disposal facilities for the Open Dump Inventory. No Open Dump Inventory supplements will be published. Further, overall guidance on technical and policy issues, such as groundwater classification, concerning solid waste management planning and implementation will be eliminated. These activities will terminate in 1981 as States manage their own programs.

REGULATIONS, GUIDELINES, POLICIES/RESOURCE RECOVERY

1980 Accomplishments

In 1980, obligations totaled $925,300, of which $549,700 was used for extramural purposes. Follow-up funding of $10 million was provided for the 61 urban grantees of the Urban Policy Program to move into the second phase of their planning for projects to convert municipal solid waste to usable energy and materials. A contract to provide a model to assist EPA and grantees in technical project management was completed and workshops to train grantees in the model's use took place. Headquarters provided national oversight of regional management of the grants and evaluated the grantees' use of funds in the first phase.

In 1980 comprehensive evaluation of several resource recovery systems on commercial-scale facilities, such as evaluation of co-disposal systems; refuse-fired energy systems in Europe and small modular incinerators with heat recovery were completed. The evaluations

of the technological, operational, economic, environmental and institutional aspects of performance of resource recovery systems expanded the knowledge base available to local decision-makers.

Nine resource recovery seminars and an ongoing Resource Recovery Implementation Guide supplied information to support technology transfer among State and local public administrators.

A draft of an interagency 5-year plan for Federal resource conservation and recovery programs was completed in conjunction with the Departments of Energy and Commerce.

As a result of the discovery of dioxin contamination in a resource recovery plant, a dioxin risk assessment program was initiated. The Agency will collect samples from resource recovery plants, analyze samples for dioxins and other compounds and determine what risk levels are associated with the compounds found. In 1980 one resource recovery plant was sampled.

1981 Program

The 1981 allocation for this program is 9 permanent workyears and $1,192,100, of which $340,200 is for Salaries and Expenses and $851,900 is for Abatement, Control and Compliance.

Headquarters will maintain its oversight and evaluation of ongoing regional management of the Urban Policy grant program to help selected local governments complete their feasibility studies, procurement and pre-implementation activities for resource conservation and recovery projects. This includes providing assistance to the regions in refining project work plans for the final phase and evaluating the progress of second phase projects. National management of the final phases of many projects will be continued until their completion.

Initial Federal procurement guidelines for fly ash as a cement supplement and recycled paper products and composted sewage sludge under RCRA Section 6002 will be proposed.

The 1980 Amendments to RCRA established an Interagency Coordinating Committee on Federal Resource Conservation and Recovery Activities. This committee is charged with the responsibility for coordinating all activities dealing with resource conservation and recovery from solid waste and for submitting a five-year action plan for Federal resource conservation or recovery activities to Congress in 1981 and annually thereafter.

The Agency will work with the Office of Management and Budget and Departments of Interior and Treasury to develop the final interagency 5-year plan for resource recovery. The plan will help systematize long-term planning.

Evaluation will be continued on selected resource recovery systems such as the ANDCO-TORAX pyrolysis plant in Frankfurt, Germany and reports will be issued on the design and performance of state-of-the-art and commercial technologies, particularly in regard to small-scale usage. This activity will form a contribution to the ongoing recovery seminars organized by EPA to aid decision-makers and expand resource recovery.

In 1981, the Agency will expand the dioxin risk assessment program by publishing documents which specify risk levels of compounds found in resource recovery plants and by initiating an Agency plan for a comparative risk analysis of alternative waste management strategies.

1981 Explanation of Change from Budget Estimate

The net increase of $246,100 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $4,200.

- The Congress reduced angencywide travel costs by $850,000; a decrease of $2,300 was applied to this activity.

- The Congress reduced agencywide consulting service by $3.8 million; a decrease of $1,100 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $13,500 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $6,800 was applied to this activity.

- An increase of $5,100 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $267,500 to regulations guidelines and policies/hazardous waste.

- Transfers resulted in an increase of $539,000; from regulations, guidelines and polices/solid waste ($175,000) and from regulations, guidelines and policies/ hazardous waste ($364,000) to support the immediate need to begin evaluation of dioxin contamination in resource recovery plant stacks.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $18,000.
- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $9,600.

- Transfer of $25,000 from solid waste regulations, guidelines and policies to fund a contract.

1982 Plan

The 1982 resources requested for the program are 9 permanent workyears and $670,600, of which 385,600 is for Salaries and Expenses and $285,000 is for Abatement, Control and Compliance. This reflects a decrease of $521,500 from 1981. The Abatement, Control and Compliance funds will be used to analyze waste recovery technologies and systems and the effect of trace toxic contamination in waste-to-energy facilities.

In 1982, EPA will continue its technical analysis of the risks, particularly due to trace toxics contamination, and benefits associated with waste combustion technologies in comparison to sanitary landfilling of wastes and traditional energy production. Results will be the basis for a report which will identify mitigating design control and siting factors, if necessary, and the impact on the concept of resource and energy recovery.

In conjunction with the industry studies conducted as part of the hazardous waste program, current and state-of-the-art technologies and practices for recovery and reuse of industrial hazardous wastes will be assessed in operational, economic and environmental terms.

An annual update of the Interagency 5-year Resource Recovery Plan will be prepared for submission to Congress. Further development of RCRA Section 6002 guidelines specifying the recycled content in federally procured office paper, highway construction materials and compost will occur prior to promulgation in early 1982.

Headquarters will take over from the Regions the final management of the close-out of the 61 cooperative agreement projects funded with local resource recovery grants in order to terminate the Federal role in the program. As originally envisioned, this program was funded by EPA for three years (1979-81) to provide the necessary impetus to local governments to plan resource recovery systems appropriate to their communities' needs.

Change from January Request

This request represents a decrease of $848,300 from the January budget in Abatement, Control and Compliance. As a result of this reduction in resources, Headquarters will no longer expand the dioxin risk assessment program, as previously planned, conduct resource recovery seminars to support information and technology transfer to local decision makers, or evaluate selected municipal resources recovery technologies.

HAZARDOUS WASTE

Financial Assistance

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Hazardous Waste Management Financial Assistance to States: Abatement, Control and Compliance	$18,082	$30,000	$30,000	$41,700	+$11,700
Solid Waste Management Financial Assistance to States: Abatement, Control and Compliance	14,011	8,000	8,000	...	-8,000
Resource Recovery Local Financial Assistance: Abatement, Control and Compliance	13,899	10,000	4,000	...	-4,000
Total	45,992	48,000	42,000	41,700	-300
Permanent Positions	...	...	...	...	...
Full-time Equivalency	...	...	...	...	...

Budget Request

The Agency request for this budget subactivity is $41,700,000 for the Abatement, Control and Compliance appropriation, a decrease of $300,000. This reflects a decrease of $8,000,000 for solid waste management grants to States due to the accelerated phase out of Federal financial assistance under Subtitle D of RCRA, an increase of $11,700,000 for hazardous waste management grants to States for Subtitle C implementation and a decrease of $4,000,000 in resource recovery assistance due to the completion in FY 81 of funding for local resource recovery projects.

Program Description

This subactivity provides financial assistance to State governments for developing and implementing hazardous waste management programs under Subtitle C of RCRA. Under this subactivity financial assistance is also currently provided to States for solid waste management programs and to local government grantees for resource and energy recovery projects consistent with §4002(a)(2) of RCRA.

Hazardous Waste Management Financial Assistance to States

This program provides financial assistance to States in developing, implementing and enforcing programs to control hazardous wastes from "cradle to grave" including storage, treatment, transportation and disposal. States awarded grants must either be operating a "substantially equivalent" hazardous waste program under interim authorization, or working toward interim authorization through a cooperative arrangement. Grant targets are allocated on a formula basis which accounts for a State's population, area, number of hazardous waste generators, and amount of hazardous waste. EPA also takes into account the portion of the Federal program the State is operating.

79-248 O—80——36

Solid Waste Management Financial Assistance to States

Through 1981 this program provides grants to State solid waste management agencies under Subtitle D of RCRA. Grants are awarded on the basis of State population. The grants support State solid waste activities under RCRA including the inventory of all solid waste land disposal sites, completion of State solid waste management plans, and implementation of State regulatory programs for the management of nonhazardous waste.

Local Resource Recovery Financial Assistance

This program provides assistance, as part of the three-year Urban Policy Program initiated in 1979, to 61 grantees undertaking a three-phase project leading to implementation of resource and energy recovery systems in their communities. This program is planned for funding through 1981.

HAZARDOUS WASTE MANAGEMENT FINANCIAL ASSISTANCE TO STATES

1980 Accomplishments

Grants totalling $18,082,200 were awarded in 1980. Financial assistance was allocated to all States for use in developing a substantially equivalent hazardous waste program eligible for interim authorization. States worked to establish legislative and regulatory powers required to operate a program which regulates the same wastes, manages the same aspects of hazardous waste operations (generation, transportation, treatment, storage and disposal), and provides substantially equivalent protection to human health and the environment as the Federal program. Phase I interim authorization is keyed to the RCRA Phase I regulatory program and applies to the States' generator and transporter requirements and preliminary facility standards. States also continued to hire and/or train staff, within their resource constraints, capable to develop and implement a hazardous waste management program.

In 1980 States prepared to apply for Phase I interim authorization status. To receive interim authorization - Phase I or Phase II - a State program is required to have:

- legislative authority adequate for the State to carry out its responsibility for that phase;
- regulations in effect necessary to implement the requirements of that phase;
- control over a substantial majority of hazardous wastes generated, transported, treated, stored and disposed of in the State;
- capacity to inspect, monitor, and require recordkeeping, reporting and monitoring in order to determine compliance with the requirements of that phase;
- enforcement capabilities adequate to ensure compliance with the requirements of that phase; and
- adequate resources to administer and enforce the requirements of that phase.

1981 Program

The total current estimate for this program is $30,000,000 for Abatement, Control and Compliance. This reflects an increase of $11,917,800 over the 1980 obligated level reflecting the priority status afforded the management of hazardous waste. These funds will allow States to continue to develop and implement hazardous waste management programs.

In early 1981, States will begin to receive interim authorization. Interim authorized States will be eligible for their full grant allocation established by formula. Six months after promulgation of Federal Phase II Standards States will be eligible to apply for Phase II interim authorization. Phase II authorization will be granted to those States already authorized for Phase I, and to those States applying for Phase I and II authorization simultaneously. It is expected that during the period of interim authorization States will upgrade their programs to qualify them for final authorization.

States ineligible for interim authorization in 1981 can receive grant funds to continue developing a program eligible for authorization, and to operate aspects of the Federal program as negotiated through Cooperative Arrangements. These unauthorized States will enter into Cooperative Arrangements with EPA in which an application for financial assistance is combined with a plan for working toward authorization. Funding of Cooperative Arrangement States will be based on negotiated tasks. Unobligated funds, after negotiation with Cooperative Arrangement States, will be reprogrammed to the Regions to support implementation of the federal hazardous waste program.

In 1981 interim authorized States will use funds to begin to implement procedures for the permitting program, assign priorities for facility permitting and initiate processing of permit applications from any new or expanded facility.

1981 Explanation of Change from Budget Estimate

There is no change to this activity.

1982 Plan

EPA requests a total of $41,700,000 in Hazardous Waste Management Financial Assistance for Abatement, Control and Compliance. This reflects an increase of $11,700,000 over the 1981 level.

In 1982 most States will be operating under Phase II interim authorization. Since EPA promulgated the Phase II regulations in stages, in 1982 States will be applying for the second stage of Phase II authorization. States will continue to upgrade their programs to achieve full authorization.

A primary activity of the States in 1982 will be permitting of treatment, storage, and disposal facilities. Per EPA policy, priority facilities for permitting include new and expanding facilities, and those facilities with the greatest potential for causing severe environmental and public health problems. States will evaluate permits against EPA promulgated "best engineering judgment" standards; these will require an extensive case-by-case analysis, which EPA contractors will be available to help provide.

States with interim authorization, and most States under Cooperative Arrangements, will also continue to operated the tracking aspects of hazardous waste management. The manifest program, initiated in 1981, will be the major tool for tracking hazardous wastes from generation to disposal. States will also process discrepancy/exception reports filed alerting the State and EPA to lost, misplaced, or delayed shipments of waste.

Change from January Request

There is no change to the January request for funding. This request does reflect a decrease of 90 term positions from the January budget to be made available to States as State assignees. These positions would have temporarily augmented State staffs required to implement the hazardous waste program with Federal recruited personnel funded through 1982 State grant funds.

SOLID WASTE MANAGEMENT FINANCIAL ASSISTANCE TO STATES

1980 Accomplishments

In 1980 solid waste management financial assistance totaled $14,011,100. States continued to develop their State comprehensive solid waste management plans consistent with the requirements of Subtitle D of RCRA. States also established legislative and regulatory authority, where it had not previously existed, necessary to oversee and manage non-hazardous waste, and strengthened their capability to assume solid waste management responsibilities consistent with RCRA.

A major activity in 1980 was the initial inventory of solid waste land disposal sites. States evaluated sites against the RCRA §4004 Criteria for Classifying Solid Waste Disposal Facilities. The State strategy in site evaluation was to identify priority sites and those sites most likely to be causing damage to the environment or public health. The States were responsible for overseeing closing, openings and upgradings of sanitary landfills under Subtitle D of RCRA.

The States, with EPA assistance, continued to work to identify and develop long-term financial alternatives to support the solid waste management program. The strategy most suitable for a specific State should be implemented upon phase-out of Federal financial assistance.

1981 Program

The current estimate for this program is $8,000,000 for Abatement, Control and Compliance. This reflects a $6,011,100 decrease over the 1980 obligated level, reflecting the planned phase-out of Federal financial assistance under Subtitle D of RCRA.

The management of the land disposal site inventory will continue in 1981. Highest priority sites will be identified and evaluated first, consistent with the strategy developed in previous years. The States will continue to oversee the closing, upgradings, and openings of land disposal sites within their jurisdiction. This State activity will continue to be the primary use of Subtitle D grant funds.

The Solid Waste Management Plans will be completed in early 1981 and submitted to EPA for review and approval. The States will implement the approved Plans using their established legislative authority and regulatory powers. To remain eligible for funds, States will revise and resubmit plans not approved to EPA.

The States will continue to identify and implement alternative funding strategy to assure an adequate and self supporting solid waste management program in the future.

1981 Explanation of Change from Budget Estimate

There is no change to this activity.

1982 Plan

EPA requests no resources under this program for Abatement, Control and Compliance. This reflects a decrease of $8,000,000 from the 1981 level, reflecting the accelerated phase out of Federal financial assistance under Subtitle D of RCRA.

Solid Waste Management Financial Assistance has operated under a planned phase-out of State grants in order to transfer to the States responsibility for administration and funding of their RCRA solid waste programs. This planned phase-out has been accelerated, and in 1982 EPA expects the States to be self-reliant in funding implementation of their Solid Waste Management Plans.

Change from January Request

This request represents a decrease of $6,000,000 from the January budgets, all of which is in Abatement, Control and Compliance. There will be no Federal funds for States' implementation of their comprehensive solid waste management plans; to support the completion and revision of State plans not approved during 1981; or for States to continue their inventory of solid waste land disposal sites using the Criteria for Classifying Solid Waste Disposal Facilities. This reflects an acceleration of the planned phase-out of Subtitle D grant funding, as State programs became self-supporting.

LOCAL RESOURCE RECOVERY FINANCIAL ASSISTANCE

1980 Accomplishments

1980 obligations totaled $13,899,200. In 1980, EPA provided funds to 61 communities selected a year earlier for resource recovery grants under the Urban Policy Program. These funds are awarded in as many as three phases -- feasibility analysis (Phase I), planning procurement (Phase II) and procurement (Phase III). In 1980, 31 projects were completely funded through Phase II. These activities will improve the probability of successful implementation of resource and energy recovery systems by the participating communities. The Federal financial assistance helps overcome a major barrier to urban resource recovery implementation of inadequate funding for planning activities. The 61 projects being supported represent nearly 20% of the national municipal solid waste stream. The projects also represent a potential total construction expenditure of over $4 billion and will provide over 2,000 permanent jobs.

A preliminary evaluation performed in 1980 indicated this program is establishing the necessary national momentum towards resource recovery as a preferred solid waste management technique. Examples include a source separation project in New Britain, Connecticut in which the community planned and implemented a city-wide curb side source separation program, and a Hillsboro County, Florida project in which the county developed regional solid waste authority to implement several large scale resource recovery projects in the near future.

Federal emphasis on resource and energy recovery, through this financial assistance program, helped create a self-sustaining resource and energy recovery industry and contributed to community confidence in the availability and operating experience of resource recovery systems. Federal encouragement, as is currently being provided, is creating both the technical, financial, legal and management skills and the local community markets to maintain a nationally visible level of resource recovery implementation.

1981 Program

The total current estimate for this progam is $4,000,000 for Abatement, Control and Compliance. EPA will complete funding for feasibility studies, procurement planning, and project development activities to improve the probability of successful implementation of resource and energy recovery systems by participating communities.

Seven projects (Portland, Oregon; Central Massachusetts; Virgin Islands; San Francisco; Baltimore; Bell County, Kentucky; and New York/ New Jersey, Port Authority) in the resource recovery grant program will be implemented in 1981. These projects will complete the procurement planning stage and move towards the selling of bonds to finance the actual procurement of the system.

1981 Explanation of Change from Budget Estimate

. The Congress applied a reduction of $6,000,000 to resource recovery grants.

1982 Plan

EPA requests no resources for this program in 1982. The program, initiated in 1979, is a three-year program designed to stimulate local level resource recovery. As these initial commitments have been fulfilled, no additional federal funding is required to assure the successful implementation of the resource recovery projects by the communities.

Change from January Request

This request represents a decrease of $6,600,000 from the January budget in Abatement, Control and Compliance. Without these resources, the Federal commitment to some of the participating communities will not be funded to the extent originally proposed; and final stages of some projects, such as bid preparation and evaluation, preparation of contracts to secure the waste stream and markets for the resource recovery system, and site selection will become the full responsibility of the local community to fund.

HAZARDOUS WASTE

Waste Management Strategies Implementation

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Hazardous Waste Management Regulatory Strategies Implementation:					
Salaries and Expenses...	$3,092	$9,052	$6,584	$7,694	+1,110
Abatement, Control and Compliance.....	93	3,018	3,994	2,958	-1,036
Solid Waste Management Program Implementation:					
Salaries and Expenses...	1,309	1,078	1,123	60	-1,063
Abatement, Control and Compliance.....	15	15	15	...	- 15
Total:					
Salaries and Expenses...	4,401	10,130	7,707	7,754	- 47
Abatement, Control and Compliance.....	108	3,033	4,009	2,958	-1,051
Grand Total.....	4,509	13,163	11,716	10,712	-1,004
Permanent Positions					
Hazardous Waste Management Regulatory Strategies Implementation	98	227	208	195	- 13
Solid Waste Management Program Implementation ..	40	35	32	2	- 30
Total.....	138	262	240	197	- 43
Full-time Equivalency					
Hazardous Waste Management Regulatory Strategies Implementation	112	275	251	243	- 8
Solid Waste Management Program Implementation...	48	38	34	2	- 32
Total.....	160	313	285	245	- 40

Budget Request

The resources requested for this budget subactivity are $10,711,600 and 197 permanent workyears allocated to national hazardous and solid waste management as follows.

The resources requested for hazardous waste are $10,651,600 and 195 permanent workyears. This includes a total of $7,693,500 for Salaries and Expenses and $2,958,100 for Abatement, Control and Compliance--an increase of $1,109,900 in Salaries and Expenses and a decrease of $1,036,000 in Abatement, Control and Compliance. The net change is an increase of $73,900. Permanent workyears decrease by 13. Delayed promulgation of regulations governing land disposal postpones authorization of States to permit land disposal facilities and thereby reduces the need for Abatement, Control and Compliance resources in 1982.

The Solid Waste resource request totals $60,000 and 2 permanent workyears, all of which is for Salaries and Expenses. This represents a decrease of 30 permanent workyears and $1,078,300, resulting from the accelerated phase-out of Subtitle D grant resources.

Program Description

Hazardous Waste Management

The Hazardous Waste Management Regulatory Strategies Implementation program incorporates the regional activities necessary to oversee, and operate when required, the RCRA-mandated hazardous waste program. Under Subtitle C of RCRA, regions assist States in developing substantially equivalent hazardous waste management programs to qualify for interim authorization, and fully equivalent programs to qualify for final authorization when applicable. The regions' responsibility includes administration of the program (day-to-day management and special problem solving), and either operation of programs in lieu of delegated State responsibility or oversight of State operation. Major activities include the manifest system, technical review of permits, quality control, and programs to assure compliance with RCRA hazardous waste regulations.

Solid Waste Implementation

Solid Waste Management Program Implementation includes regional activities that increase the ability of States to implement solid waste management programs under Subtitle D of RCRA. Until full assumption by the States in 1982 of Subtitle D programs, the EPA regions oversee State procedures for conducting the Solid Waste disposal site inventory required under Subtitle D of RCRA; assist States in developing their comprehensive Solid Waste Management Plans and in developing and implementing the non-hazardous waste regulatory program; manage the Urban Policy Resource Recovery grants within their Region; and negotiate grant-funded solid waste activities with the States.

HAZARDOUS WASTE MANAGEMENT

1980 Accomplishments

In 1980, obligations totaled $3,185,300, of which $93,200 was used for extramural purposes. The major activity of the regions was support to the States to develop and implement programs qualifying them for interim authorization. Regions assisted the States in developing legislative authority, regulatory powers, and program strategy required to implement a substantially equivalent hazardous waste program, and assisted States prepare the Phase I Interim Authorization application packages.

In 1980, the regions were responsible for the negotiation, award, and oversight of State hazardous waste grants to assist States in continuing to develop hazardous waste management programs. The regions also negotiated the hazardous waste portion of the State/EPA agreements with other participating programs.

The regions were integrally involved in the notification process. They responded to information requests from candidate hazardous waste handlers, assisted notifiers in completing the forms, and provided various procedural and public education support activities. As of September 30, 1980, 59,000 notifications had been received.

The regions strengthened their own capabilities to implement a Federal hazardous waste program in unauthorized States. Activities critical to implementation of the program include technical review of permit applications. They also enhanced their capability to operate other RCRA-required hazardous waste programs including manifest systems, and Agency quality assurance programs.

The regions also began advising facility owners and operators on application procedures for RCRA hazardous waste permits, processing approximately 25,000 initial requests for Part A permit application packages in 1980, and assisting applicants in the completion of the application when difficulties arose.

By filing a Part A application, consisting of general information concerning the facility and a hazardous waste permit application, the facility is entitled to interim status. The regions processed Part A applications, as submitted, beginning in late 1980.

1981 Program

The total current estimate for this program is 208 permanent workyears and $10,577,700 of which $6,583,600 is for Salaries and Expenses and $3,994,100 is for Abatement, Control and Compliance.

In 1981 the regions will continue to negotiate, award and administer the State hazardous waste grants, and coordinate the hazardous waste portion of the annual State/EPA agreements with other participating programs. In States not achieving interim authorization but desiring to operate elements of the hazardous waste program, the regions will negotiate specific portions of the hazardous waste program for which the States will be responsible. The grants awarded to these Cooperative Arrangement States will reflect these negotiations. With the approval of the Administrator, the Agency will reprogram unobligated grant funds to defray the costs of operating a Federal program in unauthorized and non-participating States. These reprogrammed funds will supplement the regions' contractor support funds.

In 1981, the regions will work extensively with States applying for interim authorization. The regions assist States in preparing a draft plan for submission to EPA for review and comment and subsequent revision by the States as necessary. After receiving the States' revised packages, the regions review the application for completeness and initiate the 30-day public comment proceedings. Regions review and respond to the comments received and issue an approval/disapproval of Phase I interim authorization. The regions anticipate that 24 States will achieve interim authorization during 1981.

During 1981 the regions are responsible for overseeing interim-authorized States' work toward Phase II and final authorization. Regions will assist States applying for Phase II interim authorization in late 1981. The regional oversight activities in 1981 include technical guidance to both States and hazardous waste management facilities on operation of the manifest system and review of exception/discrepancy reports; monitoring the States' program authorization status; ensuring consistent implementation of interim standards; and identification and resolution of problems that occur during implementation.

The implementation of hazardous waste management programs in unauthorized States is also the regions' responsibility. Regional activities include the implementation and operation of the manifest system and handling exception/discrepancy reports; providing review and technical evaluation of facility permits; and responding to questions and resolving problems of generators, transporters and facility owners regarding the hazardous waste regulations. The regions will operate the Federal hazardous waste program until the States achieve interim or final authorization. Reprogrammed State hazardous waste grant funds will help support regional operation of the federal program.

During early 1981 regions will continue to process Part A permit requests. Based upon the permit priority system giving priority to new, model and potentially dangerous facilities, the regions will begin calling for Part B applications. Permitting will be initiated for these on-site and off-site treatment and disposal facilities in late 1981. Regions will use Best Engineering Judgment (BEJ) standards to begin to develop permits for facilities in unauthorized States, and oversee technical permitting activities in interim authorized States. Permit applications will require a case-by-case evaluation and technical review. The evaluation and review techniques developed in 1981 will be the basis for modifying strategy to carry on extensive permitting in 1982. The extramural resources in 1981 fund contractor support to the regions and the States by providing technical support in evaluating individual permit applications and enhancing regional technical permitting oversight activities for interim authorized States.

In early 1981, the regions will continue to process notification forms as late and new hazardous waste handlers notify. The regions also will be responsible for handling new notifications required as EPA promulgates additions to the RCRA §3001 listing regulations.

1981 Explanation of Change from Budget Estimate

The net decrease of $1,492,200 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $48,100.

- The Congress reduced agencywide travel cost by $850,000; a decrease of $14,100 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $100,100 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $47,200 was applied to this activity.

- An increase of $96,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a net transfer of -$990,500: from uncontrolled hazardous waste sites (+$11,100); public systems supervision program assistance(+$16,400); and to water quality environmental emergency response and prevention (-$8,100); dredge and fill (-$19,900); ambient water quality monitoring(-$178,300); municipal waste treatment facility construction(-$453,600); manpower planning and training(-$4,100); NEPA compliance-municipal waste facility construction(-$26,000); solid waste uncontrolled hazardous waste sites(-$26,900); solid waste technical assistance delivery headquarters(-$3,200); solid waste technical assistance delivery-regions

(-$12,500); solid waste management program implementation(-$8,300); drinking water underground injection control program(-$11,800); pesticides use management (-$18,800); pesticides enforcement(-$67,600); radiation program implementation (-$2,500); noise regional program implementation(-$13,700); interdisciplinary EIS review-air(-$5,000); EIS review-water quality(-$7,500); energy review and permitting(-$3,100); toxics management(-$35,000); and to program management regional counsel(-$32,900), regional management(-$65,000), and regional personnel management(-$14,200).

- Transfer of $3,900 to uncontrolled hazardous waste sites in order to cover necessary supplies and materials.

- Transfer of $22,900 from ambient air quality monitoring in order to provide for sample analysis of hazardous materials.

- Transfer of $50,000 to hazardous waste permit enforcement in order to support an ADP contract for RCRA notification Part A, to establish and complete the inital program registry and data base.

- Tranfer of $13,700 to hazardous waste enforcement in order to provide basic lab support.

- Transfer of $12,000 to solid waste management program implementation in order to provide additional support to hold the public hearing mandated as part of the State plan approval process.

- Transfer of $1,800 to radiation program implementation in order to cover the cost of procuring a lead brick shield and sodium-iodide crystal for the regional radiation measurement chamber.

- Transfer of $7,700 to planning, evaluation and analysis in order to provide minimum support to the regional analytic center.

- Transfer $3,200 from uncontrolled hazardous waste sites in order to reallocate travel funds.

- A transfer of $13,600 was made to the Office of Inspector General in order to provide additional resources to that Office.

- Transfer of $253,000 to the Office of General Counsel in order to provide for the legal services workload associated with hazardous program implementation.

- Offsetting transfers between hazardous waste management regulatory strategies implementation and regulations, guidelines and policies hazardous waste in order to realign funds required to support hazardous waste activities. Salaries and Expenses (-$1,000,000) and Abatement Control and Compliance (+$1,000,000). The offsetting transfers are in hazardous waste management regulatory strategies implementation.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $13,500.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $8,100.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $57,100.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $48,200.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $68,000.

1982 Plan

EPA requests a total of 195 permanent workyears and $10,651,600, of which $7,693,500 is for Salaries and Expenses and $2,958,100 is for Abatement, Control and Compliance. This reflects a decrease of 13 permanent workyears and an increase of $73,900 from the 1981 current estimate.

Regions in 1982 will negotiate the State hazardous waste grants to interim authorized and Cooperative Arrangement States. In Cooperative Arrangement States, the regions will operate those aspects of the Federal program the States have not assumed, including the technical evaluation required in the permitting process. Functions operated by the region will be specified in State-EPA grant negotiations. Funds not awarded to the States will be reprogrammed to the Agency to help finance operation of the Federal program in unauthorized States.

Resources in 1982 allow regions to continue to administer the hazardous waste program, and assist the States in moving toward final authorization. EPA regions will continue the interim authorization process, working with those unauthorized States to develop and strengthen their programs, and ensuring that all authorized programs meet the "substantial equivalence" requirements.

Regions will assist States still lacking Phase II interim authorization construct the authorization packages, as they did for Phase I authorization. Because the Phase II regulations are being promulgated in stages, the regions will assist all the States apply for the second stage of Phase II authorization during 1982.

Permitting of treatment, storage, and disposal facilities will be a focus of the regions in 1982. Target facilities include new and expanding facilities to ensure availability of adequate disposal capacity, and those facilities with potential to cause the most severe environmental and public health problems. The permits will be based on "Best Engineering Judgment" (BEJ) and issued to facilities using the best available technology. Facilities will have to be evaluated, therefore, on a case-by-case basis with extensive analysis to ensure compliance with BEJ standards. The regional technical staff also will be responsible for participating in response to public comment, and in public hearings as required by RCRA before issuing a permit.

The Abatement, Control and Compliance resources requested in this program fund the support of contractors required to provide in-depth technical review and evaluation of the permit applications and individual facility evaluations against the BEJ standards. These resources will allow EPA to meet the first year plan of the six year permitting strategy. The initial BEJ permits may need to be revised as BEJ standards are refined and national standards are promulgated.

Change from January Request

This request represents a decrease of $60,100 from the January budget, all of which is in Salaries and Expenses. This decrease will result in no significant programmatic impact.

SOLID WASTE MANAGEMENT

1980 Accomplishments

In 1980 obligations totaled $1,323,800, of which $15,000 was used for extramural purposes. The regions were responsible for the negotiation, award, and oversight of State solid waste grants to assist States in continuing to develop solid waste management plans and fund other RCRA Subtitle D programs. The regions also negotiate, award and administer the solid waste portion of the State/EPA agreements.

The regions continued to assist the States in assuming responsibility for their solid waste management programs required by Subtitle D of RCRA. Regions provided advice to States concerning development and implementation of State legislative authority and regulatory powers required to manage the non-hazardous waste within the State, and provided assistance to States as they worked toward completing their comprehensive solid waste management plans for developing and implementing program for disposal of all non-hazardous wastes.

Another major activity within this program element is the management of the land disposal site inventory process initiated in 1980. Regions ensure that States concentrate their inventory and evaluation efforts on the highest priority land disposal sites. The regional activities included management of the inventory process; oversight of site closings, openings, and upgradings; and the conduct of public participation activities, hearings, and other support functions.

Under the Urban Policy program, the regions administered and managed the 61 local resource recovery grants.

1981 Program

The current estimate for this program is 31 permanent workyears and $1,138,300, of which $1,123,300 is for Salaries and Expenses and $15,000 is for Abatement, Control and Compliance.

In 1981, the regions will continue to negotiate award and administer the State solid waste grants, and coordinate the solid waste portion of the annual State/EPA agreements with other participating programs.

In consideration of the currently mandated phase-out of Federal Subtitle D financial assistance, the regions will continue to assist the States work toward finalizing their solid waste management plans and establishing and implementing adequate and self-supporting non-hazardous waste programs. Regions' activities in this regard include assisting States complete their solid waste management plan for submission to EPA by January 31, 1981, review and approval of the plans and advising States on legislation and implementation of required regulations. The regions will also assist the States investigate alternative funding strategies to support the State solid waste management program.

The management of the land disposal site inventory will continue in 1981, identifying and evaluating sites of highest priority and overseeing the closings, openings and upgradings of sites. The inventory information will be coordinated with EPA Headquarters by the regions for inclusion in the annual national inventory of land disposal sites.

The regions will continue to manage and provide support to local resource recovery grantees, as they complete their feasibility studies and move into Phase II, procurement planning, and Phase III, procurement, of their systems.

1981 Explanation of Change from Budget Estimate

The net increase of $45,200 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $6,800.

- An increase of $16,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a net transfer of -$22,200: from hazardous waste management regulatory strategies implementation ($8,300); from uncontrolled hazardous waste sites ($26,300); from hazardous waste enforcement ($6,300); from planning, evaluation and analysis ($4,500); from regional financial management ($900); and to regional management ($5,400); regional counsel ($200); energy review and permitting ($1,900); uncontrolled hazardous waste site ($24,300); and municipal waste treatment facility construction ($36,700).

- Transfer of $24,500: from solid waste technical assistance delivery-regions ($12,500) and from hazardous waste management regulatory strategies implementation ($12,000) in order to provide additional support to hold the public hearing mandated as part of the State plan approval process.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agency wide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $5,200.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $2,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $40,100.

1982 Plan

EPA requests a total of 2 permanent workyears and $60,000 for Salaries and Expenses. This reflects a decrease of 30 permanent workyears and $1,078,300 from 1981.

As the State Solid Waste Management Plans, submitted in 1981, are approved, regions will provide limited initial guidance to the States to implement the Plans. Due to effective regional and State coordination during the development of the Plans, only minimal EPA management at the onset of Plan implementation is required.

Change from January Request

This request represents a decrease of $827,600 and 23 permanent workyears from the January budget, of which $812,600 is for Salaries and Expenses and $15,000 for Abatement, Control and Compliance. The reduction is related to the termination of the Subtitle D and resource recovery grant programs. With reduced resources, regions will no longer assist States to revise and implement their Solid Waste Management Plans; regional management of land disposal facilities review by the States and input to the Open Dump Inventory will be discountinued; and management of the close-out of the Local Urban Resource Recovery grant projects (funded 1979-1981) will not be provided by the regions.

HAZARDOUS WASTE

Technical Assistance

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Technical Information Development:					
Salaries and Expenses...	$1,078	$1,094	$ 973	$ ...	-$ 973
Abatement, Control and Compliance.....	1,332	600	540	...	- 540
Solid Waste Technical Assistance Delivery/ Regions:					
Salaries and Expenses...	463	386	455	...	- 455
Solid Waste Technical Assistance Delivery/ Headquarters:					
Salaries and Expenses...	154	120	112	...	- 112
Abatement, Control and Compliance.....	4,150	4,494	4,349	...	- 4,349
Total:					
Salaries and Expenses.	1,695	1,600	1,540	...	- 1,540
Abatement, Control and Compliance.....	5,482	5,094	4,889	...	- 4,889
Grand Total.....	7,177	6,694	6,429	...	- 6,429
Permanent Positions					
Technical Information Development	11	11	9	...	- 9
Solid Waste Technical Assistance Delivery/ Regions.....	18	13	10	...	- 10
Solid Waste Technical Assistance Delivery/ Headquarters.....	4	3	2	...	- 2
Total.....	33	27	21	...	- 21

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Full-time Equivalency					
Technical Information Development	22	17	15	...	- 15
Solid Waste Technical Assistance Delivery/Headquarters	4	3	2	...	- 2
Solid Waste Technical Assistance Delivery/Regions	18	15	12	...	- 12
Total	44	35	29	...	- 29

Budget Request

No resources are requested for this subactivity for the following reasons:

Consistent with the minimal Federal role in guidance and support for State and local solid waste and resource recovery activities, and the increased responsibility of States for Subtitle D implementation, technical assistance in these areas will not be necessary after 1981. Also, technical assistance to the States for hazardous waste program implementation duplicates implementation guidance and permit development contractor assistance funded in the Waste Management Strategies Implementation program.

The composition, publication and dissemination of RCRA rule-making and background documents will, beginning 1982, be incorporated in the hazardous waste, solid waste and resource recovery programs which they directly support.

Program Description

Through 1981 funding under this subactivity enables EPA to provide State and local governments, as well as Federal agencies, with comprehensive technical assistance on solid and hazardous waste management and resource conservation and recovery. EPA is also able to manage a participatory public education and information program, as well as develop and provide technical information concerning implementation of RCRA regulations, policies and programs. Section 2006(b) of RCRA authorizes EPA to establish Technical Assistance Panels for the purpose of providing technical assistance to States, local governments, and Federal agencies upon request. These panels consist of experts from EPA, State and local officials (under the peer matching progam), consultants under contract to EPA, or any other individuals serving voluntarily. Peer matching uses officials from one community to help another community solve a problem with which they have had similar experience. During 1980 and 1981 this subactivity includes the following programs:

Technical Information Development -- This program includes the management of hearings, meetings and other public participation activities under Section 7004(b) in the development of all regulations, guidelines and programs under RCRA. Management of RCRA orientation courses for Federal and State employees will be provided. EPA's management of a participatory public education and information program on solid and hazardous waste management technical issues, and preparation, publication and dissemination of reports to Congress and the President and other publications are also included, as authorized by RCRA Sections 2005 and Subtitle H.

Technical Assistance - Regional Offices -- This program includes regional management of the technical assistance panels program for State and local governments and delivery of technical assistance by regional personnel.

Technical Assistance - Headquarters -- This program provides national program management to include EPA Headquarters' establishment of regional level-of-effort contracts for technical assistance and management of an evaluation reporting system of technical assistance provided. Administration and monitoring of peer matching technical assistance grants is also included.

TECHNICAL INFORMATION DEVELOPMENT

1980 Accomplishments

Obligations for 1980 totaled $2,409,900, of which $1,331,500 was used for extramural purposes. The second year of the public education program on RCRA implementation, Waste Alert! continued in 1980. The initial two years focused on identifying and educating citizen leaders, developing proposals for implementing public participation under RCRA at the State level, planning for State Waste Alert! conferences, and identifying State action groups for participation in such conferences. Six citizen education grants were awarded through which grantees developed, organized, and managed four Regional Waste Alert! conferences.

In response to approximately 31,000 information requests from the public, approximately 1,200,000 technical and public information documents, including 400,000 copies of the RCRA regulations, were distributed in 1980. EPA prepared and published 151 new titles, including reports to Congress, technical reports, manuals, fact sheets and graphic presentations.

Initial orientation courses were held for Regional personnel on the implementation of the RCRA regulations, and three universities developed innovative model courses on hazardous waste management. In addition, twenty public hearings and meetings were held on RCRA regulations, guidelines, and programs.

1981 Program

The total current estimate for this program is 9 permanent workyears and $1,513,300 of which $972,900 is for Salaries and Expenses and $540,400 is for Abatement, Control and Compliance.

Provision for public participation in RCRA programs will continue in 1981, including public hearings and meetings on implementation of RCRA regulations, guidelines, and programs. Management of the RCRA regulation orientation workshops will continue to be provided, including the periodic updating of course material such as training manuals.

The public education program, Waste Alert! will continue into its third year. Waste Alert! conferences will begin forming coalitions and serve as a corps to help citizens at the local level understand solid waste management projects and issues, such as treatment, storage and disposal facilities siting, resource recovery and the problems of abandoned waste sites. Citizens in all 56 States and Territories will ultimately be involved in shaping national, State and local programs and policies concerning waste management.

79-248 O—80——37

Under the technical information program, the preparation, publication and distribution of information documents and reports will continue and additional regional conferences, for EPA personnel involved in RCRA implementation, will be held.

1981 Explanation of Change from Budget Estimate

The net decrease of $180,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $3,800.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $3,000 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $48,800 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $12,400 was applied to this activity.

- The Congress reduced agencywide ADP services by $12 million; a decrease of $7,500 was applied to this activity.

- An increase of $5,900 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $27,900: to regulations, guidelines and polices/hazardous waste ($23,700) and solid waste technical assistance delivery-headquarters ($4,200).

- A transfer of $2,100 was made to the radiation media in order to support the Radiation Policy Council.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services," required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $38,300, which is to be rescinded.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $22,000.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by tranferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $8,900.

- Transfer of $11,700 to program management to fund participation in the University of Southern California/Environmental Management Institute.

1982 Plan

No resources are requested since limited preparation, publication and dissemination of RCRA rulemaking and background documents and technical reports to Congress, primarily related to Subtitle C programs, will be funded within the Waste Management Regulations, Guidelines and Policies program in 1982.

Change from January Request

This request represents a decrease of $1,878,900 and 11 permanent workyears from the January budget, of which $1,278,900 is for Salaries and Expenses and $600,000 is for Abatement, Control and Compliance. As a result of the decline in resources, the public education program on RCRA implementation, "Waste Alert!," will be eliminated. Further, the development and extensive distribution of public information materials for response to public inquires will be eliminated. Limited preparation, publication, and dissemination of RCRA documents, primarily related to Subtitle C, will be funded within waste management regulations, guidelines and policies in 1982.

TECHNICAL ASSISTANCE DELIVERY - REGIONAL OFFICES

1980 Accomplishments

Obligations for 1980 totaled $463,000 for the Salaries and Expenses appropriation. EPA regional offices continued operation of the Technical Assistance (TA) Panels program mandated under Section 2003 of RCRA. Individual consultant contracts were managed at each regional office. This support and the other technical assistance services enabled each Region to maintain comprehensive coverage of its jurisdiction's needs.

The assignment of primary responsibility for provision of technical assistance to the regions has become increasingly significant, as unique regional, State, and local differences and needs have been encountered. The regions are most familiar with the specific waste management problems in their jurisdictions and can better integrate the TA Panels program with the development of RCRA regulatory programs.

The regional offices responded to 348 requests for technical assistance in 1980, an increase of 21% over the previous fiscal year, through peer matching, consultants or directly by EPA regional personnel. 42% of these requests were for resource recovery and waste reduction.

1981 Program

EPA requests a total of 10 permanent workyears and $455,000 under this program for the Salaries and Expenses appropriation.

The resources will enable EPA regions to continue coordinating and administering the delivery of technical assistance through the RCRA TA panels program. This will include receiving and responding to minor technical assistance inquiries, reviewing and evaluating requests for assistance, selecting modes of assistance and developing workscopes. Technical assistance will continue to be provided through contractor, peer matching and EPA regional personnel.

The regions will begin using Senior Environmental Employees in 1981. They will visit client communities, attend meetings, initiate new projects, monitor on-going projects and supervise and coordinate with consultant contractors.

1981 Explanation of Change from Budget Estimate

The net increase of $68,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $2,500.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $10,000 was applied to this activity.

- An increase of $6,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a net transfer of $68,800: from uncontrolled hazardous waste sites ($18,300); uncontrolled hazardous waste sites enforcement ($16,700); hazardous waste enforcement ($35,400); hazardous waste management regulatory strategies implementation ($12,500); and, to municipal waste treatment facility construction ($4,200); regional management ($1,300); regional financial management ($6,800); and regional counsel ($1,800).

- Transfer of $12,500 to solid waste management program implementation to provide additional support to hold the public hearing mandated as part of the State plan approval process.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction," required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $800.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $18,700.

1982 Plan

No resources are requested for this program in 1982. The resources in this program devoted to solid waste and resource recovery will not be necessary because EPA's financial assistance to State and local activities has been terminated. In the hazardous waste area, the implementation guidance and hazardous waste permit assistance contract provided by EPA regions reduces the need for other EPA technical assistance.

Change from January Request

This request represents a decrease of $416,600 in Salaries and Expenses and 13 permanent workyears from the January budget. The reduction in technical assistance related to Subtitle D and resource recovery reflects the termination of EPA financial assistance in those areas. EPA technical assistance in the hazardous waste area will be provided through implementation guidance and hazardous wste permit assistance contracts.

TECHNICAL ASSISTANCE DELIVERY-HEADQUARTERS

1980 Accomplishments

Obligations for 1980 totaled $4,303,900, of which $4,150,200 was used for extramural purposes. To carry out the RCRA mandated Technical Assistance Panels Programs, EPA headquarters awarded funds to 10 regional contractors and 7 public interest groups for peer matching services. The Office of Solid Waste continued to provide national management

of this program to ensure overall consistency among the Regions, provide a mechanism for the development and distribution of general policy and guidance documents, and provide the Regions with a central contact point for shaping the program.

EPA developed and issued a summary report of the 1980 Technical Assistance Panels program activities.

1981 Program

EPA requests a total of 2 permanent workyears and $4,460,500 under this program, of which $111,800 is for the Salaries and Expenses appropriation and $4,348,700 is for the Abatement, Control and Compliance appropriation.

In 1981, national management of the Technical Assistance Panels program will be provided. This will include negotiating, awarding and monitoring consultant contracts and public interest group peer matching grants; conducting reporting and recordkeeping activities; and evaluating the overall program to enable EPA to ascertain the effectiveness and responsiveness of the various technical assistance provided.

1981 Explanation of Change from Budget Estmate

The net decrease of $153,000 results from several actions, as follows;

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $700.

- An increase of $1,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $3,200 from hazardous waste management regulatory strategies implementation.

- A transfer of $12,000 was made to the radiation media in order to support the Radiation Policy Council.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services," required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $145,100, which is to be rescinded.

1982 Plan

This activity is not funded in 1982 because it is duplicative of other hazardous waste capabilities of EPA and because EPA terminated Subtitle D grants to State and local programs for which the Technical Assistance Panels were a major federal implementation assistance tool.

Change from January Request

This request represents a decrease of $4,627,700 and 3 permanent workyears from the January budget, of which $233,900 is for Salaries and Expenses and $4,393,800 is for Abatement, Control and Compliance. The Technical Assistance Panels program will be eliminated, along with the supporting management.

HAZARDOUS WASTE

Uncontrolled Hazardous Waste Sites

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1892 vs. 1981
			(dollars in thousands)		
Appropriation					
Salaries and Expenses	$1,271	$1,736	$3,967	...	-$3,967
Abatement, Control and Compliance	16,567	16,570	21,034	...	-21,034
Total	17,838	18,306	25,001	...	-25,001
Permanent Positions	23	19	62	...	-62
Full-time Equivalency	28	19	64	...	-64

Budget Request

The Agency requests no appropriation in 1982 for this budget activity under the Salaries and Expenses and Abatement,Control and Compliance appropriations. All activities previously funded under this budget activity will be funded under the appropriation for the Hazardous Substance Response Trust Fund created by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Superfund).

Program Description

The Uncontrolled Hazardous Waste Site program is currently an interim program, to address hazardous substance release problems in a limited way before passage of "Superfund". The major goal of the program is to address the worst known problems associated with uncontrolled hazardous waste sites. The interim strategy encompasses site discovery actions, investigations to determine the most serious sites, emergency assistance at those sites eligible under Section 311 of the Clean Water Act of 1977, and development of enforcement cases. The interim program will bridge the gap until the "Superfund" program is fully implemented. Superfund will provide the necessary funding and authority to intensify current efforts and to begin undertaking engineering planning and design studies for containment measures.

The primary objective of the program is to eliminate threats to public health and welfare and ecologically sensitive areas from hazardous substance releases from uncontrolled waste sites. Preliminary estimates reveal that there may be 30,000 to 50,000 sites containing hazardous waste, of which 1,200 to 2,000 may present potentially significant problems. Over 7,000 waste sites have been inventoried, but the extent of the risks posed by them is in most cases still unknown.

1980 Accomplishments

In 1980, the Agency obligated a total of $17,837,900 and 23 permanent workyears for the the Uncontrolled Hazardous Waste Site program, of which $1,271,100 was for Salaries and Expenses, and $16,566,800 was for extramural contracts under the Abatement, Control and Compliance appropriation. Additional resources for this program were provided under enforcement and research and development budget activities.

During 1980, the Uncontrolled Hazardous Waste Site program began to implement the interim strategy as directed by the EPA Deputy Administrator in 1979. This strategy was based on the policies established during 1979, and includes site identification and discovery, field investigations, emergency response, and enforcement actions.

The 1980 program relied extensively on contractor support included in this sub-activity to provide 147 dedicated contractor field investigation personnel to the Regions for site identification, investigation, and enforcement case preparation. The contractor also provided other non-dedicated services such as drilling sample wells, retaining expert consultants, and procuring engineering services to determine remedial measures. The $16,000,000 in contracts included approximately $8,000,000 for the Field Investigation Team (FIT) contract, awarded in February 1980, and a $5,000,000 series of chemical analysis contracts for analyzing samples obtained during site investigations. An additional contract was awarded to manage and control the shipment of samples to and from the regional offices and laboratories. Contract funds of $1,000,000 were used for support of emergency response to sites. The remaining $2,000,000 was used to fund contracts for remedial technology evaluations, aerial surveillance, and regional training programs.

Over 7,600 potential hazardous waste site problems are currently identified on regional logs. Of this total, 4,560 sites underwent preliminary assessment and 1,650 site inspections were completed. Tentative dispositions were made on 1,305 sites. These activities have supported 61 emergency response actions under Section 311 of the Clean Water Act and the filing of 51 EPA-initiated enforcement cases.

1981 Program

In 1981 the Agency has allocated a total of $25,001,500 and 62 permanent workyears to this program, of which $3,967,000 is for Salaries and Expenses and $21,034,400 is for extramural purposes under the Abatement, Control and Compliance appropriation. Of this total, $8,200,000 and 40 permanent workyears were appropriated in a 1981 budget amendment for Superfund planning and implementation activities.

Contract funding of $21,034,400 will be used to provide major technical assistance and support to EPA efforts. The $10,600,000 field investigation team contract will provide the Regions with 180 dedicated field personnel to assist with preliminary assessments, site inspections, and enforcement case preparation. $3,400,000 will fund a series of chemical analysis contracts in support of site investigations. $2,600,000 will be used for contracted design plans and engineering studies for remedial action at approximately 17 sites. $2,900,000 will fund contracts for support of Headquarters efforts in developing and implementing Superfund strategies. $200,000 will be used for assessment of remedial measures taken at Love Canal. The remaining $1,334,400 in contracts will fund aerial surveillance, a national toll-free telephone notification system, and technical support for emergency response to sites.

1981 Explanation of Change from Budget Estimate

The net increase of $6,695,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $3,800.

- A 1981 budget amendment for hazardous waste programs and related activities was submitted to the Congress. This amendment resulted in an increase of $2,651,000 for this activity under Salaries and Expenses and $5,505,000 under Abatement, Control and Compliance appropriation.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $11,200 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $30,500 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $645,300 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $6,400 was applied to this activity.

- An increase of $34,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a decrease of $215,700: to water quality ambient water quality monitoring ($39,500); waste treatment operations and maintenance ($25,200); municipal waste treatment facility construction ($13,700); ocean disposal permits ($9,000); permit issuance ($12,400); solid waste hazardous waste management regulatory strategies implementation ($11,100); solid waste implementation ($26,300); solid waste technical assistance delivery ($18,300); pesticides use management ($6,100); interdisciplinary EIS reviews-water quality ($13,800); energy review and permitting ($14,200); and toxic substances enforcement ($26,100).

- Reprogramming of $107,800 from regulations, guidelines and policies-hazardous waste in order to reflect the establishment of the uncontrolled hazardous waste site program.

- Transfer of $71,300 to hazardous waste permit enforcement in order to provide ADP support for the permit process.

- Transfer of $3,900 from hazardous waste management strategies implementation in order to support the necessary supplies and materials.

- Transfers resulted in an increase of $230,700: from public systems supervision program assistance ($20,000); NEPA compliance-municipal waste facility construction ($1,200); state programs regulations and guidelines ($104,100); municipal waste treatment facility construction ($45,400); water quality permit issuance ($13,200); energy review and permitting ($12,300); air quality management implementation ($39,500); and to NEPA compliance/EIS preparation new source discharge permit ($5,000) to realign contract funds.

- Reprogrammings resulted in a decrease of $3,600: to hazardous waste management regulatory strategies implementation ($3,200); uncontrolled hazardous waste sites ($400) reflecting a reallocation of travel funds.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $12,800.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $177,300, of which $168,000 is to be rescinded and $9,300 is being redirected to fund PC&B deficits.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $14,100.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $170,300.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $26,700.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $458,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $9,300.

1982 Plan

In 1982, the activities previously funded under this budget subactivity will be funded under the appropriation for Superfund.

Change from January Request

There is no change to the January budget.

HAZARDOUS WASTE

Hazardous Waste Enforcement

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Hazardous Waste Enforcement:					
Salaries and Expenses	$2,495	$3,161	$2,832	$5,301	+$2,469
Abatement, Control and Compliance	643	632	642	455	-187
Uncontrolled Hazardous Waste:					
Salaries and Expenses	2,711	1,925	4,020	...	-4,020
Abatement, Control and Compliance	2	...	2,271	...	-2,271
Hazardous Waste Permit Issuance:					
Salaries and Expenses	187	4,090	3,624	4,281	+657
Abatement, Control and Compliance	...	25	24	25	+1
Total:					
Salaries and Expenses	5,393	9,176	10,476	9,582	-894
Abatement, Control and Compliance	645	657	2,937	480	-2,457
Grand Total:	6,038	9,833	13,413	10,062	-3,3351
Permanent Positions					
Hazardous Waste Enforcement	66	83	82	113	+31
Uncontrolled Hazardous Waste	71	53	95	...	-95
Hazardous Waste Permit Issuance	8	121	108	116	+8
Total	145	257	285	229	-56
Full-time Equivalency					
Hazardous Waste Enforcement	80	98	98	138	+40
Uncontrolled Hazardous Waste	88	53	112	...	-112
Hazardous Waste Permit Issuance	10	175	163	172	+9
Total	178	326	373	310	-63

Budget Request

In 1982, the Agency requests 229 permanent workyears and a total of $10,062,100, a decrease of 56 permanent workyears and $3,349,800 from 1981. Included in this total is $9,582,200 for Salaries and Expenses and $479,900 for Abatement, Control and Compliance.

Program Description

The Resource Conservation and Recovery Act of 1976 (RCRA) provides for comprehensive control over the handling of solid and hazardous wastes. The Act authorizes EPA to promulgate regulations to control hazardous wastes from the point of generation to the point of final disposal.

The solid waste enforcement program is at this time organized into three major, separate components: (1) hazardous waste enforcement program, (2) uncontrolled hazardous waste program, and (3) hazardous waste permit issuance program. In July of 1979, EPA determined that the clean-up by responsible parties of hazardous waste dumpsites threatening public health would be given "highest Agency priority" and established an agency-wide Hazardous Waste Enforcement and Emergency Response System. Consequently, a "National Hazardous Waste Enforcement Task Force" (Task Force) was established to coordinate and manage the imminent hazard cases initiated under Section 7003 of RCRA, Section 1431 of the Safe Drinking Water Act, Section 504 of the Clean Water Act, and the Toxic Substances Control Act. Since its inception, the Task Force has been active in evaluating potential hazards at sites known to contain hazardous waste and in assisting in legal action and emergency Federal actions to contain the spread of contaminants where existing local authority and funding is insufficient. The Task Force was established as a separate component to expedite handling of uncontrolled hazardous waste site cases in conjunction with a newly-formed Hazardous Waste Section in the Department of Justice. (Task Force functions and activities are discussed under the Uncontrolled Hazardous Waste Site Enforcement justification.)

The hazardous waste enforcement program is responsible for development of an overall enforcement strategy, and implementation of a monitoring program designed to ensure compliance with RCRA Subtitle C regulations. The regulations will require generators and tranporters of hazardous waste to comply with certain procedural standards, such as record-keeping, reporting, and proper containerization, and will also require that all transported hazardous wastes be accompanied by a manifest document, and additionally, that such wastes be taken only to permitted hazardous waste management facilities. Existing facilities which manage hazardous wastes will be required to notify EPA, qualify for interim status by completing a Part A application and, upon request for a Part B application, obtain a permit from EPA or a State with an authorized RCRA program. New facilities must obtain a permit prior to construction or operation. Procedures for routine inspection and sampling of facilities which generate, transport, treat, store, or dispose of hazardous waste will be developed. Guidelines will be promulgated establishing standards of evidence needed to support enforcement actions in cases of interim status standards violations and permit violations. RCRA enforcement will also be responsible for promulgating rules governing the issuance of compliance orders and hearings conducted to either assess administrative penalties and/or suspend or revoke permits.

The hazardous waste permit program is part of the comprehensive effort required by the Resource Conservation and Recovery Act (RCRA) to manage hazardous waste. The Act prohibits treatment, storage or disposal of hazardous waste except in accordance with an EPA or approved State-issued permit. RCRA permits provide a mechanism for controlling hazardous waste by imposing performance standards on treatment, storage, and disposal facilities. These standards, set by the hazardous waste management program, will ensure that hazardous waste is managed according to environmentally acceptable practices. Preliminary results of notification in 1980 suggest that a total of 30,000 sites will require permits, 7,500 of which will be issued by EPA. The remaining 22,500 permits will be issued by States with approved RCRA programs.

Development of adequate State hazardous waste permit programs is another significant aspect of the permit issuance program. RCRA places great emphasis on approving State programs, encouraging them to issue permits with either temporary "interim authorization" or full authorization if they meet RCRA's requirements. EPA's success in authorizing State programs will affect the volume of permitting done by the Agency.

As part of its continuing efforts to improve the regulatory process, EPA has consolidated permit issuance procedures for five permit programs: the National Pollutant Discharge Elimination System (NPDES), the hazardous waste permit program, the Underground Injection Control (UIC) program, the Dredge and Fill program, and the prevention of significant deterioration (PSD) program. Coordination and consolidation of the permitting process will benefit both the public and the Agency by reducing delay and simplifying permitting procedures.

HAZARDOUS WASTE ENFORCEMENT

1980 Accomplishments

Obligations in 1980 totaled $3,138,100, of which contract funds totaling $642,600 were expended in 1980 for five purposes: development of the overall enforcement strategy, development of an inspection manual for verification of compliance with interim status standards; support of non-notifier enforcement activities; assistance to the Office of Solid Waste in developing an ADP system to meet anticipated program needs; and development of a RCRA penalty policy for administrative, civil and criminal proceedings.

Program activities in 1980 focused on efforts to formulate a comprehensive strategy for implementation of a hazardous waste enforcement program in the beginning of 1981, and to review State plans for interim authorization. The program also provided extensive assistance and support to the Office of Solid Waste in the development of draft regulations and guidelines under RCRA. The Agency completed a second draft of a "Case Proceedings Manual" for use in enforcement actions. A rewrite of the initial draft was necessary because of the extensive changes made to the RCRA regulations. Also completed in 1980 was a "General Inspections Manual" to be used to inspect permitted sites and facilities for compliance with interim status standards. Training plans for conducting interim status inspections were completed. Inspection training courses are scheduled to be given to the Regions in 1981. The purpose of the manual is to provide guidance needed to properly conduct inspections of hazardous waste facilities.

1981 Program

In 1981, the Agency has allocated a total of $3,473,600 to this program, of which $2,832,000 is for Salaries and Expenses and $641,600 is for the Abatement, Control and Compliance appropriation. Permanent workyears allocated in 1981 total 82, an increase of 16 over the 1980 program level.

The highest priority for the 1981 hazardous waste enforcement program is initiating enforcement actions using all available legal authority, in situations involving substantial threats to health or the environment. In addition, assistance will be to the Office of Solid Waste in the development and completion of final RCRA regulations. Other significant activities conducted by the Regions in 1981 include the establishment and implementation of compliance monitoring and enforcement programs for all State not granted interim or final authorization and the conducting of enforcement activities in States operating programs under Cooperative Arrangements. As the authorized States begin implementing their programs, EPA will provide legal and technical assistance, as requested, and evaluate the adequacy of State enforcement programs. Regions will be responsible for maintaining management information systems to track notification, manifest, compliance monitoring, inspection, and enforcement activities in States without RCRA program authorization.

1981 Explanation of Change from Budget Estimate

The net decrease of $319,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $17,300.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $26,100 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $13,300 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $47,400 was applied to this activity.

- An increase of $37,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in transfers of $505,400 to other activities: to municipal waste treatment facility construction ($1,600); solid waste technical assistance delivery-regions ($12,000); pesticides enforcement ($65,500); uncontrolled hazardous waste sites enforcement ($120,600); to regional management ($9,800); to underground injection control program ($23,300); hazardous waste permit enforcement ($19,800); solid waste management program implementation ($6,300); solid waste technical assistance delivery-regions ($23,400); pesticides use management ($37,000); pesticides enforcement grant support ($4,100); to EIS-review-air ($2,500); to EIS-review-water quality ($39,900); to toxic substances enforcement ($13,900); to regional counsel ($39,000); to regional personnel management ($13,200); to regional administrative management ($37,500); to uncontrolled hazardous waste sites enforcement ($8,000); to radiation program implementation ($8,800); to regional noise program implementation ($9,200); and to drinking water enforcement ($10,000).

- Transfer of $216,900: from water quality enforcement ($165,800) and from air mobile source enforcement ($51,100) to provide additional support for hazardous waste enforcement and provide a level of funding consistent with prior year's experience.

- Transfer of $13,700 from hazardous waste management regulatory strategies implementation to provide basic lab support.

- Transfer of $23,200 from water quality enforcement to support the costs of providing expert witnesses and case support for hearings and/or trials.

- Transfer of $10,000 from air quality management implementation to realign contract funds.

- Transfer of $1,800 to uncontrolled hazardous waste sites enforcement in order to reallocate travel funds.

- Transfer of $22,000 to nationwide support costs in order to provide additional support services resources to meet increased RCRA programmatic requirements.

- Transfer of $7,700 to personnel administration to provide additional resources in order to administer RCRA programmatic increases.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction," required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $12,300.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $4,600, which is being redirected to fund PC&B deficits.

- An internal agencywide reduction $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $32,800.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $5,200.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $10,500.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $85,500.

1982 Plan

The Agency requests a total of $5,756,000 for this program, of which $5,300,800 is for the Salaries and Expenses appropriation and $455,200 is for the Abatement, Control and Compliance appropriation, for an increase of $2,282,400. A total of 113 permanent workyears will be available to the program in 1982, an increase of 31 over the 1981 level.

The 1982 program will consist of the following activities. Regions will conduct compliance monitoring and enforcement programs in States not granted interim or final authorization. Review of final and amended interim State hazardous waste management plans will be provided as well as legal and technical support for preparation of enforcement actions. Additionally, suspected criminal activities will be investigated. The Regions will also maintain management information systems for tracking of manifest, inspection, and enforcement activities.

Contract funds totaling $455,200 will be used for the following purposes: to support ADP system design improvements; to provide support for the update of existing training manuals covering compliance inspection and case development procedures; to evaluate the effectiveness of the manifest system in controlling the flow of hazardous waste; and to support case development.

Change from January Request

This request represents an increase of 20 permanent workyears and $1,164,300 from the January budget, all of which is for Salaries and Expenses. These resources will be devoted to the growing compliance monitoring and enforcement effort needed to effectively implement RCRA Subtitle C and directed to providing effective enforcement policy and guidance in the areas of compliance monitoring procedures, penalty, penalty policy, and regulations and guidance development. Continued improvements to Federal manifest compliance monitoring in non-primacy States will be devised and assistance will be provided to States implementing the National Manifest System.

UNCONTROLLED HAZARDOUS WASTE

1980 Accomplishments

The Agency allocated a total of $2,712,500 to this program for 1980, of which $2,710,500 was for Salaries and Expenses and $2,000 for Abatement, Control and Compliance. A total of 71 permanent workyears were allocated for 1980.

During 1980, the newly-established hazardous waste site enforcement program focused on enforcement actions against uncontrolled hazardous waste sites that posed threats to public health and safety and to the environment.

Using "imminent hazard" authorities contained in the Resource Conservation and Recovery Act (RCRA) and other environmental statutes--as well as common law provisions--the Agency was able to file 51 cases during 1980 at sites that posed imminent hazards to health and the environment. An additional 200 sites were being examined as possible targets for enforcement action. While some of these Federal cases involved the recovery of fines as "secondary" relief, they primarily utilized injunctive authorities to require responsible parties to abate hazards posed by sites and to undertake cleanup actions at their own expense. By the end of 1980 eight of these cases had been favorably resolved, with no negative decisions.

The Hazardous Waste Site Tracking System--managed by the Office of Enforcement--was fully implemented during 1980. This system provides the Agency with an inventory and assessment of potential hazardous waste sites. The information entered and stored in this system has been used to help determine what enforcement or remedial actions may be required to neutralize any current or potential danger presented by these sites. By the end of 1980, 7,600 potential sites were listed in the system and new sites were being added to the list at approximately 400 per month. The Agency had conducted about 4,600 preliminary assessments and 2,000 site inspections to determine the seriousness of listed sites.

A number of training sessions with Headquarters, the Department of Justice, Regional, and State personnel on topics such as site investigations, groundwater characteristics, use of the safety manual, chain of custody and document control and case development were provided during 1980. In addition, Task Force personnel participated in the development and management of several nationwide conferences on the subject of hazardous waste.

1981 Program

In 1981, the Agency allocated $6,291,300 to this program, of which $4,020,300 is for Salaries and Expenses and $2,271,000 is for extramural purposes under the Abatement, Control and Compliance appropriation. The allocation of 95 permanent workyears represents an increase of 24 from 1980.

The 1980 enactment of "Superfund"* and major amendments to the Resource Conservation and Recovery Act significantly expanded EPA's hazardous waste enforcement responsibilities and authorities. Previous injunctive "imminent hazard" authority has been but tressed by judicial actions to recover Superfund expenditures, administrative orders to force cleanup by responsible parties, punitive damage provisions, and authority to order and enforce monitoring, testing and analysis requirements.

While the goal of protecting public health and safety from threats posed by hazardous waste sites and spills will remain unchanged, the new Federal response options will modify the Agency's previous strategy which necessarily relied on imminent hazard injunctive actions and Section 311 emergency response and containment under the Clean Water Act. The Office of Enforcement will play a major role in the implementation of hazardous waste authorities, providing enforcement response to dangerous sites and spills, pursuing judical "recovery" actions where Superfund monies have been used to achieve full site cleanup, combining "recovery" actions and actions to force responsible parties to complete remedial action where Superfund expenditures are limited to interim or partial site cleanup and containment, and using enforcement actions to generate privately financed cleanup and remedial activities at a signficant percentage of sites where Superfund remedial monies will not be used at all. Recovery actions will protect the integrity of the Fund and preserve Superfund resources for use at truly abandoned or insolvent sites where no recovery will be possible. Enforcement activities and actions to generate privately financed cleanup where the Fund is not involved will maximize available Superfund resources, lessen the appropriations and tax burdens associated with the Fund, and increase the overall percentage of cleanup costs borne by directly culpable parties.

*The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).

The highest priorities during 1981 will be the initiation and management of enforcement activities and judicial actions involving hazardous waste sites and spills that present imminent and substantial hazards to public health and the environment. During 1981 an increasing percentage of Task Force time will be devoted to litigation support activities as previously filed cases come to trial. The program, working with other Headquarters offices, Regions, and States will continue to concentrate on the investigation and assessment of presently known and newly discovered sites and the development of new enforcement actions.

Headquarters operations will be concerned to a much larger degree with the preparation of enforcement guidance required by CERCLA and the new RCRA amendments as well as participation with other program offices in the regulations and guidance development process. Headquarters will also continue to provide technical and legal support to the States to augment their hazardous waste enforcement efforts and assist them in enhancing their enforcement capabilities.

1981 Explanation of Change from Budget Estimate

The net increase of $4,366,100 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $9,900.

- A 1981 budget amendment for hazardous waste programs and related activities was submitted to the Congress. This amendment resulted in an increase of $1,922,000 to the Salaries and Expenses appropriation and $2,340,000 in the Abatement, Control and Compliance appropriation for this activity.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $6,700 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $3,700 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $69,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $2,300 was applied to this activity.

- An increase of $52,100 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in an increase of $148,600; to solid waste technical assistance delivery ($35,300); environmental emergency response and prevention ($24,900); air stationary source enforcement ($20,000); toxic substances enforcement ($19,600); to drinking water enforcement $4,300; and to regional counsel ($10,600); from hazardous waste management regulatory strategies implementation ($26,900); solid waste management program implementation ($24,300); hazardous waste enforcement ($128,600); water quality enforcement ($18,300); and hazardous waste permit enforcement ($31,200).

- Transfer of $204,900 from air stationary source enforcement in order to provide support for hazardous waste enforcement and provide funding consistent with prior year's experience.

- Reprogrammings resulted in an increase of $11,000: from uncontrolled hazardous waste sites ($400); state programs regulations and guidelines ($2,000); air quality management implementation ($4,000); hazardous waste enforcement ($2,800); and hazardous waste permit enforcement ($1,800) reflecting a reallocation of travel funds.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $100,600.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $800, which is being redirected to fund PC&B deficits.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $213,500.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $128,000.

1982 Plan

In 1982, the activities previously funded under this budget subactivity will be funded under the appropriation for Superfund.

Change from January Request

There is no change from the January budget.

HAZARDOUS WASTE PERMIT ISSUANCE

1980 Accomplishments

Obligations in 1980 totaled $187,200. Final hazardous waste and consolidated permit regulations were issued in May 1980 after a lengthy and intensive process which included agency reviews, public meetings, a comment period, and consideration of public comments. The regulations include permitting procedures and standards for State hazardous waste program submissions.

Permitting priorities and guidance were developed to assist State and Regional offices in establishing hazardous waste permitting programs. New Permit writing units were established in the Regions and staffing patterns were developed to provide the organization necessary to handle the new permitting program. EPA also held meetings with State and local officials, industry representatives, and environmental and other public interest groups to explain the regulations and ensure notifications by the August 19 deadline.

1981 Program

In 1981, the Agency has allocated $3,647,000 for the hazardous waste permitting program, of which $3,623,500 is for the Salaries and Expenses appropriation and $23,500 is for the Abatement, Control and Compliance appropriation. Contract support will provide training for permitting personnel.

The 1981 hazardous waste permitting program is emphasizing the review and approval of State submissions for authorization under Section 3006 of RCRA. Sixteen State programs have received interim authorization. This program will provide participating States with the authority to manage portions of their hazardous waste management programs pending the development of programs eligible for final authorization.

79-248 O—80——38

EPA is continuing to develop strategy for and provide assistance to States and Regional offices. A series of workshops will be held to provide State and Regional permitting personnel with guidance on hazardous waste permitting policy and procedures.

During 1981 EPA is also beginning the process of writing permits to the highest priority facilities. New and especially hazardous treatment, storage, and disposal facilities will receive first consideration. Permits will then be processed for innovative facilities and those where permit consolidation is a possibility. This strategy is designed to maintain the largest capacity for the safe management of hazardous waste while protecting public health and the environment. EPA is also setting teams of experts to assist regional and state permit writers in drafting RCRA permits.

1981 Explanation of Change from Budget Estimate

The net decrease of $467,300 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $27,300.

- Congress reduced agencywide travel costs by $850,000; a decrease of $4,000 was applied to this activity.

- Congress reduced agencywide consulting services by $3.8 million; a decrease of $59,000 was applied to this activity.

- Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $700 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $1,800 was applied to this activity.

- An increase of $53,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a decrease of $352,100: from hazardous waste enforcement ($19,800); and to regional management ($78,300); to uncontrolled hazardous waste sites enforcement ($31,200); to regional counsel ($56,600); to regional financial management ($4,200); to drinking water enforcement ($4,400); to pesticides use management ($900); to municipal waste treatment facility construction ($80,000); to regional administrative management ($112,500); and to water quality enforcement ($3,800).

- Transfer of $169,500 from water quality enforcement to provide additional support for hazardous waste enforcement and to provide a level of funding consistent with prior year's experience.

- Transfer of $54,900 from uncontrolled hazardous waste sites to provide ADP support for the permit process.

- Transfer of $50,000 from hazardous waste management regulatory strategies implementation to support an ADP contract for RCRA notification, Part A, to establish and complete the initial program registry and data base.

- Transfer of $116,000 to the Office of the General Counsel to support the legal services workload associated with hazardous waste program implementation.

- Transfers resulted in a decrease of $23,000: to personnel administration ($10,200) and to civil rights investigations ($12,800) in order to provide additional staff and related costs in order to administer RCRA programmatic increases.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $10,200.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $57,000, which is to be rescinded.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $19,300.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $500.

- Agencywide reprogrammings are required in order to fund the PC&B deficits; the decrease applied to this activity is $124,300.

1982 Plan

The Agency requests a total of $4,306,100 for hazardous waste permitting, of which $4,281,400 is for the Salaries and Expenses appropriation and $24,700 is for the Abatement, Control and Compliance appropriation. This represents an annual increase of $659,100. Of the 116 permanent workyears requested, 8 are an increase from the 1981 current estimate.

In 1982, EPA will fully implement its program to permit facilities that treat, store, or dispose of hazardous waste. Approximately 400 facilities will receive permits during the year in accordance with priorities established in EPA's permitting strategy. Appeals to the terms and conditions of these permits will require additional effort in order to ensure that effective control of hazardous waste can be achieved.

Thirty-nine States are expected to receive interim authorization by the end of 1982. EPA intends to provide the States with legal, technical, and administrative assistance to enable them to develop permit programs that qualify for full authorization. Contract support of $24,700 will provide for preparation of guidance and training of personnel in RCRA permit procedures.

Change from January Request

This request represents a decrease of $699,800 and 19 permanent workyears from the January budget, all of which is for salaries and expenses. The level requested represents an increase of 8 workyears over 1981. The 1982 resources level will require the use of most available resources to issue permits in States without approved RCRA programs, resulting is less overview of approved State programs.

HAZARDOUS WASTE

Hazardous Waste - Non-Energy (RCRA)

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
			(dollars in thousands)		
Appropriation					
Scientific Assessments:					
Salaries and Expenses.....	$102	$172	$176	$561	$+385
Research and Development.....	174	370	393	256	-137
Technical Information and Liaison:					
Salaries and Expenses.....	178	176	183	179	-4
Research and Development.....	2	12	12	12	...
Monitoring Systems and Quality Assurance:					
Salaries and Expenses.....	366	940	1,432	3,139	+1,707
Research and Development.....	262	3,638	7,979	4,881	-3,098
Health Effects:					
Salaries and Expenses.....	...	114	101	72	-29
Research and Development.....	...	730	735	1,135	+400
Environmental Engineering and Technology:					
Salaries and Expenses.....	1,180	2,530	2,536	2,929	+393
Research and Development.....	10,373	17,070	15,079	14,718	-361
Environmental Processes and Effects:					
Salaries and Expenses.....	63	190	157	1,465	+1,308
Research and Development.....	413	854	859	1,698	+839
Total:					
Salaries and Expenses.....	1,889	4,122	4,585	8,345	+3,760
Research and Development.....	11,224	22,674	25,057	22,700	-2,357
Grand Total.....	13,113	26,796	29,564	31,045	+1,403

	Actual 1980	Budget* Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Permanent Positions					
Scientific Assessment.....	2	4	3	11	+8
Technical Information and Liaison.....	3	3	3	3	...
Monitoring Systems and Quality Assurance.....	6	18	18	30	+12
Health Effects.....	...	2	2	2	...
Environmental Engineering and technology.....	21	43	46	34	-12
Environmental Processes and Effects.....	1	3	3	21	+18
Total.....	33	73	75	101	+26
Full-Time Equivalency					
Scientific Assessments	3	6	3	17	+14
Technical Information and Liaison.....	4	5	5	5	...
Monitoring Systems and Quality Assurance.....	24	26	27	39	+12
Health Effects.....	...	3	2	2	...
Environmental Egineering... and Technology.....	31	61	62	53	-9
Environmental Processes and Effects.....	2	4	4	35	+31
Total.....	64	105	103	151	+48

*January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Budget Request

The Agency requests a total of $31,046,000 and 101 permanent workyears for 1982, an increase of $1,403,400 from 1981. Included in this total is $8,345,700 for Salaries and Expenses and $22,700,300 for Research and Development, with an increase of $3,762,100 and a decrease of $2,358,700 respectively.

Program Description

The solid waste research and development program, consistent with the goals for the Resource Conservation and Recovery Act of 1976 (RCRA), is directed to the development of technologies, methodologies, and the scientific data base necessary to achieve environmentally acceptable, cost effective solid and hazardous waste management from generation through disposal.

The research program provides the scientific bases which will allow the private and public sectors to (1) reduce the quantities of waste, especially hazardous waste, requiring disposal through process change, waste recycle and reuse or waste treatment, (2) ensure environmentally sound disposal or destruction of the future wastes and (3) correct the past mismanagement practices. The major objective is to support the regulatory and enforcement offices in (a) the identification and listing of hazardous wastes, hazardous waste streams from industry and "polluting" hazardous waste disposal sites; (b) development and revision of regulations for disposal of wastes by land disposal, thermal destruction or chemical, biological or physical treatment; (c) evaluation of permit applications; (d) development and evaluation of remedial action engineering for uncontrolled polluting waste disposal sites; and (e) the assessment of risk from hazardous waste production and mismanagement.

SCIENTIFIC ASSESSMENT

1980 Accomplishments

In 1980, the Agency used a total of $275,600 and 3 permanent workyears for this subprogram, of which $101,700 was for Salaries and Expenses and $173,900 was for extramural research activities.

- A list of carcinogenic chemicals was compiled which was used by the Office of Solid Waste in defining which waste streams should be considered hazardous for regulation under Section 3001 of RCRA.

- A procedure was developed, based on risk assessment methodology, for determining safe emission rates of carcinogenic substances from hazardous waste incinerators. This procedure will result in regulations being promulgated in 1981.

- Three-hundred summary health effects reports were prepared to support the unexpected needs of the Agency's solid waste program.

1981 Program

In 1981, the Agency has allocated a total of $569,000 and 3 permanent workyears to this sub-program, of which $176,000 is for the Salaries and Expenses Appropriation and $393,000 is for extramural purposes under the Research and Development Appropriation.

The scientific assessment program is providing a range of assessment services to the Agency abatement and control program dealing with the Resource Conservation and Recovery Act (RCRA). Comprehensive health effect profiles for forty chemicals, started in 1980, will be completed while up to 150 new profiles are being started to support listing/delisting needs under Section 3001 of RCRA. The profiles will also be used to provide background scientific justification for Regional enforcement cases and RCRA policy development. Exposure assessement consultation, guidance and reports are being provided to address the listing/delisting needs of Section 3001, RCRA to provide predictive criteria for estimating exposure potential for dump siting and to provide guidance and methodology in the evaluation of specific hazardous waste site situations. Carcinogenic risk evaluations for specific site use, control system design or for policy development purposes are being provided. In certain situations, expert testimony and witnesses will present the scientific basis for regional enforcement cases.

1981 Explanation of Changes from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details or the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net increase of $26,900 results from several action, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 milllion to EPA's request for Salaries and Expenses. The reduction applied to this activity is $900.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $800 was applied to this activity.

- An increase of $2,800 results from the cost of the Octobe 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs results in a transfer of $52,300 to other activities.

- Transfer of $23,000 from environmental engineering and technology, within this same subactivity, in order to realign contract funds.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $55,100.

1982 Plan

The Agency requests a total $817,500 and 11 permanent workyears for this subprogram, of which $561,400 is for the Salaries and Expenses Appropriation and $256,100 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $248,500 from 1981. The increase will provide for the completion of additional risk assessment evaluations for Section 3001 of RCRA and enforcement activities of the Agency associated with hazardous waste sites.

The scientific assessment program will continue to provide assistance to the Agency abatement and control programs dealing with the Resource Conservation and Recovery Act (RCRA). Comprehensive health hazard profiles will be initiated for 150 chemicals to support the listing/delisting needs under Section 3001 of RCRA. Health hazard profiles currently prepared for listing purposes will be upgraded in order to satisfy enforcement requirements. These profiles will be used to provide background scientific justification for Regional enforcement cases and RCRA policy development. Also to be provided will be updated exposure evaluation guidance to 3001 listing activities with exposure scenarios using existing data sources for 75 chemicals. Risk assessments and exposure evaluations will be developed for use in Agency enforcement actions. These will be for either individual or multi-chemical site situations. Expert testimony and witnesses will also be available to present scientific basis for enforcement cases.

Change from January Request

This request represents a decrease of $5,000 from the January budget which is for Research and Development. This decrease will result in no significant programmatic impact.

TECHNICAL INFORMATION AND LIAISON

1980 Accomplishments

In 1980, the Agency used a total of $180,000 and 3 permanent workyears for this sub-program, of which $178,100 was for Salaries and Expenses and $1,900 was for extramural research activities.

The Technical Information Program supported the preparation and publication of the Research Outlook, Research Highlights, technical information plans and guidance and other general documents of interest to the environmental decision making community. It also provided ORD with information systems necessary to effectively plan and manage its research projects and resources. Specific accomplishments in the area of Solid Waste included:

- The preparation and dissemination of information on hazardous waste technologies and on techniques for evaluating facility designs and potential performance. This information was used to assist permit officials in reviewing permit applications and to describe technologies which can be used to control potential adverse effects from hazardous waste landfills, surface impoundments, and land treatment facilities.

- The publication of seven project reports.

The Regional Services Staff provided for effective communications between ORD and the regions. Specifically, they:

- Developed and implemented the Regional Support Management Information System.

- Carried out regional liaison activities to provide technical assistance.

- Conducted ORD/Regional Senior Staff Meetings.

- Advised ORD on all aspects of regional operations.

The activities supported by this part of the program also helped enable ORD to communicate its research information to EPA's regional offices and to government officals and others who need the information both within and outside of EPA. Further, they assisted in making better coordination between ORD and the regions possible, allowing each to meet the needs of the Agency and the public more efficiently.

1981 Program

In 1981, the Agency has allocated a total of $194,200 and 3 permanent workyears to this sub-program, of which $182,700 is for the Salaries and Expenses Appropriation and $11,500 is for extramural purposes under the Research and Development Appropriation.

This part of the program is providing various research program and project summaries, decision series documents, and technology transfer publications to meet Research Committee requirements. Technical Information Plans, listing the explicit information products for this research effort have been prepared. Throughout the year, support will be provided to develop these information products and to distribute them to the appropriate users.

Support is also being provided to manage information systems which track ORD's research projects and resources.

Regional liaison activities are continuing as in 1980. To this end, such activities will:

- Continue the Regional Support Management Information System.

- Conduct ORD/Regional Senior Staff Meetings and other liaison activities to provide technical assistance. These will include preparing reports, conducting special staff and policy studies, developing regional problem statements, and identifying research and technical assistance requirements.

- Develop and implement a process to address the research needs of state and local government in the ORD planning process.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section on this submission.

The net increase of $6,200 results from several actions,as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $800.

- An increase of $1,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign and related costs to meet on-board needs resulted in a transfer of $6,200 from other activities.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $3,000.

- Agencywide increased are required in order to fund the PC&B deficits; the increase applied to this activity is $2,000.

1982 Plan

The Agency requests a total of $190,500 and 3 permanent workyears for this sub-program, of which $179,000 is for the Salaries and Expenses Appropriation and $11,500 is for extramural purposes under the Research and Development Appropriation. This reflects a decrease of $3,700 from 1981.

This sub-program will continue, in 1982, to provide the same types of services as in 1981. This includes the development and production of technical information products to insure that research information is properly and adequately communicated to the environmental decision making community. Specific products planned by the appropriate Research Committee will be developed. Support to managing systems which track ORD's research projects and resources will be provided as will strong liaison with Regional offices, of a similar nature to that conducted in 1981.

Change from January Request

There is no change from the January request.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1980 Accomplishments

In 1980, the Agency used a total of $628,700 and 6 permanent workyears for this sub-program, of which $366,600 was for Salaries and Expenses and $262,100 was for extramural research activities.

- A Methods Manual for Physical/Chemical Analysis of Hazardous Waste was completed and distributed.

- A Hazardous Waste Quality Assurance Program was initiated.

- The Hazardous Waste Monitoring Systems Plan, 1980-1984, was published. The plan provides a program of research, development, and technical assistance for measurement monitoring and quality assurance that will yield multimedia methodology and monitoring systems for management and disposal of hazardous waste in response to the Resource Conservation and Recovery Act (RCRA) of 1976.

1981 Program

In 1981, the Agency has allocated a total of $9,410,100 and 18 permanent workyears to this sub-program, of which $1,431,600 is for the Salaries and Expenses Appropriation and $7,978,500 is for extramural purposes under the Research and Development Appropriation.

An extensive effort is being undertaken in hazardous waste monitoring and quality assurance to establish techniques that will provide a sound scientific and legal basis for the data required by the Resource Conservation and Recovery Act (RCRA) regulations and the uncontrolled hazardous waste site program. Major activities include:

- Developing and evaluating protocol precedures for obtaining hazardous waste samples to support the Office of Solid Waste (OSW) for section 3001 of RCRA.

- Completing a problem definition study for air monitoring at various hazardous waste sites and analytical techniques.

- Evaluating methods for analysis of samples to support enforcement of Section 3001 of RCRA.

- Completing a manual using best available methology for analysis of samples and approved for obtaining data to satisfy the requirements of 40CFR Part 261, Identification and Listing of Hazardous Waste.

- Evaluating bioaccumulation test procedures in the proposed regulation (Section 3001) that characterize exposure to complex waste mixtures and are applicable to hazardous waste monitoring.

- Providing analytical methods for characterization of waste listed in the RCRA (Section 3001), for OSW, in order to document toxic chemical hazards associated with them.

- Initiating intercomparison studies in support of RCRA (Section 3004) on performance of contract laboratories providing support for enforcement of regulations.

- Providing additional reference materials on soil and sludge, to add to existing repository of standard compounds for the organic priority pollutants.

1981 Explanation of Change from Budget Estimate

The resource reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net increase of $4,832,100 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this actitity is $4,700.

- The Congress reduced agencywide travel cost by $850,000; a decrease of $10,000 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $3,600 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $400,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $1,000 was applied to this activity.

- An increase of $18,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $35,800 from other activities.

- A transfer of $4,400 was made to the radiation media in order to support the Radiation Policy Council.

- Transfers resulted in an increase of $200,000 from interdisciplinary/nonenergy ($134,000); from toxic substances toxic chemicals testing and assessment ($16,800); and from drinking water/non-energy ($49,200), in order to realign support to all programs supported by what was formerly anticipatory research funds.

- Transfer of $4,600 to management and support, nationwide support costs, to provide for additional support services required to meet increased RCRA programmatic requirements.

- Transfer of $4,585,300 from all Office of Research and Development and Development activities to support efforts on Love Canal and Three Mile Island activities. The transfers, by media, were from energy ($3,146,000), water quality ($445,000), air ($479,300), toxic substance($200,000), and drinking water ($315,000).

- Offsetting transfer of $155,200 were made to realign contract funds -- $155,200 was transferred within the Salaries and Expenses appropriation to monitoring and quality assurance in this same subactivity; $155,200 was transferred within the Research and Development appropriation from monitoring and quality assurance in this same subactivity.

- Transfer $25,700 to management and support, contracts management, in order to provide the Office of Program Management with additional resources to administer RCRA programmatic increase.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $6,300.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $453,000.

1982 Plan

The Agency requests a total of $8,019,400 and 30 permanent workyears for this subprogram, of which $3,138,600 is for the Salaries and Expenses Appropriation and $4,880,800 is for extramural purposes under the Research and Development Appropriation.

This reflects a decrease of $1,390,700 and an increase of 12 permanent workyears from 1981. This decrease reflects a reduced monitoring effort at the Love Canal hazardous waste site coupled with increases in the development of monitoring systems and quality assurance procedures for determining precision and accuracy of hazardous waste monitoring data.

The major monitoring and quality assurance activities for 1982 are as follows:

- Continue studies to evaluate and improve regulatory monitoring procedures and quality assurance under Section 3001 of RCRA.

- Publish interim guideline document for conducting exposure assessment determination at hazardous waste sites in response to the RCRA 3004 for hazardous waste operators.

- Develop innovative portable field testing equipment for onsite analysis of hazardous waste samples for hazardous waste site screening methodologies needed by Office of Solid Waste.

- Conduct laboratory tests on groundwater samples to detect traces of hazardous waste leachates and to determine migration from sites in drinking waters.

- Evaluate and improve existing methods, techniques and instruments, and research new methods for the unambiguous identification of hazardous substances.

- Evaluate and improve bioindicator techniques of hazardous waste samples for providing exposure assessment information for health effects research program.

- Field test methods deemed most suitable for unsaturated zone groundwater monitoring.

- Test new and improved remote sensing techniques on visible and buried hazardous waste sites for Office of Solid Waste.

- Add additional standard references to repository materials for conducting hazardous waste analytical tests in Quality Assurance program.

- Provide additional types of intercomparison samples for contractor laboratories and conduct on-site laboratory evaluations.

- Support the madatory quality assurance program, providing technical guidance, support and overview to assure that the Agency will have environmental data of known quality that are appropriate for the EPA needs.

Change from January Request

This request represents a decrease of $141,400 from the January budget, of which $39,800 is for Salaries and Expenses and $101,600 is for Research and Development. This decrease will result in fewer standard reference samples for conducting hazardous waste analytical tests in the Quality Assurance program and fewer-on-site laboratory evaluations as well as fewer types of intercomparison samples being available for contractor laboratories.

HEALTH EFFECTS

1980 Accomplishments

Since 1981 is the first year in which health effects research is being supported in this category, there are no 1980 accomplishments to report.

1981 Program

In 1981, the Agency has allocated a total of $835,200 and 2 permanent workyears to this sub-program, of which $100,500 is for the Salaries and Expenses Appropriation and $734,700 is for extramural purposes under the Research and Development Appropriation.

Highlights of the 1981 health research program include:

- Development of a neonatal growth and organ system function assay for the toxicological screening and identification of a waste as hazardous or nonhazardous in support of RCRA Section 3001.

- Assessment of the feasibility of using the trapping of chemical carcinogens by hemoglobin as a dose monitor in animals exposed to hazardous wastes.

- Development of a neurotoxicological test system to measure the adverse effects of exposure to hazardous wastes.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $8,800 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-29); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $600.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $600 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $1,800 was applied to this activity.

- An increase of $1,000 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $4,100 to other activities.

- Transfer of $4,100 to management and support, nationwide support costs, to provide for additional support services required to meet increased RCRA programmatic requirements.

- Transfer $4,700 from environmental engineering and technology, within this same subactivity, in order to realign contract funds.

- Transfer $3,200 to management and support, contracts management, to provide the OPM with additional resources in order to administer RCRA programmatic increase.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $100.

1982 Plan

The Agency requests a total of $1,207,100 and 2 permanent workyears for this sub-program, of which $72,100 is for the Salaries and Expenses Appropriation and $1,135,000 is for extramural purpose under the Research and Development Appropriation.

This reflects an increase of $371,900 from 1981. This increase provides for the development and application of biological screening techniques, identification of bioassay methods and evaluation of relative risk of exposure to complex mixtures from hazardous waste sites.

The research planned in 1982 is a continuation of projects initiated in FY 1981. A screening and identification test system developed in 1981 to measure the effect of hazardous wastes on growth and organ system function in neonatal animals will be applied to the testing of actual hazardous waste mixtures. In addition, developmental work will be continued on the hemoglobin adduct assay by comparing the formation of major hemoglobin adducts formed in animals exposed to hazardous wastes to those observed in human populations for use in risk assessment. Finally, the development of a neurological testing battery for human populations will be completed.

The above-described research program is designed to provide EPA and other concerned agencies with an increased understanding of the biological consequences of exposure to hazardous wastes. This health-related research in conjunction with other research in the Solid Waste Research Program directly supports EPA's efforts to deal with hazardous waste generation and disposal.

Change from January Request

This request represents a decrease of $34,900 from the January budget, of which $1,900 is for Salaries and Expenses and $33,000 is for Research and Development. This decrease will result in no significant programmatic impact.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1980 Accomplishments

In 1980, the Agency used a total $11,552,900 for this sub-program, of which $1,180,000 was for Salaries and Expenses and $10,372,900 was for extramural research activities.

Hazardous Waste Identification by Engineering Analysis

- Initiated detailed process engineering studies to identify and characterize hazardous waste sources in the chemical industry. These studies provide the technical basis for listing wastes as hazardous under Section 3001 of the Resource Conservation and Recovery Act. Currently, the synthetic organic chemicals industry, organic dyes and pigments industry, and the pesticides industries are being studied.

Hazardous Waste Landfill and Surface Impoundment

- Conducted the background research and prepared eight draft technical documents at the request of the Office of Solid Waste (EPA) to aid the permitting offical when implementing hazardous waste regulations promulgated under Section 3004 of the Resource Conservation and Recovery Act. These manuals will assist the official in arriving at logical and well-defined decisions and will document the scientific logic necessary to back up the decision and reduce the number of unnecessary appeals.

- A technical resource manual entitled "The Design and Management of Hazardous Waste Land Treatment Facilities" was prepared for use by the Office of Solid Waste. This important document will support activities associated with regulations promulgated under the Resource Conservation and Recovery Act.

- Completed pilot-scale studies on the physical and chemical stability performance of 13 liner materials which were exposed to 10 hazardous wastes.

- Published a report on the design of soil covers for landfills to limit vapor movement from hexachlorobenzene (HCB) wastes. Also described are procedures for using a soil cover to control volatile emissions from other organic materials in hazardous waste landfills.

- Published a report on how current disposal practices may be affected by the adsorption, movement, and biological degradation of large concentrations of selected pesticides in soils. It was shown that the low-concentration agricultural data base is often not adequate for predicting behavior of pesticides in disposal facilities.

- Developed a report of hazardous waste compatibility, which provides a simplified matrix-chart for linking a variety of waste groups to their potential hazards, according to individual characteristics including heat generation, toxic gas generation, explosion, and other factors.

Hazardous Waste Incineration

- A comprehensive hazardous waste incineration research program was developed and implementation initiated. The primary objective of this program is to develop the data base necessary to assure the reasonableness of the the incineration regulations under the Resource Conservation and Recovery Act. The data base will also be used to assist in incinerator permit decisions and in developing adequate sampling and quality assurance methodologies.

- Two "Best Engineering Judgement" manuals on hazardous waste incineration have been developed in support of regulations promulgated under section 3004 of the Resource Conservation and Recovery Act. The first is a "Guidance Manual for Evaluating Permit Applications for the Operation of Incinerator Units", which is designed specifically for use by permit writers in EPA regional offices or by state environmental agencies. The second manual is an "Engineering Handbook for Hazardous Waste Incineration." This manual is intended for use as a more detailed technical reference document in support of the first manual, or as guidance to knowledgeable engineers in evaluating difficult or unique permit applications. Both manuals have undergone considerable extramural peer review and agency policy review. The effectiveness of the documents was also tested in a trial run evaluation of two permit applications held in Cincinnati in July 1980. The dry run involved State, Regional office, and EPA personnel. Both manuals will be published by OSW for distribution with the final draft Resource Conservation and Recovery Act regulations in the fall of 1980.

- Obtained the necessary permits and public approval necessary to locate a versatile Demonstration Combustion Research Facility on the grounds of the National Center for Toxicology Research in Pine Bluff, Arkansas. Also, secured all the necessary Agency and Congressional approval to construct the facility.

- Developed the final report of the Interagency Committee for the Chemical Waste Incinerator Ship Program. This comprehensive report is composed of preliminary designs for the ship, the incineration equipment, and shore-side facilities including recommendations, conclusions, funding options, and environmental aspects.

Remedial Action for Hazardous Waste

- Completed a study on the use of remote sensing technologies to be used in a systematic investigation of uncontrolled waste sites to determine waste drum location. Resistivity, seismic refraction, metal detection, and ground piercing radar equipment were evaluated at the Coventry, Rhode Island landfill.

- Conducted research which led to the support of remedial action schemes being proposed for various uncontrolled landfill sites. This work directly supported the Office of Enforcement and EPA Regions I, II, VII, and IX.

High Volume Waste

- Initiated a mineral waste research study at 10 mine sites, concentrating on uranium mining wastes, phosphate mining and beneficiation waste, and wastes from seven selected ore mining industries (copper, iron, lead, molybdenum, silver, gold, and zinc). Included have been investigations of various waste management practices currently in use for waste rock, overburden, low-grade ore, tailings, milling wastes, and sludges from treatment and processing plants. This study was initiated at 10 mine sites but, because of the diversity of mining operations, an expansion to between 20 and 30 sites is planned.

Municipal Wastes

- Completed a 9-year field investigation of municipal solid waste landfilling. The results of this study were used in formulating the Extraction Procedures (EP) used to identify hazardous wastes. More importantly, the results have provided a data base for formulating leachate forecasting techniques and understanding of the decomposition of municipal solid waste in a landfill environment.

- Completed an evaluation of the impacts which may result from landfilling of baled, shredded, or unprocessed refuse. A definitive data base clearly established that baling does not prevent groundwater pollution by leaching or reduce the danger caused by methane accumulation explosion. Baled waste placed in a saturated environment will have the same effect on groundwater quality as unprocessed refuse. Shredding tends to accentuate the adverse effect, but the duration of that effect is shortened as result of more rapid decomposition of the smaller refuse particles.

- Verified on a pilot scale the concept of controlling waste degradation in a landfill by controlled recirculation of leachate. Methane production was accomplished in a short, controlled period of time, indicating the possibility of management of methane production from stored energy sources such as landfilled municipal solid waste or other microbially degraded carbohydrate waste.

Municipal Resource Recovery

- Supported the development of three American Society for Testing and Materials (ASTM) standards for secondary materials recovered from municipal solid waste (glass, aluminum, and refuse derived fuel). Approximately 20 related procedures are in various phases of development as ASTM Standards.

1981 Program

In 1981, the Agency has allocated a total of $17,618,800 and 46 permanent workyears to this sub-program, of which $2,536,000 is for the Salaries and Expenses Appropriation and $15,082,800 is for extramural purposes under the Research and Development Appropriation.

Hazardous Waste Landfill and Surface Impoundment

- In support of the Office of Solid Waste's permit program, as mandated under the Resource Conservation and Recovery Act, eight technical Resource Documents will be noticed in the Federal Register and published in final form. The documents will be the primary technical reference material used by permit writers when evaluating and issuing permits to applicants. The documents will provide the basis for uniform procedures in assessing applications and should result in a reduction of the number of unnecessary appeals. The documents will cover the topic of:

- Evaluating Cover Systems for Solid and Hazardous Waste
- Closure of Hazardous Waste Surface Impoundments
- Hydrologic Simulation of Solid Waste Disposal Sites
- Guide to the Disposal of Chemically Stabilized and Solidified Wastes
- Landfill and Surface Impoundment Performance Evaluation
- Lining of Waste Impoundment and Disposal Facilities
- Management of Hazardous Waste Leachate
- The Design and Management of Hazardous Waste Land Treatment Facilities

- Training programs will be developed jointly with the Office of Solid Waste to assure uniform use and application of the eight Technical Resource Documents. These training programs will be made available to both federal (EPA) and state permit writers.

- New manuals on volatile emissions from landfills and surface impoundments and on predicting pollution migration in soil will be initiated. Also novel concepts for early detection and repair of landfill and surface impoundment liner failures will be investigated.

- Studies ongoing at the end of 1980 relating to bench, pilot scale, and lysimeter studies of rates of leachate and gas production, gas and leachate migration, leachate attenuation in various soils, characteristics of natural and synthetic liners, and development of technology for the treatment of leachate and gas from hazardous waste landfills will be executed.

- The three major objectives of the land treatment studies for hazardous wastes are to determine environmental effects of land treatment sites and their monitoring requirements; to determine land treatment site closure requirements, postclosure monitoring requirements, and related environmental aspects; and to develop the basic knowledge required to fully understand land treatment of hazardous waste. Studies ongoing at the end of 1980 will continue. Sixteen projects were begun, dealing with various aspects of monitoring, environmental performance, closure, site design and operations, waste characterization, and others. The research program is being conducted with cooperation and input form several EPA organizations, the United States Department of Agriculture, several universities, and industry organizations.

- Some new projects dealing with energy-related hazardous waste, field verifications of hazardous organic waste, and others will be initiated during FY 81. The comprehensive manual developed in late FY 80 will be updated to include new information as it becomes available in the last part of 1981. Additional technical assistance will be provided to further support the Office of Solid Waste and the training of permitting officials and others involved in the regulatory process.

Incineration

- Research will be conducted on thermal decomposition. Although there is a shortage of knowledge on best operating conditions on which to base incinerator regulations, it is recognized that it is in the interest of the Agency to issue permits to incineration facilities. Therefore, regulations will be designed to get new and existing incinerators in compliance using a combination of "best engineering judgment" and trial burns. The R & D program covers the two most important needs expressed by the Office of Solid Waste, to develop and verify sampling protocols for incineration technology combinations. The following projects are being continued:

79-248 O—80——39

- Develop and verify interim sampling protocols for incinerator test burns.

- Develop methods for evaluating incinerators with minimum use of trial burns. These methods will be especially useful in facilitating the assessing of permit applications.

- Develop laboratory, pilot, and field-scale combustion data from hazardous waste streams; correlate the data to allow extrapolation from one situation to another.

- Develop a sound data base on destruction efficiencies versus temperature, residence time, turbulence and other important parameters.

- Identify and evaluate industrial thermal processes (e.g. boilers, cement kilns) that can be used to destroy certain hazardous wastes.

Engineering Analysis

- During 1981 Phase I process engineering analysis is being applied to survey and rank potential hazardous waste producing processes in the Industrial Organic Chemicals Sector, the Organic Dyes and Pigments Sector and the Pesticide Manufacturing Sector. The ranking will include a list of candidates for listing under RCRA 3001 and recommendations for follow-on field verification sampling and analysis.

- Detailed engineering analyses of toluene disocyanate production and methyl methacrylate production processes are to be completed as "pilot" efforts in mid-1981.

Hazardous Waste Treatment

- In 1981 an in-house process engineering analysis expertise will be established which will develop guidance for the permitting program to evaluate applications for hazardous waste treatment approaches. Treatment refers to any technology which is not containment or thermal destruction and includes process modifications, add-on technology, and off-site processes which reduce, concentrate, modify, detoxify, recycle, recover or reuse the hazardous wastes.

Remedial Action

- Field studies were begun on existing hazardous spill control equipment for emergency response actions at uncontrolled sites. This equipment will include:

  - Mobile incineration system for the on-site detoxification of soils, lagoon scums, debris, and other solid or liquid materials that have been contaminated with hazardous chemicals;

  - Mobile physical/chemical treatment systems utilizing both powdered and granular activated carbon for concentrating wastes and leachates;

  - Mobile system for the on-site thermal regeneration of granular activated carbon used in site cleanup operations;

  - Mobile system for diverting surface water flow around hazardous sites.

  - Also, in 1981, a manual will be prepared on the safe handling and disposal of leaking/damaged drums which have been stored at uncontrolled sites.

  - Long-term field validation on the performance of remedial actions schemes will be continued. This verification includes studies at hazardous waste landfills and surface impoundment sites. Also evaluation of leachate treatment techniques and a survey to verify the technical and cost aspects associated with completed remedial action schemes is being continued. New starts will include development of a model to be used in selecting the best remedial action scheme for specific site conditions. Work will also be initiated in the area of in situ stabilization to minimize leachate release from waste disposal sites.

Municipal Solid Waste

- The research program in the non-hazardous waste area is limited to concluding and monitoring previsouly funded activities. The non-hazardous waste program was greatly reduced in 1980 and is expected to be terminated in 1981.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $1,981,100 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to the activity is $12,600.

- A 1981 budget amendment for hazardous waste programs and related activities was submitted to the Congress. This amendment resulted in an increase of $300,000 to this activity.

- The Congress reduced angencywide travel costs by $850,000; a decrease of $5,000 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $73,400 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bounuses by $750,000; a decrease of $14,500 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $1,800,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $3,900 was applied to this activity.

- An increase of $30,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $11,700 from other activities.

- Offsetting transfers of $155,200 were made to realign contract funds -- $155,200 was transferred within the Salaries and Expenses appropriation to monitoring and quality assurance in this same subactivity; $155,200 was transferred within the Research and Development appropriation from monitoring and quality assurance in this same subactivity.

- Transfer resulted in a decrease of $27,700: to scientific assessments ($23,000) and to health effects ($4,700) within the same subactivity, in order to realign contract funds.

- Transfer resulted in a decrease of $56,100: to management and support, nationwide support costs, to provide for additional support services required to meet increase RCRA programmatic requirements.

- Offsetting transfers of $4,500 were made to realign contract funds -- $4,500 was transferred within the Salaries and Expenses appropriation to monitoring and quality assurance in this same subactivity; $155,200 was transferred within the Research and Development appropriation from monitoring and quality assurance in this same subactivity.

- Transfer of $42,400 to management and support, contracts management, in order to provide the Office of Program Management with additional resources to administer RCRA programmatic increases.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $24,700.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B decifits. The reduction applied to this activity is $11,600.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $251,100.

1982 Plan

The Agency requests a total of $17,647,900 and 34 permanent workyears for this sub-program, of which $2,929,400 is for the Salaries and Expenses Appropriation and $14,718,500 is for extramural purposes under the Research and Development Appropriation. This reflects an increase of $29,100 from 1981.

Hazardous Waste Landfill & Surface Impoundment

- The 1982 plan will address engineering guidance for the design, operation, and long term performance to technology for hazardous waste landfilling, land treatment, storage, surface impoundment, fixation, and stabilization.

- A protocol is being prepared for the design and installation of landfill and surface impoundment liner systems, including quick indicator methods for liner/waste compatibility, permeability, and durability. A protocol is also being written that compares the predicted performance of different liner designs. Laboratory and field investigation of the effect of organic waste materials on liner permeability will be continued.

- Evaluations of hazardous waste fixation/stabilization technologies will be expanded into a protocol with a quick indicator test for predicting the leachability, durability, longevity, and compatibility of waste/process combinations.

- The eight technical resource documents previously described in the 1981 program section will be updated on an annual basis dependent upon an expanded data base. Those technical resource documents relating to landfills will be combined into a single technical landfill manual.

- The protocol developed in 1981 for predicting the composition, rate of generation, and total quantity of leachates from hazardous waste land disposal facilities will be field validated in 1982. On the basis of this information and the results of pollutant movement research, a quick indicator test will be developed to predict pollutant movement from specific disposal sites. The test, when incorporated in a simple one-dimensional model, can be used when designing liners and disposal facilities, predicting landfill life and rate of pollutant release, and evaluating permit applications for disposal facilities.

- Research will also continue on the determination of the magnitude of volatile organic emissions from land disposal facilities, including surface impoundments, landfills, and land treatment. The release of volatiles in the atmosphere from disposal facilities is not generally well understood. If the measurement of the emissions in FY 1981 proves that volatile releases are substantial, studies will be initiated which will investigate technology to predict and control them. This work will improved the information base and allow volatiles to be covered in the regulations.

- Research will be initiated to produce a manual of hazardous waste landfill siting, design, and operations. Field evaluations into land treatment of hazardous waste will continue, including the update of the permit program guidance manuals. These efforts will ultimately from the basis for performance standards for land disposal facilities as part of the update regulations.

- Another project will provide information to assist development of guidelines for the encapsulation of high-hazard waste. Information available is based upon laboratory and limited pilot scale research of unique resin fusion processes using polyethylene, polybutadiene, and similar materials. These efforts also include studies of advanced liner designs, including emerging synthetic materials and the use of nonpetroleum-based materials (such as sulfur/hydrocarbon) compounds in place of asphalt.

Incineration

- Development of better sampling and analysis protocols or analyzers will be continued for use during enforcement inspections to routinely test incinerators to ensure that they maintain their destruction efficiency. The program includes efforts to standardize measurement methods for waste and stack emissions. In developing the protocols, special attention will be given to on-line, hot-zone sampling techniques. These techniques will be studied, modified, and verified during field-scale test burns, under the permit program. Protocols will be updated as appropriate for use in full-scale test burns and compliance monitoring for each major class of waste stream.

- The operation of field-scale rotary-kiln and liquid injection incinerators will be used to pre-evaluate full-scale test conditions using sophisticated monitoring and combustion process control equipment. Detailed test burns will be conducted for hazardous wastes from waste streams listed in Section 3001 (e.g., chlorinated hydrocarbons).

- A companion program will continue to use a highly sophisticated, laboratory-scale thermal decomposition analytical system (TDAS) to screen combustion conditions for each waste to be tested and to study the formation of combustion daughter products that are potentially hazardous.

- During field-scale testing, high priority will also be given to monitoring the performance of conventional air pollution control technology in controlling emissions from hazardous waste incineration. Of particular concern are fine particles, volatile metal oxides, and compounds containing arsenic, beryllium, mercury, and halogens. The data will be used, for example, in developing performance standards for scrubbers.

- The plan calls for continuation of the effort to develop criteria for comparing data taken on small (pilot) incinerators and applying the results to full-scale systems. Scaling criteria are being developed that will be used to design and build a reduced-scale model of a full-sized, industrial waste incinerator. The model test incinerator will include both rotary kiln and liquid injection units which will share a common afterburner chamber. The model will be used to verify and refine the scaling parameters for incinerator design. The pilot unit will be used to model the conditions in other full-sized hazardous waste incinerators by incorporating performance data from hazardous waste incinerators already in commercial operation.

- Performance evaluation of advanced incineration technologies will be initated. Of particular interest are two-stage fluidized bed incinerators and molten salt reactors. These technologies are potentially more cost effective than existing incineration technology.

Hazardous Waste Treatment

- In 1982 an inhouse industrial process engineering analysis capability will be maintained to assist in permit evaluations of hazardous treatment systems for specific hazardous waste streams.

- In addition, engineering analysis will be used to target performance evaluations of inplace hazardous waste treatment systems for waste generated in the wood preserving, specialty chemicals, pesticides manufacturing and metal finishing industries. Where existing treatment incineration or landfill practies are ineffective, research into improved control technology will be initiated on a waste stream specific basis.

- Phase I process engineering analysis efforts for the Industrial Organic Chemicals and Pesticide Manufacturing Sectors will be completed and detailed engineering analysis and field sampling will be initiated for ranked process waste streams.

- An industrial production data base and Phase I engineering analysis will be completed for the Organic Dyes and Pigments Sector, leading to field sampling and analysis in late 1982 for ranked process wastes.

Remedial Action

- In 1982, short term response activies will continue in evaluating control equipment for emergency response action. In this respect, the mobile incineration system for on site detoxification and the concentration and separation techniques will be field tested. Emergency response situation assessment and analytical support will continue to be provided on an as needed basis. Also, new activites will be initiated in the areas of personnel safety and drum removal and reburial.

- In 1982, long-term monitoring to validate performance of inplace remedial action schemes will be continued at a hazardous waste site and a surface impoundment site. Also, the survey, assessment and cost studies will be updated. Pilot and bench studies for hydrogeologic models, concentration leachate treatment techniques and reactivity of construction materials with hazardous waste will be initiated.

Change from January Request

This request represents a decrease of $631,600 from the January budget, of which $39,300 is for Salaries and Expenses and $592,300 is for Research and Development. This decrease will affect activities dealing with the evaluation of field test methods for response to hazardous waste disposal problems and the development of remedial action alternatives for hazardous waste disposal sites.

ENVIRONMENTAL PROCESSES AND EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $476,000 and 1 permanent workyear for this sub-program, of which $62,700 is for the Salaries and Expenses Appropriation and $413,300 for extramural purposes under the Research and Development Appropriation.

This was the first year in which funds were obligated in this program category. A cooperative agreement was initiated to improved the technology of Land Treatment of hazardous organic materials. The results will aid permit reviewers in evaluating the environmental acceptability of permit applications and improve the capability to safely dispose of these wastes.

1981 Program

In 1981, the Agency has allocated a total of $1,015,300 and 3 permanent workyears to this sub-program, of which $156,800 is for the Salaries and Expenses Appropriation and $858,500 is for extramural purposes under the Research and Development Appropriation.

This program is adding to the research on groundwater in the drinking water area to provide specific outputs designed for developing regulations that identify hazardous wastes and that protect groundwater from the improper disposal of hazardous wastes. A method for approximating the subsurface mobility of chemicals will be developed; model development for the prediction of the movement of hazardous wastes in the subsurface will begin; and two hazardous waste sites will be selected for field evaluation of the methods of models.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $28,700 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $900.

- The Congress reduced angencywide consulting services by $3.8 million; a decrease of $900 was applied to this activity.

- An increase of $1,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $900 from other activities.

- Transfer $1,600 to management and support, nationwide support costs, to provide for additional support services required to meet increased RCRA programmatic requirements.

- Transfer $10,300 to management and support, contracts management, in order to provide the Office of Program Management with additional resources to administer RCRA programmatic increases.

- Offsetting transfers of $4,500 were made to realign contract funds -- $4,500 was transferred within the Salaries and Expenses appropriation to monitoring and quality assurance in this same subactivity; $4,500 was transferred within the Research and Development appropriation form monitoring and quality assurance in this same subactivity.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $2,700.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $15,000.

1982 Plan

The Agency requests a total of $3,163,000 and 21 permanent workyears for this sub-program, of which $1,465,000 is for the Salaries and Expenses Appropriation and $1,698,400 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $2,148,300 from 1981. This increase provides for the development of techniques for assessing ecological damage and bioenvironmental stress arising from disposal of hazardous wastes and for development of methods and models to predict movement of hazardous wastes through the subsurface environment.

This program will expand from addressing only the processes and effects in the subsurface environment to providing scientific data for assessing the entire scope of environmental impacts of hazardous waste disposal. Work will continue to add to the research on groundwater in the drinking water area by concentrating on predictive model development and field evaluation of both the models under development and the method for approximating subsurface mobility developed in 1981. New activities in ecological effects and environmental assessment modeling will expand on knowledge gained in other research areas (water quality and toxic chemicals) and adapt methods for use in evaluating hazardous waste disposal. Specifically, the expansion provides for adapting and developing techniques for assessing ecological damage from disposal of hazardous wastes and their entry in the food chain, relating ecological effect parameters to potential effects on humans, developing protocols for damage assessment, and determining the relationship of bioassay techniques to real ecological impacts. Finally, expanded environmental assessment modeling activities will provide tools for evaluating the relative environmental impacts of various disposal methods.

Change from January Request

This request represents a decrease of $109,800 and 4 permanent workyears from the January budget for Salaries and Expenses. This decrease will result in less emphasis being placed on the development of techniques for assessing ecological damage and bioenvironmental stress arising from disposal of hazardous wastes.

PESTICIDES

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Salaries and and Expenses.....	$34,567	$31,427	$33,875	$32,896	-$979
Research and Development.....	6,015	3,898	4,616	946	-3,670
Abatement, Control and Compliance.....	29,931	39,292	31,178	28,227	-2,951
Total.....	70,513	74,617	69,669	62,069	-7,600
Permanent Workyears.....	1,017	925	885	818	-67
Full-time Equivalency.....	1,150	1,050	995	934	-61
Outlays.....	67,709	63,000	63,892	63,320	-572
Authorization levels.....	81,798	86,935	86,935	*	
* Authorization pending.					
PROGRAM HIGHLIGHTS					
Pesticides Non-Energy:					
Salaries and Expenses.....	6,916	6,155	5,987	5,930	-57
Research and Development....	6,015	3,898	4,616	946	-3,670
Total, Research and Development Program.....	12,931	10,053	10,603	6,876	-3,727
Registration and Tolerances:					
Salaries and Expenses.....	10,650	10,593	12,156	12,124	-32
Abatement, Control and Compliance.....	606	1,148	1,148	...	-1,148
Standards Setting and RPAR:					
Salaries and Expenses.....	11,401	10,070	10,522	9,651	-871
Abatement, Control and Compliance.....	16,789	27,112	19,004	16,963	-2,041
Federal and State Program Support:					
Salaries and Expenses.....	2,172	420	713	456	-257
Abatement, Control and Compliance.....	3,643	...	...	...	...
Total:					
Salaries and Expenses.....	24,223	21,083	23,391	22,231	-1,160
Abatement, Control and Compliance.....	21,038	28,260	20,152	16,963	-3,189
Total Abatement and Control Program	45,261	49,343	43,543	39,194	-4,349

Revised 3/26/81

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Inrease + Decrease - 1982 vs. 1981	Page
Pesticides Enforcement:						
Salaries and Expenses.....	3,428	4,189	4,497	4,735	+238	P-29
Abatement, Control and Compliance.....	8,893	11,032	11,026	11,264	+238	
Total, Enforcement Program....	12,321	15,221	15,523	15,999	+476	
Permanent Positions						
Pesticides, Non-Energy, Total Research and Development Program.....	148	114	113	93	-20	P-35
Registration and Tolerances...	378	341	338	326	-12	P-11
Standards Setting and RPAR....	318	315	293	252	-41	P-19
Federal and State Program Support.....	68	17	16	14	-2	P-26
Total, Abatement and Control Program.....	764	673	647	592	-55	
Pesticides Enforcement, Total Enforcement Program.....	105	138	125	133	+8	
Full-time Equivalency						
Pesticides, Non-Energy, Total Research and Development Program.....	204	159	161	135	-26	P-29
Registration and Tolerances...	401	381	364	366	+2	P-11
Standards Setting and RPAR....	354	336	307	270	-37	P-19
Federal and State Program support.....	74	20	19	16	-3	P-26
Total, Abatement and Control Program.....	829	737	690	652	-38	
Pesticides Enforcement, Total Enforcement Program.....	117	154	144	147	+3	

* January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

OVERVIEW AND STRATEGY

Since 1970, annual pesticide production and application has increased by 70%, to 1.7 billion pounds. There are approximately 40,000 products on the market which are being used both commercially and privately. These products create major societal benefits such as increased agricultural productivity, lower domestic food prices, more favorable balance of payments due to increased exports of agricultural products, and control of human disease vectors such as mosquitoes. On the other hand, pesticides, by their very nature, are designed to be injurious to living organisms and are deliberately introduced into the environment for this purpose. Furthermore, the bulk of these products is used on human or animal food crops wherein human exposure is unavoidable. It is imperative, therefore, that the resources requested herein be provided and emphasis be placed on pesticide programs to protect public health and prevent unreasonable adverse effects to the environment.

The major objectives of the pesticide program are to protect the public health and the environment from unreasonable pesticide risks and permit the use of necessary pest control technologies. These objectives are pursued through four principal means: (1) review of existing and new pesticide products, (2) use management, (3) enforcement, and (4) research and development.

Review of Existing and New Products

EPA reviews and registers new pesticide products upon a finding that these products will not pose unreasonable risks to humans or the environment, taking into consideration the economic, social and environmental costs and benefits stemming from use of the pesticide. Risk is often quantified in terms of the number or probability of certain health effects in a given population, while benefits are most often stated in dollar valuations of such effects as increased crop yields, lower food costs, reduced chance of disease or the cost savings with respect to the use of alternative control measures. Prior to any registration, the benefits of a particular pesticide must be demonstrated to exceed the risk. The review and reregistration of all federally and State registered products now on the market are required by the 1972 Amendments to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). Approximately 80%-90% of existing products were originally registered before the chronic effects (e.g. cancer, birth defects, gene mutations, etc.) of exposure to toxic chemicals were well understood. Their reregistration will thus require more thorough and consequently more resource intensive reviews of all test data for both acute and chronic effects and in many cases, the collection of the basic data itself.

The Federal Pesticide Act of 1978, which amended FIFRA, endorsed the regulatory reforms requested by EPA that would streamline the review process and allow the Agency to increase and improve its regulatory decision making options. Major changes approved in the review and registration approach include pesticide registration according to registration standards, conditional registration, and elimination of certain legal obstacles that were severely hindering the registration process and blocking the entry of new products into the market.

In the past, registration entailed an examination of risk for each product, one at a time. However, registration of pesticides according to generic standards entails a single, comprehensive evaluation of risks and benefits of the active ingredient chemicals common to numerous products, based on all data relevant to the registration decision. For every pesticide chemical and its formulations, performance standards and safety criteria will be set, to which registrants must adhere, in order to register and reregister products. In addition, standards for registration will state tolerable levels of exposure for food, consumers, field workers, applicators, and other persons and organisms unintentionally exposed to pesticides.

The generic approach was implemented because of the opportunity it presents for increased economy and efficiency in the pesticides registration process. This approach (The Registration Standards Program) provides an opportunity to broaden and validate the data base the Agency uses in decision making to systematically review earlier-submitted data and decisions in the regulatory process, and to document the rationale employed at each step in the process. Efforts to eliminate inconsistency in label directions and warnings for similar products, to permit fuller participation in the regulatory process, and to document the rationale employed at each step in the process will continue. We will continue efforts to eliminate inconsistency in label directions and warnings for similar products, assure that pesticide products previously registered for intrastate use meet Federal safety standards, reassess tolerances, and restrict use of products that are considered hazardous.

The program will directly affect public health and the quality of the environment through the imposition of a variety of regulatory restrictions. EPA's regulatory options range from cancellation of all uses to unconditional registration. Where unreasonable adverse effects are identified, the Agency may initiate rebuttable presumption against registration (RPAR) proceedings, in which we subject suspect chemicals to careful risk/benefit assessment and the use of alternative chemicals, so as not to impair agricultural productivity. In cases where a lesser degree of hazard may exist, the Agency may consider such risk-reducing measures as precautionary labeling, childproof packaging, restriction to use by certified applicators, and mandated use of protective clothing.

Key elements of the program to review pesticide products include the following:

Registration enables new products to enter the market. Under this program, new pesticide products are registered and current registrations are amended for new uses and/or new formulations. Priority will be given to environmentally protective pesticides and innovative technologies. We expect registration activity to increase because the 1978 FIFRA amendments clarified the Act's trade secret provisions and implemented conditional registration authority. This assumes that current litigations are resolved in EPA's favor. Registration activity is presently hindered by the fact that 1/3 of all active ingredients are currently involved in litigation over the trade secret and "cite all" provisions of FIFRA as amended. Conditional registration allows the Agency to process applications for registration of new products which are like ones already registered and thus permit such products to enter the market on an equal footing. This will in turn provide consumers with a wider range of comparable products. Ultimately, all products will be reviewed comprehensively when reregistered under generic pesticide registration standards. The Agency will continue to issue conditional registrations of new chemicals if the public interest will be served by a registration and if risks, during the period required to complete and submit additional studies, are not deemed to be unreasonable.

Special Registration covers all activities relating to the issuance of experimental use permits under Section 5 of FIFRA to generate data for registration, the issuance of emergency exemptions under Section 18, and the issuance of Section 24(c) special local need registrations, the latter of which are handled largely by the States with Federal oversight. Special registration provides the flexibility to deal with unexpected situations and pesticide needs when a decision is needed rapidly.

Tolerances are pesticide residue limits on food and animal feed crops under authority of the Federal Food, Drug and Cosmetic Act (FFDCA). Determinations are based on a careful review and evaluation of residue chemistry and toxicology data to ensure that maximum residue levels likely to be found in foods are safe for human consumption. Included in this consideration is the cumulative effect of the same pesticide chemical and other related substances with the same physiological activity.

Use Management

Pesticide use management assists coordination of all pesticide programs through consultation and the exchange of information and technical advice among Agency headquarters and Regional offices, and Federal, State and local officials, and by the provision of assistance and information on pesticide policies, programs and procedures to pesticide users, registrants, farmers, farmworkers and the general public. This activity includes assistance to the States in dealing with pesticide incidents which may affect public health, and other special problems, coordination of Federal/State responsibilities for special registrations, provision of information on current regulatory actions, and the referral of issues to appropriate headquarters for consideration and action. Advice and assistance is provided to registrants to facilitate compliance with regulatory requirements and farmwoirker safety and the implementation of integrated pest management (IPM) technologies are promoted by the selective dissemination of information.

Enforcement

The pesticides enforcement program is designed to support the objectives of regulating pesticide supply and use. The program emphasizes increased State involvement through Federal/State cooperative enforcement grants. Through such grants, the States are able to support comprehensive enforcement programs and bring local expertise into national regulatory effort. In 1982, EPA will continue its efforts to involve all of the States and territories in this program. Enforcement activities, either carried out by participating States, or by EPA in States not having grants, will focus on the general areas of insuring user compliance with label directions, and industry compliance with registration, classification, and labeling requirements. Criminal investigations will continue on alleged data fraud in private testing laboratories.

Enforcement resources will be used in 1982 to operate Federal certification and training programs in Colorado and Nebraska, to provide grants in support of State certification program and to fund applicator training conducted by the Department of Agriculture Extension Service. This provides a programmatic linkage between the certification and training program and the State enforcement programs, and re-emphasizes the priority of implementing certification and training programs in Colorado and Nebraska along with increased enforcement in these same States. Training materials are continuing to be upgraded to the 12th grade level and will emphasize the risks associated with pesticides.

The pesticides abatement and control and pesticides enforcement programs will share in the performance of the laboratory audit functions beginning in 1982.

Research and Development

Research and Development activities provide scientific data to support the pesticides program by means of Health Research, Environmental Processes and Effects Research, Monitoring Systems and Quality Assurance activities, and Scientific Assessments.

Exposure assessment data provide a means for identification of overall populations at risk due to the registerd uses of pesticides. And, even though registrants are required to submit data on the health and ecological effects of pesticides, there is a continuing need for this exposure assessment data, especially for new compounds.

The Health Effects research program will address both the health effects and exposure areas. The major thrust will be to document human exposure testing protocols, develop exposure assessment techniques for agricultural worker reentry, test protective gear for

applicators, and provide data on placental transport and fetal deposition of pesticide compounds.

Environmental Processes and Effects research will include an ecological effects program, environmental exposure assessment program and an Integrated Pest Management program. The ecological effects program will determine the cumulative ecological and biological impacts of acute and chronic effects of pesticides, singly, and in combination, on target and non-target organisms in terrestrial and aquatic ecosystems. The environmental exposure program will provide solutions to some critical needs of OPP in the area of exposure assessment and testing of pesticides. The resources will be used to develop methodologies for exposure assessment and carry out exposure analyses on designated compounds in freshwater, marine water, air, and terrestrial environments. Work will also be carried out to provide improved and standardized protocols on a few fate tests for possible incorporation into Pesticide Registration Guidelines. The Integrated Pest Management Program will focus on research to control urban pests.

Scientific Assessments will provide cancer assessments and mutagenicity and reproductive toxicity reviews for RPAR and registration standards to facilitate OPP decisions and regulations.

Technical Information and Liaison activities will support the Pesticides Research Committee through the project milestone tracking system, offering assistance in expediting technology transfer through major publications such as the "Research Outlook", and offering assistance in identifying Regional needs for research and technical assistance.

The Monitoring Systems and Quality Assurance program's major objectives include provision of standardized analytical measurement systems which are capable of generating data of prescribed quality, and to provide quality control materials which assure that these same measurement systems continue to perform within acceptable limits. A repository of calibration materials is maintained to service the analytical community within and outside of the Agency. The program is the focal point for implementation of the Agency-wide quality assurance program for measurement of pesticides.

SUMMARY OF INCREASES AND DECREASES

	(in thousands of dollars)
1981 Pesticides Program.....	$69,669
Salaries and Expenses.....	- 976
The net decrease results from decrease to standards setting and RPAR ($-.9 million); pesticides use management ($-.3 million); and an increase to pesticides enforcement(+$.2 million).	
Research and Development.....	-3,673
The decrease results from reductions to pesticides non-energy activities, particularly environmental processes and effects (-$3.4 million).	
Abatement, Control and Compliance.....	-2,951
The net decrease is in the area of registration and tolerances (-$1.1 million); standards setting and RPAR (-$2.0 million); as offset by an increase in pesticides enforcement ($+.2 million).	
1982 Pesticides Program.....	62,069

SUMMARY OF BUDGET ESTIMATE

1. Summary of Budget Estimate

An appropriation of $62,068,800 is requested for 1982. This request by appropriation account, is as follows:

Salaries and Expenses	$32,897,200
Research and Development	944,700
Abatement, Control and Compliance	28,226,900

This represents a decrease of $7,600,000 from the 1981 level. Decreased funding in the amount of $4,783,000 for registration standards. This reflects the decision to await pending evaluation of the first round of standards and the outcome of significant court cases. The Rebuttable Presumption Against Registration (RPAR) increased by $1,854,000. The additional resources will provide exposure analysis, benefit analyses, and other analyses associated with risk/benefit assessments of suspect chemicals or groups of suspect chemicals.

The registration and tolerances activities is being decreased by $1,180,000 due to the reduced need for epidemiological support, and the completion of data gathering contracts. The pesticides enforcement program is being increased by $475,900, with an increase of $781,900 for the grant program and a decrease of $306,000 to other enforcement activities. The pesticides use management activity is being decreased by $256,400 primarily to reflect the elimination of activities related to pesticide application technology and certification and training program evaluation.

The environmental processes and effects activity is decreased by $3.4 million as a result of the elimination of agricultrual integrated pest mangement activities, which will, henceforth, be conducted by to the U.S. Department of Agriculture.

2. Changes from Original 1981 Budget Estimate

Changes from the Budget are as follows:

	(in thousands of dollars)
Original 1981 estimate	$74,617
Congressional increases/decreases:	
Presidential reduction of $7M (H. Doc. 96-294)	-171
Travel	-41
ADP	-101
Consulting services	-254
SES bonuses	-51
$7.5M reduction to A,C&C	-1,004
$5.0M reduction to Pesticides	-5,000
Aquatic weed research	+620
Proposed pay raise supplemental	+483
Reprogrammings for salary and related costs	+805
Transfer to Administrative Law Judges	-12
Transfer to Toxic Substances to repay "borrowed" Silvex funds	-2,000
Transfer to Office of Inspector General	-76
Implementation of Federal pesticides program	+27
Support for pesticides enforcement grant activity	+124
Contract funds realignment	+13

March 1981 Changes:

Travel	-77
Consulting and Related Services	-68
Moratorium on Procurement of Certain Equipment	-12
Equipment Costs	-167
Contractural Services	-13
1% Transfer	-2
Increases to Fund PC&B deficits	+2,025
Miscellaneous	+4
Current Estimate 1981	69,669

The Congress reduced Agency salary and travel costs by $7 million and $850,000, respectively, resulting in decreases of $171,000 and $41,000. A congressional reduction of $2 million to ADP costs created a decrease of $101,000 to this media. The Congress reduced agencywide consulting services by $3.8 million and SES bonuses by $750,000, resulting in decreases to this media of $254,000 and $51,000, respectively. A congressional reduction of $7.5 million to the Agency's A,C&C appropriation resulted in a decrease of $1,004,000. In addition, Congress reduced the pesticides media by $5,000,000.

Congressional increases to this media include $620,000 for aquatic weed research, $483,000 for the proposed supplemental to fund the October 1980 pay raise, and reprogrammings in the amount of $805,000 for salary and related costs.

Reprogrammings to other media resulted in a decrease of $2,088,000 and from other media, an increase of $164,000.

In accordance with OMB bulletins, the March 1981 changes are as follows: travel (-$76,600); consulting services (-$68,200); and, moratorium on procurement of equipment (-$11,500).

A one percent transfer authority decreases this media by $2,400.

Internal agency reprogrammings to fund PC&B deficits are as follows: equipment costs (-$166,900); contractual services (-$12,900); agencywide increases (+$2,024,600); and, miscellaneous reprogrammings (+$3,700).

ANALYSIS OF INCREASES AND DECREASES TO OBLIGATIONS

	Current Estimate 1981	Estimate 1982
	(in thousands of dollars)	
Prior year obligations	$70,513	$69,307
Effect of congressional changes	-6,002	...
Effect of pay raise supplemental	+483	...
Change in amount of carryover funds available	+1,436	+361
Program changes	-1,924	-6,329
Effect of reprogrammings	+805	...
Change in rate of obligations	+2,306	...
March 1981 changes	+1,690	...

Total estimated obligations.....	69,307	63,339
(From new obligation authority).....	(66,616)	(60,287)
(From prior year funds).....	(2,691)	(3,052)

EXPLANATION OF INCREASES AND DECREASES TO OBLIGATIONS

The congressional changes referred to in the previous section are estimated to decrease obligations by $6,002,000. The funding of the October 1980 pay raise through a proposed supplemental is expected to increase obligations by $483,000.

The amount of carryover funds estimated to be obligated in 1981 is $2,691,000, an increase of $1,436,000 from the 1980 level. In 1982, it is estimated that $3,052,000 will be obligated from carryover funds, an increase of $361,000 over the 1981 level.

The program change in 1981 is estimated to result in a decrease of $1,924,000. In 1982, the program decrease is expected to decrease obligations by $6,329,000.

The effect of the March 1981 change is an increase of $1,690,000.

79-248 O—80——40

PESTICIDES

PROGRAM LEVELS	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Registration Standards					
Registration Standards Completed	6	20-40	13	8*	- 5
RPAR Decisions:					
Final RPAR Decisions	18	15	10	10	...
Lab Audits	17	25-35	21(20-35)	21(20-35)	...
Registration					
New Chemical and Biorational Registrations	101	96	65	75-95	+10
Old Chemical Applications	7,388	5,300	5,300	5,300	...
Amendments and Supplemental Applications	21,286	22,240	22,200	22,200	...
Reregistrations	...	3,000-10,000	450	1,200	+750
Special Registration					
Emergency Exemptions	446	350	275	350	+75
Experimental Use Permits	365	240	190	240	+50
24(c) State Registrations	1,649	1,200	1,100	1,200	+100
Tolerances:					
Tolerance Petitions	325	160	140	160	+20
Amendments	**	150	145	150	+5
Inert Ingredient Requests	54	40	10	40	+30
Enforcement:					
Establishment Inspections	2,599	4,300	4,300	4,700	+400
Use/Reentry and Experimental Use Observations	15,881	8,350	8,350	9,200	+850
Market Place Investigations	14,105	10,600	10,600	11,500	+900
Import Investigations	494	200	542	500	-42

* The eight standards projected for completion in 1982 are predicated upon continuing the present registration standards process. However, 1981 will be devoted to effecting productivity improvements which, if successful, are expected to result in the completion of more than 8 standards in 1982. If the Agency is unable to accomplish such productivity improvements in 1981, the registration standards program will be reevaluated and redesigned as necessary to increase its pace of operations.

** Amendments processed are included in the total for tolerance petitions.

PESTICIDES

Registration and Tolerances

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
	(dollars in thousands)				
Appropriation					
Registration:					
Salaries and Expenses..	$6,403	$6,876	$7,935	$7,914	-$ 21
Abatement, Control and Compliance.....	525	709	709	...	-709
Special Registration:					
Salaries and Expenses..	2,135	1,869	2,116	2,045	- 71
Abatement, Control and Compliance.....	19	273	273	...	-273
Tolerances:					
Salaries and Expenses..	2,112	1,848	2,105	2,165	+ 60
Abatement, Control and Compliance.....	62	166	166	...	-166
Total:					
Salaries and Expenses..	10,650	10,593	12,156	12,124	- 32
Abatement, Control and Compliance.....	606	1,148	1,148	...	-1,148
Grand Total.....	11,256	11,741	13,304	12,124	-1,180
Permanent Positions					
Registration.....	229	222	225	215	- 10
Special Registration.....	77	62	56	54	- 2
Tolerances.....	72	57	57	57	...
Total	378	341	338	326	- 12
Full-time Equivalency					
Registration.....	243	245	238	238	...
Special Registration.....	80	69	61	60	- 1
Tolerances.....	78	67	65	68	+ 3
Total.....	401	381	364	366	+ 2

Budget Request

The Agency requests a total of $12,124,100 and 326 permanent workyears for 1982, a decrease of $1,180,800 and 12 permanent workyears from 1981. Included in this total is $12,124,100 for Salaries and Expenses and no funds for Abatement, Control and Compliance, a decrease of $32,500 and $1,148,300, respectively. The decrease is due to reduced need for epidemiological study support and the completion of data gathering contracts needed to support registration and tolerance decisions.

Program Description

The focus of this program is on the registration and special registration of pesticides and on the establishment of residue to tolerances for each registered product. Under the Registration program, new pesticide products are registered and current registrations are amended for new uses and/or new formulations. Accordingly, the program is driven by the following mandates: (1) effectively screen applications for pesticide product registration to assure that use of the products will not result in unreasonable adverse effects to man and the environment and to assure that such products

are reasonably effective for the proposed uses where public health is concerned; (2) limit the risks associated with the use of pesticides through effective label precautions, use classification, use directions and restrictions; (3) expeditiously process all environmentally protective pesticides ("biorationals") and also new products which are substitutes for products that have serious impact on man and his environment. These mandates are achieved by processing in a timely manner applications for new chemicals, new products containing previously registered pesticides, new uses, formula changes, labeling changes and supplemental registrations, in addition to reregistrations, and assuring product uses will not result in unreasonable adverse effects. In addition, the Registration program has the ongoing task of upgrading label precautions, format, use directions and precautions with emphasis on non target exposures, field workers, and application safety and pesticide container disposal. pesticides and on the establishment of residue tolerances for each registered product.

The Special Registration of pesticides encompasses: (a) the issuance of experimental use permits under Section 5 of FIFRA to generate data for registration, (b) establishment of temporary tolerances to cover safe levels of pesticide residues in food and feed from pesticide application for experimental purposes, (c) granting of emergency exemptions under Section 18 of FIFRA to permit the temporary use of unregistered pesticides, (d) issuance of Section 24(c) special local need registrations, largely handled by the States with Federal oversight, and (e) issuance of pesticide registrations for use on minor crops, often after liaison with public interest user-oriented groups.

Congress has provided the authority to issue Experimental Use Permits (EUP's) to allow large scale experimentation necessary for the development of data for new pesticides or new uses of currently registered pesticides. These data are necessary to allow the Agency to evaluate the potential hazards to man and the environment when application is made for registration of the new chemical. Because of the importance of biorationals and other innovative third-generation pesticides to integrated pest management programs, special efforts are made to process Experimental Use Permit (EUP) applications for these pesticides so that data gathered may be used to allow them to enter the registration system rapidly.

These efforts are particularly important if the proposed use is on a food or feed crop, since testing under an EUP usually involves thousands of acres of valuable food or feed crops. In such cases, destruction of the crop is not economically feasible or desirable; thus the Agency must establish temporary tolerances for residues of the pesticide which may remain on the food or feed commodity, thereby allowing for safe marketing and consumption of the commodity. Sufficient data must be submitted to allow the Agency to determine that the residue levels of the pesticide which result from its use are limited to protect the welfare of the consumer.

When application of registered pesticides or other control measures are not adequate to control unexpected pest outbreaks, emergency situations may develop. The Agency, under FIFRA, issues emergency exemptions authorizing the use of pesticides for unregistered uses, when appropriate, to alleviate the emergency.

Individual states often have special local conditions requiring pesticides that are not registered Federally for such purposes. FIFRA permits State agencies to issue pesticide registrations when the pesticide will be distributed and used only within the registering State. At the same time, Congress provided that EPA should have overview authority concerning these regulations, including the right to disapprove or identify invalid registrations that would have a harmful effect on public health or the environment or which are not consistent with Congressional restrictions. These usually involve food and feed uses for which tolerances have not been established, or uses of pesticides which have been suspended or cancelled by the Agency.

States also have special needs to issue experimental use permits on occasion. Such permits are usually needed to allow an interested pesticide producer to conduct the experimentation that will be needed to support a later State registration for a particular purpose. Congress has provided that States may issue such experimental use permits, subject to EPA overview, in the same manner as for the state registration.

Under the Federal Food, Drug, and Cosmetic Act, as amended (FFDCA), the Agency establishes tolerance levels and exemptions from the requirement of a tolerance for pesticide residues in or on raw agricultural commodities and processed foods. These tolerance levels protect the public health while giving appropriate consideration to the necessity for the production of an adequate, wholesome, and economical food supply.

Determination of tolerances involves careful review and evaluation of residue chemistry and toxicology data to ensure that the maximum residue levels likely to be found in foods are safe for human consumption. Included in this consideration is the cumulative effect of the same pesticide chemical and other related substances with the same physiological activity. Analytical methods are tested to ensure that adequate enforcement of the established tolerance can be achieved.

EPA has implemented more flexible minor use tolerance data review procedures involving data requirements and scientific decision making. This parallels conditional registration and other newly authorized aspects of EPA's pesticide registration program.

Current operations give high priority to tolerance petitions, innovative pesticide chemicals and biologically integrated alternatives for pest control. Integrated Pest Management (IPM) techniques reduce the amount of conventional pesticide chemicals applied and significantly reduce environmental and human risk. In addition, normal fee requirements for petitions for tolerances are adjusted or waived. Processing of tolerance petitions is the only pesticide action for which a fee is charged.

REGISTRATION

1980 Accomplishments

In 1980, resources spent for the registration process totaled $6,928,400 and 229 permanent workyears which included $6,402,900 for Salaries and Expenses, and $525,500 for Abatement, Control and Compliance activities.

In 1980, the Agency processed applications for new chemicals on a priority basis while giving special attention to new chemicals that offer an extra measure of protection to the environment. Tasks completed during 1980 were the processing of: 101 applications for the registration of products that contain new chemicals both for food uses and non-food uses, 7,388 applications for the registration of new products that contain old chemicals, but are identical or substantially similar to those that are currently registered, 218 applications to amend current pesticide product labels to add uses (food and non-food), 18,689 applications for administrative amendments and supplemental registrations, and 2,379 minor amendments. Additional tasks included the follow-up on submission and review of adverse effects data submitted under Section 6(a)(2) of the FIFRA.

A plan for the upgrading of labeling on currently registered products was completed and implemented. Development of the guidelines for biorationals was completed and will be proposed in 1981 for public comment. Environmentally protective pesticide products and other items with review priority were processed more rapidly than in the prior year.

In 1980, development of an automated system was initiated to permit tracking of applications in the registration process flow. A series of simplified instructions to help registrants apply for registration was prepared, in order to reduce the number of applications returned to registrants for additional information before the Agency can either register or deny an application. Finally, during 1980, most of the sections of the Registration Guidelines were prepared for publication as either proposed or final documents.

1981 Program

In 1981, the Agency has allocated a total of $8,644,500 and 225 permanent workyears to this program, of which $7,935,300 is for Salaries and Expenses and $709,200 is for extramural purposes under the Abatement, Control and Compliance appropriation.

Applications will be processed for registration of new chemicals on a priority basis while giving special attention to new chemicals that provide an additional measure of protection to the environment. Under the provisions for conditional registration, the Agency will process applications for registration of new products, new uses, and supplemental and amended registration. Review time and the number of review cycles needed to reach a regulatory decision will be reduced as review staffs become experienced in making the incremental risk assessments mandated under conditional registration. As reregistration packages, final RPAR decisions or other administrative orders are established, the Agency will continue to upgrade pesticide product labels to give the user guidance and directions to apply pesticides safely.

Continuing efforts will include providing of farmworker safety information to Federal, State and local government agencies and improved product labeling and monitoring techniques.

In 1981 the Agency expects to process the following number of applications: new chemical (food use) registrations 25, new chemical (non-food use) registrations 30, new biorational (food use) 5, new biorational (non-food use) 5, old chemical with minor changes 100, and old chemical with similar use 5,200. The number of amended registrations to be processed are: new food uses 200, new non-food uses 200, minor amendments 1,800, administrative amendments 4000, and supplemental registrations 16,000. Thirteen (13) reregistration call-in packages will be developed from the registration standards and approximately 450 products associated with the call-in packages will be reregistered.

1981 Explanation of Changes from Budget Estimates

The net increase of $1,059,600 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $42,800.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $10,500 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $60,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $50,000 was applied to this activity.

- An increase of $118,500 results from the cost of the October 1980 pay raise and in included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in transfers of $180,900 from toxic substances testing and evaluation ($144,600) and from chemical control ($36,300).

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $10,800, which is being redirected to fund PC&B deficits.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $47,500.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $981,800.

1982 Plan

The Agency requests a total of $7,914,100 and 215 permanent workyears for this program, all of which is for the Salaries and Expenses appropriation. This represents an decrease of $21,200 and 10 permanent workyears to the Salaries and Expenses appropriation, and a decrease of $709,200 to the Abatement, Control and Compliance appropriation.

The loss of 10 workyears will not effect production because of introduced efficiencies; nor will the loss of Abatement, Control, and Compliance funds effect the registration process because data-gathering contracts needed to support registration decisions will have been completed in FY 1981.

The Agency has no control over the number of submissions (applications for registration) that the pesticide industry may submit. The numbers listed are estimates based upon previous experience. In 1982, the Registration program will process all new chemical and biorational applications (30-40 food and 45-55 non-food uses) through scientific and regulatory review, 100 applications for conditional registration of products containing previously registered chemicals that involve significant variations in formulation from those currently registered, 5200 applications for conditional registration that are identical or substantially similar to currently registered products, 200 applications for conditional registration of new food uses, and 200 new non-food uses by making incremental risk assessments, 1800 minor amendments, and 4,000 administrative amendments. Also processed will be all adverse effects data (25 submissions) submitted under Section 6(a)(2) within three weeks of receipt, and all applications for supplemental registrations (16,000) within two weeks of receipt. There will be follow-up on 200 applications for which conditions were attached to the registration. Eight reregistration call-in packages will be developed from the registration standards and approximately 1,200 products associated with the call-in packages will be reregistered. Labeling will be upgraded through the label improvement program to enhance the safe use of all pesticide products. Dissemination of safety information to Federal, State, and local governments, farmworkers and applicators will continue. Guidelines will be developed and product labeling will be improved in order to give guidance on hazards associated with the use of pesticides and ways to reduce exposure through use of clothing, gloves, respirators, and worker re-entry intervals. Although the safety program is identified in the Registration section, its importance is such that additional supporting activities are included in the Standards Setting and RPAR as well as in the Federal and State Program sections.

Change from January Request

This request represents a decrease of $9,100 from the January budget, all of which is taken from the Salaries and Expenses appropriation. No appreciable effects on outputs result from the reduction.

SPECIAL REGISTRATION

1980 Accomplishments

In 1980, resources spent on the special registration process totaled $2,154,400 and 77 permanent workyears of which $2,135,400 was for Salaries and Expenses and $19,000 for Abatement, Control and Compliance activities.

The Agency continued the special registration program by (a) issuing experimental mental use permits to support registration data requirements, (b) establishing temporary tolerances to cover safe levels of pesticide residues, (c) granting emergency exemptions to allow the use of unregistered pesticides and (d) providing guidance and directions to States which issue pesticide registrations and experimental use permits to meet special local needs. The Agency processed 365 experimental use permits, 85 temporary tolerance petitions, and 446 emergency exemptions, and reviewed 1,649 State registrations. No experimental use permits were issued by the States in 1980.

1981 Program

In 1981, the Agency has allocated a total of $2,389,200 and 56 permanent workyears to this program, of which $2,116,100 is for Salaries and Expenses and $273,100 is for extramural purposes under the Abatement, Control and Compliance appropriation.

The Agency expects to process about 190 experimental use permits, 40 temporary tolerance petitions, and 275 emergency exemptions, and review 1,100 State registrations. Agency oversight and guidance will be provided for an estimated 80 State-issued experimental use permits.

1981 Explanation of Changes from Budget Estimate

The net increase of $246,800 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $11,800.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $20,000 was applied to this activity.

- An increase of $31,400 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $49,300 from toxic substances testing and evaluation.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reductions", required agencywide reductions to travel; the total reduction of $1,794,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $800.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $11,300.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $210,000.

1982 Plan

The Agency requests a total of $2,045,300 and 54 permanent workyears for this program, all of which is for the Salaries and Expenses appropriation. This represents a decrease of $70,800 and 2 permanent workyears to the Salaries and Expenses appropriation, and a decrease of $273,100 to the Abatement, Control and Compliance appropriation. The reduction in Abatement, Control, and Compliance reflects the completion of contract work which provides the necessary data base for future decisions.

During 1982, the Special Registration program will evaluate, in terms of risks and benefits, an expected three hundred and fifty emergency exemption requests to allow pesticides to be used to control unexpected agricultural or public health pest outbreaks, and to either grant or deny such requests as expeditiously as possible. Approximately two hundred and forty applications for experimental use permits will be evaluated, each within the statutory limit of 120 days. This will allow pesticide research and development to continue for new pesticides and for new uses of currently registered pesticides. Biorational and other innovative pesticides will be given special attention; an attempt will be made to process these within 100 days. An estimated 55 petitions for temporary tolerances, and 80 resubmissions supporting experimental use permits, will be evaluated. The Agency will review an estimated 1,200 Section 24(c) State registrations which provide for the use of a pesticide in a special local need situation within a given State, and 100 Section 5(f) State experimental use permits to allow continuing research and development of pesticides to meet special local needs.

Change from the January Request

This request represents a decrease of $290,400 and 8 permanent workyears from the January budget, of which $245,700 is for Salaries and Expenses and $44,700 is for Abatement, Control and Compliance. The fund reduction is primarily the result of the transfer of the Northwest Biological Investigations Station at Carvallis, Oregan to the U.S. Department of Agriculture. The elimination of all Abatement, Control and Compliance monies reflects the completion of contractural work which provided the necessary data bases for future decisions.

TOLERANCES

1980 Accomplishments

In 1980, resources spent for the tolerance setting process totaled $2,173,800 and 72 permanent workyears which included $2,112,000 for Salaries and Expenses, and $61,800 for Abatement, Control and Compliance activities.

Accomplishments during 1980 included the processing of 325 petitions and 54 inert ingredient requests.

1981 Program

In 1981, the Agency has allocated a total $2,271,200 and 57 permanent workyears to this program, of which $2,105,200 is for Salaries and Expenses, and $166,000 is for extramural purposes under the Abatement, Control and Compliance appropriation.

These resources will permit the Agency to review all incoming tolerance actions to establish residue levels that will protect human health, and provide written replies (acknowledgements) to tolerance petitions within two weeks. An estimated 140 new petitions, 145 amendments, and 10 inert ingredient requests will be processed. This processing includes administrative handling, coordination, scientific review of data, regulatory decision making, and preparation of Federal Register notices.

1981 Explanation of Changes from Budget Estimates

The net increase of 257,600 results from several actions, as follows:

- Shortly after the 1981 budget estimates was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $11,600.

- An increase of $31,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $48,600 from toxic substances testing and evaluation.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $18,100 was applied to this activity.

- OMB Bulletin #81-7, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $800.

- OMB Bulletin #81-8, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $2,100 which is being redirected to fund PC&B deficits.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $9,600.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $220,000.

1982 Plan

The Agency requests a total of $2,164,700 and 57 permanent workyears for this program all of which is for the Salaries and Expenses appropriation. This amount represents an increase of $59,500 for the Salaries and Expenses appropriation, and a decrease of $166,000 to the Abatement, Control and Compliance appropriation. This reflects the completion of contract work which provided the necessary data bases for future decisions and the realignment of salaries and related costs to meet projected needs.

These resources will enable the Agency to evaluate carefully, chemistry and metabolism data for 160 petitions to determine the nature and level of pesticide residues expected to remain in or on food crops when used according to the proposed label direction. Toxicology data will be evaluated to determine if foods containing these residue levels are safe for human consumption. These evaluations will also take into account the cumulative effect of the tolerances already established for the pesticide chemical and other pesticide chemicals with related pharmacological activity. Specific analytical methods will be evaluated to determine their suitability for enforcement of proposed tolerances. Also, 150 amendments and 40 inert ingredient requests will be processed.

Change from the January Request

This request represents a decrease of $8,900 from the January budget, all of which is taken from the Salaries and Expenses appropriation. No appreciable effects on outputs result from this reduction.

PESTICIDES

Standards Setting and RPAR

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
			(dollars in thousands)		
Appropriation					
Registration Standards:					
Salaries and Expenses	$5,631	$5,592	$5,610	$4,374	-$1,236
Abatement, Control and Compliance	5,345	11,846	9,647	6,100	-3,547
RPAR Reviews:					
Salaries and Expenses	5,685	4,394	4,824	5,172	+348
Abatement, Control and Compliance	11,444	15,266	9,357	10,863	+1,506
EIS Preparation:					
Salaries and Expenses.....	85	84	88	105	+17
Total:					
Salaries and Expenses	11,401	10,070	10,522	9,651	-871
Abatement, Control and Compliance	16,789	27,112	19,004	16,963	-2,041
Grand Total	28,190	37,182	29,526	26,614	-2,912
Permanent Positions					
Registration Standards	166	167	151	117	-34
RPAR Reviews	149	145	139	132	-7
EIS Preparation	3	3	3	3	...
Total	318	315	293	252	-41
Full-time Equivalency					
Registration Standards	183	181	161	129	-32
RPAR Reviews	168	152	143	138	-5
EIS Preparation.....	3	3	3	3	...
Total	354	336	307	207	-37

Budget Request

The Agency requests a total of $26,614,400 and 252 permanent workyears for 1982. Included in this total is $9,651,000 for Salaries and Expenses and $16,963,400 for Abatement, Control and Compliance, a decrease of $870,400 and 41 permanent workyears and $2,040,200 respectively. The decrease will result in a reduced pace of completion of registration standards and stretch out of the program in future years. This level of funding will provide for the continued development of pesticide registration standards, which are crucial to improve the efficiency of future pesticide registration and reregistration activities, and farmworker safety, integrated pest management and groundwater monitoring activities. The budget will also permit the continuation of rebuttable presumption against registration (RPAR) actions which are necessary to properly assess the risks and benefits of compounds and to implement restrictions on compounds suspected of causing unreasonable

adverse health effects. The pesticides abatement and control and pesticides enforcement programs will share in the performance of the laboratory audit functions beginning in 1982.

Program Description

In order to use resources efficiently, the Agency developed a new approach to reregistration which was ratified by Congress--developing registration standards for each of the active ingredient chemicals currently used in pesticide products. This approach, however, is currently the subject of litigation which could cause redirection or major changes in the program. EPA will concentrate its efforts on the approximately 600 chemicals or chemical groups currently used as active ingredients, which will permit decisions on the reregistration of all existing products. Many of the approximately 1,800 separate chemicals orginally identified as discrete active ingredients are not in production or have chemical forms that allow them to be judged in groups rather than one-by-one.

The Agency is proposing to review these chemicals based on a specific ordering process by developing chemical clusters and ranking them for review. Under this system, chemicals that have the same major uses will be grouped together in clusters. The advantages of clustering include equity to the registrant (all chemicals within the same cluster will be reviewed at the same approximate time), flexibility to the user in selecting products (alternative treatments for a common pest problem would receive simultaneous review) and consistent regulatory positions on groups of chemicals.

The development of a registration standard is divided into three phases: (1) data gathering, (2) data evaluation, and (3) development and issuance of the registration standard. Pesticide residue tolerances, already established under authority of the Federal Food, Drug and Cosmetic Act, are reviewed and respecified for each of the food or animal crops to which the chemical is applied. (The establishment of new residue tolerances is funded under the registration and tolerances subactivity). All pesticide products that use the chemical as an active ingredient and meet the specifications of the standard will be reregistered. (Reregistration, as distinguished from standards production, is funded under the registration and tolerances subactivity as are resources for new product registrations and amendments to existing registrations).

Current litigation challenges the constitutionality of basic FIFRA data use and disclosure provisions. While EPA believes that the legal underpinnings of the program are fundamentally sound, an unfavorable ruling would require major changes and redirection in the standards setting process. If the court rulings are not favorable to EPA, the Agency will return to the Authorization and Appropriations Committees for guidance.

Special reviews of pesticide products that are candidates for rebuttable presumptions are carried out under a program established to scrutinize chemicals which are suspected of causing undue hazards. The decision to cancel the use of any chemical or family of chemicals requires a risk/benefit determination after an in-depth review of potential hazards on a use-by-use basis. Industry and users of pesticides may obtain further review of such a decision through adjudicatory hearings. The RPAR process includes analysis of the exposure of humans and the environment to the pesticide, including environmental impact analysis; analysis of risks, including oncogenicity, mutagenicity, and teratogenicity risks; review of the benefits of the pesticide's uses; review of the possible substitutes for the chemicals; and assessment of the possible regulatory options. The pesticides abatement and control and pesticides enforcement programs will share in the performance of the laboratory audit functions beginning in 1982.

REGISTRATION STANDARDS

1980 Accomplishments

In 1980, a total of $10,975,800 was spent, and 166 permanent workyears were used, including $5,345,300 in Abatement, Control and Compliance for information services, scientific data review, and other contracts. The extramural resources are for information service and scientific data review contracts to support the development of registration standards. These resources are used to gather and analyze chemical data, to gather pesticide use and usage information, to perform economic impact analyses of various regulatory recommendations, to support toxicology and chemistry data evaluations, to evaluate health effects, and fund various groundwater monitoring, farmworker safety, and integrated pest management projects.

In 1980, detailed internal operating procedures were developed, major policy issues were identified and resolved, and alternatives for increasing productivity and improving operating effectiveness were evaluated. The data gathering phase was initiated for 45 active ingredients, and was completed for 29. Data evaluations were initiated on 24 chemicals and completed on 11. Six registration standards were completed.

Special emphasis was placed on the following activities. Monitoring of groundwater and well water was conducted on Long Island for Aldicarb and in California for DBCP. An interagency agreement was signed with the Department of Labor to conduct a large scale epidemiological study of youth employed in agriculture. Various interagency and cooperative agreements were signed to continue and initiate integrated pest management activities.

1981 Program

In 1981, the Agency has allocated a total of $15,256,300 and 151 permanent workyears to this program, of which $5,609,800 is for Salaries and Expenses and $9,646,500 is for extramural purposes under the Abatement, Control and Compliance appropriation. These resources are used to gather and analyze chemical data, to gather pesticide use and usage information, to perform economic impact analyses of various regulatory recommendations, to support toxicology and chemistry data evaluations, to evaluate health effects, and fund various groundwater monitoring, farmworker safety, and integrated pest management projects.

During 1981, the emphasis will be on standards production. Using a chemical priority system, work is expected to be initiated on an additional 20 standards, and at least 13 registration standards are expected to be completed. Extramural resources will be used extensively to gather, evaluate and analyze scientific data. Internal procedures and productivity improvements developed in 1980 will be implemented. Farmworker safety and integrated pest management activities initiated in 1980 will be continued. In 1981, development and implementation of a groundwater monitoring strategy will be emphasized, working in conjunction with other EPA programs. Spray drift technology will be reviewed and appropriate information will be disseminated to reduce involuntary exposure of farmworkers and others.

1981 Explanation of Change from Budget Estimates

The net decrease of $2,182,200 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $35,100.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $10,000 was applied to this activity.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $16,100 was applied to the activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $30,000 was applied to the activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $999,900 was applied to the activity.

- The Congress made a general reduction to pesticides activities of $5 million; a decrease of $1,200,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $49,000 was applied to this activity.

- An increase of $80,400 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $113,400 from toxic substances chemical control.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity $15,700.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $11,500.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $8,700.

1982 Plan

The Agency requests a total of $10,474,000 and 117 permanent workyears for this program of which $4,373,900 is for the Salaries and Expenses appropriation and $6,100,100 for the Abatement, Control and Compliance appropriation for information services and scientific data review contracts. This represents a decrease of $1,235,900 and $3,546,400 respectively. The reduction will result in a reduced pace of completions for registration standards and a stretch out of the program in future years.

These resources are expected to permit the completion of 8 standards and the initiation of an additional 15 standards in 1982. The eight standards projected for completion in 1982 is predicated upon continuing the present registration standards process. However, 1981 will be devoted to effecting productivity improvements which, if successful, are expected to result in the completion of more than 8 standards in 1982. Extramural resources will continue to be used to gather, evaluate, and analyze scientific data and support farmworker safety and groundwater monitoring activities. The emphasis in integrated pest management will be on urban control of pests. If court rulings concerning the constitutionality of basic FIFRA data use and disclosure provisions are unfavorable, EPA will nonetheless continue the process of systematically reviewing the data base upon which registration of current

pesticides is based. In addition, however, the Agency will probably find it necessary to return to the Authorization and Appropriations Committees for guidance.

Change from January Request

This request represents a decrease of $4,332,800 and 20 permanent workyears from the January budget, of which $1,032,500 is for Salaries and Expenses and $3,300,300 is for Abatement, Control and Compliance. This will result in a decrease of five completed registration standards from the January budget and will stretch-out the program.

REBUTTABLE PRESUMPTION AGAINST REGISTRATION (RPAR) AND EIS PREPARATION

1980 Accomplishments

A total of $17,214,200 and 152 permanent workyears was spent for this program, including EIS preparation; $11,443,900 was spent for contracts for information services, site/pest information, use analyses, scientific exposure/hazard assessments and risk/benefit information.

In 1980, fumigant and fungicide RPAR cluster reviews were begun and the Agency reached final resolutions on 18 chemicals including Dimethoate, Pronamide, Silvex, and 2,4,5-T, although some administrative and appellate proceedings could run on for some years. A special effort was placed on the development of proposed and final resolutions. A pilot study was initiated on forest use pesticides and their alterna tives in order to provide guidance to producers and users of such products. Major contracts for risk and benefit analytical expertise were utilized in 1980. The contrators, both private and public organizations, supplemented the Agency's limited in-house specialists, e.g. toxicologists, entomologists, etc. Support was provided for two hearings which resulted from RPAR decisions.

Seventeen (17) lab audits were performed. The lab audit program shifted from a surveillance mode to a compliance mode in which labs were audited only as problems arose. The results of the lab audit program were fed back into the RPAR and registration processes with a view toward identifying data gaps and the need for revised decisions.

After emergency suspension of Silvex in 1979, agreements were reached with major registrants of Silvex in which they agreed to request voluntary cancellation of their products and EPA agreed to arrange for disposal. The Agency continued actions to investigate and determine the legal requirements for, and quantities, location, and nature of products to be disposed. Some major contracts for the disposal of the chemical were issued in 1980.

1981 Program

In 1981, the Agency has allocated a total of $14,268,700 and 142 permanent workyears to this program, including EIS preparation, of which $4,911,600 is for Salaries and Expenses and $9,357,100 is for extramural purposes under the Abatement, Control and Compliance appropriation. The extramural resources are for information services, site/pest information, use analyses, scientific exposure/hazard assessments and risk/benefit information.

The fumigant and fungicide cluster reviews begun in 1980 will continue and final resolutions are projected on 10 chemicals; 6-12 chemicals are expected to begin review under the RPAR process. In 1981, the emphasis will be on the later phases of RPAR action. Support will be provided for 2 to 4 hearings resulting from RPAR decisions. Major contractural efforts will continue, and new procedures and management review processes will be implemented as the result of reviews of the RPAR process initiated in earlier years. The forest use products study begun in 1980, will continue. During 1981, the emphasis will continue on

the development of ecological effects laboratory audit procedures and 21(20-35) laboratory audits are projected. Agency activities initiated in 1980 concerning Silvex disposal will continue.

1981 Explanation of Changes from Budget Estimate

The net decrease of $5,475,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $28,300.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $9,000 was applied to this activity.

- The Congress made a general reduction to pesticides activities of $5 million; a decrease of $3,800,000 was applied to the activity.

- An increase of $72,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropiration.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $101,300 from toxic substances chemical control.

- A transfer of $71,000 was made to the Office of Inspector General in order to provide additional resources to that Office, of which $30,400 was from the Salaries and Expenses appropriation and $40,600 was from the Abatement, Control and Compliance appropriation.

- A transfer of $2,000,000 was made to toxics management to repay the Office of of Pesticides and Toxic Substances for Silvex funds "borrowed" in FY 1980.

- A transfer of $9,600 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $45,000 was applied to this activity.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $1,500.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $68,200, which is to be rescinded.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $15,900.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $400,000.

1982 Plan

The Agency requests a total of $16,140,400 and 135 permanent workyears for this program, including EIS preparation, of which $5,277,100 is for the Salaries and Expenses appropriation and $10,863,300 for the Abatement, Control and Compliance appropriation for contracts for information services, use analyses, scientific exposure/hazard assessment and risk/benefit and site/pest information. This increase in extramural resources will be devoted to mission contracts to provide additional exposure analysis, benefit analysis, and other analysis associated with risk/benefit assessments of suspect chemicals or groups of suspect chemicals.

At this level of resources, final resolutions are expected on approximately 10 chemicals; some chemicals may be identified for review under the RPAR process as a result of the registration standard reviews. The fumigant and fungicide reviews begun in prior years will continue. Final resolutions are expected on most of the original RPAR reviews and high risk referrals. Regulatory positions will be developed for chemicals found to exceed RPAR triggers while under standards review. The process will continue to rely on contractors in 1982 to supplement Agency resources where absolutely necessary including the development of preliminary risk assessments by contract. Technical support is expected to be provided to 3-4 hearings resulting from RPAR decisions. Twenty-one laboratory audits are projected in 1982 and the pesticides abatement and control and pesticides enforcement programs will share in the performance of the laboratory audit fuctions.

Change from January Request

This request represents a decrease of $4,534,100 and 9 permanent workyears from the January budget, of which $523,700 is for Salaries and Expenses and $4,010,400 is for Abatement, Control and Compliance.

This decrease will be accomplished by reducing lower priority equipment purchases, consulting services, and travel as well as contracts providing additional exposure analysis, benefit analysis, and other risk/bienfit analysis. Resources available after this reduction will still be sufficient to accomplish 10 final RPAR decisions and to participate is 21 lab audits, both the same as forecast in 1981.

79-248 O—80——41

PESTICIDES

Federal and State Program Support

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Pesticide Use Management:					
Salaries and Expenses..	$2,172	$420	$713	$456	-$257
Abatement, Control and Compliance.....	3,643	...	....	...	...
Total.....	5,815	420	713	456	-257
Permanent Positions.....	68	17	16	14	-2
Full-time Equivalency....	74	20	19	16	-3

Budget Request

The Agency requests a total of $456,100 and 14 permanent workyears for 1982 all of which is for Salaries and Expense appropriation. This represents a decrease of $256,400 in this account. The decrease in Salaries and Expenses is primarily related to the elimination of activities related to pesticide application technology, pesticide applicator certification and training program evaluation.

Program Description

Nationwide coordination of all pesticide programs is enhanced by consultation and the exchange of information and technical advice among Agency headquarters and Regional Offices, and Federal, State and local officials, and by the provision of assistance and information on pesticide policies, programs and procedures to pesticide users, registrants, farmers, farmworkers and the general public. This activity includes assistance to the States in dealing with pesticide incidents which may affect public health, and other special problems, coordination of Federal/State responsibilities for special registrations, information on current regulatory actions, and the referral of issues to appropriate headquarters units for consideration and action. Advice and assistance is provided to registrants to facilitate compliance with regulatory requirements, and farmworker safety and the implementation of integrated pest management (IPM) technologies are promoted by the selective dissemination of information. Included in Pesticide Use Management are resources to obtain advice, understanding, and cooperation with States in the National pesticide regulatory program. Following the phase-out of the regional component of the Use Management activity at the end of 1982, the above functions will be carried out from headquarters.

- An increase of $10,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Transfer of $27,100 from air quality management implementation to support the implementation of a Federal pesticides program.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in transfers of $166,900 from drinking water public systems supervision program assistance ($6,100); solid waste uncontrolled hazardous waste sites ($6,100), hazardous waste permit enforcement ($900), hazardous waste management regulatory strategies implementation ($18,800), hazardous waste enforcement ($39,200); pesticides enforcement ($7,900); noise regional program implementation ($13,000); interdisciplinary NEPA compliance/EIS preparation - new source discharge permits ($2,100); toxic subtances testing and evaluation ($7,500); toxics management ($40,100); and management and support - regional management ($6,600), financial management ($13,200) and personnel management ($5,400).

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,000 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $9,300.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $500.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $2,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $103,500.

1982 Plan

The Agency requests a total of $456,100 and 14 permanent workyears for this program, all of which is for the Salaries and Expenses appropriation. The decrease of $256,400 is related to elimination of activities associated with the certification and training program and programs to develop improvements in pesticide application technology.

This level of funding will enable the Agency to maintain regional liaison with State and local officials and the public, provide information on pesticide regulatory policies and programs and provide advice and assistance with respect to pesticide incidents. Federal assistance will also be provided on special registration actions by the States, and individual problems of registrants. Abatement, Control and Compliance funds will provide Headquarters support of development and dissemination of information and educational materials on farm-worker safety and integrated pest management (IPM) techniques.

Change from January Request

This request represents a decrease of $135,600 from the January budget, of which $84,800 is for Salaries and Expenses, and $50,800 is for Abatement, Control and Compliance. The decrease in Salaries and Expenses will be accomplished by a reduction in lower priority travel, consultant services, and printing. The decrease in Abatement, Control and Compliance will be accomplished by the elimination of some support to the promotion of integrated pest management and farm safety activities. This support can be adequately furnished by in-house capabilities at Agency headquarters.

PESTICIDE USE MANAGEMENT

1980 Accomplishments

In 1980, $5,814,400 was spent and 68 permanent workyears were used for pesticide use management activities of which $2,171,800 was for Salaries and Expenses and $3,642,600 was for Abatement, Control and Compliance. Of the latter amount, $1,366,000 was transferred to the Department of Agriculture Extension Service for the applicator training program. EPA has approved 47 State Certification plans which have been fully implemented. Federal certification plans have been implemented in Colorado and Nebraska and one Federal certification plan (DOD), was approved. Fifty-four (54) State training plans have been funded through USDA and are now operating. Indian certification policy was developed and approved. A grant was awarded to the Association of American Pesticide Control Officials (AAPCO) to maintain the State FIFRA Issues Research and Evaluation Group (SFIREG).

In addition to supporting the nationwide certification and training of applicators, regional pesticide offices provided assistance to pesticide manufacturers, formulators, and distributors on all aspects of registration requirements. They assisted States in the development of, and evaluated, emergency use exemptions and local use registrations, and supported public health and safety needs by providing assistance with pesticide spills and fires, farmworker safety programs, poison control centers, hospitals, and worker clinics. The regions conducted pesticide accident investigations, which resulted in improved data on pesticide accidents and misuse and which will in turn be used to support registration decisions and label improvements. Technical assistance was provided to EPA's water quality programs to improve pesticide use practices around water, and information regarding the full range of Agency policies and programs was provided to governmental and private entities.

These activities have had several major positive impacts. The certification and training program, by reaching over 1.5 million applicators, contributes to the lessening of the incidence of pesticide misuse and accidents. The presence of the pesticide classification/applicator certification program as a viable, alternative to cancellation of risky pesticides has protected agricultural production costs from further upward pressure. Finally, the information outreach program has broadened State and public understanding of pesticide issues, and has thereby facilitated implementation of FIFRA.

Support to State certification and training programs was transferred to the enforcement program at the end of 1980, in order to consolidate guidance and assistance to the States as they assume increased responsibilities in the area of pesticide enforcement.

1981 Program

In 1981 the Agency has allocated a total of $712,500 and 16 permanent workyears for Salaries and Expenses to provide consultation, technical advice, information and referral services and regulatory material to government officials, pesticide users and applicators, farmers, and farmworkers in support of Federal/ State program coordination, emergency response to pesticide incidents, registration actions and the promotion of safe and innovative pesticide use.

1981 Explanation of Changes from Budget Estimate

The net increase of $292,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $2,600.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,100 was applied to this activity.

PESTICIDES

Pesticides Enforcement

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
			(dollars in thousands)		
Appropriation					
Pesticides Enforcement:					
Salaries and Expenses.....	$3,026	$3,752	$3,924	$4,248	+$324
Abatement, Control and Compliance.....	156	112	106	62	-44
Pesticides Enforcement Grants Support:					
Salaries and Expenses.....	402	437	573	487	-86
Pesticides Enforcement Grants:					
Abatement, Control, and Compliance.....	9,737	7,920	7,920	8,702	+782
Pesticides Certification and Training Grants:					
Abatement, Control and Compliance.....	...	3,000	3,000	2,500	-500
Total:					
Salaries and Expenses.....	3,428	4,189	4,497	4,735	+238
Abatement, Control and Compliance.....	8,893	11,032	11,026	11,264	+238
Grand Total.....	12,321	15,221	15,523	15,999	+476
Permanent Positions					
Pesticides Enforcement.....	94	122	109	118	+9
Grants Support.....	11	16	16	15	-1
Total.....	105	138	125	133	+8
Full-time Equivalency					
Pesticides Enforcement.....	104	137	127	131	+4
Grants Support.....	13	17	17	16	-1
Total.....	117	154	144	147	+3

Budget Request

A total of $15,998,700 and 133 permanent workyears are requested for the 1982 pesticides enforcement program. Included in this total is $4,735,200 for the Salaries and Expenses appropriation and $11,263,500 for the Abatement, Control and Compliance appropriation. The total amount for both resource areas reflects an overall increase of $475,900. There is an increase of eight permanent workyears from 1981.

Program Description

The EPA pesticides enforcement program, covering approximately 10,000 firms involved in the production of pesticides sold and distributed in the United States and millions of persons using those pesticides, is administered pursuant to the Federal Insecticide, Fungicide and Rodenticide Act, as amended (FIFRA). The first priority of the program is initiating enforcement actions in emergency situations involving substantial threats to public health and safety. The program emphasizes compliance on the part of the pesticide industry with registration, classification, and labeling requirements, and compliance by users and applicators of pesticides in observing proper label directions for use. As a result of Federal/State enforcement agreements, the program is conducted largely by cooperating State agencies. Included in the overall program are: observation of pesticide applications; sampling and label checks of pesticides at production sites and in the marketplace; registration of pesticide-producing establishments; and initiation of enforcement actions including civil penalties, criminal prosecutions, seizures, stop sales, and injunctive actions. In addition, the pesticides enforcement program in 1982 includes the administration of the applicator certification and training program. This responsibility includes the funding of State certification and training programs, EPA oversight of such programs, administration and enforcement of Federal certification and training programs in Colorado and Nebraska, and administration of certification and training programs among Indian tribes.

EPA is committed to ensuring that State governments participate to the maximum extent in the national pesticides enforcement program. The Agency has worked with the States in the implementation of cooperative Federal/State programs, particularly in establishing cooperative enforcement grants and applicator certification and training programs. With State participation, the breadth and effectiveness of the enforcement program have been greatly enhanced, the control over the use of pesticides has improved, and increased responsiveness to local needs has been realized.

1980 Accomplishments

Resources for this program in 1980 were $12,320,400 and 105 permanent workyears of which $3,427,900 was for Salaries and Expenses and $8,892,500 was for extramural purposes under the Abatement, Control and Compliance appropriation. The extramural funds included $155,500 for contracts (including an evaluation of the effectiveness of the State grant program, training for the laboratory inspection program, and ADP support), and $8,737,000 for support of cooperative enforcement grants with 49 States and Territories.

In 1980, the Agency developed cooperative enforcement grants-in-aid in 49 States and Territories. Under these agreements, States conducted 15,322 use and reentry inspections, 2,315 inspections of pesticide-producing establishments, and 13,785 marketplace inspections.

During 1980, the EPA program accomplished the following: 284 inspections of pesticide-producing establishments; 559 use and reentry inspections; 494 inspections at ports of entry; and 320 marketplace inspections. As a result of these efforts, the Agency issued 193 civil actions for product/producer/use violations; 803 notices of warning for product/producer violations; and 113 stop sale, use or removal orders. Notices of Judgment were also published by the Agency detailing the legal disposition of those civil and criminal actions instituted under the Federal Insecticide, Fungicide and Rodenticide Act, as amended.

1981 Program

In 1981, the Agency has allocated a total of $15,522,800 and 125 permanent workyears to this program of which $4,496,700 is for Salaries and Expenses and $11,026,100 is for extramural purposes under the Abatement, Control and Compliance appropriation. Contract funds in the amount of $106,100 will be used for the specialized training of pesticides enforcement personnel in the laboratory inspection program and for ADP support. A total of $7,920,000 will be used to fund cooperative enforcement grants, and $3,000,000 will be used to fund certification and training grants.

The 1981 pesticides enforcement program will have as its first priority, at both headquarters and in the regions, the initiation of enforcement actions in emergencies involving substantial threats to public health and safety. Other programwide responsibilities include emphasis upon enforcement of pesticide use and application, improvement of enforcement methods through greater cooperation with States, and development of cases of national or regional significance. Other important activities, including establishment of cooperative enforcement grants and applicator certification and training grants with the States, will be continued. The enforcement grants will provide for participation by approximately 57 States and Territories in all areas of pesticides enforcement. Certification and training grants will provide for the training and certification of pesticides applicators in the use of restricted use pesticides. As in previous years, the pesticides enforcement program will be directed toward the general objectives of ensuring user compliance with label directions for use, and ensuring adherence to product requirements of the Federal Insecticide, Fungicide, and Rodenticide Act.

Federal pesticides enforcement activities will focus on those States not participating in the grant program and those States having programs which do not adequately address EPA's enforcement concerns within resource limits. EPA user compliance activities will include 392 use, reentry, and experimental use inspections. Product and producer compliance activities conducted by EPA will include 200 establishment inspections, 155 marketplace inspections, and 542 inspections at ports of entry. Additional use, establishment, and marketplace inspections will be conducted by State agencies under the terms of cooperative enforcement grants.

1981 Explanation of Change from Budget Estimates

The net increase of $302,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $25,600.

- A transfer of $4,700 was made to the Office of the Inspector General in order to to provide additional resources to the office.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $14,500 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $16,800 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement Control and Compliance appropriation; a decrease of $4,300 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $5,000 was applied to this activity.

- An increase of $66,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a net transfer of $151,800: from solid waste hazardous waste management regulatory strategies implementation ($67,600); hazardous waste enforcement ($65,500); drinking water underground injection control program ($68,100); noise regional program implementation ($5,000); and to water quality municipal waste treatment facility construction ($4,400); waste treatment operations and maintenance ($6,600); pesticides use management ($7,900); and management and support-regional counsel ($13,100); and financial management ($26,100); to pesticides enforcement grant support ($2,700); to toxic substances enforcement ($400); and from pesticides enforcement ($2,700).

- Transfer of $123,500 within the Office of Enforcement from air stationary source enforcement to support pesticides enforcement grant activities.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel: the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $27,000.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $3,600.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $7,400.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $1,300.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $2,400.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $72,800.

1982 Plan

The Agency requests a total ot $15,988,700 and 133 permanent workyears for this program, for which $4,735,200 is for Salaries and Expenses, and $11,263,500 for Abatement, Control and Compliance. The total reflects an overall increase of $475,900. This increase is for additional enforcement activites and for increased participation by States, territories and Indian Tribes in the cooperative enforcement grant program, Of the total budget, $8,701,900 is available for the support of 57 cooperative enforcement grants with State and Territories. An additional $2,500,000 in grant funds will be available to support the administration, enforcement, and oversight of applicator certification and training programs. Contract funds will total $61,600 and will be used for specialized training for pesticides enforcement personnel in performing laboratory data inspections and subsequent enforcement case development. The pesticides enforcement and pesticides abatement and control programs will share in the performance of the laboratory audit functions beginning in 1982.

In 1982, the pesticides enforcement program has as its first priority the initiation of enforcement actions in emergencies involving substantial threats to public health and safety. Emphasis will also be placed upon enforcement of pesticide use and application, upon improvement of enforcement methods through greater cooperation with States, and upon the development of cases of national or regional significance.

Plans for 1982 are to include the participation of all Territories and States in the enforcement grant program. State activities will include use, reentry, and experimental use inspections, establishment inspections, and marketplace inspections. As a consequence of this enhanced State role in the overall program, the Federal role will continue to be that of program management and training. In States without grants, and in States having programs which do not adequately address certain enforcement concerns, Federal enforcement activities will continue within resource limits. In addition, the enforcement program will include the funding of State applicator certification and training programs, oversight of such State programs, administration and enforcement of Federal applicator certification and training programs in Colorado and Nebraska, and administration of certification and training programs among Indian Tribes.

Change from January Request

The request for pesticide enforcement represents a decrease of $114,800 and two workyears from the January budget. The request for pesticide enforcement grants support represents a decrease of $52,700 and one permanent workyear from the January budget. The decreases are in the Salaries and Expenses appropriation and will not result in any significant change in outputs.

There is no change to the January request for pesticide enforcement grants and for pesticide certification and training grants.

PESTICIDES

Pesticides - Non-Energy

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Scientific Assessments:					
Salaries and Expenses.....	$438	$413	$304	$364	+$60
Research and Development.....	25	39	137	...	-137
Technical Information and Liaison:					
Salaries and Expenses.....	83	87	96	57	-39
Research and Development.....	...	4	4	4	...
Monitoring Systems and Quality Assurance:					
Salaries and Expenses.....	432	517	493	632	+139
Research and Development.....	48	48	48	59	+11
Health Effects:					
Salaries and Expenses.....	3,763	2,439	2,360	2,342	-18
Research and Development.....	1,781	396	396	221	-175
Environmental Processes and Effect:					
Salaries and Expenses.....	2,200	2,699	2,734	2,535	-199
Research and Development.....	4,161	3,411	4,031	662	-3,369
Total:					
Salaries and Expenses.....	6,916	6,155	5,987	5,930	-57
Research and Development.....	6,015	3,898	4,616	946	-3,670
Grand Total.....	12,931	10,053	10,603	6,876	-3,727
Permanent Positions					
Scientific Assessment.....	8	9	9	6	-3
Technical Information and Liaison.	2	2	2	1	-1
Monitoring Systems and Quality Assurance.....	10	12	12	10	-2
Health Effects.....	73	31	30	27	-3
Environmental Processes and Effects	55	60	60	49	-11
Total.....	148	114	113	93	-20
Full-time Equivalency					
Scientific Assessments.....	11	14	12	10	-2
Technical Information and Liaison.	2	2	3	2	-1
Monitoring Systems and Quality Assurance.....	12	14	13	11	-2
Health Effects.....	101	43	42	39	-3
Environmental Processes and Effects	78	86	91	73	-18
Total.....	204	159	161	135	-26

*January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Budget Request

The Agency request a total of $6,875,500 and 93 permanent workyears for 1982, a decrease of $3,728,100 from 1981. Included in this total is $5,930,800 for Salaries and Expenses and $944,700 for Research and Development, with a decrease of $55,300 and $3,672,800 respectively.

Program Description

This program has been developed under the auspices of the Pesticides Research Committee. The overall program develops, validates and documents procedures for measuring or predicting human and environmental exposures to pesticides and their effects under various environmental circumstances and pesticide usages. The program provides quality assurance support for Agency measurements involving pesticides as well as providing resources for developing, validating, and documenting cost-effective alternate integrated pest control strategies for urban environments. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

The overall program develops, validates and documents procedures for measuring or predicting human and environmental exposures to pesticides and their effects under various environmental circumstances and pesticide usages. Another facet provides quality assurance support for Agency measurements involving pesticides as well as providing resources for developing, validating, and documenting cost-effective alternate integrated pest control strategies for urban environments.

SCIENTIFIC ASSESSMENT

1980 Accomplishments

In 1980, the Agency used a total of $462,900 for this sub-program, of which $437,700 was for Salaries and Expenses and $25,200 was for extramural research activities.

- The arsenic exposure assessment data verification was initiated at the request of the Office of Pesticides and Toxic Substances for use in the Agency's Position Documents 2, 3 and 4 leading to regulatory action for arsenic as a wood preservative.

- Guidelines were formulated by which the Agency will conduct mutagenicity risk assessments. These Guidelines which will be published in the Federal Register in FY 1981 will benefit all Agency programs by providing the mechanisms whereby chemical mutagens can be regulated.

- A mutagenicity evaluation was performed for the chemical carbaryl and testimony was provided before the Science Advisory Panel relative to its possible regulation under FIFRA.

- A Workgroup on Reproductive Effects was organized to provide background documents to be used to write reproductive effects risk assessment guidelines. Drafts from this Workgroup have been prepared on female reproductive effects, male reproductive effects and developmental effects. These Guidelines, when developed, will serve to regulate reproductive toxicants.

- Responses were made to rebuttal comments and quantitative risk assessments for inorganic arsenic and coal tar/creosote were completed. Also completed were quantitative risk assessments on diallate, lindane and ethylene dibromide. These activities are in support of the Rebuttable Presumption Against Registration (RPAR) review for registered pesticides.

- Expert witness testimony was provided in the cancellation hearings on 2,4,5-T. This testimony was based on an extensive report on the carcinogenicity of the chemical and its contaminants as well as a review of pathology slides.

1981 Program

In 1981, the Agency has allocated a total of $442,700 to this sub-program, of which $303,900 is for the Salaries and Expenses Appropriation and $138,800 is for extramural purposes under the Research and Development Appropriation.

The scientific assessment program will provide continuing support to the Office of Pesticides and Toxic Substances in the form of technical assistance, oversight, evaluation, or preparation of risk and exposure assessments for pesticide chemicals considered to be possible carcinogens, or mutagens or having other reproductive toxicity effects. The program also participants in the Pesticide Chemical Review Committee to review all RPAR documents. Expert witness testimony at Science Advisory Panel reviews will also be provided on chemicals which have been evaluated by the program. These activities are in support of the Rebuttable Presumption Against Registration review which is conducted for all registered pesticide chemicals that have shown a potential for unreasonable adverse effects as defined in the Federal Register (C.F.R. 40, Part 162) and Sections 3 and 25 of FIFRA. The scientific assessment program will also provide an oversight review function for the re-registration of all pesticides as required by Section 6 of FIFRA. A limited oversight will be available on pesticide exposure assessments using the new exposure guideline concepts.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $9,300 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $2,200.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,900 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $2,500 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $2,000 was applied to this activity.

- An increase of $4,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $16,000 to other activities.

- A transfer of $2,000 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- Transfer of $86,800 within the Salaries and Expenses appropriation to air-gases and particles/non-energy ($17,900) and to air-hazardous pollutants/non-energy ($68,900); transfer of $99,800, within the Research and Development appropriation, from air-oxidants/nonenergy ($52,800) and from water quality non-energy ($47,000)--to realign contract funds.

1982 Plan

The Agency requests a total of $365,100 and 6 permanent workyears for this sub-program, all of which is for the Salaries and Expenses Appropriation, and is a net decrease of $77,600 from 1981.

The scientific assessment program will continue to support the Office of Pesticides and Toxic Substances in carrying out the requirements of FIFRA. This includes oversight, evaluation, hearing support, and/or preparation of risk and exposure assessments for pesticide chemicals considered to be possible carcinogens, or mutagens, or having other reproductive toxicity effects. Such activities are in specific support of the Rebuttable Presumption Against Registration (RPAR) review and the registration standards program.

Change From January Request

This request represents a decrease of $63,500 and 3 permanent workyears from the January budget for Salaries and Expenses. This decrease will result in reduced support for cancer assessments, mutagencity and reproductive toxicity reviews. This will also decrease the literature search capability.

TECHNICAL INFORMATION AND LIAISON

1980 Accomplishments

In 1980, the Agency used a total of $83,100 for this sub-program, of which $82,600 was for Salaries and Expenses and $500 was for extramural research activities.

In 1980, the Technical Information Program supported the preparation and publication of the Research Outlook, the Research Highlights, technical information plans and guidance and other general documents of interest to the environmental decision making community. It also provided ORD with information systems necessary to effectively plan and manage its research projects and resources. Specific accomplishments in the area of Pesticides included the publication and dissemination of:

- Reports on Integrated Pest Management.

- A guide for the Assessment of Human Exposure to Airborne Pesticides.

The Regional Services Staff provided for effective communications between ORD and the regions. Specifically, they:

- Developed and implemented the Regional Support Management Information System.

- Carried out regional liaison activities to insure technical assistance.

The Technical Information and Liaison helped enable ORD to communicate its research information to EPA's regional offices and to the environmental decision making community. Further, they assisted in making better coordination between ORD and the regions possible, allowing each to meet the needs of the Agency and the public more efficiently.

1981 Program

In 1981, the Agency has allocated a total of $99,200 and 2 permanent workyears to this sub-program, of which $95,700 is for the Salaries and Expenses appropriation and $3,500 is for extramural purposes under the Research and Development appropriation.

This part of the program is providing various research program and project summaries, decision series documents, and technology transfer publications to meet Research Committee requirements. Technical Information Plans, listing the explicit information products for this Research effort have been prepared. Thoughout the year, support will be provided to

develop these information products and to distribute them to the appropriate users. Support is also being provided to manage information systems which track ORD's research projects and resources.

Regional liaison activities are continuing as in 1980. To this end, such activities will:

- Continue the Regional Support Management Information System.
- Conduct ORD/Regional Senior Staff Meetings and other liaison activities to provide technical assistance. These will include preparing reports, conducting special staff and policy studies, developing regional problem statements, and identifying research and technical assistance requirements.
- Develop and implement a process to address the research needs of state and local government in the ORD planning process.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net increase of $9,200 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $100.
- An increase of $1,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.
- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $2,000.
- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $5,800 from energy technical information.

1982 Plan

The Agency requests a total of $60,300 and 1 permanent workyear for this sub-program of which $56,800 is for the Salaries and Expenses appropriation and $3,500 is for extramural purposes under the Research and Development appropriation.

This reflects a decrease of $38,900 in the Salaries and Expenses appropriation which will eliminate the regional liaison activities supported by this sub-program and reduce the number of technical information publications that can be prepared and disseminated.

This sub-program will continue, in 1982, to develop and produce technical information products to ensure that research information is properly and adequately communicated to the environmental decision making community. Specific products planned by the research committee will be developed and support to manage systems which track ORD's research projects and resources will be provided. This sub-program will no longer support liaison with the regions.

Change from January Request

This request represents a decrease of $31,000 and one permanent workyear from the January budget for Salaries and Expenses. This decrease will result in the elimination of regional liaison activities for this program as well as a reduction of the number of technical information publications to be prepared and disseminated.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1980 Accomplishments

In 1980, the Agency used a total of $479,900 for this sub-program, of which $431,900 was for Salaries and Expenses and $48,000 was for extramural research activities.

- Pesticide reference material were furnished to nearly 1,100 EPA and other Federal, State, local, industrial, academic and foreign laboratories. Approximately 28,000 samples were distributed from the 850 reference compounds currently stocked. These samples were used for quality assurance testing and quality control purposes to ensure intercomparability of data from different laboratories.

- Interlaboratory collaborative quality assurance studies were carried out between volunteering laboratories.

- The quality control of analytical supplies was maintained through a rigorous acceptance testing program prior to distribution to other laboratories.

1981 Program

In 1981, the Agency has allocated a total of $541,300 and 12 permanent workyears to this sub-program, of which $493,300 is for the Salaries and Expenses appropriation and $48,000 is for extramural purposes under the Research and Development appropriation.

- A major effort is the maintenance of a repository of pesticide calibration materials which will be distributed to over 1,100 EPA, Federal, State, local, academic, industrial, and foreign laboratories. These materials are used by the laboratories to maintain internal quality control to ensure that their data are accurate, precise, and reproducible. In addition, the program serves as a central supply of special reference materials used in gas chromatographic analyses by the Office of Pesticides Programs' cooperative epidemiology laboratories to improve consistency of analyses.

- Repair and calibration services for specific instruments used in these epidemiology laboratories are provided to ensure that comparable results are obtained by each laboratory. An analytical standards manual is also provided biannually to provide up-to-date information to all laboratories.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $24,100 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $2,800.

- An increase of $6,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $2,800 from other activities.

- OMB Bullentin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $400.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $30,000.

1982 Plan

The Agency requests a total of $690,300 and 10 permanent workyears for this sub-program, of which $631,500 is for the Salaries and Expenses appropriation and $58,800 is for extramural purposes under the Research and Development appropriation.

This reflects an increase of $149,000, which will support the pesticides repository which distributes standard analytical reference samples to EPA co-operator laboratories plus support for the agencywide mandatory quality assurance program.

The emphasis in the monitoring systems and quality assurance program will continue to be upon improving the quality of data obtained in support of pesticide activities through these efforts:

- The major effort under this program will be the maintenance of a repository of high priority pesticide calibration materials which will be distributed to over 1,100 EPA, Federal, State, local, academic, industrial, and foreign laboratories. These materials are used by the laboratories to maintain internal quality control to ensure that their data are accurate, precise, and reproducible. In addition, the program serves as a central supply of special reference material used in the gas chromatographic analyses by the Office of Pesticides Programs cooperative epidemology laboratories to improve consistency of analyses.

- Repair and calibration services for specific instruments used intheir epidemiology laboratories will be provided to ensure that comparable results are obtained by each laboratory. An analytical standards manual is also provided biannually to provide up-to-date information to all laboratories.

- Support to the Mandatory Quality Assurance Program will provide technical guidance, support and overview to assure that the Agency will have environmental data of known quality that are appropriate for the EPA needs.

Change From January Request

This request represents a decrease of $63,900 and 2 permanent workyears from the January budget, of which $62,700 is for Salaries and Expenses and $1,200 is for Research and Development. This decrease will result in a cut-back in the special synthesis program for specific chemicals.

HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $5,543,900 for this sub-program, of which $3,763,400 was for Salaries and Expenses and $1,780,500 was for extramural research activities.

- A specific and highly sensitive analytical chemical procedure was developed for determining residues of 2,3,7,8-tetrachloro-dibenzodioxin (TCDD) in human and animal tissue and in environmental media. The method is capable of detecting TCDD and related dioxin isomers at levels as low as fractions of a part per trillion. The method has been applied to a wide range of substrates, including human milk and environmental samples, and is currently being used in the regulatory program.

79-248 O—80——42

- Groundwater and well water from Long Island, New York, were tested for residues of the carbamate pesticides aldicarb and carbofuran. A toxicologic study for possible potentiation between these two highly toxic pesticides was carried out. This study assisted the Agency in determining the potential danger to people who use the well water for bathing and drinking purposes.

- Tests were carried out in mice and rabbits to evaluate the potential hazard of Nosema locustae to human health if this protozoan parasite is used as a biological control for grasshoppers on rangelands and grain fields. The tests were designed to expose the experimental animals to quantities of organisms through various routes of infection that would provide maximum opportunity for Nosema locustae to behave as a mammalian pathogen. The data collected in this study was considered during the registration of this biological agent.

- Further studies on the neurotoxic effects of EPN (an organophosphate insecticide) and two cotton defoliants (DEF and merphase) were conducted to define the hazardous dose in acute and subacute dosing. An in vitro test, neurotoxic esterase, was evaluated as a possible screening procedure for delayed neurotoxicity.

- Procedures for evaluating human exposure to pesticides have been developed, validated, and compiled into guideline format for inclusion into the Agency's registration requirements.

1981 Program

In 1981, the Agency has allocated a total of $2,755,800 to this sub-program, of which $2,359,500 is for the Salaries and Expenses appropriation and $396,300 is for extramural purposes under the Research and Development appropriation.

Highlights of the program include:

- Validation of methodology for measuring effects of human exposure to pesticides during home and garden application situations. Measurements will be made for three representative compounds.

- Evaluation of the efficiency of new and existing devices for sampling pesticides in air.

- Development and application of high performance liquid and gas liquid chromatography/mass spectrometric methods for assessment of human exposure to pesticides, metabolites, and impurities, including dioxins, in human and environmental samples.

- Health aspects of biorational pesticides with emphasis on genetic stability and interaction of baculoviruses.

- Provision of toxicokinetic data on absorption, metabolism, distribution, and storage of pesticides following oral, dermal, or respiratory exposure to facilitate correlation between exposure and effects studies.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $79,800 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $8,400.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $2,300 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $2,200 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $55,700 was applied to this activity.

- An increase of $20,700 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $2,000.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $29,900.

1982 Plan

The Agency requests a total of $2,562,800 and 27 permanent workyears for this subprogram, of which $2,342,300 is for the Salaries and Expenses appropriation and $220,500 is for extramural purposes under the Research and Development appropriation. This reflects a decrease of $193,000. The planned program will:

- Validate metabolite excretion tests as an index of human exposure and provide technical support documentation to the Office of Pesticide Programs.

- Measure actual exposures of applicators of agricultural pesticides and recommend methodology to the Office of Pesticide Programs.

- Determine the comparative methodology/pharmacokinetics of pesticides under typical agricutural worker re-entry exposures and develop residue analysis and toxicological techniques for eventual indirect assessement of human exposures.

- Develop and validate animal model for assessing human exposure to inhaled particulate pesticides.

- Develop methods for identification and detection of baculoviruses.

- Conduct toxicological evaluation of selected biological agents.

- Determine the potential of specific pesticides for inducing adverse perinatal, including behavioral effects in the offspring of animals exposed during gestation.

- Determine critical embryonic period for production of supernumerary ribs and effects of maternal stress in rodents.

- Determine effects of chemical administration during critical development periods on sexual dimorphisms in rodents.

- Elucidate the basic developmental mechanisms responsible for perinatal dysfunction as demonstrated in rats.

- Determine if epididymal sperm counts and morphology are more sensitive reproductive parameters than the fertility index/neonatal observations.

- Determine the placental transport and fetal deposition of compounds that are models of their class in different mammalian species.

- Provide rapid responses to requests from the Office of Pesticide Programs (OPP) for hazard and risk assessment.

Change From January Request

This request represents a decrease of $141,800 and 4 permanent workyears form the January budget, of which $135,800 is for Salaries and Expenses and $6,000 is for Research and Development. This decrease will result in a reduced effort in the area of human effects of pesticidal compounds (epidemiology studies).

ENVIRONMENTAL PROCESSES AND EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $6,361,400 for this sub-program, of which $2,200,400 was for Salaries and Expenses and $4,161,000 was for extramural research activities.

- The report "Fate of Selected Herbicides in a Terrestrial Laboratory Microcosm" was published providing transport and metabolism data on Simazine, Bromacil, Trifluralin and 2,4,5, - T in comparison to standard reference compound in experimental terrestrial microcosm chambers. The studies reported on whether the compounds degrade as they move through ecosystems.

- Studies were conducted to determine the transport and effects of wood preservatives in terrestrial systems and creosote, pentachlorophenol and tributyl tinoxide were examined in a simulated ecosystem. This research supports the RPAR process concerning creosote.

- Acute and/or chronic toxicity evaluations in freshwater fish and invertebrate organisms provided effects data for nine pesticide compounds specified by OPP. Testing to compare the toxicity and persistence of three pesticides in encapsulated and nonencapsulated formulations showed increasing toxicity with age and degradation for two of the compounds. Such studies contribute to hazard evaluations.

- A field test was completed in which diazinon was applied to two freshwater outdoor streams and analysis of the data collected is under way. A comparison of these results to laboratory generated data is expected to enhance scientific knowledge on which aquatic ecosystem hazard evaluations are made.

- The long term sublethal effects of the herbicide, Trifluralin, on an estuarine fish were investigated. Results showed effects on the vertebral column.

- A tiered, but simple, biodegradation testing program was developed for pesticides. This program will be used by Office of Pesticides and Toxic Substances to provide: (1) data for pesticide registration and control, and (2) methods for the implementation of TSCA.

- Existing estuarine test methods were evaluated and improved for the Atlantic silverside fish.

Studies specific to the Integrated Pest Management (IPM) have also been accomplished in 1980. These include:

- The third year of a 4-year study on "IPM Systems for Corn Soil Insects" has been completed. Research using cutworm pheromone traps has given corn growers a means to predict cutworm populations in seedling corn.

- Rootworm sampling and predicting techniques have been developed and include the influence of tillage and crop residues on the efficacy of insecticides.

- A wireworm sampling and predicting techniques have been developed that will aid farmer, researchers, and pest control consultants in timing applications of insecticides.

- Urban and Suburban IPM programs produced computerized data on biological control strategies for shade tree pests and urban/suburban residential pests, and their predators and a Technical Assistance Center which will disseminate pest control information.

- The "15-University IPM Consortium" project initiated in 1978 to develop IPM strategies for cotton, alfalfa, apples, and soybeans produced results which helped significantly reduce the amount of insecticide used in a southwestern area.

- The "Riceland-mosquito IPM Consortium" project, initiated in 1979, developed techniques which permit point-specific pesticide application as opposed to wide-spread spraying and which can thereby reduce the quantity of pesticide used.

- An Integrated Aquatic Weed Management (IAWM) research program was initiated.

1981 Program

In 1981, the Agency has allocated a total of $6,764,600 to this sub-program, of which $2,733,700 is for the Salaries and Expenses Appropriation and $4,030,900 is for extramural purposes under the Research and Development Appropriation.

The 1981 ecological effects portion of the research is studying particular pesticides of interest to the Agency's regulatory and enforcement offices. This research encompasses investigations on acute, chronic and sublethal pesticide effects on both biotic and abiotic components ranging from single species impacts and increasing in complexity to populations and community impacts and interactions. The scope of this program extends the evaluations through the three major media habitat types; estuarine/marine, freshwater and terrestrial. Methods development, standardization, validation and toxicity testing receive major emphasis to provide testing protocols. Effects assessments include studies to determine the transport and fate of pesticides within ecosystems. Laboratory, microcosm and simulated natural field systems are being used in generating information and in support of modeling efforts as appropriate, to form a basis for predicting potential adverse effects from a wide array of pesticide types including conventional formulations, encapsulated agents and biorationals.

The exposure assessment area conducts studies to determine the consequences of environmental exposure to pesticides and to support risk/hazard assessments. This research incorporates a team approach to develop predictive assessment models, both individual media and multimedia to elucidate exposure concentrations on target or non-target organisms in aquatic or terrestrial systems including subsurface environments and in air. This approach is designed to also provide expertise and technical assistance to support the Agency's regulatory process. A base research program supports the above activities through methods and testing development, determination of pesticide movement and final disposition. Investigations include application methods, duration and timing of exposures, critical exposure stages, bioaccumulation potentials, degradation, volatilization, photolysis, hydrolysis and sorption characteristics.

The Integrated Pest Management Program continues as a research program aimed of reducing the use and dependence upon chemical pesticides by providing economically acceptable and environmentally sound alternatives for controlling agricultural, aquatic and urban pests.

The program design couples biological and environmental data with delivery systems to users and promotes the application of IPM practices to prevent insect and plant pest populations from reaching damaging levels in selected major crops and in domestic oriented situations.

The following are representative activities for 1981 to support mandates of FIFRA, which the Agency applies to regulate pesticides use and to promulgate policy guidelines for testing protocols. All the research developed in concert with the Office of Pesticide Programs, helps the decision making processes.

- New or improved bioassay methods and other techniques are being developed to measure and quantify ecological effects and exposure impacts of pesticides.

- Toxicity tests and testing protocols and data are being generated for determining acute, chronic and sublethal responses of representative non-target organisms in aquatic and terrestrial habitats.

- A study is being conducted and a report will be prepared on the biochemical induction of mixed function oxidase in selected marine animals.

- The pathobiological effects of chemical pesticides and biological control agents on marine organisms is being determined.

- The effects of environmental conditions on the penetration, translocation and metabolism of insecticides in selected crop species are being investigated.

- Studies on the effects and the biological and chemical fate of 2,4,D are being conducted and data incorporated into a predictive model.

- Techniques are being developed to determine pesticide/particulates relationships, biological activity interactions and to assess bioaccumulation of pesticides in freshwater fish.

- Data are being generated on the sorption/desorption kinetics and biodegradation rates of toxic organics in marine systems.

- The establishment and execution of operational and coordination procedures of the Pesticide Exposure Assessment Team (PEAT) and the adjunct support system is being initiated.

- Projected planning functions, technical assistance, research guidance, workshops and training for improving exposure assessments and to provide expertise, consultation and other technical support to client offices are being provided.

- Under the auspices of the 15-University Consortium, the IPM activity is developing and improving methods for using chemical pesticides in a more selective manner; developing computerized integrating models for optimizing control practices and crop management; and managing IPM demonstration areas, provide training and distributing information to farmers.

- Joint coordination efforts with USDA is continuing to insure that IPM research, implementation, extension and education programs are integrated.

- The Mosquito/Riceland Consortium is developing alternative non-chemical control methods for mosquitoes.

- The development of control stategies for major urban pests including structural pests, lawn and garden pests, park trees and right-of-way pest is continuing.

- Demonstration studies are being carried out in cooperation with USDA on multi-crop, multi-pest regional IPM strategies. These studies are to demonstrate IPM enhancement to producers and users including the environmental benefits and potential for reducing human exposures.

- A comprehensive Integrated Aquatic Weed Management (IAWM) research program is being developed to investigate the efficacy of biological agents and chemical herbicides to control aquatic weeds. The effects, interactions and other impacts on non-target species are being assessed.

- An organizational structure for an expanded IPM information delivery system and for a field scouting program is being developed. A comprehensive approach that is scientifically defensible and field validated as a useful guide for states and other users of IPM is being documented.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net increase of $654,700 results from several actions, as follows:

- The Congress reduced agency wide travel costs by $850,000; a decrease of $5,200 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $5,700 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $14,200 was applied to this activity.

- The Congress directed a reprogramming of funds to support aquatic weed research; $620,000 is transferred from energy-hazardous pollutants ($75,000), and from water quality non-energy ($545,000).

- An increase of $39,400 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $200 to other activities.

- OMB Bullentin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $8,300.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $10,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $38,900.

1982 Plan

The Agency requests a total of $3,197,000 and 49 permanent workyears for this subprogram, of which $2,535,100 is for the Salaries and Expenses appropriation and $661,900 is for extramural purposes under the Research and Development appropriation.

This reflects a decrease of $3,567,600 which is primarily a broadly based reduction in environmental processes research and in agricultural Integrated Pest Management research which, henceforth, will be funded solely by the U.S. Department of Agriculture.

The 1982 ecological effects portion of the research program will continue to make assessments to determine the adverse or potential adverse impacts of pesticides on aquatic and terrestrial non-target organisms, on physical, chemical and biological processes and on interactions between the various environmental components and biota. Investigations will deal with commonly used pesticides and/or pesticides involved in the registration/reregistration process, in the Rebuttable Presumption Against Registration (RPAR) process and with new or alternative pest control agents (e.g. biorationals) which have been designated as high priority research needs by the Office of Pesticide Programs (OPP).

The ecological effects program will focus on three major areas; determination of the effects, the transportation and the fate of pesticides in coastal waters, freshwater and terrestrial environments. This will include methods development and toxicity testing and data generation regarding dose/response of organisms. Testing protocols will be provided to be used by OPP or the public and private sector. Other parameters that will be studied include bioaccumulation, pathobiological and physiological effects, movement of pesticides through the ecosystems and the final disposition which includes residue or degradation problems in waters, soils or sediments.

Laboratory studies will incorporate bioassays and microcosm research under controlled regimes in both static and flow-through systems. Verification studies will be carried out in semi-natural systems and field validation experiments will be conducted in natural habitats. Present plans call for more emphasis on research using biological control agents and an increase in field oriented effects validations.

Predictive modeling efforts will be an integral part of the above activities as appropriate to support hazard evaluations. Analytical chemical support for the program and technical assistance, coupled with the information generated represents essential elements in the Agency's decision making processes.

The exposure assessment portion of this program will continue to evaluate pestticide exposure concentrations and define through research studies and modeling activities the actual or potential perturbations caused in the environment. Information generated from these activities will be used within the Agency's regulatory process to determine environmental risk and thereby forms the basis for regulatory action. This information may also form the basis for, or supplement the development of, guidelines to be used by industry in their experimental testing programs, as required by the Federal Insecticide, Fungicide and Rodenticide Act.

Four Environmental Research Laboratories will participate in a cooperative approach through a newley established Pesticide Environmental Exposure Assessment Team (PEEAT) to provide data supportive to predictive model development. Specific laboratories will conduct others studies to generate data and other information concerning exposure concentrations in marine, freshwater and terrestrial systems.

Activities will include methods and protocol development, tier testing schemes, transport and fate research which quantifies rates, routes of movement, relationships between laboratory and field findings and the extent and capacities of various degradative processes to control or alter various pesticide concentrations. The duration, timing, application techniques, kinetics of sorption characteristics, bioaccumulation and other environmental variables will be considered in the evaluations.

The PEEAT will also calibrate, refine and validate as extensively as possible comprehensive mathematical models to carry out the exposure concentration-duration estimate assessments. Models will be developed for single and multi-media evaluations on pesticides specified by OPP in soil, water, sediments and in subsurface and air components. The program will include quality assurance and technical assistance to OPP.

During 1982 the EPA will develop Integrated Pest Management (IPM) strategies for the urban environment. The "Urban IPM" program will concentrate on the prevention of human exposure to pesticides. Urban IPM research will be directed towards the following areas: residential, commercial, industrial, governmental, and institutional. The EPA will develop first generation IPM strategies for urban household pests, shade trees and turf grasses.

This is a followup on the "Urban and Suburban Residential IPM" project that began in 1979. The goal of this program is to demonstrate IPM monitoring, decision making and implementing techniques.

Change From January Request

This request represents a decrease of $286,300 and 6 permanent workyears from the January budget, of which $196,300 is for Salaries and Expenses and $90,000 is for Research and Development. This decrease will result in decreased support in the area of environmental exposure and effects research.

RADIATION

	Actual 1980	Budget Estimate* 1981	Current Estimate 1981	Estimate 1982	Increase - Decrease + 1982 vs. 1981	Page
			(dollars in thousands)			
Appropriation						
Salaries and Expenses....	$9,057	$8,628	$8,339	$9,794	+$1,455	
Research and Development.	841	1,435	1,438	771	-667	
Abatement, Control and Compliance.....	5,431	7,797	7,411	2,323	-5,088	
Total.....	15,329	17,860	17,188	12,888	-4,300	
Permanent Positions.....	192	268	186	160	-26	
Full-time Equivalency....	221	310	221	191	-30	
Outlays.....	11,638	15,100	14,247	15,705	+1,458	
Authorization Levels.....	2,930	3,181	3,181	*		

* Authorization Pending

PROGRAM HIGHLIGHTS

Non-ionizing Radiation:						R-22
Salaries and Expenses..	2,078	1,824	1,729	2,212	+483	
Research and Development.....	841	1,435	1,438	771	-667	
Total, Research and Development Program.....	2,919	3,259	3,167	2,983	-184	
Radiation Policy Council:						R-10
Salaries and Expenses..	...	...	243	...	-243	
Abatement, Control and Compliance.....	...	...	389	...	-389	
Criteria, Standards and Guidelines:						R-12
Salaries and Expenses	2,243	2,342	2,301	3,017	+716	
Abatement, Control and Compliance.....	2,102	4,735	4,660	1,564	-3,096	
Environmental Impact Assessment:						R-15
Salaries and Expenses..	4,145	3,861	3,453	3,969	+516	
Abatement, Control and Compliance.....	3,329	3,062	2,362	759	-1,603	

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase - Decrease + 1982 vs. 1981	Page
			(dollars in thousands)			
Radiation Program Implementation:						R-20
Salaries and Expenses...	591	601	613	596	-17	
Abatement, Control and Compliance.....	...	...	...	...	...	
Total:						
Salaries and Expenses....	6,979	6,804	6,610	7,582	+972	
Abatement, Control and Compliance.....	5,431	7,797	7,411	2,323	-5,088	
Total, Abatement and Control Program.....	12,410	14,601	14,021	9,905	-4,116	
Permanent Positions						
Non-ionizing Radiation, Total Research and Development Program.....	29	86	31	28	-3	R-22
Radiation Policy Council.....	...	...	1	...	-1	R-10
Radiation Criteria, Standards, and Guideline	54	60	52	55	+3	R-12
Environmental Impact Assessment.....	93	106	102	85	-17	R-15
Radiation Program Implementation.....	15	16	16	15	-1	R-20
Total, Abatement and Control Program.....	163	182	155	132	-23	
Full-time Equivalency						
Non-ionizing Radiation, Total Research and Development Program.....	37	100	36	33	-3	R-22
Radiation Policy Council.....	...	...	4	...	-4	R-10
Radiation Criteria, Standards, and Guideline	60	73	63	67	+4	R-12
Environmental Impact Assessments.....	105	118	100	74	-26	R-15
Radiation Program Implementation.....	19	19	18	17	-1	R-20
Total, Abatement and Control Program.....	184	210	185	158	-27	

* January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

OVERVIEW AND STRATEGY

Exposure to ionizing radiation results from naturally occurring sources, medical and industrial applications of x-rays and radioactive materials, and from various aspects of nuclear power. EPA accepts, as a prudent public health assumption, the concept that any radiation exposure results in some adverse health effects. While some public exposure to radiation is inevitable, no avoidable risk attributable to radiation exposure should occur to individuals or to the environment without offsetting benefits.

Exposure to man-made non-ionizing radiation at radio and microwave frequencies, which was negligible prior to World War II, has increased with both the number and power of transmitting sources. This trend is expected to continue, and EPA is evaluating and acting on the associated risks.

EPA's mandate to protect the public health and environment from adverse effects of radiation exposure derives from: (1) the Federal guidance and general environmental standard authorities under the Atomic Energy Act, transferred to EPA by Reorganization Plan #3 of 1970; (2) the Clean Air Act Amendments of 1977 which provide authority to regulate radioactive air pollutants through the Act's standard setting authorities; (3) the Resource Conservation and Recovery Act (RCRA) and the Uranium Mill Tailings Radiation Control Act (UMTRCA) which charge EPA with providing standards for protection from waste materials with radioactive content, and (4) other authorities contained in the Federal Water Pollution Control Act, the Marine Protection Research and Sanctuaries Act, the Safe Drinking Water Act, the Public Health Service Act, and the National Environmental Policy Act.

These legislative authorities generally prescribe an environmental assessment, technology assessment, and standard setting role for EPA. In some cases enforcement responsibilities are given to other agencies, notably the Nuclear Regulatory Commission. In these instances EPA performs some oversight functions to insure that established standards and guidance are implemented.

Within the framework of the applicable legislation, the Radiation program strategy is to:

- Emphasize the application of regulatory controls to those areas which promise the greatest reduction in potential adverse health effects and environmental impacts from radiation.

- Maintain a capability for environmental and technology assessment to quantify the nature of existing and emerging radiation problems and the potential impact of technologies while still in the planning stages;

- Respond to issues of serious public concern, utilizing EPA's expertise to evaluate these concerns and, if necessary, point out the need to control those situations where the corrective actions required are the responsibility of other Agencies;

- Assist in the development and testing of State, local, and Federal plans to respond to emergency situations involving nuclear events or large, unexpected releases of radioactivity. This activity has taken on increased importance following the incident at Three Mile Island.

Within this general strategy, highest priorities have been given to activities mandated by the Clean Air Act of 1977, activities associated with radioactive waste management, revision of federal guides for occupational exposure to ionizing radiation, efforts to characterize the problem of indoor radon and the review and testing of State radiological emergency response plans.

The emphasis on the Clean Air Act activities has been consistent with general public concern over radiation and the existence of a significant number of poorly defined and uncontrolled sources which emit radioactive air pollutants. Efforts to date have concentrated on characterizing the hazards of airborne radionuclides and the establishment of regulatory priorities. This review has resulted in a decision to delay the initiation of Clean Air Act regulations development.

EPA's role in the control of radioactive waste disposal is prescribed in the report of the Interagency Review Group on Nuclear Waste Management (IRG). This report was endorsed by the President in February of 1980. EPA's 1981 and 1982 effort on radioactive waste will include the proposal and promlugation of standards for high level waste, the proposal of the first of several standards to address low level waste and the continuation of work on ocean waste packaging criteria.

During 1981 EPA will propose revised federal guidance for general occupational exposures to ionizing radiation. In 1982 this guidance will be finalized and work will be initiated on revision of Federal guidance for radon exposure to uranium miners.

A substantial effort to identify and characterize the problem of indoor radon was initiated in 1980 and continued in 1981. The new emphasis placed upon this area stems from recognition that the indoor radon represents a potential environmental health problem and one which could become significantly worse through improperly applied energy conservation practices. In 1982 primary responsibility for this work has been shifted to EPA's Office of Research and Development and to the Department of Energy.

EPA's radiation research and development program stresses the identification and evaluation of health effects of chronic low-level exposures to non-ionizing radiation. This research serves to fill gaps in Federal research on radiation and is necessary for the establishment of any required Federal guidance for acceptable environmental levels of radiation. Health risks will be addressed by research clearly establishing dose-response and threshold data for biological effects in animal model systems. The monitoring program will assess the population exposure to man-made radioactive materials by conducting a radiological surveillance study of various nuclear test sites and will provide quality assurance guidance for radiological chemical analysis.

Purpose, Research and Development Program

Reorganization Plan No. 3 of 1970 transferred to the Administrator the authority, under provisions of the Public Health Service Act, to conduct research as necessary to provide scientific data needed for the formulation of standards. EPA is conducting research on the potential health effects associated with those frequencies of non-ionizing radiation most commonly found in the general environment.

Purpose, Abatement and Control Program

The radiation program's abatement and control activities concentrate primarily on the establishment of specific criteria and standards for environmental radiation protection programs. Complementing the criteria and standards setting effort, EPA conducts programs of surveillance and monitoring to determine levels of environmental radiation; reviews federally supported or licensed projects which may be sources of environmental radiation, and provides technical assistance to other governmental agencies.

Radiation Criteria, Standards, and Guidelines

This subactivity includes activities and outputs related to the development of environmental standards and Federal radiation guidelines for protection of the public health and environment from radiation exposures from nuclear energy applications, naturally-occurring radioactive materials, medical and occupational radiation, and non-ionizing radiation. Development of these standards and guidelines involves evaluation of health effects data, radiation measurements, technological and non-technological control measures, and the economics of control measures.

Environmental Impact Assessment

This subactivity includes activities and outputs related to (1) developing the support information and documentation necessary for the preparation of standards and guidelines; (2) ensuring that environmental radiation considerations are properly treated in major Federal decisions through the NEPA process; (3) responding to unplanned contaminating events, and (4) assisting other Federal agencies and States on specific environmental problems and radiation control actions.

Specific activities include reviewing other agencies' environmental impact statements, monitoring for radiation in the environment including laboratory analysis of the resulting samples, evaluating new and emerging technologies, developing methods for determining environmental pathways and identifying and locating specific sources emitting radioactive materials into air or water.

Radiation Program Implementation

This subactivity includes activities and outputs related to providing regional support to States in the implementation of their radiation control programs. It also includes the review of environmental impact statements for existing technologies and assistance to States and other Federal agencies on specific environmental problems and radiation control actions.

SUMMARY OF INCREASES AND DECREASES

	(in thousands of dollars)
1981 Radiation Program.....	$17,188
Salaries and Expenses..... The net increase relates primarily to the health effects, criteria, standards and guidelines and montoring and analysis programs offset by major decreases to the Radiation Policy Council and also technology assessment.	+1,454
Research and Development..... The net decrease results from health effects and monitoring systems and quality assurance programs.	-666
Abatement, Control and Compliance..... The net decrease results primary to the environmental standards, and to radiation environmental impacts statements.	-5,088
1982 Radiation Program.....	12,888

SUMMARY OF BUDGET ESTIMATES

1. Summary of Budget Request

A total of $12,887,800 is requested in 1982. This request by appropriation account is as follows:

Salaries and Expenses.....	$9,794,200
Research and Development.....	770,700
Abatement, Control and Compliance	2,322,900

This represents a decrease of $4,300,100 from the 1981 level. The Salaries and Expenses appropriation represents an increase of $1,454,200 over 1981. The decrease of permanent workyears to this activity and a decrease to environmental standards are major contributing factors to the change of this media from the 1981 level.

The Abatement, Control and Compliance appropriation represents a decrease of $3,436,000. Included in the net decrease is $1.3 million in criteria, standards and guidelines, $1.1 million for monitoring and analysis and $1.1 for technology assessment.

The Research and Development appropriation represents a decrease of $612,000. Included in the net decrease is $.1 million in monitoring systems and quality assurance and $.5 million for health effects. This decrease is the result of a functional transfer for the Three Mile Island monitoring surveillance activities and associated responsibilities.

2. Changes from Original 1981 Budget Estimate

Changes from the budget are as follows:

	(in thousands of dollars)
Original 1981 estimate.....	$17,860
Congressional increases/decreases:	
Travel.....	-11
Consulting services.....	-6
General reduction to Abatement, Control and Compliance.....	-80
Transfer to support Office of Inspector General..	-11
Reprogramming for authorized workyears.....	-6
Reprogramming from other areas to establish the Radiation Policy Council.....	+887
Transfer from air to support Three Mile Island...	+83
Proposed pay raise supplemental.....	+116
Miscellaneous reprogrammings.....	-57
March changes to budget:	
Travel.....	-32
Consulting Services.....	-54
Equipment Costs.....	-44
One percent transfer.....	-708
Funding for PC&B deficits.....	-749
Current 1981 Estimate.....	17,188

The Congressional changes to the radiation media include a reduction of $11,000 to travel costs, $6,000 to consulting services and $80,000 as a result of a general Abatement, Control and Compliance reduction.

A reprogramming of $11,000 was made to the management and support media to provide additional support for the Office of Inspector General.

An overall reprogramming of $887,300 throughout the Agency to support the Radiation Policy Council was made from the air media, $162,600; from water quality, $119,800; from drinking water, $28,300; from solid waste, $82,400; from pesticides, $70,000; from noise, $18,400; from interdisciplinary, $4,800; from toxic substances, $129,000; and management and support, $272,000.

A reprogramming of $82,700 was made from various media for support of Three Mile Island activities.

Miscellaneous reprogrammings to other media resulted in a decrease in radiation activitis of $57,000.

An overall reprogramming throughout the Agency to redistribute salary funds to cover authorized workyears resulted in a decrease of $6,000 to this media. The proposed supplemental for partial funding of the October 1980 pay raise will increase the radiation media by $116,200.

In accordance with OMB bulletins, the March 1981 changes are as follows: travel (-$32,600); and consulting services (-$53,800).

A one percent transfer authority decreases this media by $708,300.

Internal agency reprogrammings to fund PCB deficits are as follows: equipment costs (-$44,600) and agencywide reprogrammings (-$749,000).

ANALYSIS OF INCREASES AND DECREASES TO OBLIGATIONS

	Current Estimate 1981	Estimate 1982
	(in thousands of dollars)	
Prior year obligations	$15,329	$17,188
Congressional changes	-97	...
Effect of March changes	1,587	...
Proposed pay raise supplemental	+116	...
Reprogrammings	-57	...
Change in amount of carryover funds available	-845	...
Program changes	+1,859	-4,300
Change in rate of obligation	+2,470	...
Total estimated obligations	17,188	12,888
(From new obligation authority)	(17,188)	(12,888)
(From prior year funds)	...	...

EXPLANATION OF INCREASES AND DECREASES TO OBLIGATIONS

The items discussed in the previous section -- congressional changes, pay raise supplemental, and reprogrammings -- result in a net increase of $162,500 to obligations.

The increase in budget authority in 1981 is estimated to increase obligations by $1,859,000; in 1982 the program is expected to decrease obligations by $4,300,000.

79-248 O—80——43

RADIATION POLICY COUNCIL

PROGRAM HIGHLIGHTS

	Actual 1980	Budget Estimate 1980	Current Estimate 1981	Estimate 1982	Increase+ Decrease - 1982 vs. 1981
	(dollars in thousands)				
Radiation Policy Council					
Salaries and Expenses...	...	...	$243	...	-$243
Abatement, Control and Compliance.....	...	...	389	...	-389
Total.....	...	...	632	...	-632
Permanent Positions.....	...	...	1	...	-1
Full-time Equivalency.....	...	...	4	...	-4

Budget Request

The Agency is not requesting any resources for this activity in 1982.

Program Description

The Radiation Policy Council is authorized to coordinate the formulation and implementation of Federal policies relating to radiation protection. In addition, the Council provides liaison with the States and Congress and serves as a forum for public participation and comment on Federal radiation protection issues. The Council is chaired by the Administrator of the Environmental Protection Agency and consists of representatives at the Assistant Secretary level or higher from the thirteen member agencies. The Council's administrative support, funds and staff are to be provided by EPA.

1980 Accomplishments

The Radiation Policy Council was concerned with planning and preliminary functions in 1980. Various meetings held throughout 1980 resulted in decisions to: (1) seek widespread, systematic involvement of the public in Council activities (As a first step toward accomplishing this policy, five public meetings were held at which the public presented papers or statements regarding issues they believed the Council should address. Based on these public meetings, written statements from the public, and a review of agency needs, the Council's Working Group prepared a draft long-term agenda for the Council's approval); (2) undertake an extensive solicitation of views in preparing its agenda; and (3) prepare a directory or guide to Federal radiation activities.

1981 Program

The Radiation Policy Council will conduct a review of occupation exposure standards and consider a Federal Policy on low-level radioactive waste disposal. Additionally, the Council will consider a series of actions and projects recommended by the Working Group and special task forces.

1981 Explanation of Changes from Budget Estimate

The net increase of $631,700 results from several actions, as follows:

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,100 was applied to this activity.

- An increase of $1,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Transfers from various media totalling $942,000 were made to support the Radiation Policy Council, of which $545,100 was to the Salaries and Expenses appropriation and $396,100 was to the Abatement, Control and Compliance appropriation.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reductio", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction being applied to this activity is $2,300.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $308,700.

1982 Plan

In 1982, the separate functions of The Radiation Policy Council will be assumed by member organizations. Accordingly, the Agency is requesting no resources in 1982.

Change from January Request

This request represents a decrease of $980,900 and 9 permanent workyears from the January budget, of which $488,900 is for Salaries and Expenses and $492,000 is for Abatement, Control and Compliance. This decrease is due to assumption by member agencies of the functions of the Radiation Policy Council in 1982.

RADIATION

Radiation Criteria, Standards, and Guidelines

Appropriation	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
		(dollars in Thousands)			
Environmental Standards and Guidelines:					
Salaries and Expenses	$2,243	$2,342	$2,301	$3,017	+$716
Abatement, Control and Compliance	2,102	4,735	4,660	1,564	-3,096
Total	4,345	7,077	6,961	4,581	-2,380
Permanent Positions	54	60	52	55	+3
Full-time Equivalency	60	73	63	67	+4

Budget Request

The Agency requests a total of $4,581,000 and 55 permanent workyears for 1982, a decrease of $2,379,800 from 1981. Included in this total is $3,017,400 for Salaries and Expenses and $1,563,600 for Abatement, Control and Compliance, with an increase of $716,200 and a decrease of $3,096,000, respectively. The increases in salaries and expenses is associated in part with an increase of 3 permanent work years over 1981. The reduction in extramural expenses is accomplished through a deferral of Clean Air Act standards.

Program Description

Environmental standards and guidelines are developed and promulgated under this subactivity. These standards and guidelines protect the public health and the environment by minimizing risk from radiation exposures from nuclear energy applications, naturally occuring radioactive materials, medical and occupational radiation exposure and nonionizing radiation.

ENVIRONMENTAL STANDARDS AND GUIDELINES

1980 Accomplishments

1980 obligations totalled $4,344,800 which included $2,102,300 in extramural support. These funds were used for the development of standards and guidelines for limiting exposure to radiation. Major accomplishments for 1980 included the determination and listing of radionuclides as hazardous air pollutants. This action initiates the regulatory processes for the development of hazardous air pollution standards for radionuclides under Section 112 of the Clean Air Act. An additional 1980 accomplishment was the proposal of a property clean up standard for inactive uranium mill tailings sites.

1981 Program

In 1981, the Agency has allocated a total of $6,960,800 and 52 permanent workyears to this program, of which $2,301,200 is for salaries and expenses and $4,659,600 is for extramural purposes under the Abatement, Control and Compliance appropriation. 1981 program efforts are focused on three regulatory areas: radioactive waste disposal, Federal Guidance, and control of airborne radionuclides under the Clean Air Act. Planned radioactive waste activities include proposal of standards for the disposal of uranium mill tailings from inactive sites and disposal of high level radioactive wastes. Additional areas under development include a uranium mill tailings standard for active sites, standards for ocean and land disposal of low level wastes and decommissioning standards for nuclear facilities.

Federal Guidance activities for 1981 will include the proposal of guidance on general occupational exposure. Actions under development include a protective action guide (PAG) for accidental airborne release, a PAG for exposure via food pathways, and guidance for general exposure to nonionizing radiation in the FM radio frequency. Occupation guidance for special groups of workers is also being pursued. Clean Air Act activities in FY81 are focused on the establishment of regulatory priorities.

1981 Explanation of Change from Budget Estimate

The net decrease of $415,800 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million in EPA's request for Salaries and Expenses. The reduction applied to this activity is $14,200.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $7,600 was applied to this activity.

- An increase of $35,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $228,500 from radiation technology assessment.

- A transfer of $21,700 was made within the radiation media in order to support the Radiation Policy Council.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $5,500.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $53,800, which is to be rescinded.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $277,000.

1982 Plan

The Agency requests a total of $4,581,000 and 55 permanent workyears for this program, of which $3,017,400 is for the Salaries and Expenses appropriation and $1,563,600 for the Abatement, Control and Compliance. The 1982 program efforts will continue to emphasize management of radioactive waste, and the development of federal radiation guidance. Planned radioactive waste activities include promulgation of standards for the disposal of high level radioactive waste and promulgation of standards for the management of inactive mill tailings sites. Additionally, standards for managing active mill tailing sites will be proposed. Greater emphasis will be placed in 1982 on the development of standards for disposal of low level radioactive wastes. This effort should result in the proposal of at least one standard each in 1982 and 1983 and provide the bases for additional standards in the future. Also planned for 1982 is the proposal of standards for the decommission of nuclear facilities.

Federal guidance activities for 1982 will include the completion of guidance for general occupational exposure and the proposal of revised guidance for radon exposure to uranium miners. A protective action guide (PAG) for airborne exposure to accidental release will be proposed as well as guidance limiting exposure to nonioninzing radiation in the FM Broadcast range.

Change from January Request

This request represents a decrease of $2,203,800 and 11 permanent workyears from the January budget, of which $342,000 is for Salaries and Expenses and $1,861,800 is for Abatement, Control and Compliance. This change reflects a decision to defer development of standards for airborne release of radionuclides during 1982.

RADIATION

Environmental Impact Assessment

	Budget Actual 1980	Current Estimate 1981	Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
			(dollars in thousands)		
Appropriation					
Monitoring and Analysis:					
Salaries and Expenses.....	$2,703	$2,496	$3,098	$3,969	+$871
Abatement, Control and Compliance.....	2,215	1,900	1,900	759	-1,141
Technology Assessment:					
Salaries and Expenses.....	1,442	1,365	355	...	-355
Abatement, Control and Compliance.....	1,114	1,162	462	...	-462
Total:					
Salaries and Expenses.....	4,145	3,861	3,453	3,969	+516
Abatement, Control and Compliance.....	3,329	3,062	2,362	759	-1,603
Grand Total.....	7,474	6,923	5,815	4,728	-1,087
Permanent Positions					
Monitoring and Analysis.....	60	67	76	62	-14
Technology Assessment.....	34	39	10	...	-10
Total.....	94	106	86	62	-24
Full-time Equivalency					
Monitoring and Analysis.....	68	71	89	74	-15
Technology Assessment.....	37	47	11	...	-11
Total.....	105	118	100	74	-26

Budget Request

The Agency requests a total of $4,728,100 and 62 permanent workyears for 1982, a decrease of $1,087,100 from 1981. Included in this total is $3,968,800 for Salaries and Expenses and $759,300 for Abatement, Control and Compliance, with an increase of $515,900 and a decrease of $1,603,000, respectively. The increase will go to the purchase of emergency response monitoring equipment that was deferred in 1980 and 1981. The decrease results primarily from the transfer of responsibility for the evaluation of the indoor radon problem out of this subactivity and the deferral of Clean Air Act regulations development.

Program Description

Activities in this area provide the information necessary to identify and analyze potential radiological health problems having public health impact and to support the development of standards and guidelines. Also encompassed under this subactivity is the review of environmental impact statements and the monitoring of environmental radiation, as well as laboratory analysis, data analysis and technology assessments.

Monitoring and Analysis

This program encompasses activities related to identifying and analyzing radiation problems for potential coverage by standards and guidelines, supporting technical review of EIS's, assessing the radiological quality of the environment, and executing EPA radiological emergency response responsibilities. It also includes environmental monitoring, laboratory analysis of environmental samples, development of monitoring and analytical procedures, special monitoring studies, the evaluation of data and subsequent preparation of reports.

Technology Assessment

This program includes activities related to: (1) providing engineering assessment of the impact of developing technology on environmental radiation levels; (2) providing sound technological bases for EIS review; (3) providing data and information for setting technologically feasible standards and guidelines; (4) reviewing generic and programmatic environmental impact statements; and (5) exercising EPA responsibilities in assessing Federal facilities radiation control activities.

MONITORING AND ANALYSIS

1980 Accomplishments

In 1980 obligations totaled $4,918,500 of which $2,215,200 was for extramural support. Activities supported by these resources included field studies and evaluations conducted to provide exposure information on a variety of airborne radionuclides sources which might be regulated under the Clean Air Act. Particular attention was applied to radioactive emission associated with coal combustion, and resource extraction. Other activities included completion of the radon in drinking water pilot study, operation of the Environmental Radiation Ambient Monitoring System (ERAMS) and maintenance of a quick response radiological emergency monitoring capability. EPA emergency teams were deployed in response to two reactor incidents during 1980.

An additional area of emphasis in 1980 affecting this program element has been the expansion of efforts to determine the nature and magnitude of the health risks associated with indoor exposure to radon and its progeny.

Also included in the 1980 program was the maintenance of the National Radium Repository along with the collection of additional sources. A limited amount of laboratory and analytical support was provided to States with special radiological problems.

1981 Program

In 1981, the Agency has allocated a total of $4,998,400 and 76 permanent workyears to this program, of which $3,098,400 is for salaries and expenses and $1,900,000 is for extramural purposes under the Abatement, Control, and Compliance appropriation. Support to regulatory effort continues to be a major role for this program element with support to the Clean Air Act taking the lead. Particular emphasis is being placed upon the investigation of emissions from large scale coal combustion and resource extraction facilities. These efforts should be completed in 1981.

Continued emphasis has been placed upon technical support to the regions and States in the development, review and testing of radiological emergency response plans. The Environmental Radiation Ambient Monitoring System has been expanded by bringing all 65 air sampling stations into full time operation. The radium repository continues to be maintained and new sources collected. The emergency response monitoring capability will be maintained and improved through the purchase of new equipment. Indoor radon investigations initiated in 1980 will also be continued.

1981 Explanation of Change from Budget Estimate

The net increase of $602,600 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $13,700.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $10,000 was applied to this activity.

- An increase of $46,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- A transfer of $11,100 was made to the Office of Inspector General in order to provide additional resources to that Office.

- A transfer of +$779,500 was made within the Office of Radiation Programs, for technology assessment, reflecting the creation of the Statistical Analysis Division and providing the resources for increases in statistical and monitoring analyses.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $12,600.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $176,100.

1982 Plan

The Agency requests a total of $4,728,100 and 62 permanent workyears for this program, of which $3,968,800 is for the Salaries and Expenses appropriation and $759,300 for the Abatement, Control and Compliance. The major emphasis of this program element will remain the same in 1982 with support to standards setting. Also continued will be the operation of the Environmental Radiation Ambient Monitoring System and the National Radium Repository. A full radiological emergency response capability will be supported in both the Montgomery, Alabama and Las Vegas, Nevada EPA Radiation Laboratories. In addition, technical support will be provided to the regions as they carry out their responsibility in the review and testing of emergency response plans. It is also anticipated that in 1982 this program element will increase the amount of special laboratory analysis it performs in support of other EPA and State programs. This program element will also carry the responsibility of technology assessment and EIS Review starting in 1982. Responsibility for indoor radon studies is transferred to the research component, Hazardous Air Pollutants - Energy.

Change From January Request

This request represents a decrease of $312,900 and 13 permanent workyears from the January budget, of which $277,400 is for Salaries and Expenses and $35,500 is for Abatement, Control and Compliance. This change reflects a decision to defer development of standards for airborne release of radionuclides during 1982.

TECHNOLOGY ASSESSMENT

1980 Accomplishments

1980 obligations of $2,555,600 included $1,113,900 in contract support. Studies were continued in control technologies available to manage radioactive sources under the provisions of the Clean Air Act. Assessments of problems associated with nonionizing radiation, and shallow land and ocean disposal of low level waste were also continued. An additional area of emphasis in 1980 affecting this program element has been the expansion of efforts to determine the nature and magnitude of the health risk associated with indoor exposure to radon and its progeny. Also supported by this program element was the review of major environmental impact statements.

1981 Program

In 1981, the Agency has allocated a total of $1,533,300 and 10 permanent workyears to this program, of which $371,000 is for Salaries and Expenses and $1,162,300 is for extramural purposes under the Abatement, Control and Compliance appropriation.

The major 1981 activity for this program element is the assessment of control technology needs for the development of Clean Air Act and radioactive waste standards. Clean Air Act efforts will focus primarily on resource extraction. Activities in support of waste standards will address low level land and ocean disposal, waste packaging, and decommissioning. EIS reviews will continue as will the indoor radon investigation initiated in 1980.

1981 Explanation of Change from Budget Estimate

The net decrease of $1,710,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $8,300.

- An increase of $5,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related cost to meet on-board need resulted in a transfer of $228,500 to radiation environmental standards.

- A transfer of $779,500 was made within the Office of Radiation Programs, to technology assessment, reflecting the creation of the Statistical Analysis Division and providing the resourcees for increases in statistaical and monitoring analyses.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $600.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by trasnfering funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $700,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $800.

1982 Plan

Starting in 1982, work carried out by this program element will be support under monitoring and analysis. Accordingly, the Agency requests no resources in this subactivity in 1982.

Change From January Request

This request represents a decrease of $412,600 and 10 permanent workyears from the January budget, of which $387,000 is for Salaries and Expenses and $25,000 is for Abatement, Control and Compliance. This change reflects a decision to defer, during 1982, development of standards for airborne release of radionuclides and to transfer the remaining responsibilities of this program element into the monitoring and analysis program element.

RADIATION

Radiation Program Implementation

Appropriation	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
			(dollars in thousands)		
Radiation Program Implementation:					
Salaries and Expenses.....	$591	$601	$613	$596	-$17
Abatement, Control and Compliance.....	...	...	...	...	...
Total.....	591	601	613	596	-17
Permanent Positions.....	15	16	16	15	-1
Full-time Equivalency.....	19	19	18	17	-1

Budget Request

The Agency requests a total of $596,300 and 15 permanent workyears for 1982, a decrease of $16,900 from 1981. The full request is within the Salaries and Expenses appropriation and the decrease in requested funds reflect the reduction of one permanent workyear over the 1981 level.

Program Description

This subactivity supports activities related to EPA's regional offices including: reviewing routine environmental impact statements (e.g., lightwater reactors and uranium mining and milling); providing the public with technical information; providing direct assistance to State and local governments with special radiation problems of a short-term nature, and the reviewing and testing of State emergency response plans.

1980 Accomplishments

In 1980, obligations totaled $591,000 with no contract support. The major emphasis for the 1980 regional program has been technical assistance to States in the area of emergency response planning. EPA assists States in the development of radiological emergency response plans and formally reviews these plans along with the FEMA and other Federal agencies. In 1980 regional programs continued to review EIS's and to carry out their other responsibilities but at a reduced rate to allow for the expanded emergency preparedness program.

1981 Program

In 1981, the Agency has allocated a total of $613,200 and 16 permanent workyears to this program, all of which is for Salaries and Expenses. In 1981 emphasis remains on radiological emergency response plans. However, with more plans completed and approved, the testing of these plans will receive greater attention, since testing of plans on a regular basis provides the best chance for their successful execution in time of emergency. Other activities in 1981 will include the review of EIS's, assistance to the drinking water and hazardous waste program, and technical assistance to States.

1981 Explanation of Changes from Budget Estimate

The net increase of $12,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for salaries and expenses. The reduction applied to this activity is $3,800.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $300 was applied to this activity.

- An increase of $9,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a net transfer of $3,600: from drinking water underground injection control program ($1,600); solid waste hazardous waste managment regulatory strategies implementation ($1,800); hazardous waste enforcement ($8,800); management and support - regional management ($4,600); and to air quality management implementation ($6,900); water quality waste treatment operations and maintenance ($500); and management and support - Administrative Management ($5,800).

- A transfer of $1,800 from hazardous waste management regulatory strategies implementation was to cover the cost of procuring a lead brick shield and sodium-iodide crystal for the regional measurement chamber.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $2,300.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $3,700.

1982 Plan

The Agency requests a total of $596,300 and 15 permanent workyears for this program, all of which is for the Salaries and Expenses appropriation. EPA participation in the review and testing of emergency response plans will continue to be a high priority for EPA's regional radiation program. As in previous years, EIS review and technical assistance to States will also be a significant element of regional program activities. Also receiving prominence will be the provision of technical assistance to other EPA regional programs such as drinking water and hazardous and solid waste.

Change from January Request

There is no change from the January budget.

RADIATION

Non-ionizing Radiation

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Technical Information and Liaison:					
Salaries and Expenses...	$75	$76	$58	$64	+$6
Research and Development	1	2	2	2	...
Monitoring Systems and Quality Assurance:					
Salaries and Expenses...	128	191	175	92	-83
Research and Development	...	...	83	15	-68
Health Effects:					
Salaries and Expenses...	1,875	1,557	1,496	2,056	+560
Research and Development	840	1,433	1,353	754	-599
Total:					
Salaries and Expenses...	2,078	1,824	1,729	2,212	+483
Research and Development	841	1,435	1,438	771	-667
Grand Total.....	2,919	3,259	3,167	2,983	-184
Permanent Positions					
Technical Information and Liaison.....	1	1	...	...	...
Monitoring Systems and Quality Assurance...	4	57	3	3	...
Health Effects.....	24	28	28	25	-3
Total.....	29	86	31	28	-3
Full-time Equivalency					
Technical Information and Liaison.....	1	1	...	...	...
Monitoring Systems and Quality Assurance...	4	66	3	3	...
Health Effects.....	32	33	33	30	-3
Total.....	37	100	36	33	-3

*January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Budget Request

The Agency requests a total of $2,982,400 for 1982, a decrease of $184,600 from 1981. Included in this total is $2,211,700 for Salaries and Expenses and $770,700 for Research and Development, with an increase of $482,100 and a decrease of $666,700, respectively.

Program Description

This program has been developed under the auspices of the radiation research committee. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

The overall program endeavors to expand knowledge of the health effects and health risks associated with non-ionizing radiation. Emphasis is on radiation frequencies which are sources of exposure of the population. Human health risks will be assessed by research to establish clearly the mechanisms of action of non-ionizing radiation with biological systems, to examine the health status of selected exposed human populations, to develop dose-response and threshold data for biological effects in animal model systems.

TECHNICAL INFORMATION AND LIAISON

1980 Accomplishments

In 1980, the Agency used a total of $75,000 for this sub-program, of which $74,800 was for Salaries and Expenses and $200 was for extramural research activities.

In 1980, the Technical Information Program supported the preparation and publication of the Research Outlook, the Research Highlights, technical information plans and guidance and other general documents of interest to the environmental decision-making community. It also provided ORD with information systems necessary to effectively plan and manage its research projects and resources. Specific accomplishments in the area of radiation included preliminary work on several significant reports that are scheduled for publication in 1981.

The Regional Services Staff provided for effective communications between ORD and the regions. Specifically, they:

- Advised ORD on all aspects of regional operations.

- Developed and implemented the Regional Support Management Information System.

- Carried out regional liaison activities to provide technical assistance.

The Technical Information and Liaison activities helped enable ORD to communicate its research information to EPA's regional offices and to the environmental decision-making community. Further, they assisted in making better coordination between ORD and the regions possible, allowing each to better fulfill its role and to meet the needs of the Agency and the public more efficiently.

1981 Program

In 1981, the Agency has allocated a total of $60,600 to this sub-program, of which $58,900 is for the Salaries and Expenses Appropriation and $1,700 is for extramural purposes under the Research and Development Appropriation.

This part of the program is providing various research program and project summaries, decision series documents, and technology transfer publications to meet Research Committee requirements. Technical Information Plans, listing the explicit information products for this research effort have been prepared. Throughout the year, support will be provided to develop these information products and to distribute them to the appropriate users. Support is also being provided to manage information systems which track ORD's research projects and resources.

Regional liaison activities are continuing as in 1980. To this end, such activities will:

- Continue the Regional Support Management Information System.

- Conduct ORD/regional senior staff meetings and other liaison activities to provide technical assistance. These will include preparing reports, conducting special staff and policy studies, developing regional problem statements, and identifying research and technical assistance requirements.

- Develop and implement a process to address the research needs of State and local government in the ORD planning process.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "cross-walking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the cross-walk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $17,400 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $300.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $8,800 to other activities.

- A transfer of $500 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", require agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $7,800.

1982 Plan

The Agency requests a total of $65,400 for this sub-program, of which $63,700 is for the Salaries and Expenses Appropriation and $1,700 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $4,800, which will enhance ORD's ability to develop and disseminate technical information products.

This sub-program will continue, in 1982, to provide the same types of services as in 1981. This includes the development and production of technical information products to insure that research information is properly and adequately communicated to the environmental decision making community. Specific products planned by the appropriate Research Committee will be developed. Support to managing systems which track ORD's research projects and resources will be provided as will strong liaison with regional offices, of a similar nature to that conducted in 1981.

Change from January Request

This request represents a decrease of $7,500 is for salaries and expenses. This decrease will result in a decreased number of technical information publications to be prepared and disseminated.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1980 Accomplishments

In 1980, the Agency used a total of $128,500 for this sub-program, all was for Salaries and Expenses.

- A monitoring system was developed to measure gaseous emissions that drift off-site from the Three Mile Island reactor incident. This system was used in the Krypton-85 venting and is continuing to provide high quality data on airborne emissions.

- The Public Awareness Program at Three Mile Island was established and is in continuous operation at the Middletown, Pennsylvania office.

- Quality assurance monitoring was conducted on approximately 200 State, local, and independent laboratories involved in radiological measurements. This will allow intercomparison of data from these laboratories and assurance of the precision and accuracy of the data used for regulatory purposes.

- The off-site radiological surveillance program was continued at the Nevada Test Site and other nuclear test sites in accordance with the EPA agreement with the Department of Energy.

1981 Program

In 1981, the Agency has allocated a total of $257,800 and 3 permanent workyears to this subprogram, of which $175,100 for the Salaries and Expense appropriation and $82,700 is for extramural research activities.

- This program will continue to fulfill the obligation to provide a quality assurance program to document and improve the precision and accuracy of radiation monitoring for surveillance of existing regulations and development of new regulations. This program has a national scope in providing expertise to 200 regional, State, local and independent laboratories.

- The activities of the Department of Energy at the Nevada Test Site and other nuclear sites are supported with an extensive off-site monitoring program.

- The Public Awareness Program at Three Mile Island (TMI) is supported by the program as well as requested off-site monitoring around TMI.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net increase of $66,700 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,200.

79-248 O—80——44

- An increase of $2,400 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogramming to realign salary and related costs to meet on-board needs resulted in a transfer of $1,200 to other activities.

Transfer of $82,700 from air-hazardous pollutants/non-energy to support efforts on Three Mile Island activities.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $16,000.

1982 Plan

The Agency requests a total of $107,700 and 3 permanent workyears for this sub-program, of which $92,300 is for the Salaries and Expenses appropriation and $15,400 is for extramural purposes under the Research and Development appropriation.

This reflects a decrease of $150,100. This decrease is the result of a functional transfer of TMI monitoring surveillance activities and associated responsibilities to EPA's Office of Radiation Programs.

- The laboratory intercomparison studies will continue with approximately 200 Federal, State, university, and private monitoring laboratories at a reduced level of effort. This is an essential part of the radio-activity monitoring program with traceability provided to the National Bureau of Standards.

- The off-site monitoring program of the Nevada test site and other nuclear sites will be continued at the request of the Department of Energy. Testing is anticipated at about the same rate as in 1981.

Change from January Request

This request represents a decrease of $600 from the January budget, of which $300 is for Salaries and Expenses and $300 is for Research and Development. This decrease will result in decrease in the radiation quality assurance program for radionuclide measurement in various media.

HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $2,715,600 for this sub-program, of which $1,874,900 was for Salaries and Expenses and $840,700 was for extramural research activities.

Major accomplishments are summarized as follows:

- Conducted the first experiments with the newly operational circularly polarized waveguides, built by staff engineers, to examine the possibility of non-ionizing radiation acting as a low-level stressor.

- Completed study of the long-term neuropathologic effects in rats exposed daily to 100 megahertz (FM radio) in utero and throughout young adulthood. Results imply that non-ionizing radiation may impact autonomic functions in the body.

- Completed study of the effects of daily pre-and post-natal exposure to 2450 megahertz radiation (microwave oven frequency) on infant mortality in squirrel monkeys.

- Developed a mathematical model which reconciles experimental observations on the interaction of amplitude-modulated (AM) non-ionizing radiation with isolated brain tissue to produce calcium release from the brain.

- Conceived, designed, and constructed a computer-controlled twin well calorimetry system which is approximately 10 times more rapid than the system previously used for determining the non-ionizing radiation energy absorbed by an irradiated animal.

1981 Program

In 1981, the Agency has allocated a total of $2,848,600 and 28 permanent workyears to this subprogram, of which $1,495,600 is for the Salaries and Expenses appropriation and $1,353,000 is for extramural purposes under the Research and Development Appropriation.

The research program is directed toward providing information on: (1) dose-rate responses, including the importance of average versus maximum dose rates; (2) relative tissue/organ system sensitivities; (3) exposed and susceptible populations; (4) multiple frequency exposures; (5) intermittent versus continuous exposures, and (6) chronic or long-term exposures. Dose-response and time-dependency data are developed through application of varied exposure and experimental regimens.

Laboratory investigations in experimental animals focus on effects on several major biological systems or endpoints--teratology and reproduction, immunology, behavior and neurophysiology, and thermophysiology. The latter area of concentration deals generally with identification of physiological responses to microwave energy, especially in thermo-regulatory tissues. The lethality of rodents due to microwave exposure is under study. Fetal alterations after continuous irradiation of pregnant rats in the 970 megahertz waveguide system are under evaluation. Rats chronically exposed to 2450 megahertz at an incident power density of 500 microwatts per square centimeter will be examined for biochemical and behavioral changes. A fertility study will assess whether long-term exposure to moderate levels of microwaves damages the testicular tissue of mice. Clinically ill mice will be exposed to microwaves at several ambient temperatures to determine the interaction of microwaves and temperature on the course of infection.

Epidemiological studies undertaken last year are continuing. A study is underway which will evaluate the mortality and morbidity experience of male scientists who developed U.S. radar capabilities during World War II. This population which disbanded 35 years ago, presents a unique opportunity to assess the chronic effects of microwave exposure on humans. Another study ongoing in 1981 will identify, characterize, and compare populations potentially amenable to epidemiological follow-up.

Another area of research is aimed at enhancing our understanding of (1) how non-ionizing radiation, in general and at specific frequencies, interacts biophysically with living systems, and (2) the relationship between frequency and energy deposition in tissues, especially those most sensitive to insult. It is possible that externally imposed electro-magnetic energy could alter coded electrical signals or conducting materials requiring brain tissue to respond by performing more work and expending its store of chemical energy. To investigate this hypothesis, procedures to indicate the amount of energy needed in various parts of the brain will be used as a primary means to identify sites of microwave-altered metabolic activity in the brain.

Activities in the area of dosimetry support biological effects research by determining the relation between incident electromagentic exposure conditions and the distribution of electric and magnetic fields or asorbed energy in the body. In addition, effort is devoted to improving dosimetric techniques for determining non-ionizing radiation energy adsorption and assuring that state-of-the-art exposure systems provide reliable, precise dosi-metric data and better field uniformity. Projects in 1981 are focused on testing and evaluating recently developed circularly polarized waveguides at 970 megahertz and at 918/2450 megahertz a dual frequency system. Research is also directed toward developing or improving instruments, calibration systems, and laboratory exposure systems which are required both to characterize or generate electromagnetic fields or waves and to measure physiological responses of test animals.

Activities are aimed at enhancing coordination of monitoring efforts and health effects research through establishment of collaborative projects with the Office of Radiation Programs and the Regions in order to further the Agency goal of determining the extent of the general population's exposure to non-ionizing radiation. The data obtained will permit calculation of radio frequency field intensities at ground level where people are at greatest risk of exposure. An allied project is focused on improving models for estimating levels of population exposure. Current modeling techniques are rudimentary, based only on effective irradiated power and distance of the exposed object from the radiating source. The effort will develop computer software necessary to incorporate into population exposure models more extended parameters such as shielding and reflective characteristics of common building materials.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "cross-walking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the cross-walk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $141,600 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $6,600.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,500 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $6,000 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $80,000 was applied to this activity.

- An increase of $15,000 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on board needs resulted in at transfer of $900 from other activities.

- A transfer of $33,000 was made to Abatement and Control radiation in order to support the Radiation Policy Council.

- Transfer of $300 to water quality health effects/non-energy in order to realign contract funds.

- OMB Bulletin #81-7, January 24,1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $1,500.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $28,600.

1982 Plan

The Agency requests a total of $2,809,300 and 25 permanent workyears for this sub-program, of which $2,055,700 is for the Salaries and Expenses appropriation and $753,600 is for extramural purposes under the Research and Development appropriation. This reflects a decrease of $39,300 over the 1981 level.

Research will continue in the broad areas of animal toxicology, mechanisms, and epidemiology along with supportive research on dosimetry-energy absorption and exposure system instrumentation. Studies in animals will continue to define teratologic, reproductive, immunologic, hematopoietic, behavioral, and neurophysiologic effects as critical endpoints. Chronic, lifetime studies at low power levels will receive greater consideration. Thermophysiological responses will be addressed in studies on the effects of microwave-related heat stress, focusing on circulatory and hormonal processes, and on how effects vary by organ and tissue type in relation to energy deposition and rising temperature. A lifetime exposure study of late effects of microwave radiation is projected using a rodent species. Behavioral and clinical effects will be examined in rodents experiencing protracted, low-level exposures of less than 500 microwatts per square centimeter. Exposure to 970 megahertz will be similarly applied in immunology, teratology, and physiology studies. The equivalence of various exposure systems will be evaluated in terms of biological effects, energy depositions, and electric and magnetic fields. Studies to determine the mechanisms which may explain certain known non-ionizing radiation bioeffects such as blood-brain barrier permeability, or central nervous system-drug interactions will continue. Model biological systems will be used to define and predict the action of non-ionizing radiation frequencies at the molecular level.

In collaboration with the Office of Radiation Programs, emphasis will continue on improving assessments and models of non-ionizing radiation exposure in the general population to determine the frequencies and modulations in the environment which are of the greatest public health concern and of interest for future Federal protective guidelines. Near-field properties and far-field vertical patterns for various types of antennas will be measured and evaluated.

Change from January Request

This request represents a decrease of $163,800 and 3 permanent workyears from the Janauary budget, of which $109,800 is for Salaries and $54,000 is for Research and Development. This decrease will result in the elimination of a pilot epidemiology study on NIR health effects and effects with heat on behavior.

NOISE

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981	Page
		(dollars in thousands)				
Appropriation						
Salaries and Expenses.....	$4,749	$4,575	$4,885	$1,906	-$2,979	
Abatement, Control and Compliance.....	7,662	8,352	8,160	365	-7,795	
Total.....	12,411	12,927	13,045	2,271	-10,774	
Permanent Workyears.....	97	99	90	29	-61	
Full-time Equivalency.....	152	153	134	43	-91	
Outlays.....	11,829	11,000	12,505	12,060	-445	
Authorization Levels.....		*				

*Authorization pending.

PROGRAM HIGHLIGHTS

Environmental Noise Strategies and Standards:						
Salaries and Expenses...	1,945	1,900	1,982	1,906	-76	N-7
Abatement, Control and Compliance.....	3,902	4,353	4,236	365	-3,871	
Noise Program Strategies Implementation:						
Salaries and Expenses...	1,926	1,959	2,010	...	-2,010	N-13
Abatement, Control and Compliance.....	3,514	3,774	3,711	...	-3,711	
Total:						
Salaries and Expenses...	3,871	3,859	3,992	1,906	-2,086	
Abatement, Control and Compliance.....	7,416	8,127	7,947	365	-7,582	
Total, Abatement and Control Program.....	11,287	11,986	11,939	2,271	-9,668	
Noise Enforcement:						
Salaries and Expenses...	878	716	893	...	-893	N-20
Abatement, Control and Compliance.....	246	225	213	...	-213	
Total, Enforcement Program.....	1,124	941	1,106	...	-1,106	

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981	Page
		(dollars in thousands)				
Permanent Positions						
Environmental Noise Strategies and Standards..	37	37	25	29	+4	N-7
Noise Program Strategies Implementation.....	38	43	44	...	-44	N-13
Total, Abatement and Control Program.....	75	80	69	29	-40	
Noise Enforcement, Total Enforcement Program.....	22	19	21	...	-21	N-20
Full-time Equivalency						
Environmental Noise Strategies and Standards...	56	52	42	43	+1	N-7
Noise Program Strategies Implementation.....	64	66	63	...	-63	N-13
Total, Abatement and Control Program.....	120	118	105	43	-62	
Noise Enforcement, Total Enforcement Program.....	32	35	29	...	-29	N-20

OVERVIEW AND STRATEGY

The 1982 noise control budget represents a major policy change with respect to the Federal effort to reduce noise exposure. Under this budget request the EPA noise control program will be phased out by the end of the 1982. This decision results from a determination that the benefits of noise control are highly localized and that the function of noise control can be adequately carried out at the State and local level without the presence of a Federal program.

States and localities have shown a significant increase in their ability and desire to develop their own noise control programs. During the last decade, over 1000 munucipalities and 27 States have enacted noise control legislation. Of these, 13 States and over 160 local communities hae ongoing noise control programs with active enforcement. This growth (77% in the last four years) reveals a demonstrated ability for local communities to address noise control problems within their jurisdiction.

The major components of EPA's existing noise control effort are promulgation and enforcement of Federal noise regulations, the provision of financial and technical assistance to State and local noise programs, and the conduct of noise health effects research.

In both 1981 and 1982, activities are being structured to achieve a prompt but orderly phase out of current program activities. This will be done in such a way so as to transfer to the State and local program benefits of the knowledge and experience EPA has gained. This orderly phase-out of present activities is essential if we are to facilitate an effective assumption of noise control responsibilities by State and local noise programs.

Purpose of Abatement Control and Compliance Program

The Salaries and Expenses and Abatement, Control and Compliance appropriations include noise control strategies and programs designed to protect the public health and welfare from the adverse effects of noise. These program objectives are pursued through four major program thrusts. First, emission standards and/or labeling regulations are promulgated on selected products; second, State and local noise control efforts are strengthened through the provision of technical assistance and limited financial assistance through cooperative agreements; third, Federal activities relating to noise research and abatement and control are coordinated; and fourth, investigations on noise effects and abatement and control technology are conducted.

Noise control product regulation includes the identification of major sources of noise and the subsequent development of emission regulations for newly manufactured products. These standards are intended to protect the public health and welfare through the application of the best available noise control technology, taking into account the cost of compliance. Regulations requiring the labeling of newly manufactured consumer products are authorized for products which emit noise capable of adversely affecting the public health and welfare. Labeling is also authorized for products which are sold on the basis of their effectiveness in reducing noise.

Technical assistance as well as limited financial assistance is provided to State and local governments for the development and implementation of noise control programs, with special emphasis on in-use enforcement programs for noise sources.

Technical assistance is provided in the form of direct guidance to State and local agencies on how to carry out environmental assessment in order to define noise problems and to other Federal Agencies whose programs and activities have noise control implications.

SUMMARY OF INCREASES AND DECREASES

	(in thousands of dollars)
1981 Noise Program.....	13,045
Salaries and Expenses..... This decrease reflects the orderly phase-out of the noise control regulatory activities in 1982. Due to the localzed nature of noise problem and the maturing local programs to deal with this problem, the program is phasing down in 1982.	-2,978
Abatement, Control and Compliance..... This reduction reflects the elimination of the program with the completion of all remaining health effects research studies and technological demonstrations in 1982.	-7,796
1982 Noise Program.....	2,271

SUMMARY OF BUDGET ESTIMATES

1. Summary of Budget Request

An appropriation of $2,271,400 is requested for 1982. This request, by appropriation account, is as follows:

Salaries and Expenses.....	1,906,000
Abatement, Control and Compliance.....	365,400

This request reflects a $10,773,600 decrease. An orderly phase-out of the noise control regulatory activities and the completion of all remaining health effects research studies and the technological demonstrations is to be completed by the end of 1982.

2. Changes from Original 1981 Budget Estimate

Changes from the budget are as follows:

	(in thousands of dollars)
Original 1981 Estimate.....	12,927
Congressional decreases:	
General reduction to Abatement, Control and Compliance.....	-159
Consultant services.....	-73
Senior Executive bonuses.....	-62
Travel.....	-8
Presidential reduction of$7M (H.Doc 96-294)..	-27
Reprogramming for salary and related costs...	-43
Miscellaneous reprogramming.....	-59
Proposed pay raise supplemental.....	+70
March changes to budget:	
Travel.....	-24
Funding for PC&B deficits.....	+503
Miscellaneous Reprogramming	+29
Current 1981 estimate.....	13,045

This represents an increase of $117,900 from the 1981 level. The net increase is comprised of many changes:

The $7 million Presidential reduction for Salaries and Expenses resulted in a $27,300 decrease to the noise media. A $850,000 agencywide travel decrease resulted in a $7,800 reduction. The $3.8 million reduction for consultant services decrease this media by $73,300. The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation, a decrease of $158,900; reduced Senior Executive bonuses by $750,000, a decrease of $62,200 applied to this media.

A supplemental appropriation is included to fund cost of the October 1980 pay raise, a $70,300 increase for the noise media. Reprogrammings included salary and related costs, supportive resources for Radiation Policy Council and Administrative Law Judges, resulting in decrease $42,600, $10,500 and $18,400 respectively. Other miscellaneous reprogrammings reduced the noise media by $59,300.

In accordance with OMB bulletins, the March 1981 changes reduced travel in the noise media by $23,900. Internal agency reprogrammings were as follows: equipment costs (-$14,700); contractual services (-$30,500); agencywide increases (+$547,800 and miscellaneous reprogrammings (+$29,300).

ANALYSIS OF INCREASE AND DECREASE TO OBLIGATIONS

	Current Estimate 1981	Estimate 1982
	(In thousands of dollars)	
Prior year obligations	$12,411	$13,045
Effect of Congressional changes	-291	...
Effect of pay raise supplemental	+70	...
Changes in amount of carryover funds available	-69	...
Program change	+634	-10,774
Effect of reprogrammings	+430	...
Change in rate of obligations	+140	...
Total estimated obligations	13,045	2,271
(From new obligation authority)	(13,045)	(2,271)
(From prior year funds)	(...)	(...)

EXPLANATION OF INCREASE AND DECREASE TO OBLIGATIONS

The changes discussed in the previous section -- congressional, pay raise supplemental, and reprogrammings -- are expected to result in a new increase of $117,900.

There are no carryover funds to be obligated as the results of a $69,000 decrease from the 1981 level.

A change in the rate of obligation is expected, thereby decreasing obligations by $140,000.

NOISE

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
Program Levels					
Review production verification reports	700	1,244	622	...	-622
Monitor production verification tests	6	12	5	...	-5
Conduct Selective Enforcement Audit Tests	11	37	7	...	-7
Inspect Manufacturers' records/facilities	10	39	15	...	-15
Develop State/local enforcement guidance packages	2	3	1	...	-1
Inspect Manufacturers' test capability	8	19	6	...	-6
Review labeling verification reports	15	210	100	...	-100
Monitor labeling verification tests	3	10	5	...	-5
Monitor labeling compliance audits	0	6	3	...	-3

NOISE

Environmental Noise Strategies and Standards

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
		(dollars in thousands)			
Appropriation					
Noise Standards Development:					
Salaries and Expenses.....	$1,114	$1,233	$1,032	$955	-$77
Abatement and Control and Compliance.....	1,822	2,382	2,201	...	-2,201
Noise Control Technology Assessment and Criteria Development:					
Salaries and Expenses.....	831	667	950	951	+1
Abatement, Control and Compliance.....	2,080	1,971	2,035	365	-1,670
Total:					
Salaries and Expenses.....	1,945	1,900	1,982	1,906	-76
Abatement, Control and Compliance.....	3,902	4,353	4,236	365	-3,871
Grand Total.....	5,847	6,253	6,218	2,271	-3,947
Permanent Positions					
Noise Standards Development.	19	22	14	14	...
Noise Control Technology Assessment and Criteria Development.....	18	15	11	15	+4
Total.....	37	37	25	29	+4
Full-time Equivalency					
Noise Standards Development.	28	24	20	20	...
Noise Control Technology Assessment and Criteria Development.....	28	28	22	23	+1
Total.....	56	52	42	43	+1

Budget Request

The Agency requests a total of $2,271,400 and 29 permanent workyears for 1982, a decrease of $3,947,000 from 1981. Included in this total is $1,906,000 for Salaries and Expenses and $365,400 for Abatement, Control and Compliance, with decreases of $75,000 and $3,871,600 respectively. These reductions are a result of the orderly phase-out of the noise control program in 1982. The increase in positions reflects that in 1982 all phase-down activities for the noise program will be supported by this subactivity.

Program Description

This program focuses on the development and promulgation of emission and labeling regulations that will reduce harmful noise emissions from new products. These regulations are developed through the gathering and analysis of data on noise and its health effects to determine exposure and levels of noise reduction required for health and welfare protection and for specific regulatory actions. Evaluations of private and public sector technology development are performed to determine best available technology, and assessments of economic, environmental and health data are made to ascertain the costs and benefits of regulation. This program also includes conduct of a noise health and welfare effects investigation program.

Noise Standards Development

The objective of noise product regulation is to effectively regulate products which are major contributors to environmental noise exposure. Such regulation would contribute to the achievement of overall environmental noise control goals of reducing environmental levels below Ldn 75 dB as soon as possible and ultimately below Ldn 65 dB.

Under Sections 6 and 8 of the Noise Control Act, Environmental Protection Agency develops and promulgates regulations to control noise from products which are major noise sources through the use of noise emission limitations and/or noise labeling requirements for newly manufactured products. The analysis leading to and supporting these regulations includes the preliminary investigation of potential products for regulation, economic and technological feasibility and the evaluation of health, welfare, and other benefits derived from specific product regulation. Other activities include the preparation of necessary background and supporting material, such as EIS's and economic assessments, for the promulgation of standards.

Noise Control Technology Assessment and Criteria Development

The objective of this activity is to provide support to EPA for noise product regulation and State and local control efforts through investigations and documentation of noise health effects and availability of noise control technology. This also includes overall strategy development for national noise control efforts.

Specific activities include the development of health and welfare criteria for the assessment of general exposure to noise; the assessment of the environmental, economic, social and health impacts of noise abatement options; and the assessment of advanced and/or future noise control technology for the development and evaluation of noise abatement options, including coordination and evaluation of noise research and control conducted by other Federal agencies. Other activities encompass the development of an overall noise control strategy and subsequent substrategies, and the continuation of the noise health effects program.

NOISE STANDARDS DEVELOPMENT

1980 Accomplishments

1980 resources included $1,821,800 in contract support. These funds were used for the development of noise emission and labeling regulations. A major accomplishment for 1980 was the promulgation of the court-ordered Interstate Rail Carrier Revision (four source standards). In addition, developmental work was completed which could lead to the promulgation of emission regulations in 1981 for buses and motorcycles. Work was continued on the Low Noise Emission products regulation and strategy studies for product labeling. Also, five noise source studies begun in previous years were completed.

1981 Program

In 1981, the Agency has allocated a total of $3,233,800 and 14 permanent work-years this program, of which $1,031,600 is for Salaries and Expenses and $2,202,200 is extramural purposes under the Abatement, Control and Compliance appropriation.

The 1981 program provides for those activities that are necessary to initiate the orderly phase out of the noise reglatory program. These activities include the compiling an completing of current regulatory information for appropriate transfer to States a localities.

1981 Explanation of Change from Budget Estimate

The net decrease of $380,800 results fron several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294): these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $6,400.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $23,100 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and compliance appropriation; a decrease of $41,900 was applied to this activity.

- An increase of 13,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a tansfer of $266,100 to noise control technology assessment and criteria development ($161,300); noise strategies implementation ($54,700); and noise Federal agency coordination ($50,000).

- A transfer of $5,300 was made to noise standards developmemt for funds.

- A transfer of $40,000 was made to noise control technology assessment and criteria development ($5,000); noise strategies implementation ($30,000); and noise federal agency coordination ($5,000) for printing costs.

- A transfer of $124,500 to noise control technology assessment and criteria development ($119,500); and to noise strategies implementation ($5,000), reflecting a decrease in interagency agreements, a shifts form grants to contracts, and realignment of contract funds within accounts.

- A transfer of $18,400 was made to the radiation media in order to support the Radiation Policy Council.

- A transfer of $10,500 was made to the administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1, 795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $7,400.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $25,000.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $13,100.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $209,800.

1982 Plan

The Agency requests a total of $954,800 and 14 permanent workyears for this program, all of which is for the Salaries and Expenses appropriation. No resources are requested for the Abatement, Control and Compliance appropriation.

During 1982, the phase out of all regulatory activities will be competed. This includes taking all the necessary legal steps for termination of EPA's noise regulatory program as well as the transfer of information necessary for the States and localities to initiate regulatory programs where they deem appropriate.

Change from January Request

This request represents a decrease of $1,440,000 from the January budget, all of which is from Abatement, Control and Compliance. This reduction reflects the decision to discontinue the noise program at the end of 1982.

NOISE CONTROL TECHNOLOGY ASSESSMENT AND CRITERIA DEVELOPMENT

1980 Accomplishments

1980 resources included approximately $2,080,400 in contract support. These funds were used for development of information on health and welfare effects of noise (both auditory and non-auditory), technology demonstrations, and development of noise abatement substrategies.

A major accomplishment in 1980 included a report on the University of Miami primate study which related noise to a 30 percent increase in blood pressure. Other health effects activities included a report on the longitudinal study on the effects of noise on children's hearing. After four years of longitudinally tracking the hearing thresholds of children, the preliminary findings reveal a trend of lower thresholds at auditory frequencies associated with exposure to sources such as farm machinery and power tools. Seven research reports and studies designed to improve the understanding of the effects of noise were completed. In addition, a five year health effects research plan as well as a detailed cardiovascular research plan were completed. Also, an updated report on Federal research in noise effects was completed covering research program of approximately 20 agencies over the past three years.

During 1980, work was initiated on the quiet house program (a project designed to demonstrate the synergism between energy conservation and noise reduction in residential buildings), and work continued on the quiet heavy trucks, quiet engines, and quiet tires technology demonstrations including initiation of a tire/surface interaction investigation. Technology assessment began on truck cooling systems. A significant accomplishment in the quiet truck program was the quieting of two heavy trucks to about 72 dBA.

Five joint technology demonstrations with othe Federal agencies were in process. These included: quiet propeller (NASA), highway site construction (DOT), shipyard machinery (NAVY), electric generating plant (TVA), and general construction site projects (ARMY). The general construction site demonstration was completed.

The construction site substrategy was in process.

1981 Program

In 1981, the Agency has allocated a total of $2,984,600 and 11 permanent work-years to this program, of which $949,800 is for Salaries and Expenses and $2,034,800 is for extramural purposes under the Abatement, Control Compliance appropriation.

During 1981, on-going health effects research studies which can be completed before the end of 1982 are to be continued. The results of these studies are to be made available not only to the scientific community, but also to other Federal, State, and local governments for incorporation into their noise control efforts.

All technology research projects are also being brought to completion. Reports and/or summary information are to be prepared for transfer and use by States and localities. The results of interagency demonstrations to determine techniques and technologies for abating noise are also to be packaged for transfer to all interested parties, including other Federal and State agencies.

1981 Explanation of Change from Budget Estimate

The net increase of $346,900 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $4,300.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $55,200 was applied to this activity.

- The Congress reduced agencywide travel costs by $850,00; a decreases of $5,800 was applied to this activity.

- An increase of $14,900 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $161,300 from noise standards development.

- A transfer of $9,200 was made to noise strategies implementation for travel funds.

- A transfer of $5,000 was made from noise standards development for printing costs.

- A transfer of $119,500 from noise standards development reflecting a decrease in interagency agreements, shifts from grants to contracts, and realignment of contract funds within accounts.

- A transfer of $295,100 was made from noise strategies implementation to reflect FTE currently on-board.

- A transfer of $294,400 was made to noise regional program implementation to carry out the implementation of the Quiet Communities Act.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,000 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $400.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $120,400.

1982 Plan

The Agency requests a total of $1,316,600 and 15 permanent workyears for this program, of which $951,200 is for the Salaries and Expenses appropriation and $365,400 for the Abatement, Control and Compliance appropriation.

The focus of 1982 activities will be to complete all remaining health effects research studies and technology demonstrations. This information will be transferred, as appropriate, for use by other interested parties. Other activities will involve the wrap-up of any remaining noise control projects necessary to achieve complete phase out of the Noise Control Program by the end of 1982.

Change from January Request

This request represents a decrease of $2,119,600 and 6 permanent workyears from the January budget, of which $213,500 is for Salaries and Expenses and $1,905,100 is for Abatement, Control and Compliance. These reductions reflect the decision to discontinue the noise program by the end of 1982.

79-248 O—80——45

NOISE

Noise Program Strategies Implementation

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
		(dollars in thousands)			
Appropriations					
Noise Control Implementation and Evaluation:					
Salaries and Expenses.....	$992	$1,032	$861	...	-$861
Abatement, Control and Compliance.....	3,283	3,321	3,289	...	-3,289
Federal Agency Coordination:					
Salaries and Expenses.....	332	289	338	...	-338
Abatement, Control and Compliance.....	202	400	382	...	-382
Noise Regional Program Implementation:					
Salaries and Expenses.....	602	638	811	...	-811
Abatement, Control and Compliance.....	29	53	40	...	-40
Total:					
Salaries and Expenses.....	1,926	1,959	2,010	...	-2,010
Abatement, Control and Compliance.....	3,514	3,774	3,711	...	-3,711
Grand Total.....	5,440	5,733	5,721	...	-5,721
Permanent Positions					
Noise Control Implementation and Evaluation.....	18	22	22	...	-22
Federal Agency Coordination...	7	8	8	...	-8
Noise Regional Program Implementation.....	13	13	14	...	-14
Total.....	38	43	44	...	-44
Full-time Equivalency					
Noise Control Implementation and Evaluation.....	35	37	27	...	-27
Federal Agency Coordination...	8	8	11	...	-11
Noise Regional Program Implementation.....	21	21	25	...	-25
Total.....	64	66	63	...	-63

Budget Request

Consistent with the Agency's decision to phase-out the Noise Control program in 1982, no resources are requested for 1982.

Program Description

This program provides assistance to States and localities in the development and implementation of noise control programs. Effective State and local noise control programs are essential if the Nation is to reduce noise to levels commensurate with the protection of public health and welfare. In recognition of this need, the Noise Control Act, as amended by the Quiet Communities Act, calls for EPA to assist State and local governments in the development of noise control programs. The objective of EPA's program is to substantially increase the number of communities having effective noise control programs with special emphasis on lessening the impact of noise from motor vehicles (motorcycles, trucks, autos). Assistance is also provided in the areas of stationary source control (property line standards), construction site noise control, noise abatement planning (zoning, land use planning, airport planning), and public education.

This program also includes the review of the implementation of regulatory requirements for which the Federal Government has primary responsibility (i.e, the control of noise emissions at Federal facilities and review of EIS's for noise implications, and the overall coordination of all Federal programs for noise abatement and control). The objective of this program is to bring the major noise authorities of other Federal agencies to bear on the noise problem in a total national effort. Included are such agencies as the Federal Highway Administration, the Federal Aviation Administration, the Urban Mass Transit Administration, the Department of Housing and Urban Development, and the Department of Defense.

Noise Control Implementation and Evaluation

Under the Noise Control Act, as amended by the Quiet Communities Act of 1978, the Environmental Protection Agency delivers assistance to States and localities in order to encourage the development of effective noise control. Effective State and local programs are needed to complement EPA regulations for major sources of noise. This will include State and local enforcement of in-use controls which supplement EPA's manufacturing controls, including Federal antitampering and recall provisions.

This program provides funding for limited financial assistance through cooperative agreements to States and localities and the design and administration of assistance programs for State and local use. Special emphasis is placed on helping States initiate programs to assist local communities start noise control programs and to strengthen existing local programs. Other EPA assistance includes the Each Community Helps Other (ECHO) program (use of local noise control experts to help other communities), development of State and local program "tools", e.g., model laws and codes, administration of the noise control demonstration and assistance program, and Technical Assistance Centers located at ten universities.

Federal Agency Coordination

The activities of this program are directed toward assuring that Federal Government responsibilities for noise control are met. Such activities include assisting other Federal agencies to consider and include, where appropriate, noise abatement and control practices in their programs and comply with Federal, State, interstate, and local requirements; coordinating noise control programs carried out by Federal agencies; monitoring the progress of other Federal facilities' noise abatement activities; and reviewing Federal environmental impact statements insofar as their noise impacts are concerned. Particular attention is given to carrying out the President's Urban Noise Initiative.

Noise Regional Implementation

The regional offices occupy a key role in the development of effective State and local programs.

Specifically, regional offices provide the focal point for interaction with State and local governments, and the development of State and local government capabilities to implement noise abatement activities. As such, they provide technical-financial support to States and localities and oversee the operation of the ten University-based Technical Assistance Centers.

NOISE CONTROL IMPLEMENTATION AND EVALUATION

1980 Accomplishments

1980 resources included $3,283,200 in extramural support. These funds were used for the development and delivery of both technical and financial assistance (cooperative agreements) to State and localities and for demonstration projects with other Federal agencies.

During 1980, EPA continued to deliver technical assistance to States and localities in developing noise control programs. Delivery mechanisms included the ECHO program (a volunteer program where local noise control experts assist other communities one or two days a month with EPA paying out-of-pocket expenses); LISTEN (a computer program service which processes attitudinal/physical survey data for States and localities); State assignees (temporary government employees serving in State governments to assist in the development of noise control programs); Senior Environmental Employee Program; National ECHO (supplementing state efforts); and community noise counselors program. Other activities included the continuation of the Kansas City, Missouri, Quiet Communities Program (QCP), a research experiment designed to develop and demonstrate the best available techniques for community noise control.

The financial assistance program to States and localities was continued with the award of 56 cooperative agreements, including State start-up, State ECHO, local start-ups and problem identification, urban demonstrations as addressed in the President's Urban Noise Initiatives Program, surface transportation noise control demonstrations, and support for the ten Regional Noise Technical Assistance Centers. These Technical Assistance Centers provided 66 training programs to State and local officials and provided 101 technical assistance actions to communities to increase the growth and effectiveness of the State and local programs.

A major accomplishment during 1980 was the doubling of State noise capabilities with a corresponding increase in the number of active local noise programs.

In addition, the airport technical assistance activities were continued. The Philadelphia Airport Study, a mandate of the Quiet Communities Act of 1978, was completed and forwarded to Congress. The monitoring phase of the National Noise Assessment, a requirement of the Quiet Communities Act of 1978, was initiated.

Also during 1980, two major non-regulatory initiatives in urban noise control were established. These included the Buy Quiet program which establishes a national public sector market for quiet products through cooperative arrangements between State and local government procurement officials and industry, and the soundproofing/weatherization program which combines soundproofing and weatherization activities as a cost effective measure. General public education programs were developed and the State and local grantees were assisted in developing a public education capacity.

1981 Program

In 1981, the Agency has allocated a total of $4,149,800 and 22 permanent workyears to this program, of which $861,000 is for Salaries and Expenses and $3,288,800 is for extramural purposes under the Abatement, Control Compliance appropriation.

The 1981 program provides for those activities that are necessary for the orderly phase out of State and local assistance programs. Financial support programs to States and Technical Assistance Centers are to be phased out in 1981, with all cooperative agreement awards being made by the end of the fiscal year. Also in 1981, most of the development of technical materials (including model ordinances and training information) are to be completed and the information distributed to States and localities.

Demonstrations underway to test noise control techniques are being brought to a close and reports prepared for dissemination, as available, throughout the phase down period.

1981 Explanation of Change from Budget Estimate

The net decrease of $203,300 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $6,900.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $55,200 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $40,000 was applied to this activity.

- An increase of $12,700 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs results in a transfer of $54,700 from noise standards development.

- A transfer of $21,600 was made from noise standards development ($5,300); noise control technology ($9,200) and noise federal agency coordination ($7,100) for travel funds.

- A transfer of $30,000 was made from noise standards development for printing costs.

- A transfer of $23,000 from noise standards development ($5,000) and noise federal agency coordination ($18,000) reflecting a decrease in interagency agreements, shifts from grants to contracts, and realignment of contract funds within account.

- A transfer of $295,100 to noise control technology to reflect FTE currently on-board.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $4,700.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $56,600.

1982 Plan

No resources are requested in 1982. All remaining aspects of phase out will be accomplished with resources in the Environmental Noise Strategies and Standards subactivity.

Change from January Request

This request represents a decrease of $3,909,600 and 17 permanent workyears from the January budget, of which $853,500 is for Salaries and Expenses and $3,056,100 is for Abatement, Control and Compliance. These reductions reflects the decision to discontinue the noise program by the end of 1982. All resources for the orderly phase out are included in the Environmental Noise Strategies and Standards subactivity.

FEDERAL AGENCY COORDINATION

1980 Accomplishments

1980 resources included $202,000 in contract support. These funds were used to support interagency agreements with other Federal agencies. The purpose of this activity is to carry out noise control demonstrations and test techniques and incorporate the results of these demonstrations into the appropriate program of Federal agencies, including EPA. EPA funds are matched by contributions from other participating agencies. During 1980, this type of activity included the following demonstrations: off road vehicles, highway noise mitigation, transit mall planning and design (phase I and II), vehicle noise diagnostic inspection methods, bus retrofit, and hearing conservation (model hearing conservation program). Reports were issued in 1980 on off-road vehicles, transit mall planning and design, bus retrofit, and vehicle noise diagnostic inspection methods.

EPA reviewed and commented on a number of important FAA proposed regulations and Advisory Circulars. A major accomplishment in the aviation area in 1980 was the completion of a report on aviation noise which outlined a strategy that could be implemented over the next several years.

1981 Program

In 1981, the Agency has allocated a total of $720,400 and 8 permanent workyears to this program, of which $338,400 is for Salaries and Expenses and $382,000 is for extramural purposes under the Abatement, Control and Compliance appropriation.

These resources are to be used to wind down or complete projects necessary to attain an orderly phase out of Federal coordination efforts. Most ongoing technology demonstrations are to be completed. The results of these demonstrations are to be transferred, as appropriate, to all interested parties including other Federal and State agencies. Aviation studies underway are also to be completed for dissemination to States and localities.

1981 Explanation of Change for Budget Estimate

The net increase of $31,300 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,900.
- An increase of $5,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.
- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $50,100 from noise standards development.
- A transfer of $7,100 was made to noise strategies implementation for travel funds.
- A transfer of $5,000 was made from noise standards development for printing costs.
- A transfer of $18,000 to noise strategies implementation reflecting a decrease in interagency agreements, shifts from grants to contracts, and realignment of contract funds within accounts.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $3,200.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $1,100.

1982 Plan

No resources are requested in 1982. All remaining aspects of phase out will be accomplished with resources in the Environmental Noise Stategies and Standards subactivity.

Change from January Request

This request represents a decrease of $646,000 and 6 permanent workyears from the January budget, of which $351,700 is for Salaries and Expenses and $294,300 is for Abatement, Control and Compliance. These decreased reflect the decision to discontinue the noise program by the end of 1982. All resources for the orderly phaseout are included in the Environmental Noise Strategies and Standards subactivity.

NOISE REGIONAL PROGRAM IMPLEMENTATION

1980 Accomplishments

In 1980, $28,700 was for extramural purposes. Regional accomplishments in 1980 included expanded responsibilities for the management of the cooperative agreement program. This also included detailed review, award and participation and follow-up on cooperative agreements with State and local agencies. The Regions also continued to administer the technical assistance program to State and local governments with emphasis on the development of the Technical Assistance Centers and State-run ECHO programs so that these programs can serve as the technical assistance delivery mechanism to States and localities. Other activities carried out included the management of the QCP experiment in Kansas City, review of EIS's, the holding of noise abatement workshops for State and local officials, equipment loans, the providing of direct technical assistance to local communities and public education on noise abatement and control. In addition, they continued to manage the EPA ECHO program and assisted some States in taking over the EPA ECHO program in their States.

1981 Program

In 1981, the Agency has allocated a total of $850,600 and 14 permanent workyears to this program, for which $810,700 is for Salaries and Expenses and $39,900 is for extramural purposes under the Abatement, Control and Compliance appropriation.

In 1981, the program provides for those activities that are necessary for the phase out of the Region's State and local technical assistance program.

1981 Explanation of Change from Budget Estimate

The net increase of $159,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions

  resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $3,700.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $200 was applied to this activity.

- The Conress reduced agencywide consulting services by $3.8 million; a decrease of $43,900 was applied to this activity.

- An increase of $11,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a net transfer of $42,600 to water quality waste treatment operations and maintenance ($6,300), permit issuance ($400); pesticides use management ($13,000), pesticides enforcement ($5,000); management and support - regional counsel ($10,600), regional management ($18,200), administrative management ($12,000); and from solid waste hazardous waste management regulatory strategies implementation ($13,700), and hazardous waste enforcement ($9,200).

- A transfer of $13,000 was made from water quality NEPA compliance - municipal waste facility contruction to realign contract funds and support interagency agreements.

- A transfer of $15,000 was made to noise regional program implementation to support SIP efforts.

- A transfer of $31,300 was made to ambient air quality monitoring to support the air quality monitoring program.

- A transfer of $37,900 was made to air quality management to support SIP activities in the areas of technical review of SIPs, SIP certification review and docket control.

- A transfer of $11,900 was made from ambient air quality monitoring to support the Senior Environmental Employment Program.

- A transfer of $294,400 was made from noise control technology assessment and criteria development to carry out the implementation of the Quiet Communities Act.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $4,300.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $900.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $4,400.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $12,600.

1982 Plan

No resources are requested in 1982. Any remaining aspects of phase-out will be handled by EPA headquarters noise control program.

Change from January Request

This request represents a decrease of $1,045,900 and 17 permanent workyears from the January budget, of which $853,700 is for Salaries and Expenses and $192,200 is for Abatement, Control and Compliance. The reductions reflect the decision to discontinue the noise program by the end of 1982.

NOISE

Noise Enforcement

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
			(dollars in thousands)		
Appropriation					
Salaries and Expenses.....	$878	$716	$893	...	-$893
Abatement, Control and Compliance.....	246	225	213	...	-213
Total.....	1,124	941	1,106	...	-1,106
Permanent Positions.....	22	19	21	...	-21
Full-time Equivalency.....	32	35	29	...	-29

Budget Request

The Agency requests no funds and no permanent workyears for 1982.

Program Description

The long-range goals and major objectives of the noise enforcement program have been to assure that regulated products distributed in commerce comply with Sections 6 and 8 (new product noise emission standards and information labeling requirements respectively) of the Noise Control Act of 1972. Additionally, assistance has been given to State/local governments in the development of effective noise enforcement programs to address compliance of regulated products in use.

1980 Accomplishments

In 1980, the primary emphasis of the noise enforcement program was monitoring compliance and, where necessary, taking enforcement action under the standards for portable air compressors and medium and heavy-duty trucks. In addition, preparations were made for implementation of the informational labeling requirements for hearing protectors and the standards for truck-mounted solid waste compactors.

Enforcement activities in 1980 included review of 700 production verification reports; monitoring of 6 production verification tests and 11 selective enforcement audits; inspection of 10 manufacturers' records/facilities; inspection of 8 manufacturers' test capabilities; monitoring of 3 labeling verification tests; and conducting 2100 in-use surveillance tests. Enforcement assistance and guidance was provided to 16 state and local noise enforcement programs, and 2 State/local guidance packages were developed. Enforcement strategies and inventories of regulated manufacturers were developed for the hearing protector labeling and solid waste compactor regulations.

The 1980 resources included $245,500 for contracts which were used to conduct in-use surveillance tests for portable air compressors and medium and heavy duty trucks, and hearing protector testing; to assure quality performance by laboratories which conduct compliance tests uder the new regulations; State and local enforcement guidance development; technical support; and production verification report review.

1981 Program

In 1981, the Agency has allocated a total $1,105,800 and 21 permanent workyears to this program of which $892,500 is for the Salaries and Expenses appropriation and $213,300 is for extramural purposes under the Abatement, Control and Compliance appropriation. Extramural funds will be used to support the State/local noise enforcement effort (especially for anti-tampering and in-use noise control requirements which supplement federal product regulations); evaluate and summarize production verification reports; acquire products for investigative testing; provide for engineering and technical support services; continue in-use surveillance testing of regulated products, and surveillance testing of hearing protectors subject to labeling requirements.

Because the noise enforcement program is requesting no resources in 1982, operations will include taking those steps necessary to insure an orderly phase-out of the program.

1981 Explanation of Changes from Budget Estimates

The net increase of $30,400 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $4,100.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,800 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $5,300 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $6,600 was applied to this activity.

- An increase of $12,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogramming to realign salary and related costs to meet on board needs resulted in a net transfer of $47,600 from water quality permit issuance.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $3,900.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $13,800.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $1,100.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $5,200.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $147,300.

1982 Plan

No resources are requested in 1982, consistent with the shift in Agency policy towards a primary state and local government role in reducing levels of environmental noise.

Change from January Request

This request represents a decrease of $1,326,800 and 19 permanent workyears from the January budget, of which $1,101,000 is for Salaries and Expenses and $225,800 is for Abatement, Control and Compliance. This decrease represents a phase-out of Federal noise enforcement activites and a shift in emphasis to State and local noise enforcement programs.

INTERDISCIPLINARY

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
			(dollars in thousands)			
Appropriation						
Salaries and Expenses.....	$5,930	$5,499	$5,956	$6,453	+$497	
Research and Development..	4,014	3,648	3,376	4,247	+ 871	
Abatement, Control and Compliance.....	2,252	1,550	1,289	4,604	+3,315	
Total.....	12,196	10,697	10,621	15,304	+4,683	
Permanent Workyears.....	116	120	120	134	+14	
Full-time Equivalency.....	137	146	145	168	+23	
Outlays.....	27,509	23,200	28,056	30,602	...	
Authorization Levels.....	25,449	22,848	22,848	*		

* Authorizations are contained within amount authorized for the Federal Water Pollution Control Act, Clean Air Act, Solid Waste Disposal Act, Federal Insecticide, Fungicide, and Rodenticide Act, Safe Drinking Water Act, as well as certain portions by virtue of the Appropriation Act. In 1982, authorizations have been proposed for the Research and Development activities.

PROGRAM HIGHLIGHTS

Intermedia Programs:						
Salaries and Expenses...	3,664	2,653	3,008	2,238	-770	I-13
Research and Development	4,014	3,648	3,376	4,247	+871	
Total, Research and Development Program.....	7,678	6,301	6,384	6,485	+101	
Environmental Impact Statements:						
Salaries and Expenses...	2,199	2,152	2,375	2,401	+26	I-7
Abatement, Control and Compliance.....	1,883	1,400	1,178	1,256	+78	
Energy Review and Permitting:						
Salaries and Expenses...	...	694	573	1,814	+1,241	
Abatement, Control and Compliance.....	...	150	111	3,348	+3,237	
Integrated Environmental Assistance:						
Abatement, Control and Compliance.....	369	...	...	...	...	
Interdisciplinary Technical Assistance:						
Salaries and Expenses.....	67	...	...	...	...	
Total:						
Salaries and Expenses.....	2,266	2,846	2,948	4,215	+1,267	
Abatement, Control and Compliance.....	2,252	1,550	1,289	4,604	+3,315	

* January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
		(dollars in thousands)				
Total, Abatement and Control Program.....	4,518	4,396	4,237	8,819	+4,582	
Permanent Positions						
Environmental Impact Statements.....	75	77	74	77	+3	I-7
Energy Review and Permitting.....	...	13	10	34	+24	
Technical Assistance.....	2	...	...	...	...	
Total, Abatement and Control Program.....	77	90	84	111	+27	
Intermedia Non-Energy, Research and Development Program.....	39	30	36	23	-13	I-13
Full-time Equivalency						
Environmental Impact Statements.....	79	78	77	79	+2	I-7
Energy Review and Permitting.....	...	26	22	55	+33	
Technical Assistance.....	2	...	...	...	...	
Total, Abatement and Control Program.....	81	104	99	134	+35	
Intermedia Non-Energy Research and Development Program.....	56	42	46	34	-12	

OVERVIEW AND STRATEGY

Many environmental problems can be approached directly through specific media programs, but effective management sometimes requires cutting across the usual media lines. Often the problem, skill, or technique involved is not readily assignable to a specific media, and an interdisciplinary approach is required. This interdisciplinary approach is consistent with the original concerns of the Agency: the need for an integrated way to address pollution in all media. EPA employs this intermedia approach in several research and development efforts where the problems, tools, and results are multidisciplinary in nature and must be coalesced into an integrated program. This concept is employed in the Agency's efforts to forecast future environmental problems and to develop a long-range R&D agenda. This concept is also applied to those areas of the environmental impact statement program where the identification of crosscutting impacts is important. Similarly, a program of energy review and permitting has been included due to the need for a flexible multi-disciplinary approach in assuring that the rapid development of new energy facilities is accomplished in an environmentally sound manner.

Research and Development

Intermedia Programs

Exploratory Research. The major goals of this program are to provide a long-term perspective to EPA's research and development planning activities and to enhance the quality of mission-oriented research carried out by grantees and by the Office of

Research and Development's Research Centers. In support of these goals, program activities include the identification and assessment of future environmental trends and the management of a rigorous peer review system for research grants to ensure that proposed extramural research is of high scientific quality. The 1982 forecasting activities in this sub-program will incorporate trends analysis into the annual update of the Environmental Outlook report. They will continue work to develop a system of environmental indicators as a way of flagging changes in future environmental quality and will produce a comprehensive report on activities in this area. Improved methods to quantify the benefits of environmental quality controls will be developed and, using established methods, economic benefits of improvements in visibility will be estimated. EPA's research grants and centers program will continue and the peer review system will be administered to ensure that extramural research is of high quality. The origins of the Exploratory Research Program can be traced to recommendations made by the National Academy of Sciences and by the Office of Technology Assessment after they reviewed the Agency's program planning process. Moreover, the program was established in response to Congressional direction under Section 6(a) of Public Law 95-155, which requires that 15 percent of resources for research be devoted to longer-term, anticipatory research.

The National Environmental Workforce aims to enhance the availability of a trained workforce for federal, state and local environmental agencies.

The Minority Institutions Research Support helps minority colleges and universities to participate in environmental research by awarding grants to enable them to improve their research capabilities and to compete successfully for federal research dollars.

In 1982, both the National Environmental Workforce and the Minority Institution Research Support function will be integrated into ORD's Research Grants and Centers Program.

Abatement and Control

Environmental Impact Statements. EPA will continue to emphasize scoping in order to throughly review the environmental effects of federal projects. These meetings with other Federal agencies at the beginning of the environmental review process will expedite identification and resolution of environmental issues mitigation. New emphasis will be placed on post draft EIS follow-up to ensure that mitigation measures are developed and that earlier EPA comments are incorporated. Additional resources will fund increased scoping for the increased number of Energy project EISs anticipated in 1982.

Energy Review and Permitting Program. This program provides EPA regional offices with additional resources to expedite the environmental review and permitting of energy facilities. In 1982, resources are provided to augment National Pollutant Discharge Elimination System (NPDES), Resource Conservation and Recovery Act (RCRA) and Underground Injection Control (UIC). Contract funds will allow EPA to perform technical analyses of synthetic fuel facilities and to accelerate the preparation of EISs for new source NPDES permits. EPA will also act as a cooperating agency, assisting other federal agencies in the preparation of EISs and preparing environmental analyses for energy projects requiring EPA permits.

SUMMARY OF INCREASES AND DECREASES

	(in thousands of dollars)
1981 Interdisciplinary Program.....	$10,622
Salaries and Expenses..... The net increase in salaries and expenses is due primarily to an increase ($1,240) in the Energy	+495

The net increase in salaries and expenses is due primarily to an increase ($1,240) in the Energy Review and Permitting D.U. for travel, to allow attendence at energy scoping meetings and on-site visits; and a decrease ($797) in the R&D intermedia program due to the transfer of the Minority Institution Research Support grant program (MIRS) from S&E to extramural R&D.

Research and Development.....	+871
The increase contained in the intermedia program is due primarily to the transfer of the (MIRS) grants program ($454) to extramural R&D and a ($417) increase for both small scale assessments of emerging environmental problems and economic benefit analyses of pollution control options.	
Abatement, Control and Compliance.....	+3,316
The increase ($3,422) is largely due to the Energy Review and Permitting increase of ($3,216). This increase provides contract funds for 1) detailed control technology evaluations, modelling and monitoring for synthetic fuel permits and 2) environmental analyses.	
1982 Interdisciplinary Program.....	$15,304

SUMMARY OF BUDGET ESTIMATE

1. Summary of Budget Request

An appropriation of $15,303,800 is requested for 1982. This request, by appropriation, is as follows:

Salaries and Expenses.....	6,452,600
Research and Development.....	4,246,900
Abatement, Control and Compliance.....	4,604,300

This represents an increase of $4,682,300 from the 1981 level. The primary increase ($4,478,100) applies to Energy Review and Permitting in Salaries and Expenses and most significantly in Abatement, Control and Compliance. An additional increase in Environmental Impact Statements ($1,510,400) also contributes to this increase form the 1981 level.

2. Changes from Original 1981 Budget Estimate

Changes from the budget are as follows:

	(in thousands of dollars)
Congressional Changes:	
Travel	-26
Consulting Services	-45
Senior Executive Services Bonus	-3
Abatement, Control and Compliance	-45
Anticipatory Research	-650
Presidential $7m reduction	-32
Reprogramming for salary costs	+248
Miscellaneous reprogrammings	+444
Proposed pay raise supplemental	+72
March changes to budget:	
Travel	-14
Consulting Services	-3
Moratorium or Procurement of Equipment	-1
Equipment Costs	-103
Other Contractual Services	-22
One percent transfer	-22
Increases to fund PC&B	+72
Current 1981 estimate	10,622

The Congress reduced Agency travel costs by $850,000, and consulting services by $3.8 million; which resulted in decreases to the interdisciplinary media of $26,000 and $45,000, respectively. Senior Executive Service bonuses were reduced by $750,000, resulting in a $3,000 decrease. President Carter's $7 million reduction to the Salaries and Expenses appropriation resulted in a decrease of $32,000 to this media. The Abatement, Control and Compliance appropriation was reduced by $7.5 million, $45,000 was applied to this activity. The anticipatory research program was reduced by $2.5 million, resulting in a $650,000 reduction to this media.

A supplemental is proposed to partially fund the October 1980 pay raise and included $71,600 for this media. The overall reprogramming throughout the Agency for salary costs results in an increase of $248,000. Miscellaneous reprogrammings to this media resulted in a net increase of $444,000.

In accordance with OMB bulletins; the March 1981 changes are as follows: travel (-$14,600); consulting services (-$3,000); and, moratorium on procurement of equipment (-$100).

A one percent transfer authority decreases this media by $21,700.

Internal agency reprogrammings to fund PC&B deficits are as follows: equipment costs (-$102,900); contractual services (-$22,100); and agencywide increases (+$127,000).

ANALYSIS OF INCREASES AND DECREASES TO OBLIGATIONS

	Current Estimate 1981	Estimate 1982
	(in thousands of dollars)	
Prior year obligations	$12,195	$10,268
Congressional changes	-769	...
Effect of March changes	-38	...

	Current Estimate 1981	Estimate 1982
	(in thousands of dollars)	
Effect of reprogrammings	+660	...
Pay raise supplemental	+72	...
Change in amount of carryover funds available	+1,029	+353
Program change	-1,573	+4,682
Change in rate of obligation	-1,308	-925
Total estimated obligations	10,268	14,378
(From new obligation authority)	(8,921)	(12,678)
(From prior year funds)	(1,347)	(1,700)

EXPLANATION OF INCREASES AND DECREASES TO OBLIGATIONS

The congressional changes discussed in the previous section are expected to result in a decrease of $769,000 to obligations. The proposed pay raise supplemental will increase obligations by $72,000. Reprogrammings will increase obligations by $660,000.

The amount of carryover funds estimated to be obligated in 1981 is $1,347,000, an increase of $1,029,000 over the 1980 level. In 1982, it is estimated that $1,700,000 of carryover funds will be obligated. an increase of $353,00 over the 1981 level.

The program change in 1981 was previously estimated to result in a decrease of $1,573,000. In 1982, the program change is expected to increase obligations by $4,682,000.

79-248 O—80——46

INTERDISCIPLINARY

Environmental Impact Statements

Appropriation	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
EIS Review:					
Salaries and Expenses.....	$1,780	$1,834	$2,060	$2,041	-$19
New Source EIS Preparation:					
Salaries and Expenses.....	419	318	315	360	+45
Abatement, Control and Compliance.....	1,883	1,400	1,178	1,256	+78
Total:					
Salaries and Expenses.....	2,199	2,152	2,375	2,401	+26
Abatement, Control and Compliance.....	1,883	1,400	1,178	1,256	+78
Grand Total.....	4,082	3,552	3,553	3,657	+104
Permanent Positions					
EIS Review.....	60	65	63	65	+2
New Source EIS Preparation..	15	12	11	12	+1
Total.....	75	77	74	77	+3
Full-time Equivalency					
EIS Review.....	64	67	68	67	+1
New Source EIS Preparation..	15	12	11	12	+1
Total.....	79	78	77	79	+2

Budget Request

The Agency requests a total of $3,657,400, and 77 permanent workyears for 1982, an increase of $105,300 from 1981. Included in this total is $2,401,100 for Salaries and Expenses and $1,256,300 for Abatement, Control and Compliance, representing increases of $26,600 and $78,700 respectively, from 1981. During 1982, program activities will focus on the review of other Federal agency environmental impact statements (EISs), regulations and other proposed actions, and the preparation of new source EISs and findings of no significant impact.

Program Description

Section 309 of the Clean Air Act requires the Agency to review and comment in writing on the environmental impact of any matter contained in any legislation, proposed regulation, or EIS of other Federal agencies. The review activity of EPA consists of working with the other Federal agencies to help them determine the scope of their environmental assessments, reviewing their draft EISs to help them find alternative solutions on mitigation measures for their proposed projects, determining when the unavoidable impacts on health, welfare, or environmental quality would be unsatisfactory, informing the public of EPA's findings, and negotiating with the other agencies and the Council on Environmental Quality to resolve the major issues and problems.

The National Environmental Policy Act (NEPA) requires that all agencies of the Federal Government prepare detailed EISs on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment. The new source NEPA compliance activity at EPA includes complete environmental

reviews, preparation of either an EIS or finding of no significant impact, evaluation of alternatives to proposed actions, and mitigation measures to prevent adverse environmental impacts.

EIS REVIEW

1980 Accomplishments

Increased efforts were directed toward improving the effectiveness and timeliness of reviews. Major emphasis was placed on EPA assistance to other Federal agencies in order to integrate effective environmental planning with basic programmatic decision-making processes and to prevent costly and avoidable errors in the planning and execution of major projects. Emphasis was also placed on predraft impact statement liaison (scoping) as required by the new Council on Environmental Quality (CEQ) regulations. EPA's regulations for implementation of procedures on the National Environmental Policy Act (NEPA) were revised and work began on revisions to EPA's EIS/309 review manual to conform to the new CEQ regulations. Work also began on revising EIS review guidelines for forest and coastal zone management plans and training EPA's reviewers in using these guidelines. EPA reviewed approximately 1,000 draft and final EISs as well as more than 100 proposed Federal laws, regulations, and other actions.

1981 Program

In 1981, the Agency has allocated a total of $2,059,500 to this program, all of which is for Salaries and Expenses.

No significant change in the EIS review activity from the current year is anticipated. The major emphasis will continue to be on the early identification of significant environmental issues. It is anticipated that approximately the same number of EISs, proposed Federal agency regulations, and other proposed Federal actions will be reviewed in 1981 as in 1980. Revision of EPA's EIS/309 review manual to conform to the new Council on Environmental Quality's (CEQ) regulations will be completed. EIS review guidelines for forest and coastal zone management plans will be finalized and development of a staff education program on these guidelines will be completed.

1981 Explanation of Changes from Budget Estimates

The net increase of $225,200 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $11,900.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $2,700 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $5,100 was applied to this activity.

- An increase of $31,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in transfers of $131,700 from NEPA complinace/EIS preparation new source discharge permit ($1,300); from energy review and permitting ($27,000); from hazardous waste enforcement ($42,400); from EIS review-air ($4,000); from manpower planning and training ($10,500); from hazardous waste management regulatory strategies implementation ($12,500); from underground injection control ($34,600); from uncontrolled

hazardous waste site ($13,800); to EIS reviews-water quality ($2,400); to permit issuance ($3,200); and to regional counsel ($8,800).

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $4,200.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to the activity is $1,200.

- Agencywide increases are required in order fund the PC&B deficits; the increase applied to this activity is $87,000.

1982 Plan

The Agency requests a total of $2,041,400 and 65 permanent workyears for this program, a decrease of $18,100, all of which is for Salaries and Expenses.

The major emphasis will continue to be on providing EPA assistance to other Federal agencies and quality review of their documents. New emphasis will be placed on follow-up to ensure that the agreed upon mitigation measures are being implemented. It is expected that major efforts will be required for consolidating and expediting the process of major energy projects.

Change from January Request

There is no change in resources from the January request.

NEW SOURCE EIS PREPARATION

1980 Accomplishments

Almost $1.9 million of the 1980 resources was used for extramural funding. A total of 11 environmental impact statements (EISs) and environmental studies were initiated on new source industrial projects. A total of 12 draft and final EISs on new source industrial projects were filed. Technical guidelines on leather tanning and finishing, coal gasification, petroleum refineries, non-ferrous smelters, and underground coal mines were finalized. Technical guidelines for five other industrial categories will be drafted. Guidelines for assessing induced growth of new source industries were drafted. A memorandum of understanding between EPA and the Department of Interior, Office of Surface Mining, setting forth criteria for determining lead agency and the need for specific or areawide EISs for NPDES permits relating to surface coal mining was signed.

1981 Program

In 1981, the Agency has allocated a total of $1,492,600 to the program, of which $315,000 is for Salaries and Expenses and $1,177,600 is for extramural purposes under the Abatement, Control and Compliance appropriation.

The issuance of new source performance standards on coal mining will considerably increase new source National Pollutant Discharge Elimination System (NPDES) permit activity. Guidelines for assessing induced growth of new source industries will be finalized. Technical guidelines for five industrial categories will be finalized. Approximately ten EISs and environmental studies are expected to be initiated in 1981.

1981 Explanation of Changes from Budget Estimate

The net decrease of $225,400 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $2,000.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $4,800 was applied to this activity.

- The Congress reduced agencywide consulting services by $3,8 million; a decrease of $10,000 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $45,200 was applied to this activity.

- An increase of $4,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammngs to realign salary and related costs to meet on-board needs resulted in transfers of $7,700 to EIS reviews-water quality ($1,300); water quality permit issuance ($2,500); pesticides use management ($2,100) and regional management ($1,800).

- Transfer of $5,000 from underground injection control program for the printing of EIS statements.

- Transfer of $5,000 to toxic management to support an interagency agreement.

- Transfer of $177,200 to State programs regulations and guidelines by congressional directive to reprogram funds for the Flathead River Basin.

- Transfer of $5,000 from uncontrolled hazardous waste sites to reflect a regional adjustment of contract funds.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reductions applied to this activity is $500.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $12,400.

1982 Plan

The Agency requests a total of $1,616,000 and 12 permanent workyears in 1982, of which $359,700 is for Salaries and Expenses appropriation and $1,256,300 is for the Abatement, Control and Compliance appropriation.

Approximately the same number of EISs and environmental studies are expected to be initiated as in 1981. It is anticipated that efforts will be increased relating to expedited permitting of critical energy facilities.

Change From January Request

This request represents a decrease of $127,400 from the January budget, all of which is for Abatement, Control, and Compliance. This will result in the preparation of one less environmental impact statement.

INTERDISCIPLINARY

Energy Review and Permitting

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
			(dollars in thousands)		
Appropriation					
Energy Review and Permitting:					
Salaries and Expenses	...	$694	$573	$1,814	+$1,241
Abatement, Control and Compliance	...	150	111	3,348	+3,237
Total	...	844	684	5,162	+4,478
Permanent Positions	...	13	10	34	+24
Full-time Equivalency	...	26	22	55	+33

Budget Request

The Agency requests a total of $5,162,100 and 34 permanent workyears for 1982, an increase of $4,478,100 and 24 permanent workyears form 1981. Included in this total is $1,814,100 for Salaries and Expenses and $3,348,000 for Abatement, Control and Compliance, increases of $1,240,700 and $3,237,400, respectively.

Program Description

EPA has developed the energy review and permitting program in response to the increased level of domestic energy development. The Agency's regional offices have already reported an increase in both conventional and alternative energy facilities. Each new conventional facility, such as a coal mine or a power plant, may require EPA issued permits governing air emissions or effluent discharges, with accompanying modelling and monitoring requirements. The Agency may also be required to prepare or review an environmental impact statement for any of these new facilities.

Alternative energy facilities, such as synthetic fuel plants, pose a special permitting problem. Because operating experience is sparse, EPA cannot conclude -- as a matter of engineering or as a matter of law -- that control technologies have been demonstrated for synfuels. Therefore, we cannot develop industry-wide standards at this time. As a result of the impracticality of setting industry-wide standards now, the permitting process will be the regulatory mechanism through which environmental controls are determined for the first generation of plants. Currently, we know of over 150 alternative fuel projects which are under construction, or already operating.

The increased resources in this program element will allow the Agency's regional offices to fulfill their permitting function adequately in the energy area. More specifically, these regional resources fund an increase in permit issuance for Prevention of Significant Deterioration (PSD); National Pollutant Discharge and Elimination System (NPDES); Resource Conservation and Recovery Act (RCRA), and related activities, such as making best available control technology determinations and reviewing monitoring systems.

Some of the resources will be devoted to preparation and review of Environmental Impact Statements (EIS). In areas which the Agency has special expertise, we will

assist other agencies in their preparation of Environmental Impact Statements. The Agency's EIS review workload for energy projects has more than doubled in the last three years. In order to expedite the environmental review process, the Agency intends to participate in the early stages of the preparation of Environmental Impact Statements by other agencies. EPA's cooperative role should aid in early identification and resolution of problems that could otherwise delay permit issuance.

1980 Accomplishments

During 1980 the Agency worked to consolidate the various permitting and environmental review requirements applicable to energy facilities. Special priority was placed on processing energy project permit applications. No resources were specifically identified in this activity.

1981 Program

In 1981, the Agency has allocated a total of $684,000 to this program of which $573,400 is for Salaries and Expenses and $110,600 is for extramural purposes under the Abatement, Control and Compliance appropriation. The 1981 program includes a tracking system to monitor the progress of EPA reviews of priority energy projects. At this time the Agency is monitoring 60 major energy projects. The Agency expects to use the resources in this program for reviewing monitoring systems, making best available technology determinations, assessing the impact of emissions and effluents, or providing technical assistance to State and local governments.

The Agency anticipates that it will have the lead role in preparing and following up on EISs for five major energy projects. The regional offices will provide early assistance to other agencies in the scoping phase of energy EISs to expedite identification and resolution of any environmental problems.

1981 Explanation of Change from Budget Estimate

The net decrease of $160,200 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $4,800.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $12,800 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $3,700 was applied to this activity.

- An increase of $8,400 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in transfers of $67,500 to EIS review-air ($8,700); EIS review-water quality ($18,100); administrative management-regions ($10,500); planning, evaluation and analysis ($29,500); financial management regions ($7,800); and from uncontrolled hazardous waste sites ($14,200); hazardous waste management, regulatory strategies implementation ($3,100); solid waste management program implementation ($1,900); and to ambient air quality monitoring ($12,100).

- A transfer of $6,000 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- Transfer of $16,500 to state programs regulations and guidelines to fund the interagency agreement for a Soil Conservation expert.

- Transfer of $12,300 to uncontrolled hazardous waste sites for an analytical contract to expand regional capability to analyze high priority, quick turn-around samples.

- Transfer of $11,100 from ambient air quality monitoring ($8,200) and manpower planning and training ($2,900) to support an interagency agreement for NOAA meteorologist.

- A transfer of $23,300 was made to the Office of Inspector General in order to provide additional resources to that Office.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $4,500.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $11,600.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $21,700.

- Agencywide increased are required in order to fund the PC&B deficits; the increase applied to this activity is $5,000.

1982 Plan

The Agency requests a total of $5,162,100 and 34 permanent workyears for this program, of which $1,814,100 is for the Salaries and Expenses appropriation and $3,348,000 is for Abatement, Control and Compliance. In 1982, the Agency expects to permit and review an increased number of energy projects. We expect that there will be a number of complex energy projects. The Agency anticipates having the lead role in the preparation of EISs for five critical energy facilities, and a cooperating role in the preparation of 35 other EISs. In areas where the agency has special expertise (e.g. air and water quality monitoring), we will assist other agencies in the preparation of Environmental Impact Statements for energy projects. The cooperative role taken by EPA to expedite the environmental review process is expected to account for a majority of the resources requested in this program. Additionally, the regional offices will provide assistance in the scoping phase of any energy EIS to expedite issue identification and resolution.

The Agency will continue to use the resources in this program element to accelerate issuance of Prevention of Significant Deterioration (PSD); National Pollutant Elimination and Discharge System (NPDES); Resource Conservation and Recovery Act (RCRA), and Underground Injection Control (UIC) permits for new energy facilities. The resources in this program element may be used for reviewing monitoring systems, making best available technology determinations, assessing the impact of emissions and effluents, or providing technical assistance to State and local governments.

Change From January Request

This request represents an increase of $10,500 from the January budget, all of which is for Salaries and Expenses. This increase will help defray the cost of required printing of notices of intent and notices of filing environmental impact statements in the Federal Register.

INTERDISCIPLINARY

Intermedia - Non-Energy

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Exploratory Research Core Program:					
Salaries and Expenses.....	$3,412	$2,440	$2,051	$2,070	$ +19
Research and Development.....	3,974	3,648	3,376	3,793	+417
Minority Institution Research Support:					
Salaries and Expenses.....	...	1	816	20	-796
Research and Development.....	...	...	...	454	+454
National Environmental Workforce:					
Salaries and Expenses.....	252	212	141	148	+7
Research and Development.....	40	...	...	...	...
Total:					
Salaries and Expenses.....	3,664	2,653	3,009	2,238	-770
Research and Development.....	4,014	3,648	3,376	4,247	+871
Grand Total.....	7,678	6,301	6,385	6,484	+99
Permanent Positions					
Exploratory Research Core Program.....	31	24	29	19	-10
Minority Institution Research Support.....	...	...	3	...	-3
National Environmental Workforce.	8	6	4	4	...
Total.....	39	30	36	23	-13
Full-time Equivalency					
Exploratory Research Core Program.....	47	35	39	29	-10
Minority Institution Research Support.....	...	...	3	...	-3
National Environmental Workforce.....	9	7	4	5	+1
Total:	56	42	46	34	-12

*January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Budget Request

The Agency requests a total of $6,484,300 for 1982, an increase of $98,900 from 1981. Included in this total is $2,237,400 for Salaries and Expenses and $4,246,900 for Research and Development, with a decrease of $771,800 and an increase of $870,700, respectively.

Program Description

This program's components, or sub-programs, serve the common needs of the Agency's research programs and do not clearly align to one particular research committee.

The Exploratory Research Program serves to integrate on an intermedia basis the longer term research needs of the Agency as expressed by each research planning committee. The objectives of the program are to: (1) identify, define and assess long-term environmental trends, problems and opportunities; (2) support mission-oriented basic research to stimulate innovative and long-range ideas and to infuse such concepts into Agency planning; and (3) insure the scientific merit of such research through rigorous peer review. The primary goal of this program is to promote efforts to minimize future environmental problems in a manner compatible with other national long-term economic and social goals. The origins of this program can be traced to recommendations based on reviews of the Agency's R&D program and planning process by the National Academy of Sciences and by the Office of Technology Assessment. Moreover, the program was established in response to Congressional direction under Section 6(a) of Public Law 95-155, which requires that 15 percent of resources for research be devoted to longer-term, anticipatory research. The program's long-term, strategic perspective has been highly integrated into the Agency's R&D planning and policy-making process. Programs to achieve these objectives include the Strategic Assessment and Special Studies Program, the Research Grants and Centers Program, which includes the National Environmental Workforce and the Minority Insitutions Research Support sub-programs.

Strategic Assessment and Special Studies Program aims to provide long-range strategic guidance to the Agency's R&D planning process. The program produces an annual Environmental Outlook report, analyzing long-range trends and in-depth assessments of significant emerging environmental problems. Objectives are achieved by developing and maintaining forecasting techniques and supporting a variety of environmental problem identification assessments. The Agency's major effort to develop and improve economic benefit estimates of environmental control is also maintained here. The 1982 Strategic Assessment subprogram includes: updated analyses of long-term trends and in-depth analysis of several significant emerging enviromental problems as reported in the Environmental Outlook; expanded analysis of long-range problems for use by the intra-Agency Research Committees; continuation of the mini-assessment program; reports produced by the regional assessment projects; and reports on efforts to develop a system of environmental indicators.

Exploratory Research Grants and Centers Program administers ORD's new competitive Research Grants Program and the extramural Exploratory Research Centers. The grants program utilizes a rigorous peer review system and is coordinated closely with other ORD planning activities. The Centers program builds upon expertise at major universities to create comprehensive programs to address critical Agency long-term scientific needs, and is responsible for transferring the results of these effects to appropriate offices within the Agency. The Exploratory Core Research Program manages and Coordinates, but does not directly fund the Centers. The 1982 subprogram calls for continued emphasis on improving the quality of proposals, coordination of the process within the Agency, and the dissemination of research results. Eight Exploratory Research Centers will be in full operation with emphasis on examining new trends. Dissemination of results for both the Competitive Grants Program and the Exploratory Research Centers will emphasize seminars and workshops. The National Environmental Workforce operates to ensure the availability of a trained workforce for federal, state, and local environmental agencies. In 1982, the Agency will expand the Senior Environmental Employment Corps program and will award apprenticeships at EPA laboratories to 200 minority high school students. Grants will be awarded to develop a trained workforce which can support EPA program offices. The program will continue managing and implementing environmental workforce programs using extramural resources from Agency Offices and from other federal agencies. The Minority Institutions Research Support helps minority colleges and universities become more competitive in securing federal research funds, encourages minority students to choose environmental

science careers, and promotes faculty exchanges between minority institutions and EPA laboratories. In 1982, this effort will be fully integrated into Exploratory Research Grants Program so as to encourage participation in ORD's entire research granting mechanism.

EXPLORATORY RESEARCH

1980 Accomplishments

In 1980, the Agency used a total of $7,386,000 for this sub-program, of which $3,411,800 was for Salaries and Expenses and $3,973,700 was for extramural research activities.

Strategic Assessment and Special Studies

- Produced the Environmental Outlook 1980, a comprehensive report which forecasts future trends for a number of pollutants and asseses the environmental implications of these trends.

- Initiated a project to provide long-term economic, technical, and environmental assessments of critical industries, concentrating on such variables as economic growth, capital flow, feedstock and technological change and emerging environmental problems and opportunities. This activity is designed to provide an integrated environmental outlook of selected industries upon which to base ORD's long-term research agenda.

- Prepared detailed analyses of long-range environmental trends and problems for use by the Agency's Research committees in producing the congressional-mandated Research Outlook 1981 report.

- Initiated nine small-scale problem assessment studies. These studies are intended to identify and define future environmental concerns or correct data deficiencies in potential problem areas. These studies will provide the information required to make a decision about the need for further study and the appropriate scale of any future research efforts.

- Continued to develop and test improved methods for determining the benefits of national and regional programs to control pollution. Major studies included a comprehensive assessment of procedures for measuring the benefits of improving water quality and a new and improved set of estimates of the national benefits of the Federal Water Pollution Abatement Program.

- Initiated an integrated regional assessment for Federal Regions IV and VI. The project will provide EPA with the information, data and analyses needed to identify future problems and impacts to public health, ecosystems, and the socio-economic well-being of these Regions.

- Completed analysis of monitoring data collected over a three year period by the Mussel Watch program. Data indicate that mussels are suitable biological indicators for determining long-term trends in the environmental health of coastal waters.

Exploratory Grants and Centers

- Established a new Competitive Research Grants Program and operated it for eight months. The program's goals are: to improve the quality of scientific information on which Agency regulatory decisions are made; to broaden the range of researchers who work on Agency projects, attracting new investigators and established scientists with ideas which deserve support; to focus a portion of the scientific community on long-range research designed to predict and interdict future environmental problems; and to investigate long-range solutions to current environmental problems.

- In 1980, the Exploratory Grants and Centers Program coordinated the solicitation, selection process and establishment of four new Exploratory Research Centers in the following areas:

  - Utimate Waste Elimination at the Illinois Institute of Technology--will explore innovative approaches to reduce, eliminate or reuse hazardous by-products while maintaining or enhancing the productivity of manufacturing processes.

  - Intermedia Transport Research at the University of California, Los Angeles--will direct its attention toward defining the chemical/physical processes which govern the exchange of pollutants at the air-land and air-water interface.

  - Ecosystem Research at Cornell University--will aim to develop and apply system-level ecological concepts appropriate for environmental protection decisions.

  - Marine Research at the University of Rhode Island--will address effective measurement and assessment of the health of marine ecosystems and the impacts of toxic substances.

- During the past year, the Program has provided oversight to the development of research plans for the three Centers initiated in 1979. The Centers are:

  - Advanced Control Technology Research Center at the University of Illinois, Urbana.

  - Groundwater Research Center at the consortium of the University of Oklahoma, Oklahoma State University and Rice University.

  - Epidemiology Research Center at the University of Pittsburgh.

1981 Program

In 1981, the Agency has allocated a total of $5,427,600 and 30 permanent work-years to this sub-program, of which $2,051,400 is for the Salaries and Expenses Appropriation and $3,376,200 is for extramural purposes under the Research and Development Appropriation.

Strategic Assessment and Special Studies

- Produce the Environmental Outlook 1981 report. Unlike the comprehensive overview presented in Environmental Outlook 1980, the 1981 report will focus on three major areas: Future Trends in Agriculture and Potential Environmental Consequences;

  Potential Feedstock Changes in the Organic Chemical Industry and the Implications for Hazardous Waste Steams; Deposition of Heavy Metals--an Environmental Assessment.

- Following competitive solicitation and review, up to ten small scale problem assessment proposals will be selected for funding. Candidate topics include ocean disposal of geothermal brines and ecological allergies.

- Complete major reports on the economic benefits of air and water pollution control. The air pollution reports will include the economic benefits delivered from air pollution control in San Francisco and protection of visibility in Western National Parks. A benefit-cost analysis of air pollution control in Los Angeles will also be reported. The water study report will emphasize the benefits derived from improved recreation and option value.

- A major report will be completed on the advantages and disadvantages of using economic incentives for pollution control with case studies of their possible

applications to controlling airport noise, implementing prevention of significant deterioration, and controlling atmospheric benezene emissions.

- The first phase of the program's Integrated Industrial Assessment effort will be completed which will provide a systematic procedure for selecting industries for detailed study. Two assessments will be initiated during 1981 to guide ORD's exploratory research efforts towards minimizing the future environmental problems associated with these industries and to identify opportunities for maintaining environmental quality while enhancing industrial productivity and growth.

- A final report will be produced describing the results of the first phase of the Integrated Environmental Assessment of Region IV and VI. A second phase will be initiated for an analysis of the future environmental status of the entire study area, each region specifically, and specific local issues.

- Focus the Mussel Watch program on those "hot spot" areas identified by the monitoring efforts. The intent is to determine the degree to which Mussel Watch data accurately reflect long-term trends in the environmental health of coastal waters.

Exploratory Grants and Centers

- Process 1,200 proposals for review, critique, and ranking for scientific merit by the peer review panels. Information on research results from grants-in-place will be provided regularly to interested Agency personnel.

- Establish an Exploratory Research Center for specialized research in the area of treatment and disposal of hazardous wastes. This Center will study the design, construction, maintenance, operation and closure of hazardous waste landfills and facilities. Research will also be included on remedial activities related to the problems unique to spills and other emergency situations.

- Establish and coordinate operating policies and research agendas for the following Centers: Ultimate Waste Elimination, Intermedia Transport, Ecosystem Research and Marine Sciences Research.

- Evaluate the effectiveness of the existing Centers in providing the needed fullness of coverage, both in scope and depth. Recommendations for improvement will be prepared.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission. The details of the restructing of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $659,600 results from several actions, as follow:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $11,600.

- The Congress reduced the anticipatory research program by $2.5 million; a decrease of $649,800 was applied to this activity.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,100 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $25,900 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $2,800 was applied to this activity.

- An increase of $23,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in transfers of $190,500 from other activities.

- Transfer of funds in order to realign support to all programs supported by what was formerly anticipatory research funds: $528,400 within the S&E appropriation, to toxic chemicals testing and assessment ($394,400) and to solid waste/non-energy ($134,000); $378,400 within the R&D appropriation, from toxic chemicals testing and assessment.

- Transfer of $62,300 from interdisciplinary-National Environmental Workforce, resulting from a reassessment of the workload of these programs.

- A transfer of $4,800 was made to the radiation media in order to support the Radiation Policy Council.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction," required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $1,000.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services," required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $2,600 which is being redirected to fund PC&B deficits.

- OMB Bulleting #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment," required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $100.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $91,300.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $20,900.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $26,000.

1982 Plan

The Agency requests a total of $5,862,800 and 19 permanent workyears for this sub-program, of which $2,069,800 is for the Salaries and Expenses Appropriation and $3,793,000 is for extramural purposes under the Research and Development Appropriation. Extramural funding for the centers is provided in other media. The Exploratory Core Research Program manages and coordinates the Office of Research and Development Grants and Centers program.

This reflects an increase of $428,900 for performing small-scale assessments of emerging environmental problems, and for conducting analyses to improve estimates of the economic benefits associated with pollution control options, and for continuing research on environmental indicators through extramural funding.

Strategic Assessment and Special Studies

- Produce the Environmental Outlook 1982 report. This report will be patterned after the 1981 report and will analyze several specific long-term environmental trends, problems, and opportunities.

- Produce detailed analyses of long-range environmental trends and R&D needs for use by the Agency's Research Committees.

- Select for funding ten to twelve small-scale assessments following competitive solicitation and review. Topics will be in areas identified by other forecasting/analysis efforts of the program and in conjunction with ORD's overall R&D planning process.

- Complete research studies on the economic benefits from control of major environmental disasters, and from improved visibility in the eastern United States and investigate two promising but not previously analyzed microepidemiological data sets to determine the health benefits of air pollution controls.

- Complete Phase I of the Integrated Assessment of Regions IV and VI which will include detailed analyses of the current and future environmental status of the area. Phase II will be initiated in FY 1982 to identify and analyze alternative public policies and strategies for environmental protection.

- Expand the Integrated Industrial Assessments Program to include an additional 2-3 industries in FY 1982. As assessments are developed for several industries, the Program will analyze inter-industry factors/trends. The goal is to identify long-term research priorities based on an improved understanding of potential economic/environmental trends that cut across segments of the Nation's industries.

- Undertake a regional monitoring effort to field test the physiological measures within mussels that have been studied as potentially useful indicators of toxic stress.

Exploratory Grants and Centers

- Continue oversight and management of Extramural Research Grants Program with emphasis on (1) continued improvements in quality of research; (2) coordination with the Agency research planning process; (3) broad dissemination of results of completed grants; and (4) coordination with other Federal agencies:

- Provide overview and management of the eight operating Centers emphasizing attention to new trends, discoveries or leads coming from ongoing studies. A search will be made for targets of opportunity to apply these findings on a pilot or full scale.

- Provide summary report of the results obtained by each of the Centers will be prepared for review to determine the effectiveness of existing Centers in covering of necessary areas in responding to new needs.

- Complete the integration of the Environmental Workforce and Minority Institute Research efforts into the program so as to assure coordination and to encourage participation in the grant funding process.

Change From January Request

This request represents a decrease of $151,500 and permanent workyears from the January budget for Salaries and Expenses. This decrease will result in a reduction of studies to identify and test indicators of long-term trends in environmental quality.

NATIONAL ENVIRONMENTAL WORK FORCE

In 1980, the Agency used a total of $292,300 for this sub-program, of which $252,300 was for Salaries and Expenses and $40,000 was for extramural research activities.

1980 Accomplishments

- The National Environmental Workforce Development effort assisted State and local environmental agencies in meeting their employment and training needs. Serving as the coordinator of the Agency's Academic Training program, this program provided policy guidance to program offices offering direct technical training to employees of States, municipalities and industry.

- The Minority Apprenticeship Program provided summer employment opportunities to high achieving minority high school students. The program employed 100 students in EPA research laboratories throughout the country.

- The Senior Environmental Employment (SEE) Program provided State and local environmental agencies with experienced and enthusiatic older workers at little or no cost to the agencies.

1981 Program

In 1981, the Agency has allocated a total of $141,400 and 4 permanent workyears to this sub-program, all of which is for the Salaries and Expenses Appropriation.

- The Senior Environmental Employment (SEE) activity will expand to include 25 state programs.

- The Minority Research Apprenticeship program will provide summer employment opportunities to high achieving minority high school students.

- In cooperation with the Department of Labor, EPA will produce and distribute the Environmental Protection Careers Guidebook to academic institutions and to potential employers.

1981 Explanation of Change from Budget Estimate

The net decrease of $70,900 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA°s request for Salaries and Expenses. The reduction applied to this activity is $1,300.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $3,500 was applied to this activity.

- An increase of $2,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $900 to other activities.

- Transfer of $62,300 to interdisciplinary-exploratory research, resulting from an assessment of the workload of the programs.

- OMB Bulleting #81-7, January 24, 1981 "Fiscal Year 1981 Travel Reduction," required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $1,700.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $3,400.

1982 Plan

The Agency requests a total of $147,800 and 4 permanent workyears for this sub-program, all of which is for the Salaries and Expenses Appropriation. This reflects an increase of $6,400 to fund additional other-than-permanent workyears.

- Continue to assist State and local environmental agencies in meeting their employment and training needs.

- Maintain the Senior Environmental Employment Corps in 25 states.

- Award apprenticeships at EPA laboratories to minority high school students.

- Complete the integration of this effort as a sub-program into the Research Grants and Centers Program so as to assure coordination and visibility to joint efforts.

Change From January Request

This request represents a decrease of $69,200 and 2 permanent workyears from the January budget, of which $69,200 is for Salaries and Expenses. This decrease will result in the incorporation of the workforce function into the research grants and centers program.

MINORITY INSTITUTION RESEARCH SUPPORT

1980 Accomplishments

In 1980, the Agency used a total of $642,600 for this sub-program of which was for Salaries and Expenses and $578,300 was for extramural research activities.

- Through the program's Minority Institution Research Support (MIRS) efforts, eight institutions received research support totaling $642,600 in 1980. A mechanism to facilitate the participation of minority institutions in the Competitive Research Grants Program was also initiated. In 1980, three minority institutions received Competitive Research Grant funds as a result of this effort.

1981 Program

In 1981, the Agency has allocated a total of $816,400 and 3 permanent workyears to this sub-program, all of which is for the Salaries and Expenses Appropriation.

- Emphasis will be concentrated on improving the quality of research grant applications so that fuller participation in the competitive grants program will be gradually approached. Some Minority Institutions can now compete on an approximately equal basis with other universities and colleges, but a similar improvement will be sought from others.

1981 Explanation of Changes from Budget Estimate

The net increase of $815,700 results from several actions,as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $700.

79-248 O—80——47

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,500 was applied to this activity.

- An increase of $1,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $1,700 from other activities.

- Transfer of the Minority Institution Research Support program from program management into this interdisciplinary activity resulted in an increase of $818,000.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction," required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $2,700.

- OMB Bullentin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services," required a total reduction of $1,794,200 to consulting serices; the reduction applied to this activity is $400 which is being redirected to fund PC&B deficits.

1982 Plan

The Agency requests a total of $473,700 for this sub-program of which $19,800 is for the Salaries and Expenses Appropriation and $453,900 is for extramural purposes under the Research and Development Appropriation.

The decrease of $342,700 from FY 81 reflects the integration of this effort as a sub-program into the Research Grants and Centers Program in which minority institutions will be encouraged to participate in the complete grant funding mechanism.

- The program will integrate the MIRS effort fully into the competitive grants program while still continuing efforts commensurate with Congressional and administrative commitments for special assistance to qualifying institutions.

- Major emphasis will be directed toward improving the quality of proposals coming from these institution.

- Symposia/Workshops will be organized to provide interested scientists, agencies and the general public information resulting from completed grants.

- A summary report on the effectiveness of the MIRS program will be produced including a description supported by the program.

Change From January Request

This request represents a decrease of $369,700 and 3 permanent workyears from the January budget, of which $102,800 is for Salaries and Expenses and $266,900 is for Research and Development. This decrease will result in the incorporation of the MIRS function into the overall research grants and centers program.

TOXIC SUBSTANCES

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
			(dollars in thousands)			
Appropriation						
Salaries and Expenses	$29,452	$34,603	$33,705	$37,127	+$3,422	
Research and Development	22,040	28,674	24,186	23,677	-509	
Abatement, Control and Compliance	38,745	46,215	46,101	37,349	-8,752	
Total	90,237	109,492	103,992	98,153	-5,839	
Permanent Workyears	592	775	727	738	+11	
Full-time Equivalency	741	894	880	844	-36	
Outlays	59,163	90,200	60,991	63,500	+2,509	
Authorization Levels	30,977	36,895	36,895	*		
PROGRAM HIGHLIGHTS						
Chemical Testing and Assessment:						
Salaries and Expenses	8,866	11,711	11,331	14,330	+2,999	TS-30
Research and Development	22,040	28,674	24,186	23,677	-509	
Total, Research and Development Program	30,906	40,385	35,517	38,007	+2,490	
Toxic Substances Strategies						
Salaries and Expenses	18,231	20,181	19,521	19,242	-279	TS-11
Abatement, Control and Compliance	37,666	43,735	43,532	35,815	-7,717	
Total, Abatement and Control Program	55,897	63,916	63,053	55,057	-7,996	
Toxic Substances Enforcement:						
Salaries and Expenses	2,355	2,711	2,853	3,555	+702	TS-25
Abatement, Control and Compliance	1,079	2,480	2,569	1,534	-1,035	
Total, Enforcement Program	3,434	5,191	5,422	5,089	-333	
Permanent Positions						
Chemical Testing and Assessment	118	187	179	174	-5	TS-30
Toxic Substances Strategies	410	502	475	465	-10	TS-11
Toxic Substances Enforcement	64	86	73	99	+26	TS-25

* Authorization pending.

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
			(dollars in thousands)			
Full-time Equivalency						
Chemical Testing and Assessement	154	225	233	214	-19	TS-31
Toxic Substances Strategies	506	574	561	524	-37	TS-11
Toxic Substances Enforcement Program	81	95	86	106	+20	TS-25

* January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

OVERVIEW AND STRATEGY

The Toxic Substances Control Act (TSCA) established a program to stimulate the development of adequate data on the effects of chemical substances on health and the environment, and action for those chemicals which present an unreasonable risk of injury to health or the environment are regulated to reduce that risk. The Act's coverage is broad, affecting more than 55,000 chemicals currently in commerce. Up to 1,000 additional new chemicals are introduced each year. About 115,000 manufacturers and processors are subject to the Act.

The law contains several major authorities. First EPA may require manufacturers to conduct, at their own expense, health and environmental effects testing on designated existing chemicals. Second, the Agency may require the private sector to provide a broad range of basic information on chemicals; this includes information the government might not otherwise receive, such as reports of substantial risks, chemical or employee and consumer allegations that a substance may cause significant adverse reactions. Finally, TSCA gives EPA the power to control the production, distribution, use, and disposal of chemicals--new and existing--found to cause unreasonable risks.

The premanufacture notification provisions of TSCA, which cover new chemicals, have been in effect since July of 1979. These provisions require manufacturers and importers to notify EPA 90 days before new chemical substances enter commerce. If the Agency fails to take any action before the 90-day period expires, the substance may enter commerce unconditionally. Under the law, submitters are expected to provide enough information with their notices to enable EPA to make a "reasoned evaluation of the health and environmental effects" of the substance. In the absence of such information, under Section 5(e) of TSCA, EPA may propose to prohibit or limit the manufacturing, processing, distribution, use, or disposal of the substance, if the Agency determines that any or all of these activities may present an unreasonable risk or if there may be substantial release of, or exposure to, the substance. If the Agency maintains a creditable audit of PMN's it should minimize the need for 5(e) actions.

EPA has the authority to obtain needed data and information on the potential use, exposure, and effects of important existing chemicals. Such information whether obtained in the library, through voluntary submissions, under reporting rules, or as the result of tests will be used by EPA to identify important health and environmental problems that need to be addressed. The Office of Toxic Substances will determine through its assessments what it feels the extent and type of corrective measures that seem to most reasonable to address the problem. Regulations under TSCA or other appropriate statutes may be required if such appropriate measures are not taken.

There was a limited organizational and conceptual base upon which to build the toxic substances program when the law was first enacted, now more than three years ago. The first years of implementation required the development of the foundations for pro-

gram operation. An integral part of that foundation is the newly approved TSCA organizational structure. This new structure is designed to emphasized two major but distinct program responsibilities: (1) implementation of the Toxic Substances Control Act (TSCA), and (2) integration of Agency-wide toxics control TSCA implementation activities; the consolidation of TSCA implementation responsibilities into one office provides functionally for a more streamlined organization, eliminating many of the organizational and administrative problems uncovered in the first years of TSCA implementation. EPA is required to implement a number of statutes dealing with chemicals and in recognition of the need for a consistent Agency-wide approach to doing so.

Although difficult to measure, it is clear that TSCA and our program have already had a dramatic impact on industry and its approach to production, processing, and use of chemicals. It is apparent that the requirement to report for the Chemical Inventory, identify and report substantial risks, and prepare premanufacture notifications has caused many changes in corporate structure and policy in companies both large and small. Along with these changes have come new approaches toward the handling of information and data on chemicals that can be brought to bear on corporate decision-making. Another measure of the impact of TSCA has been the dramatic increase in chemical industry toxicological testing facilities and personnel made in anticipation of the testing demands of TSCA.

On the other hand, we've only partially achieved our goals, and some of our progress has been due to industry's anticipation of future TSCA requirements. To be successful in making further progress we will need to put the other key TSCA mechanisms into place and to exhibit the proper degree of vigor and persistence in their application over time.

The 1981 toxic substances program strategy is to develop approaches which provide strong continuing incentives to the private sector to achieve the TSCA goals of protecting public health and the environment. The incentives should be designed to (1) stimulate industry to develop safer chemicals (without unduly affecting innovation), (2) to provide adquate information about the hazards associated with those substances, and (3) to take actions to protect against unnecessary risks.

More specifically, the focus of the 1981 toxic substances program will be to continue to place high priority on key elements of our new chemical program, including the premanufacture review process, testing guidelines, significant new use rules (applied in conjunction with risk listing, as appropriate), Section 5(h) exemptions. The final Section 5 rule will be promulgated to provide both industry and EPA with a clearer framework in which to operate. We will also emphasize action which will establish an adequate information and assessment base which will help determine what reasons of control are needed now and in the future. This will include assessments to determine the need for industry to obtain testing data and the development of reporting and recordkeeping rules. We expect to review over 500 new chemicals, require data submitted under Section 8 on numerous priority chemicals, initiate as necessary, action that will lead to the testing of more than a dozen chemicals for various health and ecological effects, determine the need and act to control nonaerosal of chlororfluorocarbons in the United States, and move toward control of a few other high risk chemicals.

During 1981, the Office of Toxics Integration will work with the Office of Planning and Evaluation and other Agency programs to develop a toxics integration strategy. This strategy will promote coordination of all future Agency actions on toxic substances. Major goals of the strategy include (1) establishing the use of unified multi-media chemical risk assessments to serve several Agency programs at the same time, (2) developing an Agency list of the most significant toxic chemicals and setting priorities for controlling principal exposure routes of concern to the Agency, (3) developing a process for identifying the principal exposure routes of a chemical the Agency has targeted for control, and closing out EPA efforts or lowering the priority of remaining less significant exposure routes, and (4) developing decision criteria for the future selection of toxic chemicals of concern. In addition to the development of the

strategy, the integration program will promote integration of toxics activities through special projects and active roles in various intraand inter-agency work groups, including the Interagency Regulatory Liaison Group (IRLG), Toxic Substances Priority Committee (TSPC), and the Organization for Economic Cooperation and Development (OECD). Through preparation of analytical tools and publications for the Agency, the toxics integration program will assist the Agency in better use of its existing resources and data bases to integrate and coordinate toxics control activities. Finally, the program will encourage State and local control of toxics problems by making chemical information (i.e., health effects, exposure routes, etc.) widely available.

The focus of the 1982 toxic substances program will be to put the remaining key TSCA mechanisms into place. Our new chemical program will continue as our highest priority, including PMN reviews with action taken under Sections 5(e) and 5(f), if needed. Significant new use rules will be develop to provide for reporting of new high exposure use of toxic chemicals that were reviewed a PMN's but considered reasonable risks because of their low exposure. We expect to review over 500 new chemicals, require data submissions under Section 8, formulate testing of numerous chemicals for various health and ecological effects, and move forward to recommend control of other high risk chemicals under Section 6. We will provide required assessment, monitoring, economic analysis and other support as needed. In cooperation with the newly established Office of Toxic Integration, OTS will continue to expand the effort to integrate toxics-related activities across different EPA programs and the IRLG agencies. The goals of these efforts are to ensure that we are: (a) dealing with the most serious problems; (b) avoiding unnecessary duplication of effort; and (c) achieving the most protection of public health and the environment possible with the available resources.

During 1982, the toxic integration program will emphasize implementation of the toxics integration strategy developed in the previous year. With both short and long-term strategy objectives well defined, primary emphasis will be placed on seeing that all programs carry out strategy objectives. In addition to ensuring that the strategy is implemented, the toxics integration program will continue work in five major areas: (1) Agency-wide integration of action on toxic substances, including chairing and staffing the TSPC; (2) agency representation to international organizations dealing with chemical control; (3) administration of the interagency Chemical Substances Information Network (CSIN); (4) Agency representation on the IRLG; and (5) liaison between TSPC program and State staffs.

The toxic substances enforcement program, operating in partnership with the Agency's toxic substances regulatory program, seeks to protection public health and the environment from unreasonable risks posed by chemical substances through the enforcement of TSCA and its established regulations. The enforcement program concentrates its efforts on the enforcement of those regulatory provisions which (1) prevent or abate public health and environmental threats from chemical contamination, particularly in emergency situations; (2) assure that data used to make regulatory judgments are accurate, comprehensive, and timely; and (3) monitor compliance with existing standards to determine that regulated chemicals are manufactured, handled, and used in accordance with the law.

The enforcement program, moreover, establishes distinct but complementary roles for both the headquarters and regional components of the program. The headquarters function includes the responsibilities to coordinate enforcement response to emergency situations; provide enforcement representation in and support to the TSCA regulatory development process; design, implement, and oversee inspection, compliance monitoring and enforcement policies, strategies and procedures; develop, implement and exercise enforcement remedies upon the detection of violations; assist and support regional personnel in case development and prosecution, conducting inspections and compliance monitoring. The regional function is to: carry out enforcement response in emergency situations; conduct inspection and compliance monitoring activities in support of all established rules regulations; impose appropriate enforcement remedies in all instances of violation through the initiation and prosecution of enforcement actions. As the list of enforceable rules and regulations expands, the role of the regional office will grow in size and importance.

In 1982, the number of enforceable rules and regulations will continue to increase over previous years. Thus, the level of enforcement activity will also increase. The enforcement response to emergency situations will continue to be of primary importance. Additional chemical control regulations for asbestos in schools and CFC nonaerosol uses will join those already in existence to represent the largest single portion of the overall routine regional enforcement workload. The enforcement of premanufacturing requirements and information gathering and reporting rules will remain a part of the overall workload. New rules and regulations will be developed, proposed, and promulgated throughout 1982, and corresponding enforcement policies and strategies will be designed and implemented, all of which demand further enforcement participation and support. Finally, the establishment of grants-in-aid to State agencies to develop and support State-operated toxic substances enforcement programs, begun in 1981, will receive continued support and development.

The 1981 research and development program will focus on developing improved rapid, reliable, and cost-effective techniques to be used for predicting transport, transformation, exposure concentration and adverse deleterious effects on human health and the environment resulting from exposure to toxic substances. Research will be done on predicting, measuring, and determining the significance of exposure to commercial chemicals, with the ultimate goal of preventing or reducing adverse human health effects.

Research will also be conducted to develop measurement methods for identification and quantification of trace level toxic substances in the environment. In addition, program emphasis will be on methods for measuring toxic chemicals in sediments, marine plants and in the air. These methods are needed in measuring exposure concentration, monitoring chemicals, designing control techniques and in enforcing regulations. In fiscal year 1981 and beyond, the program will provide field assistance to obtain data to validate testing protocols that have been issued and to assist in enforcement actions.

The 1982 R&D program has been planned in concert with the Agency's regulatory and operational strategies. The program's central theme is chemical testing and assessment, with each of the program's components (e.g., health effects or research on engineering and technology) providing a unique contribution to the total research effort. More specifically, the program is planned to help support the Office of Toxic Substances multistage risk assessment process, one which is designed to systematically select chemicals for increasingly detailed levels of analysis. Using such an approach, judgments can be made about the adequacy of available information and the need for control action. To this end, the R&D program will maintain its focus on developing and refining testing and assessment methodologies for both exposure and effects data. Implicit in the program's design is the use, where possible, of data from other research efforts, with a view toward building on them and adapting them specifically to a regulatory perspective.

The outputs of the overall research effort will address problems posed by both existing and new chemicals. These outputs are planned to support the development of testing requirements and hazard assessment. The outputs have been prioritized in the Research Committee in parallel with those of the Agency's regulatory and operational components. The program will include emphasis on the premarket notification process noted in the previous section and on quality assurance in concert with the overall emphasis on operationally implementing TSCA.

SUMMARY OF INCREASES AND DECREASES	(in thousands of dollars)
1981 Toxic Substances Program.....	$103,992
Salaries and Expenses.....	+3,424

SUMMARY OF INCREASES AND DECREASES (in thousands of dollars)

The net increase results from increases in toxic chemicals testing (+3.0 million); toxic substances enforcement (+$.7 million); and a decrease in toxic substances strategy (-$.3 million)	
Research and Development.....	-512
The decrease results from decreases in toxic chemicals testing, particularly environmental processes and effects.	
Abatement, Control and Compliance.....	-8,751
The decrease primarily reflects a reduction in the area of, test standards, public participation grants, and some additional enforcement activities.	
1982 Toxic Substances Program	98,153

SUMMARY OF BUDGET ESTIMATES

1. Summary of Budget Request

A total of $98,152,800 is requested in 1982. This request by appropriation account, is as follows:

Salaries and Expenses	$37,127,000
Research and Development	23,676,600
Abatement, Control and Compliance.....	37,349,200

This represents decrease of $5,839,600 over the 1981 level. The decrease primarily reflects reductions in intervenor and public participation grants, record keeping rules and scientific data base development.

2. Changes from Original 1981 Budget Estimate

Changes from the budget are as follows:

Original 1981 estimate	$109,492
Congressional decrease:	
Travel.....	-46
Consulting Services	-271
SES Bonuses	-17
ADP	-858
Abatement, Control and Compliance.....	-490
Research and Development.....	-3,003
Anticipatory Research.....	-850
Reprogramming to radiation media for Radiation Policy Council	-129
Reprogramming to support Administrative Law Judges.....	-13
Transfer to support Office of the Inspector General.....	-19

	(in thousands of dollars)
Transfer from pesticides media to repay "borrowed" 1980 funds for Silvex	+2,000
Reprogramming for authorized workyears	-477
Reprogramming to support Three Mile Island	-200
Proposed pay raise supplemental	+408
Miscellaneous reprogrammings	-93
March changes to budget:	
Travel	-87
Consulting Services	-168
Moratorium on Procurement of Equipment	-79
Equipment costs	-832
Other contractual services	-80
One percent transfer	-1,526
Increases to fund PC&B	+1,323
Miscellaneous reprogrammings	+7
Current 1981 estimate	103,992

Congressional changes to the toxic substances media include a reduction of $17,000 for SES Bonuses, $858,000 for ADP, $46,000 for travel, $271,000 for consulting services, $850,000 specificed for anticipatory research and a general reduction of $490,000 from Abatement, Control and Compliance and $3,003,000 from Research and Development.

A transfer of $129,000 was made to the radiation media for support of the Radiation Policy Council. A transfer of $13,000 was made to management and support for the Office of Administrative Law Judges. A transfer of $19,000 was made to management and support for the Office of the Inspector General. A transfer of $2,000,000 was made from pesticides to "repay" funds which were borrowed in 1980 for Silvex disposal.

An overall reprogramming throughout the Agency to provide sufficient salary funds to cover authorized workyears resulted in a decrease of $477,000 to this media. The proposed supplemental for partial funding of the October 1980 pay raise will increase the toxic substances media by $408,000.

In accordance with OMB bulletins, the March 1981 changes are as follows: travel (-$86,500); consulting services (-$167,500); and, moratorium on procurement of equipment (-$79,400).

A one percent transfer authority decreases this media by $1,526,100.

Internal agency reprogrammings to fund PC&B deficits are as follows: equipment costs (-$831,900); contractual services (-$79,900); agencywide increases (+$1,322,600); and miscellaneous reprogrammings (+6,900).

ANALYSIS OF INCREASES AND DECREASES TO OBLIGATIONS

	Current Estimate 1981	Estimate 1982
	(in thousands of dollars)	
Prior year obligations	$90,237	$104,033
Congressional Changes	-5,535	...
Effect of March Changes	-1,442	...

	Current Estimate 1981	Estimate 1982
	(in thousands of dollars)	
Proposed pay raise supplemental	+408	...
Reprogrammings	-50	...
Change in amount of carryover funds available	-5,009	-40
Program Changes	+13,755	-5,839
Change in rate of obligations	+11,669	-577
Total estimated obligations	104,033	97,577
(From new obligation authority)	(103,983)	(97,568)
(From prior year funds)	(50)	(9)

EXPLANATION OF INCREASES AND DECREASE TO OBLIGATION

The items discussed in the previous section -- congressional changes, pay raise supplemental, ADP, consulting services, general reduction an anticipatory research and reprogrammings -- result in a net decrease of $6,619,000.

The increase in budget authority in 1981 is to increase obligations by $13,755,000; in 1982 the program is expected to decrease obligations by $5,839,000.

TOXIC SUBSTANCES

PROGRAM LEVELS	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
TESTING AND EVALUATION					
Testing Program					
Test Standards Proposed.....	13	15	69	0	-69
Test Standards Final.....	0	12	13	69	+56
Chemical testing proposed.	13	43	117	78	-39
Chemical Testing Final....	0	10	3	10	+7
No. of Chemicals Voluntarily Tested.....	0	...	3	10	+7
Assessment of Existing Chemicals					
Chemical Hazard Information Profiles.....	37	67	50	55	+5
Preliminary Risk Assessment of Existing Chemicals.....	6	26	5	5	0
Risk Assessment Supporting Regs of Existing Chemicals	2	16	5	5	0
Substantial Risk Notices § 8(e) Reviewed.....	56	...	75	75	0
Assessment of New Chemicals					
Initial Screens of PMNS.....	285	392	500	500	0
Priority Risk Assessments for New Chemicals.....	10	16	27	32	+5
CHEMICAL CONTROL					
New Chemical Program					
Test Market Exemptions.....	42	50	50	60	+10
No. of PMNs Processed.....	298	400	500	800	+300
No. of § 5(e)/5(f) Orders...	2	15	4	6	+2
PMN Notices Withdrawn.....	10	...	18	18	0
No. of § 5(h)(4) Exemption Applications Reviewed.....	0	...	3	10	+7
Existing Chemical Program					
No. of Preliminary Risk/ Benefits Options Analyses...	6	8	8	8	0
No. of Regulatory Analysis Supporting: Proposed/Final TSCA Rules.....	4	4	5	3	-2
No. of Regultory Analyses Supporting Non-TSCA Actions	1	...	2	3	+1
Exemption Requests.....	8	...	10	12	+2
No. of Chemicals covered by Significant New Use Rules Proposed/Final.....	5	27	27	42	+15

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
INFORMATION INTEGRATION					
Section 8					
Recordkeeping and Reporting Rules	3	22	7	6	-1
Recordkeeping and Reporting Rules Promulgated	1	6	4	3	-1
Other Information Activities					
No. of Integration and Policy Studies Completed	11	...	33	33	0
No. of State Cooperative Agreements	3	...	4	0	-4
TOXICS MANAGEMENT					
No. of Schools and Other Buildings Evaluated for Asbestos Hazards	1,800	...	1,600	...	-1,600
Inspections Under Section 4	...	134	4	145	+141
Inspections Under Section 5	...	188	56	225	+169
Inspections Under Section 6	832	952	847	1,010	+163
Inspections Under Section 8	69	55	95	68	-27
Inspections Under Section 12	...	60	...	...	...
Inspections Under Section 13	6	260	9	170	+161

TOXIC SUBSTANCES

Toxic Substances Strategies

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Testing and Evaluation:					
Salaries and Expenses	$5,732	$7,242	$6,459	$7,939	+$1,480
Abatement, Control and Compliance	18,613	23,182	23,242	18,868	-4,374
Chemical Control:					
Salaries and Expenses	4,476	5,151	4,386	5,014	+628
Abatement, Control and Compliance	5,553	6,733	6,587	6,474	-113
Information Integration:					
Salaries and Expenses	6,681	6,879	7,769	6,289	-1,480
Abatement, Control and Compliance	13,147	13,740	13,648	10,473	-3,175
Toxic Management:					
Salaries and Expenses	1,342	909	907	...	-907
Abatement, Control and Compliance	353	80	55	...	-55
Total:					
Salaries and Expenses	18,231	20,181	19,521	19,242	-279
Abatement, Control and Compliance	37,666	43,735	43,532	35,815	-7,717
Grand Total	55,897	63,916	63,053	55,057	-7,996
Permanent Positions					
Testing and Evaluation	156	207	199	203	+4
Chemical Control	102	147	139	153	+14
Information Integration	113	130	122	109	-13
Toxic Management	39	18	15	...	-15
Total	410	502	475	465	-10
Full-time Equivalency					
Testing and Evaluation	188	230	229	224	-5
Chemical Control	124	164	164	169	+5
Information In.egration	151	152	144	131	-13
Toxic Management	43	28	24	...	-24
Total	506	574	561	524	-37

Budget Request

The Agency requests a total of $55,056,300 and 465 permanent workyears for 1982, a net decrease of $7,996,100 and a decrease of 10 permanent workyears over 1981. Included in this total is $19,241,500 for Salaries and Expenses and $35,814,800 for Abatement, Control and Compliance, with an decrease of $279,000 for Salaries and Expenses and a decrease of $7,717,100 in Abatement, Control and Compliance. Included in this request are both dollar and workyear increases for our premanufacture review program for new chemicals.

These are offset by decreases in the following areas: substantial reduction of our public partcipation programs, reduction in effort for the areas of test standards and studies to support the Section 4 testing program, recordkeeping and reporting rules, scientific data base development, and elimination of the toxics management regional program.

Program Description

The toxic substances strategies subactivity comprises the testing and evaluation, chemical control, and information integration elements. These elements cover the Agency's testing, assessment, new chemical review, existing chemical control, economics, record-keeping and reporting, data management, monitoring, toxic substances integration, and industry assistance responsibilities under TSCA.

Testing and Evaluation - The goals and objectives of the TSCA testing and evaluation program aim to increase efficiency and scientific credibility of toxic substances program assessments and regulations. They are: (1) develop a cost-effective testing scheme for determining experimentally the health and environmental effects of chemicals; related to this goal is the annual review of all test standards and revision as necessary to maintain an up-to-date comprehensive scheme; (2) obtain test data where required for making evaluations of risk and to assure the quality of data; (3) develop a scientifically sound chemical assessment system; and (4) provide evaluation of risk and exposure required to support toxic substances.

A major feature of TSCA is the authority to require industry to test selected chemicals for their possible adverse effects on health and the environment. Adequate test data, currently unavailable for most chemicals, are a prerequisite to the evaluation of a chemical's risk. Such evaluations are needed to define and implement appropriate regulatory actions under TSCA and other statutes aimed at protecting health and the environment.

The testing authority of TSCA can be exercised by promulgating rules specifying the chemicals to be tested and the "test standards" that are to be followed in performing the testing. The test standards, which TSCA requires to be reviewed and updated annually, specify the effects to be evaluated and the nature of the tests and test protocols to be followed. EPA will propose a structure of test standards to be referenced in adopting test rules for specific chemicals. These standards will first be based on existing validated test methods, and then will be expanded to cover other effects such as neuro-toxicity and overall ecosystem impacts. Based upon the required annual review, these test standards will be refined and improved.

In response to the semiannual recommendations of the TSCA Interagency Testing Committee (ITC) established by Section 4(e) of TSCA, as well as for other chemicals whose needs for testing have been identified through the evaluation process described below. The Office of Toxic Substances determines the need for testing. If industry will not conduct the needed tests than we will issue a Section 4 test rule which will require the testing. Evaluating the hazards associated with production, use, and disposal of chemicals to determine if such activities pose unreasonable risks is the cornerstone of the TSCA program. Certain evaluation efforts, such as evaluating "notices of substantial risk" submitted by industry as required by Section 8(e), evaluating citizen petitions submitted under Section 21, and evaluating notices submitted by industry prior to the manufacture of a new chemical as required by Section 5 are based upon outside input. Other evaluation activities, such as systematic identification and assessment of potentially high-risk existing or new chemicals, are initiated by EPA.

Chemicals of concern identified through review of substantial risk notifications and other sources will be entered into a multistage hazard evaluation process, with a decision being made at the end of each stage whether to continue on to the next, more intensive stage of evaluation. Alternate decisions at a given stage include dropping current consideration because of apparent low hazard potential, subjecting the chemical to testing requirements to fill critical data gaps, or referring the chemical to another program or agency having authority to deal with any apparent hazards.

Chemicals having completed all evaluation stages will have received a full evaluation of their sources, exposure potential, and adverse effects, as well as an investigation of their existing regulatory controls and identification of possible control options to reduce health and/or environmental risk associated with their production, use, and disposal. Such evaluations may provide a basis for initiating suitable regulatory actions under TSCA or other relevant authorities if industry is unwilling to address the unreasonable risk.

Chemical Control - The goal of the chemical control program is to protect human health and the environment by controlling new and existing chemical substances that present unreasonable risks of injury to health or the environment. This goal will be accomplished through implementation of the premanufacturing notification, existing chemical program, and imminent hazard regulatory provisions of TSCA. The major objectives are determination of unreasonable risk based upon evaluation of chemical substances on health, environmental, social, and economic factors; use of the least burdensome approach to reduce or prevent unreasonable risk; and provision of all the economic analysis necessary to implement TSCA.

One of the major functions of the chemical control program is to review notices and information regarding the manufacture of new chemicals and the manufacture or processing of chemicals for significant new uses. This includes review of the notices for compliance with applicable rules and guidelines and for appropriate action on exemption requests, review of data in the notices and information gathered through data systems searches and reporting requirements, determination of unreasonable risks, and taking of appropriate control actions informally and under TSCA, or recommending referrals to other programs within EPA or other Federal, State, and local government entities. Significant new use rules will be established for chemicals which require notification to EPA of new uses determined to be significant based on exposure and other factors.

Another function of chemical control is to review information on the hazardous and economic aspects of existing chemicals (those listed in the TSCA Inventory) in order to determine unreasonable risk and to select the most appropriate way of preventing unreasonable risks to health or the environment. An additional function is to conduct economic studies to determine if these actions can be supported. Testing and evaluation, reporting and recordkeeping, and other special economic analyses are also part of the preparation for control actions.

Information Integration - The TSCA information integration program is charged with the responsibility of providing a program for chemical information collection, storage and retrieval, and a cohesive Federal approach to information collection and support of identifying and determining the most appropriate way to control unreasonable risks associated with chemicals. Having these capabilities, it is also charged with providing the information support to risk assessment, premanufacturing notification review, chemical control and testing programs. Information integration support activities are crucial to promulgating timely and defensible chemical control regulations and testing rules. These objectives are met through programs that: (1) obtain chemical information from the literature, or from industry using recordkeeping and reporting rules promulgated under the authority of Section 8 of TSCA for assessing and regulating chemical hazards; (2) promote agencywide, interagency, and international integration of toxic chemical policy, information and chemical controls to ensure consistency in addressing and resolving toxics-related health and environmental problems; (3) develop and access comprehensive data systems and chemical data bases in order to reduce the information limitations which constrain EPA's ability to deal with chemical hazards; (4) provide information and analytic support to toxic programs for rule and standard development, risk assessment, and review of new chemicals; and (5) keep industry, and the public fully apprised of TSCA activities.

Toxics Management - The goals of the regional toxics management program are to implement selected TSCA objectives at the State and local levels, and to provide limited integration support to the Agency's regional implementation of intermedia toxic substances activities. The major objectives and functions to be accomplished
are:

- Providing expertise to State and local governments as they implement the Voluntary School Asbestos Program.

- Ensuring the provision of adequate, timely, and responsive information and assistance to State and local government; and industry within the region.

- Facilitating the use of TSCA-gathered and other chemical information by the public, State and local government, labor and industry.

TESTING AND EVALUATION

1980 Accomplishments

In 1980, the Agency expended a total of $24,344,600 and 156 permanent workyears for this program, of which $5,731,800 was for salaries and expenses and $18,612,800 was for extramural purposes. During 1980, considerable progress was made towards implementation of Section 4. Test standards and test rules were in various stages of development and proposal, including 13 health test standards. The first test rule covering seven chemicals was proposed with significant work being accomplished on two other test rules covering nine Interagency Testing Committee (ITC) designations. However, for these and one other chemical, industry has responded with several tests which may mitigate the need for a rule. EPA lost a suit by the Natural Resources Defense Counsel (NRDC) concerning what actions EPA must take within the statutorily-mandated one-year response period for the ITC recommendations. A court-approved schedule for EPA action on the ITC chemicals was the result.

In 1980, the testing and evaluation program provided support to our new chemical program conducting 298 initial screen evaluations on each of the new chemicals received. For existing chemicals, the testing and evaluation program developed 37 chemical hazard information profiles, prepared six preliminary risk assessments and completed 4 risk assessments to support TSCA regulatory actions.

1981 Program

In 1981, the Agency has allocated a total of $29,700,100 and 199 permanent workyears to this program, of which $6,458,600 for salaries and expenses and $23,241,500 is for extramural purposes under the Abatement, Control and Compliance appropriation. In 1981, our goal for Section 4 is to encourage industry to test high priority chemicals and write Section 4 requirements when this is not possible. We are streamlining our Section 4 rulemaking process so that in the near future we will be able to extend our influence to the testing of a greater number of high priority chemicals. The Section 4(c) exemption policy, proposed as part of the first test rule, details the procedures and conditions regarding exemption from testing (both under the first test rule and subsequent test rules). The exemption policy is expected to be promulgated in 1981. We plan to propose the 65 environmental and 4 health test standards developed in 1980. These will be guides for industry when they decide to test on their own initiative as well as become the basis for test rules. The last component of the Section 4 testing program is the reimbursement rule. This rule, which will be used to settle costs for testing equitably, will also be proposed this year. EPA will take action to comply with the court-sanctioned schedule for test rule action on the ITC chemicals.

In 1981, the multistage assessment process in the testing and evaluation program will continue to support our new chemical program. Approximately 500 new chemical notices are anticipated with 27 requiring full risk assessments in support of Section 5(e) or Section 5(f) actions. Maintaining our 1980 momentum in the assessment of existing chemicals, we plan to perform 5 preliminary evaluations of existing chemicals and 50 Chemical Hazard Information Profiles (CHIPs).

1981 Explanation of Change from Budget Estimates

The net decrease of $723,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $43,900.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $19,800 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $156,900 was applied to this activity.

- The Congress applied a general reduction of $7.5 million to the Abatement, Control and Compliance appropriation; a decrease of $447,600 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $391,500 was applied to this activity.

- An increase of $95,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $250,000 to pesticides - registrations ($144,600); special registrations ($49,300); tolerances ($48,600); and to pesticides use management ($7,500).

- A reprogramming of $2,000,000 from pesticides RPAR reviews in order to repay the Office of Pesticides and Toxic Substances for "borrowed" funds in FY 1980.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $16,000.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $1,493,000.

1982 Plan

The Agency requests a total of $26,806,500 and 203 permanent workyears for this program, of which $7,938,600 is for the Salaries and Expenses appropriation and $18,867,900 for the Abatement, Control and Compliance appropriation. This request reflects a net decrease of $2,893,600 from 1981, primarily in the area of test standards and standards to support Section 4 Testing Program. There is also an increase of 4 permanent workyears over 1981, the majority of which will be directed to the Section 5 premanufacture review program.

In 1982, the Section 4 testing program will again be oriented toward influencing industry to test high priority chemicals. The Section 4 testing program will be fully operational as will be the environmental and health test rules proposed in 1981. The Agency also plans to promulgate the data reimbursement rule proposed in 1981. This rule will encourage the private and voluntary allocation of the costs of conducting Section 4 test among the manufacturer and processors of the test chemicals and will provide a framework for the efficient resolution of disputes that are referred to EPA. Efforts to harmonize the TSCA health and environmental test standards will continue. The 13 test standards promulgated in 1981 will undergo annual review as mandated by TSCA; the 69 test standards proposed in 1981 will be promulgated.

The assessment of new chemicals will receive our highest priority as we anticipate receiving 800 new chemical notices. Our assessments of existing chemicals will emphasize the preparation of Chemical Hazard Information Profiles (CHIP) documents and priority reviews. A limited number of more advanced assessments will be conducted.

79-248 O—80——48

Change from January Request

This request represents a decrease of $3,714,800 and nine permanent workyears from the January budget, of which $759,400 is for Salaries and Expenses and $2,955,400 is for Abatement, Control and Compliance. Output decreases in the area of scientific risk assessments of existing chemicals.

CHEMICAL CONTROL

1980 Accomplishments

In 1980, $10,028,900 and 103 permanent workyears were expended for this program. Of this $4,476,000 were expended for salaries and expenses and $5,552,900 for extramural purposes. The Agency analyzed comments received on the proposed premanufacture notification rules and forms, and as a result, reproposed the rules and forms in October. We received 400 notices proposing manufacture of new chemicals; 17 of these were subjected to detailed review. EPA issued two orders under §5(e) to suspend production of 7 new chemicals pending development of sufficient data for evaluation. In 10 cases submitting companies voluntarily stopped the review period in order to test; to conduct further assessments; or to present EPA with more information, or to withdraw their chemical from consideration. Forty-two applications were received to exempt manufacture of new chemicals from notification requirements during test marketing. Work was begun on a significant new use statement under §5(a)(2) to provide industry with an explanation of EPA's approach to significant new uses. In addition, one chemical-specific Significant New Use Rule (SNUR) was proposed and work was initiated on two others to provide EPA the opportunity to monitor changes in production volumes or potential exposures. More than 45 additional chemical substances were identified during review as candidates for SNURs.

A rule requiring schools to identify friable asbestos-containing material in school buildings was proposed. A final Section 6(d) rule prohibiting dioxin-contaminated wastes from being transferred for disposal (without 60 days advance notice to EPA) was promulgated. Several applications for exemption from the ban on nonessential aerosol propellant uses of chlorofluorocarbons (CFCs) were evaluated and responses initiated, and the Agency published an Advance Notice of Proposed Rule Making covering possible approaches to restrict growth of manufacture of CFCs for non-consumptive uses. EPA issued proposed rules to require removal of PCB equipment from establishments involved in manufacturing agricultural fertilizers and pesticides. USDA and FDA simultaneously issued similar proposed rules affecting food and feed processing plants. EPA approved the use of two industrial incinerators for PCB disposal; both are used by the companies that own them solely for disposal of PCBs arising from their own activities. The final rule banning the manufacturing, processing, distribution, and uses of polychlorinated biphenyls was challenged in court and remanded to the Agency.

Economic impact analyses or non-risk factor assessments were performed in support of: Section 4 test rules and standards; Section 5 premanufacture notification rules, processor reporting rules, and PMN reviews; Section 6 work on CFCs and asbestos; Section 8(a) "small business" definition, and Section 8(c) and 8(d) rules; and section 13 importer regulations.

1981 Program

In 1981, the Agency has allocated a total of $10,973,100 and 139 permanent workyears to this program, of which $4,385,800 is for Salaries and Expenses and $6,587,300 is for extramural purposes under the Abatement, Control and Compliance appropriation. In 1981, our new chemical program is a high priority activity as we set the key premanufacture notification provisions in place and provide guidance to chemical companies as to what is expected of them. Thus far the review process has operated under interim policy guidance indicating what information must be reported to EPA and how EPA intends to handle the review of notices submitted. The final Section 5 rule will be promulgated, providing both industry and EPA a clearer framework within which to operate. Regulatory elements of our new chemical program that will be emphasized this year are issuance of

Section 5(e) orders, proposal of case-by-case significant new use rules (applied in conjunction with Section 5(b)(4) risk listing), and initiation of development of a procedural Section 5(h)(4) exemption rule. Central to our new chemical program is our review of PMNs. As a result of the increase in the rate at which notices are being submitted, the process for screening and evaluating new chemicals will be finetuned to achieve the flexibility and increased efficiency. We will also address the first Section 5(h)(4) exemption application to establish a process and policy for receipt and handling of industry requests for exemption from certain premanufacture notification requirements.

Another important component of our chemical control program involves the identification and control of significant new uses. In 1981 we will publish statements concerning SNUR's and 5(h) exemptions.

In 1981, emphasis will be placed on our effort to identify and critically evaluate (and stimulate industry to identify and assess) chemicals that are likely to present the greatest risk and to respond appropriately. We will work to examine sectors of the chemical-producing and handling industries for possible or anticipated shifts in production and usage trends. We will encourage those trends that indicate increased assumption of responsibility by industry and discourage others through use of TSCA regulatory authorities as appropriate.

Important chemical control regulatory priorities this year are to consider the need for proposed restrictions on the growth in production or use of CFCs, and to propose measures to reduce human exposure to other high priority chemicals. EPA plans to promulgate a final rule requiring identification of friable asbestos-containing materials in school buildings. The Agency has taken final action on applications for approval of two commerical incinerators for PCB disposal and a process for chemically destroying PCBs in transformer oil. The Agency also expects to initiate a cooperative effort with electric utilities, chemical manufacturers, and certain other industries to develop information needed for new rulemaking to implement the statutory ban on PCB activities; a judicial remand of the previously adopted rules has made new rulemaking necessary. The Agency expects to take final action on several requests for exemption from the ban on nonessential aerosol propellant uses of CFCs.

The Agency plans to continue to conduct its Asbestos Technical Assistance Program which provides State, local, and private organizations with aid in assessing the significance of asbestos exposure in buildings and taking appropriate corrective action. An educational program to inform mechanics about the dangers of exposure to asbestos and recommended work practices to limit exposure to themselves and nearby people in expected to be initiated in cooperation with OSHA. Economic impact analyses or non-risk factor assessments will be performed in support of test rules proposed or promulgated under Section 4; final Section 5 PMN rules, and PMN reviews; work on CFC's, PCB's, and new initiatives; Section 6 work on CFC's, PCB's and new initiatives; and Section 8 definition of "small business" and §8 rules. Studies will be completed on the first phase of the Laboratory Availability, Indemnification, and the Risk-Benefit Methodology. In addition, work on the reference document an Health and Environmental Test Costs will be initiated.

1981 Explanation of Change From Budget Estimate

The net decrease of $910,900 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $31,500.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $391,500 was applied to this activity.

- An increase of $65,900 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $250,000 to pesticides - registrations ($113,400); RPAR reviews ($97,500), RPAR reviews - EIS preparation ($2,800); and to registration ($36,300).

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $45,900.

- OMB Bulletin #81-8, January 24, 1981, "Reduction in Fiscal Year 1981 Consulting and Related Services," required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $145,700 which is to be rescinded.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $25,700.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $65,000.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $21,500.

1982 Plan

The Agency requests a total of $11,487,600 and 153 permanent workyears for this program, of which $5,013,700 is for the Salaries and Expenses appropriation and $6,473,900 for the Abatement, Control and Compliance appropriation. This reflects an increase of $514,500 and 14 permanent workyears over 1981 with an increase of $627,900 for Salaries and Expenses and a decrease of $113,400 in Abatement, Control and Compliance. The majority of this increase will be used for the projected increase (+300) in our premanufacture review program. About 800 notices of new chemicals are expected in 1982. Data provided with notification as well as additional data received from literature searches and reporting requirements, will be evaluated to select chemicals for detailed assessment. The Agency will work with industry to encourage it to address its own problems and will take regulatory action on a small percentage of the chemicals evaluated. The rules under Section 5(h)(4) for implementing exemptions from Section 5 requirements will be proposed.

SNURs will be developed to control significant new uses of specific chemicals or classes of chemicals that were potentially toxic but were found to have low exposure during the PMN review.

Rules proposed in 1980 and 1981 will be promulgated as necessary, e.g. a rule to effect abatement of exposure to friable asbestos in schools. The Agency expects to propose new rules dealing with the issue of whether certain uses of PCBs in electrical equipment can be considered totally enclosed. The Agency also may undertake new rulemaking on the issue of whether there is a PCB concentration below which no regulatory requirements are to be imposed; on judicial review, the Agency's previously adopted level of 50 parts per million was remanded. The Agency also expects to approve additional facilities and processes for PCB disposal. Rulemaking will continue on chemicals selected for control in 1981. Additional chemicals will be selected for control in conjunction with the risk assessment process and from referrals of additional chemicals investigated and found to have potential for causing unreasonable risk.

Economic impact analysis or non-risk factor assessments will be performed in support of: final and proposed Section 4 test rule packages; the final Data Reimbursement Rule, and Evironmental and Health Test Standards; PMN reviews; final Section 6 CFC rule and work on new initiatives; and Section 8 rules. In addition, the first phase of the innovation study will be completed.

Change from January Request

This request represents a decrease of $913,800 and four permanent workyears from the January budget, of which $763,800 is for Salaries and Expenses and $150,000 is for Abatement, Control and Compliance. Output decreases in the development of regulatory analyses supporting rules that control existing chemicals.

INFORMATION INTEGRATION

1980 Accomplishments

In 1980, the Agency expended a total of $19,828,200 and 151 permanent workyears for this program, of which $6,681,400 was for salaries and expenses and $13,146,800 was for extramural purposes. All components of the Information Integration program were operational. These include Section 8 recordkeeping and reporting, Agency-wide toxic substances integration, chemical information systems and services, monitoring studies and analysis, and assistance to industry. In 1980, the program:

- Issued a cumulative supplement to the section 8(b) Inventory of Chemicals in Commerce, bringing the total number of substances on the inventory to nearly 55,000.

- Completed and made operational an on-line computerized system containing all inventory chemical information not claimed as confidential. This system is available to the 10 regional offices.

- Proposed a Section 8(a) rule to require manufacturers to submit basic information on how and to what extent people and the environment are exposed to some 2,000 chemicals (many among the largest volume substances in the nation).

- Finalized the Section 8(a) PBB/Tris rule requiring future notification to manufacture.

- Proposed a Section 8(c) rule to establish a mechanism for alerting corporate, labor, and government officials to potential chemical health and environmental problems in the workplace by requiring companies to maintain records of allegations of significant adverse reactions caused by a chemical and to report these allegations to EPA upon request.

- Proposed a Section 8(d) rule that would gather unpublished studies of 61 chemicals and categories, including all priority testing recommendations received to date from Section 4(e) Interagency Testing Committee (ITC), as well as asbestos, benzidene-based dyes, styrene, dioxins, and chemicals used as solvents.

- Answered approximately 35,000 telephone requests from industry for technical information about TSCA.

- Assisted small businesses who manufacture, import or process chemical substances to comply with the premanufacture notice requirements.

- Worked in conjunction with the Organization for Economic Cooperation and Development (OECD) to reach consensus on a minimum set of premarket data on new chemicals, general principles of good laboratory practices (GLP), and 100 testing guidelines to be used in evaluating the safety of new and existing chemicals.

- Brought initial hardware and software on-line for the Chemical Substances Information Network (CSIN)--a system which will link numerous public and private chemical data bases for the use of industry, the public, State, local and Federal officials, the medical professions and academia.

- Expanded charter for the Toxic Substances Priorities Committee (TSPC), enabling the Committee to more readily identify and resolve major EPA toxics integration issues; established workgroups to review impacts and assess control options available to the Agency for six priority chemicals.

- Established computer data bases and an analytical capability to rapidly assess on-going activities related to chemicals in EPA and other Federal agencies, to assure consistency in dealing with chemicals of concern.

- Completed award of TSCA Section 28 cooperative agreements, providing funds for establishing toxic substances information programs in the states.

1981 Program

In 1981, the Agency has allocated a total of $21,417,300 and 152 permanent workyear to this program, of which $7,769,200 is for Salaries and Expenses and $13,648,100 is for extramural purposes under the Abatement, Control and Compliance appropriation. In 1981, our program priorities, as discussed throughout this media, emphasize working closely with other programs having toxics control authority to develop and oversee implementation of an effective toxics integration strategy for the Agency. The information and recordkeeping responsibilities must support not only our programmatic needs but the needs of other health and environmental programs. This further emphasizes our total program approach.

- In 1981, the Agency will issue three final Section 8 rules. They are a Section 8(a) rule requiring manufacturers to submit basic information on how and to what extent people and environment are exposed to certain priority chemicals; a Section 8(c) rule to require companies to maintain records of alleged significant adverse reactions caused by a chemical and to report to EPA on request; and a Section 8(d) rule to gather unpublished studies on 61 chemicals and categories including all priority testing recommendations received to date from the Interagency Testing Committee as well as asbestos, benzidene-based dyes, styrene, dioxins, and chemicals used in solvents.

- Issue the final Section 12(b) export notification rule.

- Maintain the TSCA inventory in our computer system, insuring security for confidential business information and assuring access by each EPA regional office.

- Complete a training effort to help regions and selected States better understand and use the data base, as well as evaluating usefulness of the inventory and proposing ways to increase its usefulness.

- Provide all necessary literature searching, document control and tracking, materials balance studies and exposure assessments to support test rule development, premanufacturing notification review, risk assessment, and chemical control.

- Answer requests from industry for technical information or literature about TSCA.

- Provide assistance to small businesses in complying with Section 5 requirements.

- Develop and begin implementation of the Agency-wide Toxics Integration Strategy to streamline all toxics activities undertaken by the Agency to promote coordination of EPA toxic activities. The strategy will, through cross-media risk assessments, control options analyses, economic analyses and other mechanisms, reduce regulatory burdens on industry, and result in more efficient and effective consideration of control options, both regulatory and nonregulatory, by the Agency.

- Continue systematic analysis of Agency toxic-related decisionmaking processes in an effort to develop Agency-wide consistency in dealing with toxic chemicals.

- Work (through OECD) to establish a set of labeling guidelines for chemicals, to be adopted for international use.

- Begin efforts in OECD to develop procedures for exchange of confidential chemical information between governments.

- Using the 1980 user survey/analysis, develop and put into operation hardware and software which would allow CSIN users to access chemical information stored in various data bases.

- Expand the Chemical Substances Information Network by increasing the number of on-line data bases as well as the number of subscribers.

1981 Explanation of Change From Budget Estimate

The net increase of $798,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $28,200.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $2,800 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $15,400 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $9,800 was applied to this activity.

- An increase of $78,000 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- A transfer of $106,200 was made to the radiation media in order to support the Radiation Policy Council.

- A transfer of $10,400 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalities under Section 120 of the Clean Air Act.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $1,400.

- OMB Bulletin #81-8, January 24, 1981, "Reductions if Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $12,700, which is to be rescinded.

- OMB Bulletin #81-9, January 30, 1981, "Moratorim on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $1,600.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $123,600.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $1,300.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $1,033,900.

1982 Plan

The Agency requests a total of $16,762,200 and 109 permanent workyears for this program, of which $6,289,200 is for Salaries and Expenses appropriation and $10,473,000 is for the Abatement, Control and Compliance appropriation. This reflects a net decrease of $4,655,100 and 13 permanent workyears with an decrease of $1,480,000 in Salaries and Expenses and a decrease of $3,175,100 in Abatement, Control and Compliance. The decrease is in the area of public participation, recordkeeping and reporting rules, and scientific data base development.

In 1982, the important information and data gathering authorities of TSCA will again be focused toward our total program approach. As in 1981, our priorities will be to work closely with other programs when contemplating control regulations and ensuring that our health and environmental programs also serve other user groups and to oversee implementation of the Agency toxics integration strategy. Information integration will:

- Continue to support testing, premanufacturing notification review, risk assessments, chemical control regulation development and recordkeeping and reporting rule development, using information systems and services, monitoring programs and industry assistance.

- Oversee full-scale implementation of Agency toxics integration strategy developed during 1981, with special attention paid to reducing regulatory burdens on industry, eliminating duplicative efforts in EPA and identifying and controlling through regulatory and nonregulatory means, toxic problems posing the greatest risk to health first.

- Build on general principles of good laboratory practices (GLP) negotiated during 1980/81 with the OECD, to achieve consensus on methods of implementation and enforcement.

- Expand the number of CSIN users and the number of systems accessible through CSIN; institute a system of user charges.

- Complete TSPC action on major cross-Agency toxics issues and on major chemicals and industries of concern including: 1) preparation of control option analyses on chemicals, chemical classes and industries of cross-Agency concerns, to determine how a chemical is to be handled within EPA; 2) continuation of the chemical workgroups to ensure consistent Agency regulatory and analysis activities; and 3) initiation of several new workgroups for priority chemicals.

- Continue information assistance to national and local organizations, including community, labor and health groups, to educate and involve those groups in toxics issues and TSCA rulemaking.

- Track State legislation and prepare a compendium of relevant State statutes enacted for the purposes of investigating and controlling toxics chemicals; this is to assist those States in the process of developing or amending programs to control toxics.

Change from January Request

This request represents a decrease of $2,797,100 and 20 permanent workyears from the January budget, of which $1,364,600 is for Salaries and Expenses and $1,432,500 is for the Abatement, Control and Compliance. Output decreases in the development of recordkeeping and reporting rules and scientific data base development.

TOXICS MANAGEMENT

1980 Accomplishments

In 1980, the Agency expended a total of $1,695,200 and 43 permanent workyears for this program, of which $1,341,900 was for Salaries and Expenses and $353,300 was for extramural purposes in the Abatement, Control and Compliance appropriation. The regions have:

- Continued to refine the processes needed to integrate regional toxic substances activities.
- Managed the first two rounds of State/EPA cooperative agreements awarded under Section 28 of TSCA; the agreements have been awarded to states in four regions.
- Provided assistance to the eleven States applying for the third and final round of cooperative agreements.
- Continued a concerted effort to work with State and local contractors and citizen groups to implement EPA's voluntary program to identify and correct asbestos problems in schools and other public buildings.
- Represented EPA on the Interagency Regulatory Liaison Group and participated actively in several regulatory working groups.
- Arranged for chemical information seminars to be given to regional staff and officials in the governments of 15 States.

1981 Program

In 1981, the Agency has allocated 961,900 and 15 permanent workyears to this program, of which $906,900 are for salaries and expenses and $55,000 are for extramural purposes under the abatement, control and compliance appropriation. A substantial part of these resources will be devoted to assisting States and school districts in identifying school buildings in which asbestos exposure may occur and planning control measures. Under an EPA regulation to be promulgated in FY 81, this function will become part of the Toxic Substances Enforcement activity. The other major part of this Regional office activity is an effort to make State agencies and other interested groups aware of the scope of TSCA activities and of the availability of information relevant to identifying toxic substances problems at State and local levels. The Headquarters Toxic Substances program will assume these responsibilities in FY 82.

1981 Explanation of Change from Budget Estimates

The net decrease of $27,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $5,700.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $2,700 was applied to this activity.

- The Contress reduced agencywide consulting services by $3.8 million; a decrease of $10,000 was applied to this activity.

- An increase of $13,000 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meed on-board needs resutled in a net transfer of -$62,000 to pesticides use management ($40,100); toxic substances enforcement ($13,800); management and support - regional counsel ($13,000); financial management ($13,700); administrative management ($16,400); and from solid waste hazardous waste management regulatory strategies implementation ($35,000).

- A transfer of $5,000 from interdisciplinary NEPA compliance/EIA preparation - new source discharge permit to support an interagency agreement.

- A transfer of $30,000 to toxic substances enforcement for PCB compliance inspections and PCB and asbestos lab analysis.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $2,400.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $100.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $30,100.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $97,500.

1982 Plan

No resources are requested in 1982.

Change from January Request

This request represents a decrease of $819,00 and 14 permanent workyears from the January budget, which the regional toxic substances program has been eliminated for 1982. The activities performed by the program will be assumed by the headquarters toxic substances program and the Office of Enforcement.

Toxic Substances Enforcement

	Budget Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
	(dollars in thousands)				
Appropriation					
Toxic Substances Enforcement:					
Salaries and Expenses.....	$2,355	$2,711	$2,853	$3,555	+$702
Abatement, Control and Compliance.....	1,079	2,480	2,569	1,534	-1035
Total.....	3,434	5,191	5,422	5,089	-333
Permanent Positions.....	64	86	73	99	+26
Full-time Equivalency.....	81	95	86	106	+20

Budget Request

A total of $5,088,900 and 99 permanent workyears is requested in 1982 for this program. Included in this total is $3,554,500 for Salaries and Expenses, and $1,534,400 for Abatement, Control and Compliance. This reflects an increase of $701,700 for Salaries and Expenses, and a decrease of $1,034,300 for Abatement, Control and Compliance. These resources are to carry out the enforcement provisions of regulations implementing the Toxic Substances Control Act (TSCA) and to enforce the provisions of the Act. The increase of 26 permanent workyears and the corresponding increase for Salaries and Expenses are necessary because of the increased number of enforceable rules promulgated under the Act which will require enforcement in 1982.

Program Description

The EPA toxic substances enforcement program is administered pursuant to the Toxic Substances Control Act (TSCA). The toxic substances enforcement program engages in response to toxic emergencies involving substantial threats to public health or the environment and in taking appropriate action to abate such emergencies, through either legal or administrative proceedings.

A major function of the toxic substances enforcement program is the inspection of chemical manufacturing, processing, and distribution facilities whose activities are regulated under the Act and its implementing regulations. Inspections of such facilities lead to prosecutions of violators discovered during the inspections. Violators may be prosecuted either through administrative civil proceedings or by judicial proceedings in which a court may impose a number of civil or criminal sanctions.

The toxic substances enforcement program is responsible for developing the enforcement provisions of regulations implementing TSCA and for enforcing the Act. The enforcement program, in part, assists in the development of regulations to control specific chemical substances and mixtures and to assure the development and submission of reliable data relating to toxic chemicals, and prepares and executes enforcement strategies to implement these regulations.

1980 Accomplishments

Resources for this program were $3,433,500. Contracts in the amount of $1,079,200 were established for inspection support, sample chemical analysis, and revision and development of enforcement strategies.

- Enforcement strategies were completed for Section 5 (new chemicals) Section 8 inventory, Section 8(c), Section 8(e), and for the chlorofluorocarbon (CFC) ban and the Polychlorinated biphenyls (PCB) ban regulations.

- A final overall TSCA enforcement strategy was developed, as was a final PCB marking and disposal regulation enforcement strategy.

- Assistance was provided to the Office of Pesticides and Toxic Substances in the development of new regulations, including health effects standards, good laboratory practices for health effects, and generic TSCA labeling.

- Assistance was also provided in developing (1) draft ecological effects test standards, (2) inspection procedures for ecological effects testing under the projected rulemaking outputs of OPTS, and (3) enforcement strategies for Section 4.

- Regulatory audiences affected by all new TSCA regulations were identified, and inspection procedures and regional implementation guidance for new regulations were developed.

- A penalty policy was completed, draft consolidated rules of practice were prepared, and a draft PCB inspection manual was completed.

- Program staff also participated in the PCB exemptions hearings, and in the preparation of numerous imminent hazard cases involving illegal disposal handling, or treatment of chemical substances. Inspections were conducted of CFC manufacturers,investigations initiated and cases prosecuted under Sections 6, 8(e), and 17. Assistance was provided to the regions in developing and prosecuting enforcement cases.

- The regional staff responded to emergency incidents, inspected PCB and CFC establishments, conducted compliance monitoring activities under the Section 8(a) inventory provisions, investigated instances of noncompliance with Section 8(e) substantial risk notification, and developed and prosecuted enforcement cases upon detection of violations.

1981 Program

In 1981, the Agency has allocated a total of $5,421,500 for this program of which $2,852,800 is for Salaries and Expenses and $2,568,700 is for extramural purposes under the Abatement, Control and Compliance appropriation. Contract funds amounting to $1,568,700 will be used for laboratory sample analyses, inspectional support, and development and revision of enforcement strategies. In addition, $1,000,000 in 1981 resources will be used for the TSCA cooperative enforcement grants-in-aid program.

The 1981 toxic substances enforcement program will continue to have as its first priority at both headquarters and the regional offices the initiation of enforcement actions in emergencies involving substantial threats to public health, safety, and the environment. Headquarters staff will be responsible for the management and execution of national programs to implement or administer and enforce Section 5 new chemicals regulations, Section 6 chemical control regulations (PCBs, CFCs and others in place in 1981, including asbestos rules), and Section 8 reporting regulations. Headquarters will also provide enforcement participation in regulation development directed by the Office of Pesticides and Toxic Substances, and for support to the regional offices in the development and prosecution of enforcement cases. The establishment and management of a national contract for inspection and analysis functions will be a headquarters responsibility.

Technical support will be provided to the regional offices in major enforcement cases. Toxics Enforcement Policy Statements (TEPS) will be developed and published to alert the public to major enforcements policy determination. Finally, a pilot cooperative enforcement grant program with selected States will be developed and implemented by mid-1981. Grants will be initiated with five States, based upon the presence of regulated chemical industries, especially those related to PCB, and the existence of appropriate State statutory authority. A total of $1,000,000 in 1981 resources has been designated for this purpose.

In addition, the regional office will conduct 847 inspections related to Section 6 chemical control regulations including PCB marking and disposal, PCB ban, and CFC ban, and 95 inspections of facilities subject to the requirements of Section 8 . In 1981, as additional rules are developed and become enforceable for other sections, additional inspections will be conducted under those sections. Enforcement cases will be developed and prosecuted as appropriate upon the detection of violations.

1981 Explanation of Change from Budget Estimate

The net increase of $229,900 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $15,700.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $9,000 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $13,900 was applied to this activity.

- The Congress applied a general reduction of $7 million to the Abatement, Control and Compliance appropriation; a decrease of $42,000 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $2,300 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $2,000 was applied to this activity.

- An increase of $39,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $81,100 from uncontrolled hazardous waste sites-enforcement ($19,600), hazardous waste enforcement ($12,100); toxic substances management ($7,900); management support - personnel management ($6,700), pesticides enforcement ($400); program management ($4,100); from uncontrolled hazardous waste sites - abatement and control (26,100); and from water quality permit issuance ($4,200).

- A transfer of $153,000 from air stationary source enforcement ($1,900); water quality manpower planning and training ($4,000), permit issuance ($26,800), water quality enforcement ($7,800); drinking water public systems supervision program assistance ($73,200), enforcement ($9,300); and toxic substances management ($30,000).

- A transfer of $10,000 from air quality management implementation ($700); air stationary source enforcement ($5,000); and water quality enforcement ($4,300).

- A transfer of $18,900 was made to the Office of Inspector General in order to provide additional resources to that Office.

- OMB Bulletin #81-7, January 24, 1981 "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $11,300.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $51,000.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $3,100.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Reseach and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $33,100.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $148,500.

1982 Plan

The Agency requests a total of $5,088,900 for this program, of which $3,554,500 is for the Salaries and Expenses appropriation and $1,534,400 for the Abatement, Control and Compliance appropriation. The increase of 26 permanent workyears is necessary because of the increased number of rules promulgated under the Act requiring enforcement in 1982. The requested resoure level reflects an overall decrease of $332,600 due primarily to a decrease in the total amount of funds available for the pilot cooperative enforcement grants program, offset in part by an increase in the Salaries and Expenses appropriation. Approximately $1,034,400 is designated for contracts and will include inspection support, laboratory analysis of samples, and development and revision of enforcement strategies. A total of $500,000 in 1982 resources will be utilized to fund the TSCA cooperative enforcement grant pilot program to selected States.

In 1982, the toxic substances enforcement program will again have as its first priority the initiation of enforcement actions in emergencies involving substantial threats to public health, safety, or the environment. Headquarters staff will participate in the TSCA rulemaking process, in accordance with the projected rulemaking outputs of OPTS, and develop enforcement strategies for newly-enforceable regulations. Headquarters staff will also participate in litigation and obtaining injunctions under Sections 5(e) and 5(f) of TSCA, and conduct certain compliance monitoring and enforcement functions under Sections 4,5(e), 5(f), and 6. Support for regional compliance monitoring and enforcement programs under Sections 4,5,6,8 and 13 will be provided, as well as the administration and monitoring of five pilot cooperative enforcement grants-in-aid. Headquarters will continue to provide general program management, guidance and evaluation, including oversight and review of regional toxic substances enforcement programs. Other activities include: developing and managing extramural contracts; the development of outreach or other public participation programs; developing and presenting training programs; providing support to Interagency Regulatory Liaison Group (IRLG) activities; and developing and publishing Toxics Enforcement Policy Statements (TEPS).

In addition to the above, the regional offices will conduct 1010 inspections of facilities subject to Section 6 chemical regulations, including requirements relating to PCB marking and disposal, PCB ban, CFC ban, asbestos, and other enforceable rules as they are developed. The regions will conduct 145 good laboratory practices (GLP) and test rule inspections for Section 4 testing regulations, 225 inspections under Section 5 new chemical regulations, 68 inspections under Section 8 reporting requirements, and 170 Section 13 import inspections. In all cases, enforcement actions will be initiated as appropriate.

Regional staff will assist headquarters in the further development and refinement of the pilot State grant program. The five States which were selected for and initiated compliance monitoring functions under the terms of these grants in mid-1981 will continue to be supported. State program activities will focus upon the regulation of PCBs; all enforcement actions will be developed by EPA.

Change from January Request

This request represents a decrease of $477,500 and 13 permanent workyears from the January budget, all of which is for Salaries and Expenses. Section 6 asbestos inspections, Section 5, inspections at ports-of-entry and at those facilities subject to Section 4 test rule requirements will be limited. Regional support for State grants, ADP maintenance, and public participations at outreach programs wil also be limited.

TOXIC SUBSTANCES

Chemical Testing and Assessment

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Scientific Assessments:					
Salaries and Expenses.....	$96	$91	$91	$92	-$1
Technical Information and Liaison:					
Salaries and Expenses.....	289	281	283	285	+2
Research and Development...	3	17	17	14	-3
Monitoring Systems and Quality Assurance:					
Salaries and Expenses.....	1,838	1,802	1,688	2,015	+327
Research and Development...	2,861	1,980	1,810	2,678	+868
Health Effects:					
Salaries and Expenses.....	2,959	3,760	3,319	4,466	+1,147
Research and Development...	7,417	9,039	6,673	7,207	+534
Environmental Engineering and Technology:					
Salaries and Expenses.....	482	614	597	620	+23
Research and Development...	1,228	1,158	1,158	1,108	-50
Environmental Processes and Effects:					
Salaries and Expenses.....	3,068	4,970	5,165	6,707	+1,542
Research and Development...	7,618	10,761	8,816	7,273	-1,543
Stratospheric Modification:					
Salaries and Expenses.....	134	193	188	145	-43
Research and Development...	1,261	1,219	1,212	897	-315
National Center for Toxicological Research:					
Research and Development...	1,652	4,500	4,500	4,500	...
Total:					
Salaries and Expenses.....	8,866	11,711	11,331	14,330	+2,999
Research and Development...	22,040	28,674	24,186	23,677	-509
Total, Research and Development Program.....	30,906	40,385	35,517	38,007	+2,490

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Permanent Positions					
Scientific Assessments	2	2	2	2	...
Technical Information and Liaison	4	4	4	4	...
Monitoring Systems and Quality Assurance	26	29	29	32	+3
Health Effects	21	48	44	43	-1
Environmental Engineering and Technology	12	12	11	12	+1
Environmental Processes and Effects	53	89	87	79	-8
Stratospheric Modification	...	3	2	2	...
Total	118	187	179	174	-5
Full-time Equivalency					
Scientific Assessment	3	3	4	4	...
Technical Information and Liaison	6	7	6	7	+1
Monitoring Systems and Quality Assurance	31	35	35	38	+3
Health Effects	27	54	50	49	-1
Environmental Engineering and Technology	12	14	14	15	+1
Enviornmental Processes and Effects	74	109	122	99	-23
Stratospheric Modification	1	3	2	2	...
Total	154	225	233	214	-19

*January 1980 President's Budget as adjusted by the ORD restructuring.

Budget Request

The Agency requests a total of $38,007,600 and 174 permanent workyears for 1982, an increase of $2,489,100 from 1981. Included in this total is $14,331,000 for Salaries and Expenses and $14,331,000 for Research and Development, with an increase of $3,001,200 and a decrease of $512,100 respectively.

Program Description

The program has been developed under the auspices of the Chemical Testing and Assessment Research Committee. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

The overall program's mix of activities is intended to contribute substantively to the development of abatement, control and compliance assurance actions for toxic substances. The goals of the program are directed toward achieving outputs which will help determine and support, both quantitatively and qualitatively, the need for regulation and approaches for ensuring that promulgated regulations are met.

79-248 O—80——49

A major thrust of this overall program is to develop and/or evaluate tests, testing methodologies and predictive capabilities and apply them within the Agency's regulatory forum. Although health and environmental effects are of primary concern, the research to elucidate them and the preparation of testing protocols cannot be done without sound measurement and analytic methods. For this reason, the program includes measurement methods research. Similarly the program includes engineering and technology efforts to elucidate the ways in which chemicals are produced, modified and used -- where, which ones, and how much. Data of this nature provides a basis for estimating and predicting human and environmental exposures. Finally, the program includes an identified effort to investigate the effects of stratospheric ozone depletion on health and the biosphere.

Activities and program proposals for each sub-program are presented individually in the following material.

SCIENTIFIC ASSESSMENT

1980 Accomplishments

In 1980, the Agency used a total of $96,100 for this sub-program, all of which was for the Salaries and Expenses Appropriation.

- Draft Guidelines were formulated by which the Agency will conduct exposure assessments in the future. The Guidelines have a two-fold purpose. The first is to improve consistency and acceptability of the assessments made by the various programs and to make explicit the limitations or assumptions associated with the assessments. The second is to provide the capacity for expeditious evaluations of toxic substance exposure which may be required due to emergency situations. To complement these guidelines, a first draft of an Exposure Assessment Workbook was developed to provide the specific details of how exposure assessments are to be performed. This handbook is to be used by EPA personnel, Interagency Regulatory Liaison Group member agencies, and others in conducting exposure assessments. In addition, a library of all exposure documents developed by the Agency was compiled to provide a central repository for use by all individuals conducting exposure assessments. These exposure assessment activities are concerned with all media and are therefore pertinent to many research committees.

- A list of carcinogens was developed and adopted by the Agency. This list was utilized by the Office of Solid Waste in preparing their hazardous waste disposal rules under Section 3001 of RCRA and by the Office of Pesticides and Toxic Substances to develop chemical substance labeling regulations under Section 6 of TSCA and by the Office of Planning and Management in writing a chapter in EPA's Occupational Safety Manual stipulating the handling procedure for chemcials posing chronic hazards to users. The Occupational Safety and Health Administration also used the list in implementing its cancer policy.

- Provided leadership and scientific support to several Interagency Regulatory Liaison Group subcommittees including risk assessment, exposure and mutagenicity.

1981 Program

In 1981, the Agency has allocated a total of $91,000 and 2 permanent workyears to this sub-program, all of which is for the Salaries and Expenses Appropriation.

The scientific assessment program will provide support to the Office of Pesticides and Toxic Substances on assessments of toxic chemicals. The program will continue to

update and maintain the Agency's list of carcinogens which is being used by Agency program offices in development of regulations. Technical assistance will be given for the development of multi-media exposure assessments on chemicals considered high priority by the Toxic Substances Priority Committee (TSPC). The TSPC has the responsibility for coordinating all media activities for a chemical with respect to possible regulatory action. The program will also participate in TSPC and Interagency Regulatory Liaison Group committee and work group activities dealing with carcinogenicity, mutagenicity, and reproductive issues and provide oversight and review of major carcinogenicity, mutagenicity and reproductive risk assessments to assure scientific consistency within the Agency.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analysis section of this submission.

The net increase change to this activity is zero. Several actions contribute to this no change, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $500.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $800 was applied to this activity.

- An increase of $1,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

1982 Plan

The Agency requests a total of $92,200 for this sub-program, all of which is for the Salaries and Expenses appropriation. This reflects a modest increase of $1,200.

The scientific assessment program will update and maintain the Agency's list of carcinogens which is currently being used by Agency program offices in the development of regulations. Limited technical assistance will be given for the development of multi-media exposure assessments on chemicals considered high priority by the Toxic Substances Priority Committee (TSPC). The program will continue to participate in TSPC and Interagency Regulatory Liaison Group committee and work group activities dealing with carcinogenicity, mutagenicity, and reproductive issues. A limited oversight and review will be performed of major carcinogenicity, mutagenicity, and reproductive risk assessments to assure scientific consistency within the Agency.

Change from January Request

This request represents a decrease of $700 from the January budget, which is for salaries and expenses. This decrease will result in decreased support for risk assessment reviews.

TECHNICAL INFORMATION AND LIAISON

1980 Accomplishments

In 1980, the Agency used a total of $291,700 for this sub-program, of which $289,000 was for Salaries and Expenses and $2,700 was for extramural research activities.

In 1980, the Technical Information Program supported the preparation and publication of the Research Outlook, the Research Highlights, technical information plans and guidance, and other documents of general interest to the environmental decision making community. It also provided ORD with information systems necessary to effectively plan and manage its research projects and resources. Specific accomplishments in the area of toxics included:

- Publication and dissemination of reports on:

  ° Biodegradability studies with organic Priority Pollutant Compounds.
  ° XAD-2 Thermal Blank Determination.

- Conducting seminars on:

  ° Structure-activity Research and its applicability to OPTS and ORD needs.
  ° Mussel Watch-Coastal Environmental Assessment System.
  ° Short-term in Vivo Assays for Environmental Carcinogens.

The Regional Services Staff provided for effective communications between ORD and the regions. Specifically, they:

- Developed and implemented the Regional Support Management Information System.

- Carried out regional liaison activities to provide technical assistance.

The Technical Information and Liaison activities helped enable ORD to communicate its research information to EPA's regional offices and to the environmental decision making community. Further, they assisted in making better coordination between ORD and the regions possible, asslowing each to better fulfill its role and to meet the needs of the Agency and the public more efficiently.

1981 Program

In 1981, the Agency has allocated a total of $300,200 to this sub-program, of which $282,900 is for the Salaries and Expenses appropriation and $17,300 is for extramural purposes under the Research and Development appropriation.

This part of the program is providing various research program and project summaries, decision series documents, and technology transfer publications to meet Research Committee requirements. Technical Information Plans, listing the explicit information products for this research effort, have been prepared. Throughout the year, support will be provided to develop these information products and to distribute them to the appropriate users. The support is also being provided to manage information systems which track ORD's research projects and resources.

Regional liaison activites are continuing as in 1980. To this end, such activites will:

- Continue the Regional Support Management Information System.

- Conduct ORD/Regional Senior Staff Meetings and other liaison activities to provide technical assistance. These will include preparing reports, conducting special staff and policy studies, developing regional problem statements, and identifying research and technical assistance requirements.

- Develop and implement a process to address the reseach needs of State and local government in the ORD planning process.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analysis section of this submission.

The net increase of $1,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,200.

- An increase of $3,000 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $900 from other activities.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $4,000.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $3,100.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $5,900 from program management.

1982 Plan

The Agency requests a total of $299,700 for this sub-program, of which $285,400 is for the Salaries and Expenses appropriation and $14,300 is for extramural purposes under the Research and Development appropriation.

This sub-program will continue, in 1982, to provide the same type of services as in 1981. This includes the development and production of technical information products to insure that research information is properly and adequately communicated to the

environmental decision making community. Specific products planned by the appropriate Research Committee will be developed. Support to managing systems which track ORD's research projects and resources will be provided as will strong liaison with regional offices, of a similar nature to that conducted in 1981.

Change from January Request

This request represents a decrease of $3,000 from the January budget, which is for Research and Development. This decrease will result in reduced support to preparation and dissemination of technical information publications.

MONITORING SYSTEMS AND QUALITY ASSURANCE

1980 Accomplishments

In 1980, the Agency used a total of $4,699,300 for this subprogram, of which $1,838,500 was for Salaries and Expenses and $2,860,800 was for extramural research activities.

- A study to determine the feasibility of linking several gas chromatographs to a Fourier Transform Infrared System was completed leading to a decision to proceed with a prototype system. The new system should facilitate the analysis of large numbers of samples at reduced costs.

- A sampling protocol for bulk asbestos was published to standardize quality of data obtained from the asbestos in school sampling program.

- A standardized method for measuring PCB's in oil was published in suppot of the PCB regulation.

1981 Program

In 1981, the Agency has allocated a total of $3,498,100 and 29 permanent workyears to this sub-program, of which $1,688,300 is for the Salaries and Expenses appropriation and $1,809,800 is for extramural purposes under the Research and Development appropriation.

Priority will again be given to those activities aimed at improving the quality of data collected, advancing the state-of-the-art in the most critical measurement areas and examining ways to streamline and reduce costs associated with testing and analysis. Specifically:

- Effort will continue on developing a series of standardized guidelines for designing monitoring programs to field test predictive models. Emphasis in 1981 will be on field testing a draft guideline for validaring stream models. The guidelines are being developed to provide consistency in the type and quality of monitoring data collected by validation studies.

- A prototype system linking several gas chromatographs to a single Fourier Transform Infrared detector will be evaluated. If successful, the system would increase significantly the number of samples that could be handled and also result in lower costs.

- Effort will also continue on investigating various microbial systems as rapid, low cost screening tests for specific toxic substances. The program is currently focusing on finding a system sensitive to dioxin.

- Current sampling techniques for air are not suitable for collecting polar compounds, a major category of toxics of interest to the Agency. Thus development of new polymeric substrates aimed at collecting polar compounds will continue to be supported in 1981.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analysis section of this submission.

The net decrease of $283,900 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $7,900.

- The Congress reduced the anticipatory research program by $2.5 million; a decrease of $121,300 was applied to this activity.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $3,200 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $8,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $1,100 was applied to this activity.

- An increase of $162,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $1,100 from other activities.

- A transfer of $200 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil non-compliance penalties under Section 120 of the Clean Air Act.

- Transfer of $50,000 to realign support to all programs supported by what was formerly anticipatory research funds; within the Salaries and Expenses appropriation, $700 to solid waste/non-energy, and within the Research and Development appropriation, $49,300 to drinking water environmental processes and effects ($49,200) and to toxic substances environmental processes and effects ($100).

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $8,800.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $18,600.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $66,000.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $10,000.

- Transfer of $6,200 to program management to realign PC&B costs within the Office of Research and Development.

1982 Plan

The Agency requests a total of $4,693,000 and 32 permanent workyears for this sub-program, of which $2,015,300 is for the Salaries and Expenses Appropriation and $2,677,700 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $1,194,900 over the 1981 request. The increase will permit the establishment of a quality assurance program specifically tailored to the Agency's regulatory and enforcement activities.

- The quality assurance program will be focused on Toxic Substances Control Act requests. Activities will include the development/preparation and repository for the distribution of standard reference materials; the conduct of laboratory comparison studies; on-site laboratory evaluation; and methods evaluation and standards.

- A droplet detector for use with high pressure liquid chromatography will be demonstrated.

- A field study will be conducted at a research site to further evaluate the 1981 draft guidelines for validating stream models.

- Efforts will continue on developing a broader range of polymeric substrates for sampling polar compounds.

- Support to the mandatory quality assurance program will provide technical guidance, support & over view to assure that the Agency will have environmental data that are appropriate for the EPA needs.

Change from January Request

This request represents a decrease of $70,200 from the January budget, of which $16,000 is for Salaries and Expenses and $54,200 is for Research and Development. This decrease will result in a less expansive base quality assurance program designed to provide quality assurance as an integral portion of ORD's research program in support of TSCA.

HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $10,376,600 for this sub-program, of which $2,959,000 was for Salaries and Expenses and $7,417,600 was for extramural research activities.

- A post-natal model for evaluating toxicity of the developing nervous system has been designed and validated for collecting behavioral and neurophysiological data which characterize central nervous system (CNS) damage resulting from exposure to toxic substances.

- Dose response functions for a series of neurotoxic substances have been determined for use in quantifying the relative sensitivity of four different behavioral effects. The ability to quantify the effects of hazardous chemical substances is a critical part of regulatory risk assessment because it allows the selection of economically feasible regulatory test protocols which provide optimum sensitivity.

- The effectiveness of a method developed for chemical substances which cause cancer was demonstrated in experimental animal for 16 direct- and indirect-acting chemicals.

- Data acquired during the validation of an in vivo prenatal toxicity screen utilizing pregant mice, a method originally developed in EPA health laboratories, support the use of this testing methodology, in part, as a birth defect and reproductive effects screening system. There is a potential utility of this cost-effective screen for regulatory testing guidelines and standards.

- The search for more sensitive, reliable and economical birth defect testing has resulted in the development of methods to obtain fetal electrocardiograms (ECG's). Changes in fetal ECG due to various toxic substances, pesticides, and hormones have been recorded and characterized and their relationships to morphological changes are being tabulated. Introduction of such techniques into the chemical regulatory testing system greatly enhances the ability to detect a harmful substance during development of early, subtle effects and often leads to reduced time and cost to the chemical manufacturers and processors in establishing chemical safety.

- The mouse lymphoma cell assay has been determined to have the ability to measure separate types of genetic damages. This is significant because both gene and chromosomal mutations are known to contribute separately to a variety of diverse conditions.

- Whole-animal tests to determine the effects of toxic chemicals on immunological defense against tumor cells and against viruses were developed and are in the process of being validated. Validation of the tests will be carried out with immuno suppressant drugs which determine how immunologic screening test detect effects of a broad range of chemical substances to be evaluated under TSCA and other regulatory areas. The development of an immunotoxicological, tiered, testing system is the ultimate goal. From the many methods available, the best must be identified and evaluated by research procedures.

1981 Program

In 1981, the Agency has allocated a total of $9,991,600 and 44 permanent work-years, to this sub-program, of which $3,318,600 is for the Salaries and Expenses Appropriation and $6,673,000 is for extramural purposes under the Research and Development Appropriation.

The 1981 program continues to focus on the development of specific research data needed to support the guidelines and standards required under TSCA. The research includes the selection and validation of known techniques for screening broad ranges of chemical types and large numbers of individual chemical substances with emphasis on accelerating the advancement of the more promising techniques from the research development state to a state of functional utility. The objective is to develop a rapid, reliable, and inexpensive testing capability which can screen all essential human life systems for harmful effects. The major research being addressed is in the following areas of:

- Acute, subchronic and chronic testing. This research concentrates on the development and validation of test systems and selection of animal species that serve as predictors of human disease processes which may be potentially impacted, directly or indirectly, by chemical substances.

- Reproductive effects and teratology testing. Screening methodology is being defined to detect adverse effects on reproductive organs and reproductive processes and to determine potential perinatal and early prenatal adverse responses to chemicals which can result in developing offspring during pregnancy and early infancy.

- Neurotoxicology and behavioral effects testing. Short-term testing methods using indentification of specific neurophysiological, neurochemical, and neurobehavioral changes are being developed to screen for the effects of toxicants upon the functional and structural integrity of the nervous system.

- Mutagenicity testing. This research will continue to develop and refine the tiered, short-term genetic damage testing scheme which consists of a matrix of screening and confirmatory tests employing bacteria, yeast, plants insects, isolated mammalian cells, and whole animals.

- Carcinogenicity testing. Appropriate short-term tests to be included in the three-tiered cancer testing matrix are being established. The tiered chemical testing system will permit (1) inexpensive tier-one screening to detect potential cancer-causing chemical substances, (2) tier-two confirmatory testing with bioassays which are still relatively short in duration and low in cost, and (3) longer-term tier-three risk estimation laboratory studies which will permit quantification of the degree of health risk to the human situation.

- Metabolism. Research in this area evaluated testing methods to determine which laboratory animal test species proximate the human response, the chemical reactivity of metabolic intermediate compounds, and the interaction of metabolic intermediate compounds with DNA which can serve as presumptive test evidence of cancer or genetic damage at the first (screening) level of testing.

- Epidemiology. The research attempts to explain the cause and determinants of disease where pre-existing human exposure situations can be found. Although only a select number of chemicals are found in situations which can be studied

epidemiologically, these epidemiological studies provide important chemical-specific information and are a vital part of the validation of animal and cellular test systems.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $2,806,700 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions of the buget (House Document 96-294): these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $11,000.

- The Congress reduced the anticipatory research program by $2.5 million; a decrease of $649,300.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $3,200 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $49,900 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $1,803,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $13,700 was applied to this activity.

- An increase of $24,900 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $3,200 to other activities.

- Offsetting transfer of $16,100 were made to realign support to all program supported by what was formerly anticipatory research funds; $16,100 was transferred within the Salaries Expenses appropriation to solid waste/non-energy; $16,100 was transferred within the Research and Development appropriation from toxic substances environmental processes and effects.

- Transfer of $70,800 from toxic substances environmental processes and effects, to realign contract funds.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $3,300.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $30,000.

- An internal agencywide reduction of $6,500,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $335,500.

1982 Plan

The Agency requests a total of $11,673,200 and 43 permanent workyears for this sub-program, of which $4,466,100 is for the Salaries and Expenses Appropriation and $7,207,100 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $1,681,600. Activities such as test development and application in the areas of neurotoxicology and genetic toxicology deferred in 1981 will be resumed. This restoration will provide data for regulatory determinations in areas where such information is extremely limited.

This sub-program will continue to emphasize the development and refinement of testing protocols for determining the adverse health effects of commercial chemicals. The biological testing indicators of harmful effects being addressed cover a variety of physiological, biochemical, morphological and other effects relating to specific organ or life system toxicities. In addition, advancing the state-of-the-art for predicting carcinogenicity, mutagenicity, and teratogenicity is a major concern. A closely related goal is the validity and accuracy of tests and testing methodology which are rapid and economically feasible. The data from this program will be used for regulatory testing standards and guidelines and for the risk assessments needed for regulatory determinations.

Research will focus on development and validation of testing methods for use in the Tier I Tier II portions of the three-tiered testing schemes for chemical substances. Emphasis is placed on accelerating the development of promising techniques from the research and development state to practical utility. Research in this area will include neurotoxicology and behavioral programs for the development of methods to screen the effects of toxicants upon the functional and structural intergrity of the nervous system using observations which can be defined by a recognizable biological change. Research will include studies of human reproductive effects, and teratology studies to define screening methodology to determine potential perinatal and early prenatal adverse responsiveness to manufactured chemicals. Risk assessment research will encompass the use of information on the biological of mechanism action and the activity of chemical substances as well as a study of the relative importance of uneven numbers of chromosomes in genetically-mediated disease.

Change from January Request

This request represents a decrease of $242,600 from the January budget, of which $35,600 is for Salaries and Expenses and $207,000 is for Research and Development. This decrease will result in reduced effort in developing tests for reproductive effects of toxic substances.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY
1980 Accomplishments

In 1980, the Agency used a total of $1,710,200 for this sub-program, of which $481,800 was for Salaries and Expenses and $1,228,400 was for extramural research activities.

- The destruction of PCB in industrial and utility boilers was investigated which determined the destruction efficiencies, developed control technologies, and established test burn protocols.

- Conceptual design, operations guidelines, and preliminary environmental assessment of offshore hazardous waste incineration facilities were conducted to develop the knowledge of offshore hazardous waste incineration technique.

- An optimization demonstration for removal of asbestos by baghouse, and assessment of asbestos of road surfaces, and an ORD asbestos research status report were completed which all contribute to the solution of the asbestos problem.

- Development of organic chemicals producers data base was initiated for PMN review and other purposes.

- More than 300 PMNs were reviewed.

- Reference manuals on dioxins were completed, which cover the sources, exposure, transport, control, analytical methods, and assessment of dioxinforming chemical processes.

- Development of process alternatives and evaluation of chemical substitutions. The generic unit process technology and pollutant assessement work being undertaken. This work provides data for the establishment of a predictive model which leads to identification of potential uses and the associated risks and substitutes and manufacturing processes for existing and new chemicals to be regulated by the Office of Pesticides and Toxic Substances (OPTS) under TSCA Sections 5 and 6.

1981 Program

In 1981, the Agency has allocated a total of $1,754,000 and will 11 permanent workyears to this sub-program, of which $596,500 is for the Salaries and Expenses Appropriation and $1,157,500 is for extramural purposes under the Research and Development Appropriation.

Major Activities support in this portion of the program will:

- Provide expert PMN review.

- Assess alternative disposal metnods for PCBs, document and correlate PCB destruction with conbustion efficiencies in high efficiency boilers, and develop alternative non-thermal destruction methods for PCBs.

- Initiate asbestos study on commercial products and additional support work for the OPTS programs.

- Assist in the development of agency policy and strategies for reducing chlorofluro carbon (refrigerant) use.

- Develop and maintain the data bases and other services for PMN review and chemical control actions.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in the submission. The details of the restructuring of the research and development program, as well as crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $17,700 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $3,200.

- An increase of $7,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $800 to other activities.

- A transfer of $2,700 was made to the Administrative Law Judges to provide addtional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $3,100.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $1,800.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $13,900.

1982 Plan

The Agency requests a total of $1,728,300 and 12 permanent workyears for this sub-program , of which $620,400 is for the Salaries and Expenses Appropriation and $1,107,900 is for extramural purposes under the Research and Development Appropriation, a decrease of $25,700.

The research activities will:

- Continue to emphasize the "new chemical" manufacture pollution predictive model. This model is based on the unit process approach and will provide information such as the manufacturing processes, distribution and use patterns, waste disposal methods, and control options for a specific chemical. Together with a viable analytical model, it will predict human risk as the chemical product moves through commerce.

- Continue source characterization and estimation of the environmental release of asbestos from the use and disposal of commercial products.

- Continue correlation of PCB destruction and fuel combustion efficiencies and assessment of laternative disposal methods for PCBs.

- Focus on developing alternative manufacturing methods and process conditions to reduce the occurrence of toxic product contaminants.

- Evaluate the possibility of developing substitutes for chemicals that pose toxic threats.

Change from January Request

This request represents a decrease of $49,100 from the January budget, of which $4,500 is for Salaries and Expenses and $44,600 is for Research and Development. This decrease will result a reduced effort in the area of substitute/alternative on manufacturing methods to reduce or eliminate toxic contamination and/or toxic waste discharges.

ENVIRONMENTAL PROCESSES AND EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $10,686,900 for this sub-program, of which $3,068,300 was for the Salaries and Expenses and $7,618,600 was for extramural research activities.

- A method was developed for the separation and identification of toxic volatile organics in sediments. This method will provide data for defining bioavailability of toxic chemicals in aquatic environments.

- A method of multi-residue analysis for organic toxic chemicals has been developed. This method will be used for measuring exposure concentration of potential carcinogens in air.

- Solid polymeric devices for collection of polychlorinated biphenyls (PCBs) from atmospheric samples have been developed. The methodology involves the use of sorbents such as XA-D type resings. This method is being used to define exposure concentration of PCBs in the U.S. and will be helpful in the regulation of PCBs under the Toxic Substances Control Act (TSCA).

- An experimental protocol has been developed for the determination of ozone reaction rate constants. This method will be used in defining the persistence of toxic chemicals in the air.

- A method of defining anaerobic microbial degradation of toxic chemicals has been developed. This method will provide data for predicting persistence of chemicals in aquatic environments.

- A first generation structure-activity model has been developed. This model is designed to predict the toxicity of chemicals to aquatic animals.

- A laboratory microcosm ecosystem has been developed to predict the fate of toxic chemicals in estuarine environments. This system will provide a tool for validation of exposure assessment models.

- Soil microcosms have been developed and evaluated for assessment the fate and effects of toxic chemicals in terrestrial environments.

- The effects of different environments and the biodegradation characterizatics of microbial communities have been determined for methyl parathion, pentachlorophenol, and p-nitro phenol using the ECO-CORE water/sediment test system. This information will enhance the standardization of this test system and further its application for the production of fate and transport information for regulatory decision making by the Office of Pesticides and Toxic Substances.

- A series of acute toxicity test were conducted by EPA and contract laboratories using three species. The tests will enable the Office of Toxic Substances to estimate variation in results from tests conducted in the participating laboratories under identical test conditions, and determine the precision of toxicity tests on aquatic animals. With this information, the Office of Toxic Substances should be better able to evaluate data submitted by industry in response to TSCA.

1981 Program

In 1981, the Agency has allocated a total of $13,980,500 to this sub-program, of which $5,164,600 is for the Salaries and Expenses Appropriation and $8,815,900 is for extramural purposes under the Research and Development Appropriation.

These resources are assigned to develop improved, validated, and cost-effective methodologies for characterization and measurement of toxic chemicals; for predicting transport and fate of toxic chemicals in the environment; and for defining exposure and hazards associated with toxic chemicals to environmental species and ecosystems.

The main research objectives in 1981 are to (1) develop improved techniques for identification and quantification of trace level toxic chemicals in air, sediment, plants, and marine systems; (2) develop methodologies and validated models for predicting movement, transformation, exposure, presistence and bioaccumulation of chemicals in air, water, estuarine-marine, terrestrial and biota environments; (3) develop methodologies for defining toxicity and hazard of chemicals to ecosystems; and (4) develop methodologies and models for defining human exposure to environmental toxicants. These methodologies will contribute the risk assessment process under Sections 4 and 5 of TSCA.

The major areas of research for the 1981 Environmental Processes and Effects Research program include: technical assistance, protocols for fate testing and environmental process characterization, development of toxicity test, round robin testing, structure activity exposure assessment, bioaccumulation models, food chain models, microcosm technology, specialized test development, interspecies interaction research, and behavioral tests.

Protocols for Fate Testing and Environmental Process. The availability of a series of standard characterization tests protocols for fate testing and process characterization of chemicals in the environment is necessary for the implementation of Section(4) and Section (5) of TSCA. The research objective is chemicals which can be used in testing chemicals, and generating information for building exposure assessment models. several examples are:

- Determination of the *in vitro* oxidation/reduction relationships in chemical and biological systems, describing adapation of specific systems.

- Evaluation of the relationships in degradation of toxic chemical in soils.

- Determination of environmental factors affecting microbial adaptation and the role of marine microorganisms and their associated communities in controlling and affecting hydrolysis, sorption/desorption processes, bound residue transport, and biodegradtion as related to improving and using tierred fate testing programs.

- Completion of protocols for defining leaching of chemicals in soils, and comparing batch sorption, soil thin layer chromatography and column methods.

- Development of models to predict bioaccumulation of chemicals in fish.

Development of Toxicity Test. The availability of standard for defining toxicity of chemicals to aquatic, terrestrial, and test estuarine marine species is necessary for implementation of Section (4) and Section (5) of TSCA. Development, validation, and improvement of these is anticipated to be a continuous need of OPTS for the next 5 years. Some of the activities for develoment of these toxicity tests include:

- Development and validation of tests for assessing resistance to and recovery from toxic chemicals in a soil-plant system.

- Development of methods for measuring and predicting effects of more than one toxic chemical of aquatic species with special emphasis on defining chemical interactions.

Round Robin. Research to validate tests for determining toxicity and effects of chemicals to environmental species is being conducted via round-robin testing involving EPA and non-EPA laboratories. These tests will be incorporated into Section (4) and Section (5) tests rules and standards under TSCA, and thus are a high priority to OPTS.

Structure Activity. The structure-activity concept for predicting fate and effects of chemicals, based on structural characteristics, physical-chemical properties, toxicity, transport and transformation characteristics, and certain electronic parameters of the chemical, will be further developed. The structure activity concept will provide OPTS with a rapid evaluation technique, and is necessary to enable OPTS to provide an evaluation of new chemicals within 90 days after submission by industry, as mandated under Section (5) of TSCA. Major activities in this area of development include:

- Development of the ability to predict microbial degradation of one class of organic chemicals on the basis of chemical structure.

- Determination of the feasibility of a structure activity concept for predicting adsorption, hydrolysis and biodegradation of chemicals in aquatic and terrestrial environments.

- Development of a biodegradability data base for toxic chemicals to be used in developing structure-activity concept for predicting biodegradability rate of chemicals.

- Developing the structure-activity concept for two classes of chemicals in order to predict effects to aquatic species.

- Determination of the reaction and fate of toxic chemical compounds from smog chamber studies using data to develop structure-activity relationships.

- Development of a data base for rate parameters and reactivity of chemicals in air, to be used in structure activity development.

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- Examination of relationships between partition coefficient High Pressure Liquid Chromatography and bioaccumulation of selected compounds in marine system. Verify conceptual models developed in freshwater with marine systems.

Exposure Assessment. A major research objective in 1981 is to increase the precision and accuracy of predictive techniques used to estimate the exposure concentrations of chemicals in various compartments of the environment. A knowledge of the concentration of chemicals in the environments is critical to the determination of the risk which chemicals may pose to humans and the environment as required under Section (4) and (5) of TSCA. A multi-laboratory program has been initiated to develop models which predict the concentration of chemicals in the ambient environment based upon the physical-chemical properties, transport and transformation chacteristics, and the total input of a chemical. Validation of the improved models will be carried out in laboratory microcosms and field channels. Some of the activities in this area include:

- Development of reined and improved freshwater EXAMS based on laboratory and field evaluation results, and inclusion of additional transport, transformation and degradation processes.

- Identification of current air quality mathematical models or modeling techniques which can handle toxic substances in the atmosphere.

- Evaluation and recommendation of specific models to estimate human exposure to toxic substances in the air.

- Determination of the conceptual framework for a model of continuous flow microcosm.

Bioaccumulation Models. Models are being developed to predict bioaccumulation of chemicals in plants and animal species in freshwater, marine-estuarine and terrestrial environments. In addition to providing input for food chain models, the bioaccumulation data will provide risk estimates necessary for TSCA Implementation. Some specific research activities include:

- Development of models for predicting bioaccumulation of chemicals in aquatic plants, and terrestrial plants and animals.

- Development of models to predict bioaccumulation of chemicals in fish.

Food Chain Models. Research is being conducted to develop rapid simple and cost-effective techniques to predict bioaccumulation and effects of toxic chemicals via food chain systems. Emphasis is on the development of models capable of defining the impact of chemical contamination in the food web. Food chain model research is a multi-laboratory effort covering freshwater, estuarine-marine, and terrestrial media. Activities in this area include:

- Evaluation of the exposure of humans to contaminated Great Lake fish through the aquatic food chain, and estimation of health significance.

- Tracking the transfer of a toxic compound in a single estuarine prey/predator food chain as influenced by variations in chemical concentration and organism numbers.

Microcosm Technology. Laboratory ecosystems and microcosms are being developed to predict fate, effects and movement of chemicals. Microcosms will be used to validate exposure assessment and other models. The major activities will include:

- Development of simple aquatic microbial ecosystem for screening toxic materials.

- Determination of processes and rates of transfer of toxic chemicals within sediments.

- Development of improved experimental aquatic ecosystems for exposure model evaluation and validation.

- Development of the use of laboratory microcosms for predicting leaching adsorption and volatility of toxic chemicals.

- Development of a Monticello Minnesota stream channel microcosm study.

Specialized Test Development. The development of specialized tests based upon (a) biochemical and physiologic in vitro tests for acute and chronic effects and (b) evaluation of multiple chemicals exposure, for defining hazard of chemicals will provide rapid and more cost-effective testing methods.

Interspecies Interaction. Interspecies interaction research is designed to develop cost-effective procedures based upon multiple species assays and is necessary to develop methods for estimating toxicity at system and community levels.

Behavioral Test. This area of research, which is designed to provide methods for rapid screening of chemicals, is the development of behavioral effects of chemicals to fish. Research in this area includes:

- Design of a laboratory preference-avoidance system, and preparation of a behavioral testing protocol and support document.

- Development of methods for defining predator-prey interactions for aquatic systems, using aquatic species identified by OPTS.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structrue presented in the 1981 Presidents's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of the submission.

The net decrease of $1,750,400 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter Transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $17,800.

- The Congress reduced the anticipatory research program by $2.5 million; a decrease of $79,600 was applied to this activity.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $5,100 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $15,600 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,00; a decrease of $2,300 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $1,200,000 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million;a decrease of $58,300 was applied to this activity.

- An increase of $61,100 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $7,800 from other activities.

- A transfer of $22,800 was made to the radiation media in order to support the Radiation Policy Council.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $9,600.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $5,200, which is being redirected to fund PC&B deficits.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $3,200.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $168,900.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $39,900.

- A transfer of $200,000 was made to solid waste/non-energy to support efforts on Love Canal.

- Offsetting transfers of $394,400 were made to realign support all program supported by what was formerly anticipatory research funds: $394,400 was transferred within the Salaries Expenses appropriation, from interdisciplinary-exploratory research; $394,400 was transfer within the Research and Development appropriation, to interdisciplinary-exploratory research ($378,400), to toxic substances monitoring systems and quality assurance ($100), and to toxic substances health effects ($16,100).

- Transfer of $70,800 to toxic substances health effects, to realign contract funds.

1982 Plan

The Agency requests a total of $13,980,100 and 79 permanent workyears for the sub-program, of which $6,706.700 is for Salaries and Expenses Appropriation and $7,273,400 is for extramural purposes under the Research and Development Appropriation.

This reflects a decrease of $400.

The major areas of research for the Environmental Process and Effects Research Program will include: protocols for fate testing; structure-activity; exposure assessment models; validation of toxicity tests; ecosystem process methodology; methods for avoidance behavior, interspecies interaction; specialized test development; microcosms; bioaccumulation models; food chain models, and human exposure.

Protocols for fate testing. Development of improved protocols for testing the environmental fate of toxic chemicals will include: completion of protocols for defining leaching of toxic chemicals in soils, in order to provide method for predicting the contamination of sub-surface waters by toxic chemicals, and development of protocol and data base for photolysis of chemicals in air, including the development of predictive methods for defining potential ozone depleting chemicals. Methodologies will also be developed for determining the fate of chemicals, including: (a) studying the effect of catalytic processes, sediments, and naturally occuring substances (algae) on sydrolysis, phtolysis, oxidation, and microbial degradation rates. Special emphasis will be placed on persistence of intermediate degradation products, (B) quantitative methods for describing the biodegradation of toxic chemicals in fresh and estuarine waters, and in soilds and sediments. The emphasis will be to define the effects of chemical concentration on the rate of biodegradation, extrapolation of laboratory data to real environmental conditions, and degradation by naturally occurring organisms such as algae; (CO techniques for predicting transformation of chemcials in marine and estuarine environments; (d) defining uptake and transformation of toxic chemicals in plants (e) predicting oxidation reduction of toxic chemicals in water, soil and sediments; and (f) characterization of soils and sediments for testing adsorption, leaching and degradation of toxic chemicals.

Structure Activity. Screening techniques developed will be base upon the structure-activity relationship of chemicals to toxicity, pattern recognition, and benchmark concepts for predicting fate and toxicity of chemicals. Work with two classes of chemicals using aquatic species will be completed, including extrapolation of toxicity from one species to another. A feasibility study on structure-activity concepts for predicting toxicity of chemicals to marine and terrestrial species will be completed. Structure-Activity concepts will be developed for predicting fate of toxic chemicals, emphasizing two classes of toxic chemicals mutally identified by OPTS and ORD for defining hydrolysis, photolysis or biodegradation of chemicals.

Exposure Assessment Models. Validated models for defining exposure concentration of toxic chemicals in air, water and terrestrial environments will be developed. This research will provide exposure data which is required to determine the risk posed by chemicals, and necessary for implementation of TSCA. A second generation Exposure Assessment Model (EXAMS) for predicting the concentration of toxics chemicals in aquatic environments will be developed.

Validation of Toxicity Tests. Validated single species tests for defining acute and chronic toxicity of chemicals to certain aquactic estuarine, marine and terrestrial animals and plants will be developed. Culturing techniques will be developed for standardizing selected aquatic, estuarine and terrestrial species for eclogical effects testing as well.

Ecosystem Process Methodology. Key ecosystem processes, which can be used to develop screening methods, multispecies test, and to define ecosystem stress due to chemical exposure, will be identified. Tests for defining effects due to multiple chemical exposure, and the effects of chemical on ecosystem nitrification, ammonification, and nitrogen fixation will be developed. Techniques and criteria will also be developed for measuring ecosystem stress due to toxic chemicals and the capacity of the ecosystem to recover from the perturbation.

Methods for Avoidance Behavior. This area of research is designed to provide methods for rapid screening of chemicals based on the behavioral effects of chemicals on fish. Methods for assessing the effects of toxic substances on the predator-prey interaction will evaluated.

Interspecies Interaction. Research on species interaction will continue to develop cost-effective procedures necessary to develop methods for estimating toxicity at the ecosystem and community levels.

Specialized Test Development. Specicalized tests using in vivo and in situ assays for defining cytogenetic damage in marine organisms due to toxic chemical exposure will be evaluated. Additional specialized tests will be developed based upon physiologic and biochemical responses, and using in vivo test to assess acute and chronic chemical effects (including aerobiology).

Microcosms. Labortory ecosystems and microcosms will further developed as cost-effective screening devicies for defining and predicting the fate and effects of chemicals. Emphasis will be placed on Standardization of ecosystems, reproducibility. Laboratory microcosms will used to test EXAMS and other exposure assessment model. Improved terrestrial microcosms for validating exposure models and defining fate and effects to toxic chemicals will be devloped. Two chemicals will be completely tested. Freshwater microcosms using complex laboratory streams for predicting biological effects of toxic chemicals in aquatic communities will be developed. Toxic chemicals will be tested in laboratory microcosms to define transport and transformation in both saturated and unsaturated soils.

Bioaccummulation Models. Models for defining bioaccumulation potential of toxic chemicals in organisms will be advanced, and used in risk estimation. Mathematical models for predicting the bioaccumulation of toxic chemicals in aquatic plants will be developed, using chemical uptake, transport, and transformation as parameters. Mathematical models for predicting bioaccumulation of toxic chemicals in terrestrial plants and animals will be developed, considering chemical uptake and organisms metabolism. Mathematical models for predicting biaccumulation in aquatic animals, will be developed based on animal metabolism, and chemical release and interaction.

Food Chain Model. Measurement techniques for estimating concentration of toxic chemicals in food chain systems will be developed. The work will include model development, identification of chemical uptake and accumulation pathways in freshwater, terrestrial, and marine food webs; and validation using available data.

Human Exposure. Human exposure to selected toxic chemicals present in the ambient environment in the New Jersey Area will be measured in order to define injury to human health as required by TSCA. The research activities will emphasize measurement of toxic chemical consentration in air, water, the food chain, and soil incorporation, in order to define total human body burden and
risk.

Change from January Request

This request represents a decrease of $381,000 from the January budget, of which $31,000 is for Salaries and Expenses and $350,000 is for Research and Development. This decrease will result in a cutback in the areas of environmental exposure and effects research along with a decrease in methods development efforts.

STRATOSPHERIC MODIFICATION

1980 Accomplishments

In 1980, the Agency used a total of $1,394,300 for this sub-program, of which $133,500 was for Salaries and Expenses and $1,260,800 was for extramural research activities.

Major Accomplishments are summarized as follow:

- Funded the publication of the National Academy of Sciencies' state-of-knowledge reports of their studies on causes, effects, and alternate contols of stratospheric ozone depletion, mandated by P.L. 95-95. These reports were entitled: "Stratospheric Ozone Depletion by Halocarbons: Chemistry and Transport" and "Protection Against Depletion of Stratospheric Ozone by Chlorofluorocarborns."

- Wrote and delivered the second biennial report to Congress on research concerning causes and effects of stratospheric ozone depletion.

- Chaired and managed the Interagency Committee on Stratospheric Ozone Protection and its subcommittes which coordinated Federal research on stratospheric ozone depletion and identified research priorities. Priority areas are atmospheric science, and health and ecological effects.

- Completed epidemiological studies supported by EPA funds and conducted throughout the U.S. by the National Cancer Institute on the correlation of non-melanoma skin cancer to ultraviolet-B radiation. Preliminary analysis indicates that each one percent increase in damaging ultraviolet radiation results in a 1.6 to 2.4 percent increase in nonmelanoma skin cancer in the U.S., depending on latitude.

- Began to use personal dosimeter in studies to correlate exposure to ultraviolet radiation with skin cancer incidence.

- Continued research which provided updated data for use by the National Academy of Sciences and other organizations engaged in making improved intergrated assessments of cause, effects and controls of stratospheric ozone depletion.

- Expanded research on the adaptability of plants under field condictions to enhanced ultraviolet-B radiation in order to understand why plants are affected to a greater degree in control chambers than in the field. The plants selected for study (wheat, corn, soybean, rice, citrus) have high economic value.

- Completed ultraviolet-B marine and freshwater penetration studies indicating the large depth to which solar UV-radiation penetrates. The studies on plankton organisms, northern anchovy, Pacific mackeral shrimp and crab larvae indicated harmful effects from increase ultraviolet-B penetration.

- Developed an ultraviolet-B radiometry calibration and measurement technique cooperation with the National Bureau of Standards. An instruction manual for use by UV-B radiation effects experimenters in nearing completion.

- Initiated study to develop methodology with which the ozone depleting potential of chemicals, especially chemicals considered as alternatives to the chloroflurocarbons with ozone destruction potential, can be evaluated.

- Assessed the present knowledge on the causes of melanoma skin cancer. This indicated that the relationship between UV-radiation and melanoma skin cancer is not as straight forward as the relationship between UV-radiation and non-melanoma skin cancer. The evidence indicates the existence of a complex relationship.

- Made initial model calculations on the connection between ultraviolet-B radiation and photochemical smog.

- Sensitivity analyses of health damages continued and economic and social meas ures of skin cancer costs were tested. The result of these analyses and related data will be combined to make an integrated assessment of causes, effects, and alternate controls of ozone depletion.

- Initiated research to study the role and effects of ultraviolet-B radiation in the photosynthesic process.

- Research on the role and effects of critical molecular targets of ultraviolet-B radiation continued. The results of this research will enchance our ability to predict effects on a range of marine organisms.

1981 Program

In 1981, the Agency has allocated a total of $1,403,100 and 3 permanent work-years to this sub-program, of which $187,900 is for the Salaries and Expenses Appropriation and $1,215,200 is for extramural purposes under the Research and Development Appropriation.

Highlights of the Program are summarized as follows:

- Provide the most recent state-of-the-art knowledge on causes, effects, and control of stratospheric ozone depletion to those conducting integrated assessments and to policy and decision-making officials. A comprehensive assessment of the state of knowledge and research needs will be prepared, based on new knowledge obtained in 1980 and 1981.

- Initiate new analytical studies of determine the relationship between UV-B radiation and melanoma skin cancer. The present understanding is complex and uncertain.

- Continue the pilot study using personal dosimeter to test the relationship of ultraviolet-B and skin cancer.

- Develop the methodology, begun in 1980, to evaluate the ozone depleting potential of chemicals, especially those chemicals considered as alternative to the chlorofluorocarbons deemed substantial contributors to ozone destruction.

- Continue Federal research cordination by the Interagency Committee on Stratospheric Ozone Depletion.

- Continue studies of ultraviolet-B effects on key marine life form. The specific target populations and methodologies used in these studies will be based in part on the results of the studies conducted in 1980 on plankton organisms, shrimp and crab larvae, and mackeral.

- Provide a manual on UV-B radiometry and methodology for use by effects experimenters.

- Study the adaptability of plants under field conditions to enhanced ultraviolet-B radiation in order to understand why plants are affected to a greater degree in control chambers than in the field.

  The plants selected for study (wheat, corn, soybeans, rice, citrus) have high economic value.

- Prepare the third biennial research report to the Congress, due December 1981.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission of the new structure as presented in the 1981 current estimate reflected in this submission. The details on the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease to this activity is $9,000. Several actions contribute to this change, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,200.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $600 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $900 was applied to this activity.

- The Congress reduced agencywide Senior Executive Services bonuses by $750,00; a decrease of $2,400 was applied to this activity.

- An increase of $1,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on board needs resulted in a transfer of $900 to other activities.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $700.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 consulting services; the reduction applied to this activity is $3,900, which is to be rescinded.

1982 Plan

The Agency requests a total of $1,041,100 and 1 permanent workyears for this sub-program, of which $144,900 is for the Salaries and Expenses Appropriation and $896,200 is for extramural purposes under the Research and Development Appropriation.

This reflects a decrease of $362,100 which will reduce by about 70 percent the studies on the effects of ultraviolet-B radiation on economically important agricultural crops.

Activities planned for 1982 will:

- Provide the most recent state-of-the-art knowledge of cause, effects, and control of stratospheric ozone depletion to those conducting integrated assessments and to policy and decision-making officials. An updated comprehensive assessment of the state of knowledge and research needs, based on new knowledge obtained in 1980 and 1981, will be prepared.

- Perform analytical studies to determine the relationship beteen UV-B radiation and melanoma (the more fatal type) skin cancer.

- Continue the pilot study using personal dosimeters to test the relationship of ultraviolet-B radiation and skin cancer.

- Conduct research on the adaptability of plants under field conditions to enhanced ultravoilet-B radiation in order to understand why plants are affected differently in the field than in the laboratory. The plants selected for study (wheat, corn, soybeans, rice, citrus) have high economic value.

- Study the effects of ultraviolet-B radiation on key marine life forms. The specific target populations and methodologies used in these studies will be based in part on the results of the studies conducted in 1980 and 1981 on fish and other aquatic plant and animal organisms.

- Utilize methodology previously developed to evaluate the ozone-depleting potential of chemicals, especially those chemicals considered as alternatives to the chlorofluorocarbons deemed subtantial contributors to ozone destruction.

- Continue Federal research coordination by the Interagency Committee on Stratospheric Ozone Protection.

- Deliver the third biennial research report to the Congress, due December 1981.

Change from January Request

This request represents a decrease of $19,400 from the January budget, of which $1,300 is for Salaries and Expenses and $18,100 is for Research and Development. This decrease will result in decreased research on biologoical effects (non-health) (specifically ultra violet band aquatic and agricultural effects).

NATIONAL CENTER FOR TOXICOLOGICAL RESEARCH

1980 Accomplishments

In 1980, the Agency used a total of $1,651,700 for this sub-program, of which all was for extramural research activities.

The National Center for Toxicalogical Research (NCTR) was jointly established in 1971 by Presidential proclamation between the United States Environmental Protection Agency and the Department of Health, Education and Walfare (now DHHS) to be administered by the Food and Drug Administration as a research center to resolve problems of common interest to government, academia and industry in the field of toxicology. Core support for construction, renovation and research program development was provided by EPA and FDA. The development of various research program of common interest to all regulatory agencies occurred in the late 1970's.

The 1980 initiatives for EPA provided by NCTR staff can be divided into two general categories: expert staff assistance and programmatic basic research initiatives. Contributions to EPA in the area of expert staff assistance have provided in: statistical analysis of 2,4,5-T results; and participation on task forces for risk assessment of (1) teratogy and reproduction; (2) nitrilotriacetic acid; and (3) benzidine. Other accomplishments included: (a) completion of long-term aromatic amine studies of benzidine and its congeners (compounds of major importance in the rubber, dye and petro-chemical industries), and initiation of mechanism studies of various aromatic amines such as naphthylamines; (b) construction of a revolutionary new waste water treatment plant capable of hadling greater volumes of contaminated water in a more cost effective and timely fashion. This plant is serving as a model for various industries and municipalities; (c) development of protocols for addressing the complex problems of additivity of risk resulting from chlorination of municipal water supplies. The results of these experiments may be directly applicable to evaluating the toxic impact of waste dumps. The proposals has been submitted to EPA for review and comment; (d) in addition to routine dioxin analysis in waste dumps, food products and water supplies, NCTR for the first time developed methodology for analysis and determination of isomers of doxin in the environment. This method develops a classification of dioxin mixtures relative to their potential toxic effects.

1981 Program

1981, the Agency has allocated a total of $4,500,000 to this sub-program, all of which is for extramural purposes under the Research and Development Appropriation.

Highlights of the activities being supported are as follows:

- Continuation of research program in risk estimation (carcinogenicity, mutagenicity and teratogenicity) to assist EPA in the extrapolation of animal data to humans thereby permitting sound regulatory decisions on safety for health and environment.

- Continuation of long-term support in conducting carcinogenesis studies.

- Development of systematic interaction studies utilizing both in vitro bioassays and long-term in vivo bioassays in intact animals to examine synergism and/or antagonisms among compounds.

- Continuation of long-term research relevant to EPA needs and to the uniqueness of their fit to the NCTR capabilities to do long-term, chronic exposure studies under barrier conditions.

- Support to the following intramural core research program which are of mutual interest to EPA and FDA:

  Mutagenesis Research
  Immunotoxicology Research
  Chemical Research
  Pathology Research
  Biochemical Machanisms of Toxicology, and
  Reproductive and Development Toxicology.

- Technical Assistance in the form of multi-disciplinary support in document preparation and review in research areas other than biometry.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are drived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

There is no change from the budget estimate.

1982 Plan

The Agency requests a total $4,500,000 for this sub-program, all of of which is for extramural purposes under the Research and Development Appropriation.

The research will include an additive risk study, carcinogenesis studies, and plan development for determining toxicological state-ofthe-art usefulness of structure-activity relationships.

In the additive risk study (carcinogenesis interaction), multifactoral bioassay protocols will be used to determine if four carcinogens found in drinking water exert as additive carcinogenic effect when administered to rodents in combination. A rotenone carcinogencity bioassay in the rat for which dosing was completed in October, 1979 will continue until study completion. According to the protocol, test animals will be observed for 16 months following dosing at which time they will be sacrificed and histopathology preformed. Studies, designed to evaluate phonotype differences in in-bred mice regarding their susceptability to spontaneous neoplasia, will be performed. Structure activity relationships, regarding carcinogenecity of four aromatic amines are being investigated. The impetus for this study was a desire by EPA to set water effluent standards for benzidene and related compounds. NCTR will develop a proposed project plan to extend currently planned carcinogenic interaction additive risk studies and will develop a proposed project plan to determine the status of the usefulness of the structure-activity relationship in toxicology.

Change from January Request

There is no change from the January request.

ENERGY

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
		(dollars in thousands)				
Appropriation						
Salaries and Expenses.....	$11,211	$11,026	$10,588	$12,767	+$2,179	
Research and Development...	92,199	99,968	94,351	57,379	-36,972	
Total.....	103,410	110,994	104,939	70,146	-34,793	
Permanent Workyears.....	152	152	141	145	+4	
Full-time Equivalency.....	238	256	243	244	-1	
Outlays.....	137,420	105,000	116,132	109,264	+6,868	
Authorization Levels.....	103,461	107,599	107,599	*		
*Authorization Pending						
Program Highlights						
Multi-Media Energy Program:						
Salaries and Expenses....	4,054	4,042	3,975	5,144	+$1,169	E-11
Research and Development.	27,168	35,269	34,992	23,384	-11,608	
Oxidants Energy:						
Salaries and Expenses....	1,636	1,550	1,454	1,823	+369	E-32
Research and Development.	12,802	12,741	12,725	11,492	-1,233	
Hazardous Pollutants Energy:						
Salaries and Expenses....	520	581	577	102	+475	E-39
Research and Development.	5,785	5,577	4,442	1,989	-2,453	
Gases and Particles Energy:						
Salaries and Expenses....	2,273	2,424	2,252	3,415	+1,163	E-49
Research and Development.	22,514	22,477	21,128	13,435	-7,693	
Energy Water Quality:						
Salaries and Expenses....	627	661	577	1,050	+473	E-61
Research and Development.	10,355	10,115	9,713	4,675	-5,038	
Drinking Water Energy:						
Salaries and Expenses....	87	21	22	...	-22	E-68
Research and Development.	2,496	2,640	2,350	...	-2,350	
Industrial Wastewater Energy:						
Salaries and Expenses....	1,207	1,102	1,099	1,113	+14	E-71
Research and Development.	2,781	2,662	2,185	1,924	-261	
Solid Waste Energy:						
Salaries and Expenses....	285	293	287	...	-287	E-74
Research and Development.	1,340	1,247	647	...	-647	
Toxic Chemical Testing and Assessment Energy:						
Salaries and Expenses....	237	101	103	...	-103	E-77
Research and Development.	6,585	6,878	5,807	...	-5,807	

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
			(dollars in thousands)			
Municipal Spills Energy:						
Salaries and Expenses....	285	251	242	120	-122	E-82
Research and Development.	373	362	362	480	+118	
Total:						
Salaries and Expenses....	11,211	11,026	10,588	12,767	+2,179	
Research and Development.	92,199	99,968	94,351	57,379	-36,972	
Grand Total.....	103,410	110,994	104,939	70,146	-34,793	
Permanent Positions						
Multi-Media Energy Program.	69	71	70	67	-3	E-11
Oxidants Energy.....	22	20	20	22	+2	E-32
Hazardous Pollutants Energy	8	9	7	1	-6	E-40
Gases and Particles Energy.	22	24	23	30	+7	E-49
Energy Water Quality.....	4	4	4	7	+3	E-61
Drinking Water Energy.....	...	...	...	...	...	E-68
Industrial Wastewater Energy.....	18	16	14	14	...	E-71
Solid Waste Energy.....	2	2	2	...	-2	E-74
Toxic Chemical Testing and Assessment Energy.....	1	1	1	...	-1	E-77
Municipal Spills Energy....	6	5	...	4	+4	E-82
Total.....	152	152	141	145	+4	
Full-time Equivalency						
Multi-Media Energy Program..	86	93	90	85	-5	E-12
Oxidants Energy	33	30	30	33	+3	E-32
Hazardous Pollutants Energy.	11	14	11	3	-8	E-40
Gases and Particles Energy..	45	56	53	72	+19	E-50
Energy Water Quality.....	11	14	17	18	+1	E-61
Drinking Water Energy.....	...	1	...	...	...	E-68
Industrial Wastewater Energy	35	31	29	29	...	E-71
Solid Waste Energy.....	6	6	6	...	-6	E-74
Toxic Chemical Testing and Assessment Energy.....	2	3	4	...	-4	E-77
Municipal Spills Energy.....	9	8	3	4	+1	E-82
Total.....	238	256	243	244	+1	

* January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Overview and Strategy

Energy development and use is undergoing major changes. It is apparent that our national energy policy will call for a conversion of some utility and industrial power facilities from scarce oil to plentiful coal, decreased fuel consumption, particularly for the transportation sector, the use of technologies that are only now beginning to emerge for the production of liquid and gaseous fuels from coal, oil shale, and biomass, and incentives to spur oil exploration and production. The development of new domestic energy sources to power the Nation's homes and industry may pose a variety of threats to environmental quality. One of the Agency's major objectives is to protect the public health and welfare from adverse environmental effects associated with any potential shifts from petroleum to coal and the development of emerging technologies. Research and Development toward this end is mandated by the Clean Air and Clean Water Acts. To be effective such protection must be accomplished through an integrated approach so that the control of one form of pollution does not result in other unacceptable environmental impacts, and the costs associated with environmental control are minimized. Effective control of the environmental impact of changes in the Nation's energy systems must be based on a sound understanding of the likely course of energy development and must be accomplished in a reasonable manner at an acceptable cost.

As a result of our knowledge of possible health and ecological effects associated with both existing and new technologies for fuel processing, transportation, conversion, and utilization, the Environmental Protection Agency has made a major commitment to ensure that the environmental and human health are protected. Further, since many of the problems are long term (e.g., many technologies will not be available or in commerical use before 1985), EPA must have programs underway to develop the health, environmental and engineering data base necessary to support technology-based standards to control pollutant discharges. The lead times for impact assessment and control technology development are such that research programs must continue to be implemented now if energy development is to be compatible with environmental protection.

Areas requiring long-term research may result in Agency regulatory and enforcement activity. Increased reliance on synthetic fuels from coal and oil shale may generate new pollutants whose effects are not yet known and must be defined. For example, coal gasification processes may emit unacceptable quantities of carcingenic materials or impact groundwater supplies. New and emerging energy sources (e.g., advanced combustion, synthetic fuels and geothermal facilities) may produce cumulative chronic health and ecological effects. We must begin research in these areas now if we are to ensure the compatibility of energy system development and public health and welfare.

The Agency must also address many energy-related environmental problems in the near term. The Nation will substantially accelerate coal use for industrial and electric utility use. This conversion from oil to coal will result in additional emissions of particulates, nitrogen oxides, sulfur compounds, and other combustion pollutants. In addition to the health and environmental impacts of these emissions, knowledge of their atmospheric transport and deposition is needed. The increased use of coal will accelerate mining in semi-arid western areas, raising serious question about restoration of mined lands and degradation of the quality of available ground and surface water resources. Increased quantities of solid waste from energy facilities must be disposed of in an environmentally acceptable manner.

Program Responsibilities

EPA has the statutory responsibility to protect the environment in the course of the national program to develop and use the Nation's domestic energy resources to lessen our reliance on imported energy sources. Research and Development programs in support of that requirement are mandated by the Clean Air Act, the Federal Water Pollution Control Act, and the Resource Conservation and Recovery Act. Energy development and utilization cut across virtually every aspect of industrial, utility, commercial, and residential activity and thus require an exceptionally strong technical and policy basis for effective and equitable regulatory action. This energy-related environmental policy will be implemented by all agencies of the Federal Government.

Furthermore, EPA has the responsibility to review and coordinate the research activities of other Federal agencies with respect to the environment as they pursue their individual missions contributing to progress toward the national energy goals.

Program Goals

The goals of the energy research and development program are:

(1) to provide sound data necessary for the Agency to establish cost effective and practical environmental regulations and incentives in extraction, processing and utilization of energy resources, and (2) to provide cost effective, reliable pollution control options, as soon as practicable, for those extraction, processing and utilization practices which may cause significant health and ecological damage.

The research program on the environmental impacts of energy supply and utilization is integrated with the Agency's operating programs. The resources of this program are specifically used to prepare the information that will be required for writing or implementation of at least five major regulations. This information includes:

- The engineering performance and costs of control options for SOx, NOx and particulate matter to be used in complying with the potential New Source Performance Standards for industrial boilers.

- Emission factors for particulate matter from energy and industrial sources. The Agency is reviewing the National Ambient Air Quality Standard for total suspended particulate matter and may modify the standard to apply to fine or respirable particles. Information on emission factors and control capabilities will be prepared and issued for the development of State Implementation Plans for the attainment of such a future standard.

- Cost and performance data on the economical use of low NOx burners in the electric utility and in industrial combustion sources.

- Engineering analyses of the costs and capabilities of technology for disposing of high volume solid wastes, i.e., ashes, and desulfurization sludges from energy technologies, which can be used in complying with engineering performance standards for disposal of wastes under the Resource Conservation and Recovery Act.

- Data on the costs and capabilities of control measures for air or water pollutants and solid waste, in the emerging synthetic fuels industry. This

information will be used to prepare guidance documents for synthetic fuel and other alternative energy production facilities. These documents will give industry and permitting officials the information required to make decisions within the time schedule imposed by an accelerated energy development program.

The ecological damage due to acid rain has prompted an intensive review of technology to control acid rain precursors (e.g., SO_2 control with simultaneous NOx). A breakthrough technology which combines SO_2 control with simultaneous NOx control has been identified. The process which has been designated as the LIMB process is based upon mixing coal and limestone together, pulverizing the mixture, and combusting the mixture in a low NOx burner. This technology can potentially lower the capital cost of SO_x control by a factor of 3 to 4 and the annual cost by 50 percent.

In addition, information on the health and ecological effects of coal and oil shale extraction and on environmentally protective mining and reclamation techniques will be demonstrated. The program has developed and will demonstrate the operation of low NOx burners for pulverized coal combustion. The program in flue gas desulfurization will assess operating systems. Control of particulates will focus on evaluating the effectiveness of two significant advances in particulate control technology. Both of these advances could significantly lower the cost of particulate control for hard to control fly ashes and reduce the size of the purchased equipment.

The definition of the environmental problems and requirements for control of the longer term energy supply systems is of particular importance. EPA is working in cooperation with other Federal agencies, including DOE, to develop the Nation's energy supplies without harm to the environment. EPA's part in this cooperative effort is to: (1) conduct environmental assessments; (2) develop an adequate scientific basis for new environmental regulations; (3) provide guidance on control technology requirements to Federal and industry groups where developing new technologies; (4) assist in the development of control technologies especially the Office of Research and Development which has special expertise; and (5) assess the adequacy of existing control technologies.

Budget Request

The Agency requests a total of $70,145,900 for 1982, a decrease of $34,792,900 from 1981. Of this total, $12,767,000 is for Salaries and Expenses and $57,378,900 is for Research and Development with an increase of $2,180,700 and a decrease of $36,973,600, respectively. In addition, the Agency is requesting 145 permanent workyears, an increase of 4 from 1981.

Program Description

Plans for the 1982 energy program have, for the first time, been developed within EPA's Research Committee system. Phasing the energy program into that system has been an important benchmark in the Office of Research and Development's succession of steps to integrate its programs with those of the Agency as a whole. 1982 energy program activities are aligned, through the various committees, to the Agency's regulatory and operational components, with a special and necessary energy perspective being coordinated and focused through the Energy Research Committee. Further, the plans show, for the first time, the relationship and complimentarity between energy and non-energy programs in a simplified format.

The Energy Research and Development program is designed to determine the environmental implications and effects of the Nation's energy development efforts.

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This energy/environment comprehensive plan to classify program content and resources has been developed to assure that the entire range of Federal energy/environment research and development program is woven together into a manageble frame work. This plan identifies research areas by the type of energy resource, the processes in obtaining and using the energy, and the scientific disciplines of pollution options for conventional energy systems and the assessment of the environmental problems or advantages of new energy techonologies being developed by the Department of Energy.

In addition to its activities with other agencies, EPA conducts, within its own laboratories, a widely diversified program. The interagency program used several mechanisms to minimize duplication of effort by involved Federal agencies. The use of "pass through" funding allows EPA to reimburse other Federal agencies for performing research in areas where they have expertise useful for EPA's priority programs. Reviews are conducted and program planning documents are updated annually as basis for managing interagency funds. EPA management of the interagency program ensures comprehensive coverage of environmental concerns.

The program is divided into broad segments. The health and ecological effects program; that is, the research activities associated with the behavior and effects of energy related pollutants once they are in the environment. The control technology program is designed to provide information on the types and quantities of pollutants released by energy supply activities and to develop or stimulate the development of control options where necessary. The control technology program consists of six subprograms -- fuel processing, preparation and advanced combustion; fuel extraction; flue gas sulfur oxide control; nitrogen oxide control; and flue gas particulate control. The health and ecological effects research program has four subprograms -- the transport, fate and effects of pollutants on organisms and ecosystems; atmospheric transport, and transformation of energy related pollutants; measurement systems and instrumentation development; and health effects of energy related pollutants.

In examining our overall energy research strategy in light of austere financial conditions, we have made rather substantial redirectioms in our funding patterns. In addition to reducing our lowest priority activities across the energy medium, we specifically targeted and eliminated programs which had focused on energy related pollutants when we determined that these pollutants could be dealt with in the broader context of our base research program, e.g. toxic pollutants from energy processes and energy-related drinking water contaminants. In both cases, the base programs in these areas will now deal with our highest priority pollutants regardless of their source.

Highlights of the 1982 Energy Program, as they relate to the Agency's media categories, are described below.

Air

The portion of the energy program addressing air pollutants will continue to focus on the impacts from fossil fuel and residential (woodburning) combustion. In the oxidants area, emphasis on NO_x control technology will be continued, as it relates, for example, to utility and industrial boilers. Health and environmental processes research will also continue ongoing studies on the effects of ozone, sulfur dioxide and nitrogen oxide singly and in combination on economically important agronomic plants. Research on gaseous and particulate pollutants from energy-related sources will highlight the pilot and prototype testing of two significant breakthroughs in particulate control technology which can lower the cost of compliance. The engineering and technology portion of the program will include control technology for sulfur oxides. Other areas of emphasis include complex terrain modeling and

exposure monitoring. The health effort will focus on organics emitted from stationary sources, particularly known or suspected carcinogens, mutagens, and teratogens.

Water Quality

In 1982, we will continue to assess the environmental transport, fate and effects of energy-related pollutants on the aquatic environment. Emphasis will be placed on freshwater (both surface - and groundwater) and estuarine environments. Handbooks and decision making tools needed for State and Federal decision makers to develop and evaluate pollution control technologies for effluents associated with coal mining, uranium mining, oil shale mining, and conventional power plants, will be developed. Research on the development of protocols for toxic and hazardous spills which impact freshwater aquatic ecosystems will receive increased support.

Multi-Media

The program will continue to focus on the synthetic fuel and acid deposition research programs. The synthetic fuels program will continue to concentrate their research efforts on synfuels from coal and oil shale, petroleum refining, and geothermal energy, with a goal of developing Pollution Control Guidance Documents to assess Federal and State personnel to prepare in a timely manner the required construction and environmental permits. The acid deposition program will include activities which range from problem evaluation and definition to the determination of environmental effects.

Summary of Increases and Decreases

	(in thousands of dollars)
1981 Energy Program.....	$104,939
Salaries and Expenses.....	+2,181

The increases are primarily in the multi-media energy, gases and particles, and water quality programs-environmental engineering activities. There is also a $401,000 increase in the gases and particles program-environmental processes and affects activity.

Research and Development.....	-36,974

The decrease is comprised primarily of major reductions in multi-media energy gases and particles, solid waste, drinking water and toxics chemical testing and assessment programs. This occurrs in health effects, environmental processes and effects and environmental engineering and technology activities ($28.1 million). A slight increase of $7.9 million multi-media energy, and decreases to the other R&D activities also occur, the net effect of which is a decrease of $8.9 million.

1982 Energy Program.....	70,146

Summary of Budget Estimates

1. Summary of Budget Request

An appropriation of $70,145,900 is requested for 1982. Included in this total is $57,378,900 for Research and Development and $12,767,400 for Salaries and Expenses, with a decrease of $36,973,600 and an increase of $2,180,700 respectively. This represents a net decrease of $34,792,900 from 1981.

The increase of $2,333,100 in intramural funds will be used to provide additional support to the synthetic fuel, acid deposition and gases and particles programs. In addition to this increase there are increases of $368,900 in oxidants and $473,200 in the water energy activities, offset by decreases totaling $1,008,600 in the other energy activities.

Extramural funding is reduced by $36,973,600 primarily in the environmental engineering, health effects and environmental processes and effects activities of several major programs, including the elimination of solid waste, drinking water, and toxics chemical testing.

Specific decreases include $11,608,000 in multi-media energy; $1,233,500 in oxidants; $2,453,900 in hazardous pollutants; $7,692,700 in gases and particles; $5,037,700 in water quality; $2,349,600 in drinking water; $261,400 in industrial waste water; $647,400 in solid waste; and $5,807,700 in toxics testing.

2. Changes from Original 1981 Budget Estimate

Changes from the budget are as follows:

	(in thousands of dollars)
Original 1981 estimate	110,994
Presidential reduction (House Doc. 96-294)	-52
Congressional increases/decreases:	
Travel	-39
Consulting services	-52
ADP	-15
SES bonuses	-8
General reduction of $12.2 to R&D	-957
Acid rain increases of $1.5m	+1,500
Anticipatory research reduction of $2.5m	-1,000
$.9m reprogramming for cold climate research	-950
Reprogramming to support aquatic weed research.	-75
Proposed pay raise supplemental	+114
Reprogramming for salary and related costs	-42
Transfer to solid waste/non-energy for Love Canal	-3,146
Transfer to Office of the INspector General	-12
Miscellaneous reporgrammings	-12
March 1981 Changes:	
Travel	-41
Consulting and related services	-49
Monitorium on procurement of certain equipment	-5
Equipment costs	-296
Contractual services	-84
1 % transfer	-949
Increases of fund PC&B deficits	+105
Miscellaneous	+10
Current 1981 estimate	104,939

The Congress reduced Agency travel costs by $850,000, resulting in a decrease of $39,000. A congressional reduction of $2 million to ADP costs created a decrease of $15,000 to this media. The Congress reduced agencywide consulting services by $3.8

million and SES bonuses by $750,000, resulting in decreases to this media of $52,000 and $8,000, respectively. A congressional reduction of $12.2 million to the Agency's R&D appropriation resulted in a decrease of $957,000. IN addition, Congress reduced the anticipatory research program by $2.5 million, resulting in a decrease of $1 million to this media. Also, congressional reprogrammings of $900,000 for cold climate research and $620,000 for aquatic weed research resulted in decreases of $950,000 and $75,000, respectively.

Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million revisions resulted in a decrease $7 million to EPA's request for Salaries and Expenses. The reduction applied to this media is $52,000.

The Congress increased funding for acid rain research by $1.5 million.

Other changes on this media include an increase of $114,300 for the proposed supplemental to fund the October 1980 pay raise, and decreases in the amount of $42,000 for reprogramming related to salary and other costs; $3,146,000 transferred to solid waste/non-energy for Love Canal; $12,000 transferred to the Office of the Inspector General; and miscellaneous reprogrammings of $3,700 transferred to radiation for the Radiation Policy Council, and $8,100 transferred to program management to support industrial hygienist positions at Research Triangle Park.

In accordance with OMB bulletins, the March 1981 changes are as follows: travel (-$40,500); consulting services (-$49,300); and monitorium on procurement of certain equipment (-$4,600).

A one percent transfer authority decreases this media by $949,000.

Internal agency reprogrammings to fund PC&B deficits are as follows: equipment costs (-$296,300); contractual services (-84,300); agencywide increases (+$105,000) and miscellaneous reprogrammings (+$10,000).

Analysis of Increases and Decreases to Obligations

	Current Estimate 1981	Estimate 1982
	(In thousands of dollars)	
Prior year obligations	103,410	104,939
Effect of congressional changes	-1,596	...
Proposed pay raise supplemental	+114	...
Reprogrammings	-66	...
Change in amount of carryover funds available	-309	...
Program decrease	-3,198	34,793
Change in rate of obligation	+7,893	...
March 1981 changes	-1,309	...
The effect of the March 1981 changes is a decrease of $1,309,000		
Total estimate obligations	104,939	70,146

(From new obligation authority).....	104,939	70,146
(From prior year funds).....		

Explanation of Increases and Decreases to Obligations

The Congressional changes referred to the previous section are estimated to decrease obligations by $1,596,000.

The funding of the October 1980 pay raise through a proposed supplemental is expected to increase obligations by $114,000.

Program decreases of $3,146,000 and $75,000 in 1981 are expected to decrease obligations for this media by $3,198,000. However, a change in the rate of obligation should increase obligations by $7,893,000.

In 1982, the program decrease of 34,798 will reduce obligations by the same amount.

There is no carryover available for obligation in 1981 or 1982.

Miscellaneous reprogrammings are expected to result in a decrease of $66,000 in 1981.

ENERGY
Multi-Media Energy Program

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Technical Information and Liaison:					
Salaries and Expenses.....	$258	$254	$248	$199	-$49
Research and Development.....	3	17	17	16	-1
Energy Health Effects:					
Salaries and Expenses.....	175	64	31	65	+34
Research and Development.....	4,891	4,159	3,651	1,551	-2,100
Energy Environmental Engineering & Technology:					
Salaries and Expenses.....	3,274	3,337	3,262	4,317	+1,055
Research and Development.....	17,267	20,569	20,569	10,648	-9,921
Energy Environmental Processes and Effects:					
Salaries and Expenses.....	169	188	219	333	+114
Research and Development.....	3,238	4,073	3,803	2,363	-1,440
Acid Rain:					
Salaries and Expenses.....	178	199	215	230	+15
Research and Development....	1,769	6,451	6,952	8,806	+1,854
Total:					
Salaries and Expenses.....	4,054	4,042	3,975	5,144	+1,169
Research and Development	27,168	35,269	34,992	23,384	-11,608
Grand Total	31,222	39,311	38,967	28,528	-10,439
Permanent Positions					
Technical Information and Liaison	4	4	4	3	-1
Energy Health Effects	1	...	1	...	-1
Energy Environmental Engineering and Technology....	59	61	60	59	-1
Energy Environmental Processes and Effects.....	1	1	1	1	...
Acid Rain	4	5	4	4	...
Total:	69	71	70	67	-3

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Full-Time Equivalency					
Technical Information and Liaison	6	7	6	5	-1
Energy Health Effects	1	1	2	1	-1
Energy Environmental Engineering and Technology	72	75	74	72	-2
Energy Environmental Processes and Effects	3	5	4	3	-1
Acid Rain	4	5	4	4	...
Total	86	93	90	85	-5

Budget Request

The Agency requests a total of $28,527,900 and 67 permanent workyears for 1982, a decrease of $10,438,400 from 1981. Included in this total is $5,143,700 for Salaries and Expenses and $23,384,200 for Research and Development, with an increase of $1,169,600 and a decrease of $11,608,000, respectively.

Program Description

This program has been developed under the auspices of the Energy Research Committee. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

The overall program provides the Agency with the scientific and technical basis for developing defensible policies that strike a balance between domestic energy production and environmental quality. The major components of this program consist of research to characterize discharges and develop and evaluate cost effective pollution control technology for energy processes, and research on the health and environmental effects of pollutants from energy-related technologies. Processes addressed include synfuels from coal, oil shale, biomass, geothermal etc., and conventional technologies. This program addresses accelerated energy development and multi-media impact characterization which includes the collection of transport, transformation and fate data to measure impacts on ecosystems and human health. In addition, atmospheric dispersion and transformation models are developed to enable the Agency to devise effective abatement strategies on both a local and regional scale. The program also develops methods for sampling and analysis and continuous monitoring of emissions/effluents from energy technologies to characterize residuals and control technology performance. The program evaluates environmental, economic and social impacts of energy supply so that environmentally acceptable approaches can be developed. A major output of this effort is the scientific information needed for the establishment and implementation of technology-based, environmental guidelines and standards for pollutants associated with energy development. Also included in this program is the Agency's research to understand and control the sources, and impacts of acid deposition.

TECHNICAL INFORMATION AND LIAISON

In 1980, the Agency used a total of $261,100 for this sub-program, of which $258,400 was for Salaries and Expenses and $2,700 was for extramural research activities.

The Technical Information Program supported the preparation and publication of the Research Outlook, the Research Highlights, technical information plans and guidance, and other general documents of interest to the environmental decision making community. It also provided ORD with information systems necessary to effectively plan and manage its research projects and resources. Specific accomplishments in the area of energy included the publication and dissemination of:

- A Decision Series Report on Acid Rain

- A Pollutant Assessment for Oil Shale and Coal Technologies

The Regional Services Staff (RSS) provided for effective communications between ORD and the regions and the Regional Support Management information system was developed and implemented.

1981 Program

In 1981, the Agency has allocated a total of $264,800 and 4 permanent workyears to this sub-program, of which $247,500 is for the Salaries and Expenses appropriation and $17,300 is for extramural purposes under the Research and Development appropriation.

Various research program and project summaries, decision series documents, and technology transfer publications to meet the Energy Research Committee requirements are being provided. Technical Information Plans, listing the explicit information products for this research effort are being prepared. Support is also being provided to manage the information systems which track ORD's research projects and resources.

- Regional liaison activities are being continued, as is support for the Regional Support Management Information System.

- A process to address the research needs of state and local governments in the ORD planning process is being developed.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the Research and Development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $6,200 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,100.

- An increase of $2,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $800 from other activities and $5,900 from program management.

- OMB Bulletin #81-9, January 30, 1981 "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $800.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $10,200.

- The Department of Housing and Urban Development-Independent Agencies Appropriations Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $3,100.

1982 Plan

The Agency requests a total of $214,900 and 3 permanent workyears for this sub-program, of which $199,400 is for the Salaries and Expenses appropriation and $15,500 is for extramural purposes under the Research and Development appropriation. This reflects a decrease of $49,900, which will eliminate Regional Liaison activities supported by this sub-program and reduce the number of technical information documents published.

In 1982, this sub-program will be unable to support Regional liaison activities. The program will continue to provide research program and project summaries, decision series documents and technology transfer publications to meet the needs of the Energy Research Committee. It will also support systems that enable ORD to plan and manage its projects and resources. It will provide some funding for the Research Outlook and the Research Highlights.

Changes From January Request

This request represents a decrease of $32,100 and 1 permanent workyear from the January budget, of which $32,000 is for Salaries and Expenses and $100 is for Research and Development. This decrease will result in the elimination of regional liaison activities, and reduction of the number of technical information documents published.

ENERGY HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $5,065,800 for this sub-program, of which $174,700 was for Salaries and Expenses and $4,891,100 was for extramural research activities.

- A series of level one and two biological assay techniques were refined for detection of biological activity in synfuel products, fractions, effluents, emissions, and combusion products.

- The first phase of exposure assessment for five fluidized bed combustion facilities was completed. This effort will be de-emphasized in the future due to projected limited development and application of this technology.

- Various epidemiological assocations were determined for mutagenesis, reproductive dysfunction, and dermatological disorders in a variety of energy-related industries such as advanced fossil fuel combustion, hazardous waste disposal, coal gasification, and petroleum refining.

- Studies were initiated to develop methods for identification of neurotoxins (such as phenols) and teratogens (such as polycyclic aromatic hydrocarbons) found in synthetic fuels.

- A phased health assessment was initiated to determine the relative anticipated health impact of organic coated particulates from fluidized bed combustion vs. those from conventional coal combustion.

- A study was initiated to identify organic and metallic compounds from shale oil and coal conversion technolgies to be used in multi-species metabolism investigations.

1981 Program

In 1981, the Agency has allocated a total of $3,682,200 and 3 permanent workyears to this sub-program, of which $31,000 is for the Salaries and Expenses appropriation and $3,651,200 is for extramural purposes under the Research and Development appropriation.

- Refinement and ultimate validation efforts will continue for levels one and two biological assays for toxicities of synfuel products, fractions and processes.

- The first stage of epidemiological studies in synfuel operations will proceed. Operating synfuel process will be selected and accumulation of the data base on workers health which will enable future epidemiological associations will commence.

- Industrial exposure assessment for oil shale, direct coal liquefaction and coal gasification processes will proceed. This is a large effort which will involve both planning and initiation of of exposure measurements.

- The development of fish and amphibian assays for identification of neurotoxic and teratogenic hazards in synthetic fuels, their fractions and process effluents will continue.

- Studies to determine the absorption, retention, and distribution of metabolic products organic and metallic compounds such as benzo(a) pyrene and vanadium found in effluents from shale oil and coal conversion processes will continue.

- Health and environmental effects risk assessments for direct and indirect coal liquefaction and for oil-from-shale processes and products will be initiated.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new stucture as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $540,600 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $300.

- An increase of $500 resulted from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $300 from other activities.

- Transfer of $45,900 to energy-hazardous pollutants to perform work related to alternate fuels research initiative and to obtain information on oil shale.

- Offsetting transfers of $28,700 were made to realign contract funds - $28,700 was transferred within the Salaries and Expenses appropriation to energy environmental processes and effects in this same subactivity; $28,700 was transferred within the Research and Development appropriation from energy environmental processes and effects in this same subactivity.

- A transfer of $12,200 was made to the Office of Inspector General in order to provide addditional resources to that Office.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research and Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $490,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $7,000.

1982 Plan

The Agency requests a total of $1,615,600 for this sub-program, of which $64,800 is for the Salaries and Expenses appropriation and $1,550,800 is for extramural purposes under the Research and Development appropriation. This reflects a decrease of $71,900.

- Due to a reordering of Agency priorities, the energy worker registry will not be developed, and an epidemiological-industrial hygiene study will not be conducted.

- The most promising assays for estimation of somatic and genetic toxicities of synfuel products, fractions, effluents, emissions and combustion products will be validated.

- Exposure assessments will be continued for oil shale, direct coal liquefaction and coal gasification processes.

- Assays for teratogenicity of synthetic fuel products, by-products and pollutants will be validated. Results from these assays will be integrated into the overall "Synfuel Assessment."

- Multi-species metabolism investigations will be conducted for synfuel products, by-products or fractions identified in the previous two years and key factors to be utilized in interspecies extrapolations will be determined.

- The health and environmental effects synfuel risk assessment for selected processes and products will continue.

Change From January Request

This request represents a decrease of $71,900 from the January budget, of which $500 is for Salaries and Expenses and $71,400 is for Research and Development. This decrease will result in reduced efforts to evaluate industrial hygiene in synfuel plants.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1980 Accomplishments

In 1980, the Agency used a total of $20,541,200 for this sub-program, of which $3,274,100 was for Salaries and Expenses and $17,267,100 was for extramural research activities.

In 1980, the Agency placed major emphasis on the synfuels program, highlighting environmental assessment and control technology evaluation associated with coal gasification, coal liquefaction and oil shale processing. EPA initiated efforts to help EPA's Regional offices better review Environmental Impact Statements and permit applications and to provide the industry with early input as to available control technology. It is EPA's objective to minimize environmental damage while permitting timely synfuels commercialization. The documents will characterize technology guidance considering the integrated nature of the process and a multimedia waste management systems.

Significant accomplishments include the following:

Synfuel from Coal and Oil Shale

- Preliminary and draft Environmental Impact Statements and Prevention of Significant Deterioration permits for the Solvent Refined Coal II (liquid fuel from coal) demonstration planned for West Virginia were reviewed and comments were submitted to Region III. This is to assure minimum impact of this large synfuels demonstration and assure inclusion of adequate control technology.

- An advanced draft Environmental Impact Statement for the Solvent Refined Coal I (solid clean fuel) demonstration was reviewed and comments were submitted to Region IV. This is to insure inclusion of adequate pollution control technology.

- The sampling and analysis at the Solvent Refined Coal pilot plant in Ft. Lewis, Washington, was completed in order to provide data for the Pollution Control Guidance Documents and program offices on direct coal liquefaction.

- The effectiveness of particulate control devices for oil shale processes in conjunction with the Department of Energy were evaluated. This will provide input to the standard-setting offices and the Pollution Control Guidance Documents to provide data for cost effective control alternatives.

- Environmental perspectives documents for the emerging oil shale industry were completed. This describes the potential environmental impact of this soon-to-be commercialized industry.

- An engineering analysis of the Stretford device for sulfur removal from oil shale processes was completed. This will describe performance of major sulfur control technologies for input into both Pollution Control Guidance Documents and standard-setting activities to assure cost effective control. This will encourage industry to incorporate Best Available Control Technology.

- Draft data bases for the indirect coal liquefaction and the low BTU coal gasification Pollution Control Guidance Documents were conducted. These documents will be used by the EPA regional offices to review Environmental Impact Statements permits, and by synfuels developers to avoid costly retrofit and redesign.

- Environmental assessments of the Wellman-Galusha low BTU coal gasification process and Lurgi medium BTU process were conducted. These characterize the discharge from significant low and medium BTU processes and will provide input to both the Pollution Control Guidance Documents and emission/effluent standards.

- An EPA/Industry Coal Liquefaction Forum was held in Chicago and the proceedings were published to help disseminate environmental information needed by the coal liquefaction industry. All significant developers described their processes and status of commercialization.

Geothermal

- The sampling and analysis of fluids at 120 potential geothermal sites including springs and wells in the western U.S. were completed. Fifty chemical constituents were analyzed. This information, when combined with historical data, will provide regulators and developers with a preliminary, but sound, basis for evaluating pollution control needs.

- A document "Status of Environmental Controls for Geothermal Energy" which established coordinated priorities, objectives, and management of environmental controls research among EPA, DOE, DOI and other agencies working through the Interagency Geothermal Coordinating Council was completed. This will streamline and expedite the development of environmental controls needed to rapidly commercialize geothermal energy in the United States.

Solar

- Preliminary results from a study on the air emission impacts of potential solar energy use in three metropolitan air quality control regions (Houston, Chicago and Philadelphia) through 1995 were obtained. These results begin to indicate the potential benefits from solar energy in resolving environmental problems in urban areas.

Alcohol from Biomass

- Multimedia sampling and analysis at nine alcohol production facilities utilizing grain feedstocks were completed. This will provide the data base for standard-setting offices and the Pollution Control Guidance Documents for alcohol fuels.

- The standard support plan and control technology research plan were completed. This will describe ORD's plans and schedules for gathering the data base characterizing discharges from alcohol fuels processes.

Fluidized Bed Combustion

- A comprehensive environmental assessment of the Georgetown University fluidized bed boiler was completed. This will provide OAQPS with data on air emissions from industrial boiler size fluidized bed units.

Chemically Active Fluid Bed

- The environmental assessment program of Chemically Active Fluid Bed demonstration using high sulfur oil as feedstock was continued. This will encourage the use of domestic high sulfur oil. It will also supply OAQPS with a data base from which to set reasonable standards.

Petroleum Refining

- A report assessing atmospheric emissions from petroleum refineries was completed. This will be a first step to improving necessary control technology.

Strategy Research

- The Congressionally mandated Ohio River Basin Energy Study was completed. The forthcoming final report identifies and analyzes the likely impacts of future energy development within the Ohio River Basin.

- A legislatively required overview of the effectiveness of the Department of Energy's solar energy and energy conservation programs was completed. Comments from industry, Congressional staff and the pubic sector were received and incorporated into six preliminary reports and the forthcoming Report to the President and Congress. This could impact the Nation's energy policy in this area.

- A preliminary analysis of possible regulatory strategies for mitigating acid rain impacts in the U.S. and Canada was completed, and ongoing support was provided to the U.S.-Canada Bilateral Research Consultation Group on the Long Range Transport of Air Pollutants. The results for these activities are a major part of the data base upon which bilateral transboundary air pollution discussions with the Canadian Government are proceeding.

1981 Program

In 1981, the Agency has allocated a total of $23,830,700 and 59 permanent workyears to this sub-program, of which $3,261,500 is for the Salaries and Expenses appropriation and $20,569,200 is for extramural purposes under the Research and Development appropriation.

In 1981 the Agency reduced its activities in fluidized bed combustion (FBC) and in assessing the environmental impact of the Chemically Active Fluid Bed processes to provide greater support for our efforts to support the Federal Synthetic Fuels Programs. Much of the fluidized bed combustion activity and all of the Chemically Active Fluid Bed demonstration has been absorbed by the Department of Energy. In addition to the Pollution Control Guidance Document effort, this program element includes a large component for EPA regional support in the synfuels area. Activities include:

Synfuels from Coal and Oil Shale

- Comments to Region III on the final Environmental Impact Statement and permit applications for the Solvent Refined Coal II demonstration planned for Morgantown, West Virginia (other Regions will be similarly supported in the various synfuel technologies) are being provided.

- Review of the final Environmental Impact Statement and permit applications for the Solvent Refined Coal I demonstration to Region IV is being completed. This is to assure that adequate control technology is incorporated in this synfuels demonstration.

- The first and second drafts of volumes I, II, and III of the Pollution Control Guidance Document for direct coal liquefaction are being completed. This will provide guidance for the EPA Regions in the Environmental Impact Statement and permit application review for this industry.

- Sampling and analysis at the Exxon Donor Solvent and H-Coal pilot plant are being conducted. This will provide a data base for the Pollution Control Guidance Document and the Agency's standard setting-office for direct coal liquefaction.

- The final Pollution Control Guidance Documents for low BTU coal gasification, indirect coal liquefaction and oil shale processing are being completed. These will provide guidance to Regional permit reviewers as to recommended control technology and provide developers with advance information concerning control technology needs so as to avoid costly retrofit.

- Public forums on the low BTU gasification and indirect liquefaction Pollution Control Guidance Documents are being held to help disseminate information on the pollution control needs of this industry.

- Pollution Control Guidance Document efforts in Lurgi high and medium BTU processes are being initiated. This will provide information on the recommended pollution control technology for these important synfuels industries.

- The sampling and analysis program at Occidental oil shale retort burns 7 and 8 is being initiated. This will provide a data base for Pollution Control Guidance Documents and standard setting in the oil shale industry.

- Bench scale effluent treatability studies for oil shale processes are being completed. This will help describe cost effective control technology for oil shale processes.

Alcohol From Biomass

- The environmental assessment of ethanol production from biomass is being completed. This will characterize all emissions/effluent from this process and thus provide a data base for the Pollution Control Guidance Document and the standard-setting process.

- Multimedia sampling at three alcohol production facilities utilizing cellulose and sugar feedstocks is being completed. This will compare the emissions/effluent from alcohol production as a function of feedstock and provide input to standard setting.

- A preliminary analysis of air pollution control costs on alcohol production facilities is being completed. This will provide cost effective pollution control of emissions from alcohol production.

Geothermal

- An assessment of large-scale, long-term subsurface injection for geothermal fluids, and the development of techniques for remotely sensing the movement of injected geothermal fluids are being conducted. These projects will enable site developers to comply with drinking water aquifer production and subsidence prevention regulations under the underground injection program.

- Preparation of a Pollution Control Guidance Document for hydrothermal geothermal energy is being prepared and sampling and analysis programs on associated discharges are being conducted. This will provide guidance to EPA Regional permit reviewers, DOE, and resource developers, and will be an input to the standard-setting and review process.

- A Best Available Methods Manual for sampling and analysis of geothermal liquids, gases and solids is being prepared. This will enable developers and regulators to assemble data for permits, process engineering and compliance monitorin on a consistent and cost-effective basis.

- Solar

The study of air emission impacts of potential solar energy use in three metropolitan air quality control regions is being completed. The results will be used to identify specific emission sources to which solar energy systems can be applied in compliance planning.

- Several analyses attempting to anticipate the significant environmental problems associated with the manufacture and/or use of solar energy technologies are being conducted. These studies will enable EPA, DOE, and technology developers to take early steps to insure that environmental impacts are minimized.

Fluidized Bed Combustion

- Several industrial sized fluidized bed boilers for sulfur oxide, nitrogen oxide and particulates are being monitored. This will provide support for the development of air emission standards for industrial boilers.

Chemically Active Fluid Bed

- Demonstration of the use of coal as a fuel in the Chemically Active Fluid Bed utility demonstration in San Benito, Texas is being conducted. This will provide for the environmentally sound use of coal in a gas-fired utility boiler in accordance with the National Energy Plan.

Petroleum Refining

- Sampling and analysis for volatile organic compounds from wastewater treatment plants at five petroleum refineries is being conducted.

Strategy Research Program

- The legislatively required analysis of the Department of Energy's conservation and solar energy programs is continuing.

- The development of advanced analytic models for determining the economic, energy and pollution release consequences of environmental regulation is continuing.

79-248 O—80——52

- Major support for the assessment efforts required by the U.S.-Canada Memorandum of Intent on Transboundary Air Pollution will be continued. These assessments on the emission rates of acid rain precursors and on the transport and effect of acid rain will provide the technical support for future negotiations on an international agreement on transboundary air pollution.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the Research and Development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $76,100 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $22,100.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $38,300 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $500 was applied to this activity.

- An increase of $38,800 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $46,000 to other activities.

- A transfer of $1,000 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- A transfer of $200 was made to the radiation media in order to support the Radiation Policy Council.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $6,800.

1982 Plan

The Agency requests a total of $14,964,800 and 59 permanent workyears for this sub-program, of which $4,316,900 is for the Salaries and Expenses appropriation and $10,647,900 is for extramural purposes under the Research and Development appropriation.

The Environmental Engineering and Technology Program element was reduced by $8,865,900. This decrease results from reduced levels of support for the Strategy Research Program, petroleum refining emissions study, direct coal liquefaction, geothermal and energy programs. The decrease also results from a transfer of acid precipitation activities to the Acid Rain Program Element. It also reflects a reduction in ORD's support for the development of pollution control guidance documents for synthetic fuels and alternate energy resources. This reduction is consistent with a reduction in the Federal government's involvement in the Solvent Refined Coal I and II demonstration plants.

The Chemically Active Fluid Bed demonstration and environmental assessment program, as well as the alcohol production from biomass program, are scheduled to be completed as planned in 1981, and therefore are not included in the 1982 submission. In addition, fluidized bed combustion has been deleted from the 1982 program. Most of this program will be included in the Department of Energy's direct combustion program. In-situ coal gasification, solar and alcohol from biomass program were eliminated because of reduced funding levels and emphasis on near-term Synfuels from coal and oil shale processes.

Synfuels from Coal and Oil Shale

- Pollution Control Guidance Documents for medium BTU coal gasification, Lurgi high BTU coal gasification and direct coal liquefaction will be completed. This will complete the first series of Pollution Control Guidance Documents for the Agency. Thse documents will provide guidance to the EPA Regions as to recommended control technologies to allow for a realistic review of Environmental Impact Statement and permit applications.

- Comprehensive data gathering of a variety of domestic and foreign bench, pilot, demonstration and commercial synthetic fuel facilities (coal gasification, indirect and direct coal liquefaction and oil shale) in support of the region, the program office and enforcement activities will be conducted. Emphasis will be on control effectiveness, applicability, cost, energy penalty and residual characterization.
- Support for the EPA Regions in the area of Environmental Impact Statement, Prevention of Significant Deterioration and New Source Performance Standard reviews will be continued. This will help assure that realistic permits will be written in a timely manner for synthetic fuels.

- Control technology for disposal of retorted oil shale and raw oil shale will be developed, demonstrated and validated. This will help assure that cost effective control technology will be available to minimize the impact of solid waste for this important synfuel technology.

Petroleum Refining

- Emissions/effluents at a petroleum refinery will be compared with those at various synfuel plants to determine relative impact and associated control costs for similar fuel products.

Geothermal

- Preparation of a Pollution Control Guidance Document for hydrothermal geothermal energy will be continued and sampling and analysis programs on associated discharges will be completed. This will provide guidance to EPA Regional permit reviewers, DOE and resource developers, and provide input to the standard setting and review process.

Strategy Research Program

- As required by Section 11, P.L. 93-577, EPA will continue to conduct an annual review of the Federal Non-Nuclear Energy Research and Development Program.

LIMB

- Initiate planning and engineering design for a short-term LIMB prototype program in a small water table boiler to evaluate operational problems that might be caused by the additional solids.

Changes From January Request

This request represents a decrease of $6,417,800 from the January budget, of which $33,300 is for Salaries and Expenses and $6,384,500 is for Research and Development. The effects of this decrease are summarized in the 1982 Plan section above.

ENERGY ENVIRONMENTAL PROCESSES AND EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $3,407,400 for this sub-program, of which $169,400 was for Salaries and Expenses and $3,238,000 was for extramural research activities.

- An analysis of the ambient air quality data collected at the Kosovo, Yugoslavia coal gasification plant was completed. Significant concentrations of potentially health imparing organic air pollutants were found which were directly traceable to fugitive emissions from the synfuel plant.

- The air quality monitoring and modeling effort at the western Colorado oil shale extraction area was initiated with particular emphasis on visibility impairment in the adjacent Federal Class 1 area.

- Multimedia environmental monitoring strategies were developed for commercial scale fluidized bed coat combustion and low BTU coal gasification plants so as to direct the facility emission and discharge sampling programs.

- A groundwater monitoring system design report was completed for situations involving above-ground oil shale retorting facilities supplied with shale from underground mines. Preliminary designs were completed for modified in-situ operations.

- A study to evaluate the environmental effects of pollutants from coal gasification technologies was initiated.

- A study to provide guidance for the use of non-mined wastes as soil amendments on coal and oil shale spoils was completed.

- The use of vegetation that can withstand the arid conditions of surface mined lands in the west is needed to reclaim these areas. A user-oriented report was completed which identifies plant materials for use on mined lands in arid and semi-arid regions.

- Documentation for stablilizing mine spoils in surface mined areas of the nothern Great Plains was completed. The transfer of this technology to state agencies and mining companies is in the final phase of completion.

- A field deployable flow reactor, and efficient delivery system, and a clean air dilution system were developed to characterize secondary aerosol products formed through atmospheric reactions involving synfuel emissions.

- A 16 day ambient air study outside the fenceline of the commercial medium BTU lurgi coal gasification plant in Kosovo, Yugoslavia, was conducted. Thirty organic compunds in five classes (CHO, CHN, CHS, aliphatic and aromatic) were indentified.

- A monitoring strategy for multi-media environmental effects of fluidized bed combustion plants was developed and published.

- New methods for revegetation of surface mined lands been developed. These include direct seeding and soil improvement techniques.

- Through cooperative research involving EPA and the U.S. Fish and Wildlife Service, a program has been initiated to develop strategies for dealing with the Prevention of Signicant Deterioration (PSD) regulation of the Clean Air Act. This strategy is urgently needed to assist EPA and land managers in decisions involving the siting of new energy-related industries.

1981 Program

In 1981, the Agency has allocated a total of $4,022,100 and 1 permanent workyear to this sub-program, of which $218,700 is for the Salaries and Expenses appropriation and $3,803,400 is for extramural purposes under the Research and Development appropriation.

- Field monitoring protocols for coal and oil shale sites are being developed to assist in the development of mitigation actions to protect groundwater, and a groundwater monitoring system is being developed to provide an early warning in the event of leakage at a site designed to dispose of hazardous wastes generated by electric utility operations.

- Improved atmospheric dispersion models are being developed for use in evaluating compliance with air quality standards and Prevention of Significant Deterioration (PSD) in areas of complex terrain, especially in the mountainous areas of the western United States.

- Data are being collecting to provide input for a model to develop protocols and methods for testing the environmental effects of complex synfuel mixtures. Specific tasks include the setting of exposure levels to use in designing longterm chronic and systems level bio-assays of Solvent Refined Coal (SRC) liquids; the defining of the hazards of synfuel products; and the providing of a base for environmental regulations governing the production and use of SRC materials.

- The potential for chronic leaching of abandoned oil shale retorts in being quantified. Surface and subsurface geological factors that can be related to aquifer characteristics and groundwater movement are being identified. This information will aid in the selection of potential sites to be developed for oil shale facilities.

- New and/or existing "Best Management Practices" for the protection of top soil and reclamation of surface mined areas in arid and semi-arid areas of the U.S. are being developed and evaluated. The development of improved plant materials to reclaim surface mined lands of arid and semi-arid areas of the western coal mining region will be continued.

- The acute and chronic effects of pollutants discharged or emitted for oil shale mining and processing on freshwater organisms are being studied. This work includes: (1) identifying and quantitating the waste products from oil shale mining and the chemicals used and formed by the refinement processes involved; (2) testing the acute and chronic effects of the wastes on aquatic organisms; (3) determining the possible bioaccumulation of organic compunds in aquatic animals; (4) identifying potential pollutants which may enter the aquatic environement from these processes; and (5) recommending which pollutants should be treated or removed before wastewaters are released in the environment.

- Strategies will be developed to deal the Prevention of Significant Deterioration (PSD) part of the Clean Air Act for the protection of fish, wildlife, and their habitats.

- A monitoring strategy for low-medium coal gasification and indirect coal liquefaction is being prepared.

- A groundwater monitoring system is being developed to provide early warning in the event of leakage at a site designed to dispose of hazardous wastes generated by electric utility operations.

- In preparation for a FY-82 second study of the ambient air impacts of the commerical scale medium BTU coal gasification plant at Kosovo, Yugoslavia, ambient organic monitoring techniques are being developed or adapted.

- Emissions from various types of synfuel processes, e.g., low-medium BTU coal gasification, indirect coal liquefaction, indirect coal liquefaction, direct coal liquefaction, oil shale retorting, or solvent refined coal (SRC II etc.), will be examined using the flow reactor system to determine atmospheric reaction rates and products.

- A preliminary characterization of dissolved organic compunds in the White River of Colorado is being performed. The White River, and one of its tributaries, the Piceance Creek, drain an area of intense oile shale development activities. This effort is part of an interagency coordinated effort also involving USGS and DOE.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in the submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of the submission.

The net decrease of $238,900 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $500.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $100 was applied to this activity.

- An increase of $2,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $500 from other activities.

- Transfer of $70,000 to energy-hazardous pollutants to perform work related to alternate fuels research initiative and to obtain information on oil shale.

- Offsetting transfers of $28,700 were made to realign contract funds-- $28,700 was transferred within the S & E appropriation to energy environmental processes and effects in this same subactivity; $28,700 was transferred within the Research and Development appropriation from energy environmental processes and effects in this same subactivity.

- Transfer of $171,000 to solid waste/non-energy to support efforts on Love Canal.

1982 Plan

The Agency requests a total of $2,695,200 and 1 permanent workyear for this sub-program, of which $332,700 is for the Salaries and Expenses appropriation and $2,362,500 is for extramural purposes under the Research and Development appropriation. This reflects a decrease of $1,326,900. Due to a reordering of Agency priorities, support for the following research will be reduced: FSP guidance research, biomonitoring for coal extraction, and atmospheric simulation of pollutant transport. In addition the mining and reclamation research program will be almost entirely phased out since most of the research projects were scheduled to be completed within the next year or two. Funds necessary for the publication of user handbooks will be provided.

- Reclamation and revegetation techniques to minimize the transport of radioactive materials from uranium mine tailings will be developed.

- Research will focus on the biological consequences of diverting water for various uses, including energy production in arid and semi-arid portions of the United States.

- Data will be collected to provide input for a model to develop protocols and methods for testing the environmental effects of complex synfuel mixtures. This information will be used to define the hazards of synfuel products, to provide a basis for environmental regulations governing production and use of these synfuel materials.

- An ambient air study of emissions from the commercial-scale medium BTU Lurgi coal gasification plant at Kosovo, Yugoslavia will be expanded. This study will measure specific organic compounds such as benzene, toluene, xylene, pyrrole and classes of organic compounds such as mercaptains, thiophenes, pyridines, phenols and polycyclic organics. The Kosovo gasifier represents an uncontrolled gasification system. The results will be used to evaluate various control strategies.

- A monitoring guidance document will be prepared for each of the synfuel technologies. Indirect liquefaction will be addressed in 1982.

- The final phase of an assessment of the impact of oil shale development on the levels of organic compounds in the White River will be implemented.

Change From Janaury Request

This request represents a decrease of $1,317,500 and 1 permanent workyear from the January budget, of which $17,500 is for Salaries and Expenses and $1,300,000 is for Research and Development. This decrease will result in reduced efforts in methods for determining the efforts of energy pollutants on fish and wildlife management practices.

ACID RAIN

1980 Accomplishments

In 1980, the Agency used a total of $1,946,800 for this sub-program, of which $177,700 was for Salaries and Expenses and $1,769,100 was for extramural research activities.

- The short-term assessment program was completed with publications identifying sensitive areas in the eastern U.S., including lakes and streams, bedrock geology and soil types. These results allow EPA to focus its research in areas that are or may become adversely impacted by acid precipitation.

- The analysis of the results of the first year of a study involving the impacts of simulated acid rain on 28 agricultural crop species was completed and published. This study will provide EPA with important preliminary information regarding the effects of acid precipitation on crops.

- A first approximation of sulfur accumulation in southeastern forest ecosystems was provided. Within two ecosystems, the largest sink for sulfur occurred in the forest soil, where 97% of the total deposition of sulfur accumulated.

- Results from rainfall simulation studies indicated that the growth of soybean pinto bean were inhibited by simulated acid rainfall. The data will contribute to our knowledge base for determining the effects of acid precipitation on agronomic crops.

- The Critique of Methods to Measure Dry Deposition: Workshop Summary (EPA-600/9-80-050) was published. This publication assesses dry deposition methods for routine monitoring use and provides direction for development of the more accurate methods that will be necessary for EPA to understand the importance of dry deposition in evaluating the total acid deposition problem.

- Remote acid rain baseline sites such as Australia, Venezuela Alaska, Colorado, Bermuda and Amsterdam Island were established through an EPA-NOAA Interagency Agreement.

- The MAP3S/RAINE program performed in the DOE-affiliated national laboratories was restructured in line with EPA objectives in addressing the acid rain issues. In 1980, a comprehensive statistical analysis was performed on precipitation monitoring data collected over a 3 year time period. MAPS3S/RAINE models were executed from practical impact analyses, such as the mutual export/impact of acidic species over the U.S. Canadian border; the oil blackout scenario; and the relative impact of point vs. area sources on acid rain.

- A national acid precipitation data system was established and is entering data from several networks. This system will allow EPA and others to establish and analyze acid deposition levels and trends to understand the extent and magnitude of the acid deposition problem.

1981 Program

In 1981, the Agency has allocated a total of $7,166,500 and 4 permanent workyears to this sub-program, of which $215,400 is for the Salaries and Expenses appropriation and $6,951,100 is for extramural purposes under the Research and Development appropriation.

In response to a congressional mandate, the FY1981 acid precipitation program was increased by $1.5M. This increase was split between the Multimedia Energy and Gases and Particles Energy programs. The acid rain program element in the Multimedia program was increased by $500K, and the Environmental Engineering and Technology program element in the Gases and Particles Energy program was increased by the remaining $1.0M. The $500K in this program is being used to accelerate studies on dry deposition; assess impacts on surface and groundwater, and on forest soils; and to conduct activities supporting the U.S.-Canadian Work Group. An acid deposition issue paper will be prepared by leading U.S. scientists summarizing current scientific knowledge of the acid rain phenomenon.

- Both biological and chemical issues relevant to determining the ecological impact of acid precipitation on aquatic systems are being evaluated and assessed. Several appropriate areas known to receive acid precipitation will be selected for study. Historical records will be compiled and field surveys will be conducted to provide data for models used to predict future conditions under various scenarios of precipitation acidity.

- Surveys of the water chemistry and biology of lakes and streams in the upper-midwest, northeast, and mid-Atlantic region are being continued. The studies are oriented to determine the relationships between water quality/acidity and biological status.

- An analysis of historical lake data to assess the rate of change of lakes in pristine and polluted areas is being continued. Chemical and biological indicators for past, present, and future comparison of the impacts of acid precipitation on aquatic ecosystems are being established.

- Dose/response studies at experimental research sites are being continued to determine the impacts of acid precipitation on physical and biological components of aquactic ecosystems. The results of cause and effect studies and methodologies which relate the decline of fish populations to the acidification of waters by acid precipitation are being assessed.

- Research involving soils will include the effects of acid precipitation on the mobilization of toxic metals, soil nitrogen reactions, microbial processes and transformations, and nutrient availability to vegetation. An understanding of these potential impacts will be used to improve the identification of sensitive areas and the assessment of impacts on forest and aquatic systems.

- Agricultural impact studies relevant to crop yield effects are being expanded to evaluate both sulfate and nitrate components and the interactive effects of these pollutants with ozone sulfur dioxide. Dose/response functions are being developed.

- Studies to evaluate the impacts of acid precipitation on drinking waters are being continued.

- Forest oriented research will include the completion of a model ecosystem study and continued research to evaluate acid rain impacts on interactions involving fugal-conifer relationships and nutrient cycling as related to optimal forest growth.

- Research involving the effects of acid precipitation on building stones and statues is being continued in FY 81 and field studies to evaluate dry deposition on natural surfaces, are being performed.

- Methodologies, theoretical studies, laboratory studies, field studies and dry deposition maps of the North American Continent are being continued. This effort is part of the MAP3S/RAINE program.

- Continuing leadership of the Federal Acid Precipitation Task Force is being provided, and an issue paper summarizing current scientific knowledge of the acid precipitation phenomenon will be prepared.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net increase of $516,600 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $600.

- The Congress added $1.5 million to the budget estimate for acid rain research; $500,000 of the increase was applied to this activity.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $900 was applied to this activity.

- An increase of $3,100 results from the cost of the October 1980 pay raise and is included in proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $700 from other activities.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $1,000.

- Agencywide increases are required in order to fund the PC&B deficites; the increase applied to this activity is $15,300.

1982 Plan

The Agency request a total of $9,037,400 for this sub-program and 4 permanent workyears of which $229,900 is for the Salaries and Expenses Appropriation and $8,807,500 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $1,876,900. This increase results from the transfer of a program dealing with mitigation strategies from the Engineering and Technology Program Element to the Acid Rain Program Element in the Multimedia Energy program. In addition to this transfer, the increase will provide for the following research: (1) an assessment of data bases that have been completed for lake stream, soil, groundwater, and forest ecosystem impacts the eastern states; (2) the initiation of a study to identify area in the western U.S. that are sensitive to acid deposition; and (3) an evaluation of the contamination of groundwater supplies by acid precipitation.

- The location of aquatic and terrestrial systems which are sensitive to acid precipitation will be refined from the knowledge base developed in FY 80/81.

- Criteria for evaluating nutrient and toxic metal transport in soils and water will be established. The impacts of acid precipitation on soil, water, and sediment chemistry will be identified.

- Survey and assessments of acid precipitation impacts on lakes, streams, and terrestrial systems will be continued.

- The data base for evaluating the impacts of acid rain on agronomic crops will be improved. Threshold damage levels and dose/response curves will be developed for important crop species. Studies will also focus on the crop effects of ambient acid rain in the northeastern United States. Impacts on growth, yield, and quality will be emphasized.

- The results and conclusions of acid rain and sulfur dioxide/ozone interaction studies involving crop and yield effects will be presented in report form.

- Summary reports on the impacts of acid precipitation on stone and status will be prepared.

- An evaluation of changes in tap water quality relevant to acid precipitation effects will be provided. Health risks associated with water chemistry, including heavy metal contamination, will be determined.

- The cost effectiveness of possible control measures for acid precipitation will be determined. Acid precipitation control options relevant to coal supply and transportation will be assessed.

- The field studies and modeling of acid deposition under project MAP3S/RAINE will continue. Final results are expected in the FY 83-84 timeframe.

- Development of analysis tools for more accurately assessing the costs and benefits of alternative emission control strategies will be continued. These required analysis tools will allow more detailed analysis of the economic and energy impacts on specific sources and source categories.

- Support for activities of the Federal Acid Precipitation Task Force will be continued.

- Research strategies will be developed (in cooperation with other Agencies) for controlled forest ecosystem studies in areas impacted by acid precipitation.

- A study to identify areas in the western U.S. that are sensitive to acid deposition will be initiated, and historical soil and geological data, and water quality information will be assessed for the development of maps which show the locations of sensitive terrestrial and aquatic systems.

Changes From January Request

There is no change from the January Request.

ENERGY

Oxidants - Energy

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Energy Health Effects:					
Salaries and Expenses.....	$43	$ 10	$11	$10	-1
Research and Development.....	1,308	1,392	1,376	711	-655
Energy Environmental Engineering and Technology:					
Salaries and Expenses.....	1,569	1,514	1,417	1,813	+396
Research and Development.....	11,099	10,970	10,970	10,781	-189
Energy Environmental Processes and Effects:					
Salaries and Expenses.....	24	26	26	...	-26
Research and Development.....	395	379	379	...	-379
Total:					
Salaries and Expenses.....	1,636	1,550	1,454	1,823	+369
Research and Development.....	12,802	12,741	12,725	11,492	-1,233
Grand Total.....	14,438	14,291	14,179	13,315	-864
Permanent Positions					
Energy Environmental Engineering and Technology.....	22	20	20	22	+2
Full-Time Equivalency					
Energy Environmental Engineering and Technology.....	33	30	30	33	+3

*January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Budget Request

The Agency requests a total of $13,314,500 and 22 permanent workyears for 1982, a decrease of $864,600 from 1981. Included in this total is $1,822,600 for Salaries and Expenses and $11,491,900 for Research and Development, with an increase of $368,900 and a decrease of $1,233,500, respectively.

Program Description

This program has been developed under the auspices of the Oxidants and Energy Research Committees. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

The overall program provides EPA's regulatory decision makers, the Regional offices and local and state implementation agencies with the scientific and technological data base to optimize this nation's energy development and self-reliance with minimal deleterious

Performance Standards (NSPS) and National Ambient Air Quality Standards (NAAQS). The specific research areas covered are as follows: (a) assessment of the human and ecological effects of ozone and other photochemical oxidants, and (b) development and evaluation of control technologies for oxidant precursor emissions. In order to fully complete the objectives of this program, resources are devoted to assessing the long-term impacts of oxidant pollution derived from energy-related pollutants. These studies focus on assessing the health and ecological effects of oxidants and on developing and evaluating new control technologies for oxidants (e.g., ozone) and its precursors (nitrogen dioxide and hydrocarbons).

Activities and program proposals for each sub-program are presented individually in the following material.

ENERGY HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $1,351,500 for this sub-program, of which $43,400 was for Salaries and Expenses and $1,308,100 was for extramural research activities.

- The protocol for a court-mandated epidemiological study to examine the effects of elevated levels of oxidants on asthmatic persons in the Los Angeles area was completed.

- Animal inhalation toxicology studies designed to determine the influence of ozone and nitrogen dioxide on the clearance of particulates, and to adapt to intermittent nitrogen dioxide spikes simulating urban levels were continued. A manuscript on incomplete adaptation following nitrogen dioxide exposure was completed.

- An animal inhalation toxicology study designed to determine if ozone can act as a co-carcinogen in specimens previously exposed to carcinogens was continued.

1981 Program

In 1981, the Agency has allocated a total of $1,387,600 to this sub-program, of which $11,300 is for the Salaries and Expenses Appropriation and $1,376,300 is for extramural purposes under the Research and Development Appropriation.

- The Los Angeles Asthma study will proceed with funds allocated from the 1980 budget. This study will investigate associations between elevated oxidant levels and pulmonary impairment in normal and asthmatic persons in the South Coast Air Basin.

- Work on the clinical study involving exposure of persons with chronic obstructive lung disease (COLD) to 0.12ppm (and possibly higher concentrations) of ozone will be continued. Positive findings would indicate the inadequacy of the present standard, while negative findings would provide a firmer scientific basis for the standard.

- The development of methods for PAN aerosol dispersion will be initiated. A study of the combined effects of ozone and nitrogen dioxide will be initiated.

- The assessment of pulmonary morphological indicators of oxidant damage in experimental animals will be completed.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $14,200 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $100.

- An increase of $100 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $100 from other activities.

- Transfer of $15,300 to energy-hazardous pollutants to perform work related to alternate fuels research initiative and to obtain information on oil shale.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity if $1,000.

1982 Plan

The Agency requests a total of $721,100 for this sub-program, of which $10,000 is for the Salaries and Expenses Appropriation and $711,100 is for extramural purposes under the Research and Development Appropriation.

This reflects a decrease of $665,500. Research on the health effects of ozone and other photochemical oxidants will be deferred in 1982 so that the research is in phase with the criteria document revision cycle. The decrease also results from the elimination of some epidemiology research on pollutants associated with conventional coal combustion.

- The court-mandated Los Angeles Asthma study will be continued. Information obtained from this study will be used to evaluate current and future ozone standards.

- The second year of the Los Angeles epidemiological study investigating the association between elevated oxidant levels and a broad range of human health end points will be continued.

- Investigation of the effects of nitrogen dioxide in combination with ozone or nuisance particulates on particle clearance in experimental animals of different age and susceptibility will be completed.

Change From January Request

This request represents a decrease of $500,100 from the January budget, of which $100 is for Salaries and Expenses and $500,000 is for Research and Development. This decrease will result in a reduction of research on the health effects of ozone and other photochemical oxidants, and the elimination of some epedemiology research on pollutants from conventional coal conbustion.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1980 Accomplishments

In 1980, the Agency used a total of $12,668,000 for this sub-program, of which $1,569,100 was for Salaries and Expenses and $11,098,900 was for extramural research activities.

- A low NO_x burner at an industrial coal-fired boiler host site was installed. The goal of this program is to reduce NO_x emissions from pulverized coal-fired industrial boilers to 0.2-0.3 pounds of NO_x per million BTU heat input (a 70-80 percent reduction from uncontrolled emissions).

- A 30 day, long-term NO_x emissions monitoring program to support the establishment of a Standard of Performance for Industrial Boilers was completed.

- A pilot scale evaluation of a new heavy oil burner for use in oil field steamers was completed. This burner is capable of reducing NO_x emissions to less than 100ppm which would allow for the expanded production of heavy oil in California without degrading the environmental quality.

- In cooperation with the Department of Energy, a pilot scale evaluation of two flue gas treatment processes for NO_x control and simultaneous SO_x/NO_x control was completed.

1981 Program

In 1981, the Agency has allocated a total of $12,386,700 and 20 permanent workyears to this sub-program, of which $1,416,500 is for the Salaries and Expenses Appropriation and $10,970,200 is for extramural purposes under the Research and Development Appropriation.

- The first 30 day intensive test program at the industrial boiler low NO_x burner demonstration site and the initiation of an 18 month long term performance evaluation program will be completed.

- The effectiveness of the EPA developed heavy oil burner in a 50 million BTU per hour oil field steamer will be demonstrated.

- A pilot scale evaluation of the simultaneous SO_x/NO_x control process is being conducted. This technology has the potential to reduce the cost of SO_x compliance by up to 50 percent when compared to the current state of the art.

- Documentation of the effectiveness and cost associated with the combustion of coal/limestone pellets is being completed. The pellet fuel offers an opportunity to lower the cost of SO_x control for stoker fired boilers when compared to the current state-of-the-art.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $97,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $5,800.

- An increase of $15,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $3,400 to other activities.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction," required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $13,900.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $60,000.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $30,000.

1982 Plan

The Agency requests a total of $12,593,400 and 22 permanent workyears for this subprogram, of which $1,812,600 is for the Salaries and Expenses Appropriation and $10,780,800 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $206,700. The increase will permit the accelerated development and demonstration of the limestone injection/multi-stage burner (LIMB) sulfur oxide control process. The LIMB process has the potential to significantly reduce the cost of compliance with State Implementation Plans and New Source Performance Standards. The technological risk associated with this program is very high; therefore, the participation of the government is needed to assure that the LIMB process is developed in a timely manner.

- EPA will perform comprehensive boiler performance and emissions characterization tests at the industrial and utility boiler low NO_x burner demonstration sites. In addition, the limestone injection into multi-stage burners will continue to be moved as rapidly as possible toward demonstration in full scale, operating boilers. Both the low NO_x burner and the limestone injection into multi-stage burners efforts are designed to develop low cost, effective environmental control systems which would permit the United States to expand domestic coal usage while preserving the quality of our environment. The program provides for:

- Completion of the 18 month performance evaluation which was initiated in FY 81 of low NO_x coal combustion systems which are applicable to tangentially and wall-fired utility boilers. The program goals are: NO_x emission rates of 0.2 pounds of NO_x per million BTU at an incremental cost of less than $8 per kilowatt of generating capacity.

- Completion of the 18 month performance evaluation of low NO_x coal burners which are applicable to wall fired industrial boilers in the 100,000 to 1,000,000 pounds of steam per hour range. The program goals are: NO_x emission rates of 0.2 pounds of NO_x per million BTU at an incremental cost of less than $8 per equivalent electrical kilowatt.

- Completion of the field evaluation of the performance of low NO_x combustion concepts applicable to coal-stoker fired industrial boilers. This study is cooperatively funded by the American Boiler Manufacturers Association, the Department of Energy, and the Environmental Protection Agency.

- Completion of the first phase of the demonstration of techniques to lower NO_x emissions from existing boilers to permit their cost effective compliance with existing coal-fired plume visibility regulations for Western utilities. Successful demonstration would permit expanded coal usage in these areas, at less than 1/2 the capital cost of flue gas treatment for NO_x control and significantly reduce the control cost passed on to the customer.

- Complete the field demonstration of the EPA developed low NO_x burner for heavy oil. The burner would be demonstrated in a Thermal Enhanced Oil Recovery (TEOR) boiler used in Kern County, Ca. The successful demonstration of this burner would permit the expansion of oil production to an estimated 700,000 bpd in compliance with the National Ambient Air Quality Standard for NO_2.

- Continue the bench scale and pilot scale evaluation of limestone injection using advanced low NO_x burner designs with an SO_2 emission reduction goal of 50-70 percent and with an SO_2 control incremental cost of $15-40 per kilowatt. Successful demonstration of this technology could significantly lower the total annual revenue requirement (estimated 50% reduction) and simultaneously permit greater use of coal while preserving the quality of our environment.

Change From January Request

This request represents a decrease of $512,700 from the January budget, of which $12,700 is for Salaries and Expenses and $500,000 is for Research and Development. this decrease will result in fewer Characterization tests of boiler performance and emissions at low NO_x burner demonstration sites.

ENVIRONMENTAL PROCESSES AND EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $418,900 for this sub-program, of which $23,500 was for Salaries and Expenses and $395,400 was for extramural research activities.

- The data base has been completed for a three level model which relates ozone stress to the sensitivity of three genetic categories of ponderosa pine-sensitive, intermediate, and resistant. Data will be used to determine the extent of ozone induced inhibition in the growth of ponderosa pine, a major western timber species.

- The relationship between the growth of ponderosa pine and the rate of photosynthesis as controlled by ozone stress was established. This relationship will be used to form the basis for relating the process of photosynthesis to ponderosa pine productivity. Through additional measurements of photosynthesis, the impacts of ozone and other pollutants can be predicted for other plant species.

- A portable battery-powered device was developed to measure photosynthesis and water loss rates for trees and field crops. The device can be used in the field to relate the impacts of ozone and other pollutants on photosynthesis and the accumulation of biomass.

- Initial results were presented which relate the impacts of water stress to the sensitivity of ponderosa pine to ozone. This information can contribute support for regional air quality standards as based on differences in moisture availability.

1981 Program

In 1981, the Agency has allocated a total of $404,800 to this sub-program, of which $25,900 is for the Salaries and Expenses Apropriation and $378,900 is for extramural purposes under the Research and Development Appropriation.

- A research strategy which discusses the use of the Zonal Air Pollution System for field assessments of the impacts of ozone on crops is being developed.

- Automated field exposure systems for ozone studies are being developed for deployment

79-248 O—80——53

- Crop growth and yield models will be evaluated to predict the effects of air pollutants.

- The field study and data collection involving the impacts of ozone on ponderosa pine is being completed. This information will be utilized as input to the Ozone Criteria Document required under the Clean Air Act.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $300 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $100.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $800 was applied to this activity.

- An increase of $100 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $500.

1982 Plan

In concert with a corresponding cut in the health effects sub-program in 1982, the Agency requests no resources in this sub-program. Research on the environmental effects of ozone and other photochemical oxidants will be deferred in 1982 so that the research is in phase with the criteria document revision cycle.

Change From January Request

There is no change form the January budget.

ENERGY

Hazardous Pollutants Energy

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousand)			
Appropriation					
Energy Monitoring System and Instrumentation Development:					
Salaries and Expenses	$80	$72	$81	...	-$81
Research and Development	377	428	385	...	-385
Energy Health Effects:					
Salaries and Expenses	54	13	14	13	-1
Research and Development	1,411	1,504	763	1,505	+742
Energy Environmental Engineering and Technology:					
Salaries and Expenses	368	480	465	...	-465
Research and Development	3,576	3,161	2,858	...	-2,858
Energy Environmental Processes and Effects:					
Salaries and Expenses	18	16	17	89	+72
Research and Development	421	484	436	484	+48
Total:					
Salaries and Expenses	520	581	577	102	-475
Research and Development	5,785	5,577	4,442	1,989	-2,453
Grand Total	6,305	6,158	5,019	2,091	-2,928

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Permanent Positions					
Energy Monitoring Systems and Instrumentation Development...	1	1	1	...	-1
Energy Health Effects Energy Environmental Engineering and Technology.....	...	...	...	...	...
	7	8	6	...	-6
Energy Environmental Processes and Effects.....	...	...	...	1	+1
Total.....	8	9	7	1	-6
Full-Time Equivalency					
Energy Monitoring Systems and Instrumentation Development.....	1	1	2	...	-2
Energy Health Effects Energy Environmental Engineering and Technology.....	...	1	...	1	+1
	9	11	9	...	-9
Energy Environmental Processes and Effects.....	1	1	...	2	+2
Total.....	11	14	11	3	-8

*January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Budget Request

The Agency requests a total of $2,090,900 and for 1 permanent workyear for 1982, a decrease of $2,928,300 from 1981. Included in this total is $102,500 for Salaries and Expenses and $1,988,400 for Research and Development, with decreases of $474,400 and $2,453,900, respectively.

Program Description

This program has been developed under the auspices of the Hazardous Air Pollutants/ Energy Research Committees. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

The overall program develops the information necessary to evaluate potentially hazardous air pollutant emissions problems associated with conventional energy systems and energy conservation methods, and defines control techniques to mitigate any significant problems which are identified at a reasonable cost. The research program consists of 4 major components: (1) characterization of discharges and evaluation of cost effective pollution control options: (2) gathering of health effects data for pollutants from energy-related sources and development of testing and bioassay techniques; (3) development of near-field air dispersion models for determining general population exposures to hazardous air pollutants; and (4) development of hand-held monitoring systems and other instrumentation for measuring HAPs and exposures to them in indoor and outdoor environments. Sources addressed include stationary conventional combustion equipment (burning non-synthetic fuels) and the indoor environment, as it is affected by indoor and outdoor sources, and by energy conservation measures. A major output of the program is the scientific information needed for the establishment of NESHAPS regulations and guidelines. The research includes the development of source characterization data; health effects data; testing and assay methods for screening HAPs; near-field air dispersion models for determining general population exposures; and the development of monitoring systems and instrumentation for improving data collection. Another major output is the definition of indoor air quality. Characterization of the indoor component of total exposure development or risk assessments for indoor exposures, and development of cost effective control methods and systems for indoor sources are a crucial aspect of this work. This data is needed to develop an understanding of the significance of indoor versus outdoor exposures to hazardous air polluants.

Activities and program proposals for each sub-program are presented individually in the following material.

ENERGY MONITORING SYSTEMS AND INSTRUMENTATION DEVELOPMENT

1980 Accomplishments

In 1980, the Agency used a total of $456,600 for this sub-program, of which $79,800 was for Salaries and Expenses and $376,800 was for extramural research activities.

- A gas chromatographic system employing a GC column etched on a 5 cm silicon wafer and controlled by a microcomputer has been assembled into a 5 lb. package. The system can be programmed to analyze up to 10 different gases stimultaneously and analyses are complete in less than one minute. This instrument will be used in quantitating emissions from synfuel plants.

1981 Program

In 1981, the Agency has allocated a total of $465,800 and 1 permanent workyear to this sub-program, of which $80,700 is for the Salaries and Expenses appropriation and $385,100 is for extramural purposes under the Research and Development appropriation.

- Passive personal dosimeters which are commercially available are being evaluated for use in measurement of hazardous organics at ambient air levels. These devices will be used in exposure monitoring studies needed by OAQPS in the development of national ambient air quality standards.

- The sensitivity of the miniature gas chromatograph is being increased from the present ppm to ppb range. Validated protocols for measuring hazardous air pollutants utilizing the miniature gas chromatograph are being developed. These protocols will be used by OAQPS to measure energy-related NESHAPS pollutants.

- A study is being conducted to determine the feasibility of producing a portable mass spectrometer instrument for use in field measurements of complex mixtures of gas phase pollutants. Such a measurement system would be used for field detection of hazardous organic pollutants at spill sites and other sources.

1981 Explanation or Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $33,800 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $500.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $4,400 was applied to this activity.

- An increase of $900 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $900 from other activities.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $12,300.

- Transfer of $43,000 to solid waste/non-energy to support effects on Love Canal.

1982 Plan

The Agency requests no funds for this program in 1982. Research on the development of exposure monitoring hardware was eliminated to allow for the enhancement of ORD's hazardous air pollutant assessment capabilities.

Change From January Request

This request represents a decrease of $500,900 and 1 permanent workyear from the January budget, of which $72,800 is for Salaries and Expenses and $428,100 is for Research and Development. This decrease will result in the elimination of the research on the development of exposure monitoring hardware.

ENERGY HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $1,465,500 for this sub-program, of which $54,200 was for Salaries and Expenses and $1,411,300 was for extramural research activities.

- Eleven chromium compounds have undergone cell mutagenicity assays to determine their relative toxicity.

- Factors influencing genotoxicity (frequencies of sister chromatid exchanges and chromosomal aberrations) for exposure to inhaled benzene have been evaluated to establish increases in genotoxicity of multiple pollutant exposures.

- A link between specific pulmonary lining proteins to certain pulmonary diseases has been established. This link may serve as a marker for damage by air-borne energyrelated pollutants.

- Initial stages of experiments were completed to determine hazardous gaseous co-factors, such as formaldehyde, which enhance the potential of chemical carcinogens.

- A study was initiated on the perturbation of respiratory epithelium by energy-related substances, such as acrolein and phosgene, which are on EPA's hazardous substances list.

- Work was initiated to develop a method for chronic implantation of a lymphatic catheter for subsequent determination of lymphatic clearance rates of hazardous particles of cadmium chloride, ferric oxide, asbestos, and glass fibers.

- Cellular markers were developed for assay of neoplastic development in pulmonary tissue.

- Initial studies were completed to determine the effects of gaseous toxicants, asbestos, and disease on enzymatic secretions and cell populations of the lung.

- An in vitro assay was developed to detect precancerous lesion in respiratory epithelium of animals exposed in vitro to hazardous pollutants such as dimethyl benzanthracene and benzo (a) pyrene.

- Release devices were developed for in vivo testing of hazardous pollutants, such as benzo (a) pyrene, benzo (e) pyrene, dimethyl benzanthracene and 3 methyl cholanthrene in tracheal implants.

1981 Program

In 1981, the Agency has allocated a total of $777,100 to this sub-program, of which $14,100 is for the Salaries and Expenses appropriation and $763,000 is for extramural purposes under the Research and Development appropriation.

- An in vitro assay will be validated for detection of precancerous lesions following chronic exposure to dimethyl benzanthracene.

- The development of release devices will continue for cancer promoting chemicals and for water-insoluable inorganic toxicants, such as manganese dioxide.

- Six-and twelve-month sampling of exposure and control populations for determination of cocarcinogenic activity of formaldehyde will be completed.

- Studies with acrolein and phosgene will be completed, as will sub-acute and chronic exposures.

- The development of a method for chronic implantation of a lymphatic catheter will be completed. A model of lymphatic clearance for inert particulates will be completed. A model for lymphatic clearance of metals such as cadmium and iron will be completed.

- Acute exposures to various fractions from a coal gasifer will be assayed using the sister chromatid exchange in lung cells.

1981 Explanations of Change from Budget Estimate

The net decrease of $740,300 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $100.

- The Congress directed a reprogramming of funds to provide for aquatic weed research; $75,000 was transferred to pesticides environmental processes and effects.

- An increase of $200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Transfer of $16,500 to energy environmental processes and effects, to perform work related to alternate fuels research initiated and to obtain information on oil shale.

- Transfer of $191,000 to solid waste/non-energy, to support efforts on Love Canal.

- The Department of Housing and Urban Development-Independent Agencies Appropriation Act, 1981, permits a one percent transfer authority between appropriations. This one percent authority is being implemented by transferring funds from the Research Development and the Abatement, Control and Compliance appropriations to the Salaries and Expenses appropriation in order to fund PC&B deficits; the reduction applied to this activity is $459,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $1,100.

1982 Plan

The Agency requests a total of $1,517,600 for this sub-program, of which $13,100 is for the Salaries and Expenses appropriation and $1,504,500 is for extramural purposes under the Research and Development appropriation.

This reflects an increase of $740,500. The additional resources will be used to conduct animal inhalation toxicity tests on hazardous air pollutants from the combustion of oil shale.

- Animal inhalation toxicology studies will be continued to determine the effects, responses to, and mechanisms of action of acute and chronic exposures to gaseous and particulate pollutants, such as ozone and nitrogen dioxide in association with asbestos.

- The assay for precancerous pulmonary lesions will be refined further, and development of tracheal implant release will continue for water soluble organics, particulates, and gaseous toxicants, such as diethyl nitrosamine, fly ash, and sulfur dioxide.

- Promotion studies with formaldehyde as a cofactor will be completed. Analysis of cocarcinogensis data will be completed. Measurements of pulmonary function after six-and twelve-month exposures to acrolein and phosgene will be completed.

- Studies on the effects of pre-exposure to oxidants, such as ozone and nitrogen dioxide, on lymphatic clearance of toxic particulates will be completed.

- Investigation to correlate the sister chromatid exchange frequency with gene mutations in lung cells will be initiated. A study on acute and chronic exposure to coal gasifier emissions will be completed.

Change From January Request

This request represents a decrease of $100 from the January budget for salaries and expenses. This decrease will not result in any significant programmatic impact.

ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1980 Accomplishments

In 1980, the Agency used a total of $3,943,600 for this sub-program, of which $367,500 was for Salaries and Expenses and $3,576,100 was for extramural research activities.

- Volatile organic compound emission factors for utility coal-fired power plants have been updated using the data from 43 boilers firing bituminous and lignite coal, residual oil, or gas.

- A paper entitled, "POM Emissions from the Stationary Conventional Combustion Processes, with Emphasis on Polychlorinated Compounds of Dibenzo-p-Dioxin Biphenyl and Dibenzofuran" was updated.

- A comparative environmental assessment report on the environmental impacts from controlled coal-fired and oil-fired utility boilers was published.

- An assessment report on the POM emissions from residential wood combustion was published.

- Studies to monitor indoor air quality for NO_x, CO and formaldehyde were initiated.

- An evaluation of sealants to reduce exposure to asbestos in the indoor environment was initiated.

- Studies monitoring hydrocarbons from residential and commercial wood combustion are being initiated.

- Assistance to 20 state and local agencies on requests for emissions factors associated with wood combustion is being provided.

1981 Program

In 1981, the Agency has allocated a total of $3,323,600 and 6 permanent workyears to this sub-program, of which $465,300 is for the Salaries and Expenses appropriation and $2,858,300 is for extramural purposes under the Research and Development appropriation.

- The NIOSH study to determine total daily exposure to indoor and outdor contaminants by selected worker groups and their families is being continued.

- An evaluation of asbestos sealants for public buildings is being completed. This will provide administrators of public buildings with a viable and cost-effective approach to reducing public exposure to this known carcinogen.

- The development and evaluation of a vacuum removal system for asbestos-bearing building materials is being initiated. This will enable the eventual removal of deteriorating asbestos materials which release asbestos fibers to indoor environments.

- Remedial measures for reducing indoor radon concentrations in new and existing buildings are being evaluated. Indoor radon exposures indoors have been linked to lung cancer.

- The activities of the Interagency Research Group on Indoor Air Quality, as it seeks to define and execute a coordinated federal strategy for understanding the problems of and remedies for pollution are being continued.

- A 2-year study of the effects of wood burning in a New England community is being initiated.

1981 Explanation of Change from Budget Estimates

The net decrease of $318,400 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $2,100.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $12,900 was applied to this activity.

- An increase of $3,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $800 to other activities.

- Transfer of $303,000 to solid waste/non-energy to support efforts on Love Canal.

- An internal agencywide reduction of $6,500,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $3,100

1982 Plan

Due to austere financial conditions and a reordering of Agency priorities, the Agency requests no resources for this sub-program in 1982. Data that is presently available from several sites will still permit an evaluation of the environmental impact of increased wood combustion, and indoor air pollution.

Change From January Request

This represents a decrease of $3,395,000 and 4 permanent workyears from the January budget, of which $577,300 is for Salaries and Expenses and $2,817,700 is for Research and Development. There will be no resources requested in 1982. This decrease will result in the elimination of methods for examining various air cleanup devices and removal of asbestos from building materials.

ENVIRONMENTAL PROCESSES AND EFFECTS

In 1980, the Agency used a total of $439,000 for this sub-program, of which $18,400 was for Salaries and Expenses and $420,600 was for extramural research activities.

- Urban and non-urban relationships, global distributions, and daily doses of a large number of selected hyrocarbons, halocarbons, and nitrous oxide were determined. This data will be used to assess the impacts of these pollutants on the stratospheric ozone layer.

1981 Program

In 1981, the Agency has allocated a total of $452,700 to this sub-program, of which $16,800 is for the Salaries and Expenses appropriation and $435,900 is for extramural purposes under the Research and Development appropriation.

- Source apportionment methods employing chemical signatures of synfuel-related organic emissions are being developed. These methods will be used to determine population exposures and pollution isopleths in a localized area near these energy sources.

- The feasibility of developing a comprehensive master analytical scheme for energy-related organics in air is being determined as Phase I of a development effort. A plan for developing such a scheme is also being developed.

1981 Explanation of Change from Budget Estimate

The net decrease of $47,200 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $100.

- An increase of $200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on board needs resulted in a transfer of $200 from other activities.

- Transfer of $48,000 to solid waste/non-energy to support efforts on Love Canal.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $500.

1982 Plan

The Agency requests a total of $573,300 and 1 permanent workyear for this sub-program, of which $89,400 is for the Salaries and Expenses appropriation and $483,900 is for extramural purposes under the Research and Development appropriation. This reflects an increase of $120,600. The additional resources will be used to conduct research on the transport and transportation of polar pollutants and organic particulates.

- The chemical species balance method of determining the source of carbonaceous atmospheric pollutants will be applied to a coal conversion plant.

- The collection efficiencies involved in the capture, concentration and analysis of gas-phase organic polar compounds from energy sources will be determined and any potential artifact problems will be identified. This will be Phase II of the development of a master analytical scheme for organic pollutants in air.

- The effort to determine the local impact on air quality of inorganic and organic emissions from synthetic fuel production operations will be continued. The approach entails putting in place a relatively dense network of samplers including some upwind of the synfuel plant. The emissions at the source are measured as well.

Change From January Request

This request represents an increase of $72,800 and 1 permanent workyear from the January budget for salaries and expenses. This will result in accelerated research on the transport and transformation of polar pollutants and organic particulates .

Gases and Particles - Energy

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Energy Monitoring					
Systems/Instrument Development:					
Salaries and Expenses	$206	$186	$183	...	-$183
Research and Development	1,108	1,746	1,545	...	-1,545
Energy Health Effects:					
Salaries and Expenses	98	23	25	23	-2
Research and Development	2,582	2,731	2,701	1,931	-770
Energy Environmental					
Engineering and Technology:					
Salaries and Expenses	1,154	1,497	1,391	2,338	+947
Research and Development	7,633	11,057	10,557	6,236	-4,321
Energy Environment					
Processes and Effects:					
Salaries and Expenses	815	718	653	1,054	+401
Research and Development	11,191	6,943	6,325	5,268	-1,057
Total:					
Salaries and Expenses	2,273	2,424	2,252	3,415	+1,163
Research and Development	22,514	22,477	21,128	13,435	-7,693
Grand Total	24,787	24,901	23,380	16,850	-6,530
Permanent Positions					
Energy Monitoring Systems/ Instrumentation Development	1	1	1	...	-1
Energy Environmental Engineering and Technology	17	20	19	26	+7
Energy Environmental Processes and Effects	4	3	3	4	+1
Total	22	24	23	30	+7

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase+ Decrease- 1982 vs. 1981
Full-Time Equivalency					
Energy Monitoring Systems/ Instrumentation Development.....	3	6	6	...	-6
Energy Health Effects.....	1	1	...	1	+1
Energy Environmental Engineering and Technology.....	26	28	28	43	+15
Energy Environmental Processes and Effects.....	15	21	19	28	+9
Total.....	45	56	53	72	+19

*January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Budget Request

The Agency requests a total of $16,849,900 and 30 permanent workyears for 1982, a decrease of $6,529,200 from 1981. Included in this total is $3,415,100 for Salaries and Expenses and $13,434,800 for Research and Development, with an increase of $1,163,500, and a decrease of $7,692,700 respectively.

Program Description

This program has been developed under the auspices of the Gases and Particles and Energy Research Committees. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

This overall program provides EPA's regulatory decision makers, the Regional Offices, and local and state implementing agencies with the scientific and technological data base which is needed to economically achieve this nation's energy development and self-reliance goals with minimum deleterious environmental and health effects. In particular, research under the Gases and Particles Energy DU addresses the research needs of the Office of Air Quality Planning and Standards (OAQPS) and the Office of Enforcement (OE) in setting, reviewing, implementing and/or enforcing National Prevention of Significant Deterioration (PSD) stipulators of the Clean Air Act. The GAP-Energy program focuses on SO_2 fine and inhalable particles (IP) and other related pollutants resulting mainly from increased coal use. The research includes the development and evaluation of less expensive pollution control technologies, studies of public health impacts, and environmental processes and effects, and development of measurement technology. This DU provides support for long-term exploratory research on alternative control technologies for these pollutants.

Activities and program proposals for each sub-program are presented individually in the following material.

ENERGY MONITORING SYSTEMS AND INSTRUMENTATION DEVELOPMENT

1980 Accomplishments

In 1980, the Agency used a total of $1,314,300 for this sub-program, of which $206,300 was for Salaries and Expenses and $1,108,000 was for extramural research activities.

- A single train sampling system, the Brookhaven Controlled Condensation System (BNL/CCS) was shown to determine accurately sulfuric acid, metal sulfates, TSP, principle metals, SO_2, NO_x, H_2O, O_2, CO & CO_2 in flue gases of coal and oil-fired

stationary combustion sources. This enables both an accurate inventory of pollutant loadings in the atmosphere, and gives plant operators information on combustion parameters so that they can make appropriate adjustments.

- Methods for predicting potential plume opacity from commercial oil-fired utility stations have been developed. The method is useful in comparing emissions from the burning of low and high sulfur oil.

- An Ultra-Violet-Differential-Absorption System (UV-DIAL) for measuring energy-related pollutant concentrations was developed and tested. This system can be used to obtain a 3-dimensional mapping of pollutants in the atmosphere. Such information is being used for modeling and field studies such as the Project VISTTA (Visibility Impairment due to Sulfur Transport and Transformation).

1981 Program

In 1981, the Agency has allocated a total of $1,727,500 and one permanent workyear to this sub-program, of which $182,900 is for the Salaries and Expenses Appropriation and $1,544,600 is for extramural purposes under the Research and Development Appropriation.

- Improved fine particle measurement and analysis techniques are being developed to provide the means of evaluating regional scale fine particulate models.

- The Brookhaven Controlled Condensation System (BCCS) is being modified to sample volatile organic compounds from stack gases. This system will enable the correlation of emissions to combustion sources.

- Two remote monitoring systems (UV DIAL - Differential Absorption LIDAL and HSRL - High Spectral Resolution LIDAR) are being further improved. This technology will be used in Visibility and Sulfur Transport and Transformation (VISTTA) field studies aimed at improving the understanding of atmosphere chemical and the transport of criteria pollutants. The UV-DIAL is being adapted for airborne SO_2 measurements.

- The actual exposure of a population cohort to two energy-related pollutants, SO_2 and fine particulates, is being measured using personal exposure devices. This effort will enable the correlation of actual exposures to ambient pollutant levels. Present models used for plant siting predict ambient pollution levels, but not actual human exposures.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission.

The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $205,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $800.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $900 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $1,100 was applied to this activity.

- An increase of $1,900 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $800 from other activities.

- Transfer of $202,000 to energy environmental processes and effects to support work related to alternate fuels research initiative and to obtain information on oil shale.

- An internal agency wide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $4,300.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $900.

1982 Plan

The Agency requests no funds for this program in 1982. No funds are requested for further visibility monitoring research as visibility monitoring guidance supporting EPA's regulations was published during FY 81.

Change From January Request

This represents a decrease of $1,735,500 and 1 permanent workyear from the January budget, of which $215,300 is for Salaries and Expenses and $1,520,000 is for Research and Development. This decrease will result in elimination of efforts to develop improved methods to monitor visibility.

ENERGY HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $2,679,800 for this sub-program, of which $97,400 was for Salaries and Expenses and $2,582,400 was for extramural research activities.

- An epidemiological study was initiated among El Paso school children to determine pulmonary effects of intermittenly high ambient concentrations of sulfur oxides and particulates.

- Data was collected for the multi-year "Six-City" epidemiology study designed to provide a definitive assessment of the effects of air pollution on health with particular concern for sulfur dioxide and respirable particulates.

- Two new human clinical studies were initiated. These were designed to determine individual and/or combined effects of sulfur dioxide and respirable particulates.

- An effort to determine the carcinogenic potential of common air pollutants such as sulfur and nitrogen oxides generated by fossil fuel combustion was continued.

- Animal studies were continued addressing health impacts of inhaling individual and combined concentrations of fly ash, sulfur oxides and sulfuric acids aerosols generated by fossil fuel combustion.

- Project reports were completed describing effects of respirable sulfates, sulfuric aerosols, and particulates, alone and in combination, on respiratory endpoints such as mucous clearance, airway sensitivity to histamine, reparative and adaptive changes occurring progressively and cumulatively - in healthy and diseased animal models.

1981 Program

In 1981, the Agency has allocated a total of $2,725,300 to this sub-program, of which $24,500 is for the Salaries and Expenses Appropriation and $2,700,800 is for extramural purposes under the Research and Development Appropriation.

- The first year of the El Paso epidemiological study to determine in school children the pulmonary effects of intermittently high ambient concentrations of sulfur oxides and particulates will be completed.

- The "Six-City" epidemiology study will be continued; this is a comprehensive health effects and monitoring effort designed to elucidate effects of air pollution, primary sulfur oxides and particulate matter, on human health (healthy and impaired individuals) in six locations, having both relatively high and relatively low levels of ambient air pollution.

- The first year of two clinical studies which will examine the effects of combined exposures to sulfuric acid aerosols and ozone in young individuals and ozone adaptation in normal subjects will be completed.

- A clinical evaluation of physiological effects of specific particulate air pollutants and simple air pollutant mixtures (sulfur and nitrogen oxides) in normal and susceptible human subpopulations will continue.

- The second year of an animal inhalation toxicology study to investigate the possible lung tumor increase associated with concurrent or sequential exposure to common air pollutants and carcinogenic chemicals will be completed.

- Efforts will be continued via animal inhalation toxicological studies, to determine pulmonary reparative adaptive changes in mammals following chronic exposures to oxides of sulfur and particulates.

- The second year of animal inhalation toxicology studies to determine loss of lung function and lung clearance functions following acute and chronic exposures of normal and impaired animals to acid sulfates and fly ash will be completed.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Spcecial Analyses section of this submission.

The net decrease of $28,400 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $100.

- An increase of $100 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $100 from other activities.

79-248 O—80——54

- Transfer of $29,900 to energy environmental processess and effects, to perform work related to alternate fuels research initiative and to obtain information on oil shale.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $1,400.

1982 Plan

The Agency requests a total of $1,953,600 for this sub-program, of which $22,900 is for the Salaries and Expenses Appropriation and $1,930,700 is for extramural purposes under the Research and Development Appropriation.

- This reflects a decrease of 771,700 due to a reordering of Agency priorities, Animal inhalation toxicology studies on the effects of conventional combustion products were eliminated.

- Support will continue for the second and final year of the El Paso epidemiology study and to the proposed penultimate year of the "Six City" epidemiology study. These studies are designed to assess the human health impacts of elevated ambient levels of sulfur oxides and particulate matter generated by the combustion of fossil fuel.

- Clinical investigations of pulmonary impacts of sodium, ammonium and hydrogen sulfate aerosols - as well as sodium nitrate and sodium chloride aerosols, varying concentration, particle size, and humidity and temperature extremes will continue.

- Studies of altered respiratory function and physiology in healthy and impaired animals models as a function of chronic exposures to SO_2 plus fly ash, ammonium sulfates, and sulfuric acid aerosols plus carbon or fly ash will continue.

Change From January Request

This request represents a decrease of $800,500 from the January budget, of which $500 is for salaries and expenses and $800,000 is for research and development. This decrease will result in the elimination of animal inhalation toxicology studies on the effects of conventional combustion products.

ENERGY ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1980 Accomplishments

In 1980, the Agency used a total of $8,787,400 for this sub-program, of which $1,154,200 was for Salaries and Expenses and $7,633,200 was for extramural research activities.

- Full scale, adipic acid testing at the City of Springfield Utilities host site was completed. Preliminary data indicate performance improvement from 70 percent SO_2 reduction to 93 percent SO_2 reduction by the addition of small amounts of adipic acid.

- Full scale evaluation of the performance of a lime spray dryer system on an industrial boiler burning eastern, non-alkaline ash, low sulfur coal was initiated.

- Long term evaluation of the dual alkali scrubbing process at Louisville Gas and Electric was completed. The final report documents the sulfur oxide reduction observed during the test program.

- A state of the art review of dry SO_2 control processess was completed.

- Field tests of fugitive emission control techniques for urban fugitive dusts to assist State Implementation Plans (SIP) development in non-compliance areas were completed.

- Assessment of flue gas conditioning agents as a means to improve electrostatic precipitation (ESP) performance for low sulfur coal fly ash was completed.

- Evaluation of full scale baghouse for low sulfur coal utility boilers was completed.

- Initial phase of electrostatic precipitator precharger development which projects substantial cost reduction potential of precharger modified ESP's for low sulfur coal fly ash collection was completed.

1981 Program

In 1981, the Agency has allocated a total of $11,948,500 and 19 permanent workyears to this sub-program, of which $1,391,100 is for the Salaries and Expenses Appropriation and $10,557,400 is for extramural purposes under the Research and Development Appropriation.

In response to a Congressional mandate, the FY 1981 acid precipitation program was increased by $1.5M. This increase was split between the Multimedia Energy & Gases & Particles Energy program. The acid rain program element in the Multimedia program was increased by $500K, and the Environmental Engineering & Technology program element in the Gases & Particles Energy program was increased by the remaining $1.0M. The $1,000,000, in this program is being used to accelerate the development of the limestone injection multistage burner (LIMB), which is the key component of ORD's control technology research on acid rain.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimated reflected in this submission. The details of the restructing of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $605,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $6,700.

- The Congress increased the acid rain program by $1.5 million, of which $1 million is added to this activity.

- The Congress reduced the anticipatory research program by $2.5 million, of which $1,000.0 is decreased from this activity.

- The Congress reduced agencywide consulting services by $3.8 million a decrease of $31,800 was applied to this activity.

- The Congress reduced agencywide Senior Executive Services bonuses by $750,000; a decrease of $7,600 was applied to this activity.

- The Congress directed a reprogramming of $950,000 be made for the Cold Climate research activity; $500,000 is reduced from this activity and transferred to Water Quality/non-energy.

- An increase of $12,400 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- A transfer of $8,100 to program management to support public awareness and industrial hygienist positions at Research Triange Park.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $71,000.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $50,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $57,800.

1982 Plan

The Agency requests a total of $8,574,500 and 26 permanent workyears for this subprogram, of which $2,338,100 is for the Salaries and Expenses Appropriation and $6,236,400 is for extramural purposes under the Research and Development Appropriation.

This reflects an increase of $947,000 for the S&E appropriation and a decrease of $4,321,000 for the R&D appropriation. The increase in S&E appropriation reflects the consolidation of S&E expenses of the abolished Hazardous Pollutants and Solid Waste energy programs. The additional positions are required to provide technical assistance to the regional offices and state environmental officials to review construction permits and Prevention of Significant Deterioration review. This will lower the time required for granting the needed permits.

The decreases in the R&D appropriation reflects the elimination of four proposed performance evaluations of fabric filters in utility applications. Data presently available from three utility sites is sufficient for utility boiler NSPS deliberations.

The decrease also reflects a reduction in the following programs: control strategies for condensable particulates; long-term performance evaluation of flue gas desulfurization systems; and fine particulate matter emission factors study. These research projects were reduced cut to allow for a shift in emphasis from a short-term extramural research program to a long-term intramural research program.

- Pilot/prototype testing of the precharger for electrostatic precipitators will continue. This technology could lower the capital cost and particulate control by a factor of 2 to 7 below current state of the art, while complying with existing particulate emission regulations.

- Pilot scale evaluation of electrostatically enhanced fabric filtration for particulate control will continue. This innovation could significantly lower the capital and operating cost of particulate control using fabric filters. This high potential technology will be developed for commercial applications in 3-5 years.

- A flue gas desulfurization technology assessment report which would include cost and performance evaluations of lime/limestone wet scrubbers, adipic acid modified limestone

wet scrubbing, and lime spray dryers for a range of coal types and SO_2 emission levels will be published. This document would be used by Federal, State, and local environmental officials in determining the performance vs. cost of flue gas desulfurization systems.

- The fine particulate emission factors study will be expanded to include additional industries and sources within an industry.

- Performance assessments of fabric filters for four utility boiler applications burning low sulfur coal will be completed.

- A strategy for controlling visible emissions from power plants stacks due to condensation effects and for maximizing particulate collections will be developed.

- Long term performance and reliability testing at one state-of-the-art wet flue gas desulfurization (FGD) unit and one state-of-the-art dry FGD control system will be performed.

Change From January Request

This request represents a decrease of $4,092,500 and an increase of 6 permanent workyears from the January budget, of which $803,500 is an increase for Salaries and Expenses and $4,896,000 is a decrease for Research and Development. This net decrease will result in the elimination of four proposed performance evaluations of fabric filters in utility applications, and a reduction in the following programs: control strategies for condensable particulates, long-term performance evaluation of flue gas desulfurization sydtems, and fine particulate matter emission factors.

ENERGY ENVIRONMENTAL PROCESSES AND EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $11,877,500 for this sub-program, of which $815,200 was for Salaries and Expenses and $11,062,300 was for extramural research activities.

- In close cooperation with the National Crop Loss Assessment Network, field research was initiated in the midwestern, northeastern, and southeastern portion of the United States to determine the interactive effects of SO_2 and NO_2 on the yield of major crops. Initial experiments utilized soybean as the first crop species to be tested. Dose/response data will be developed and related to a national assessment of the impacts of SO_2 and pollutant mixtures on crop productivity. The development of this data base is needed by the Office of Air Quality Planning and Standards.

- Results from studies which stimulated SO_2 and NO_2 fumigations from a coal-fired power plant indicated that soybean foliage was protected from SO_2 injury at 1 ppm SO_2 when plants were grown in the presence of NO_2 at concentrations of 0.17 to 0.70 ppm NO_2. These results differ from other conclusions which indicate that the combined effects of SO_2 and NO_2 are greater than the effects of either pollutant alone. Differences in crop varieties, environmental factors, and pollution loadings appear to be involved in these effects.

- Results from laboratory experiments indicated that the feeding of some insect species is increased by foliar injury induced by SO_2. This behavorial change could increase the severity of the adverse effects of insects on crops.

- The analysis of a major multi-year field study to determine the environmental impact of SO_2 from a coal-fired power plant in the northern Great Plains was completed. Emission of SO_2 had no significant impact on northern grassland ecosystems within the 25 km study area. Long-term subtle effects or effects due to the long-distant

transport and transformation of SO_2 remain unknown. Modeling was initiated to determine the maximum amount of emissions that grassland ecosystems can withstand before adverse effects occur. Results can be utilized to set criteria for future coal-fired power plants.

- The multi-year complex terrain modeling effort was initiated. Phase I of the program is in progress. This phase encompasses the field validation of stable plume impaction on elevated terrain. Phase II which will be initiated in 1981/82 involves field validation of actual power plant plume dispersion and impaction in complex terrain.

- The results of the Visibility and Sulfur Transport and Transformation (VISTTA) field study were analyzed and subsequently presented at the November 1980 Symposium on Plumes and Visibility. The data characterized the effects of power plant emission on visibility in clean Western areas.

- The Los Alamos Scientific Laboratory plume blight model and photographic simulation technique was delivered to the Office of Air Quality Planning and standards to support rulemaking for visibility protection in Federal Class I areas.

1981 Program

In 1981, the Agency has allocated a total of $6,977,800 and three permanent workyears to this sub-program of which $653,100 is for the Salaries and Expenses Appropriation and $6,324,700 is for extramural purposes under the Research and Development Appropriation.

- The Phase II program will be conducted of the complex terrain modeling effort. This phase will be oriented toward a comprehensive understanding of power plant plume morphology in complex terrain, including plume impaction, fumigation, and meandering.

- Field studies and modeling will be performed of fine and inhalable particle characteristics and concentrations. The majority of these particles emanate from energy sources, such as oil, gas, and coal-fired power plants, industrial boilers, and transportation sources. These particles are a potential health hazard; and therefore, are classified as a primary pollutant by the Clean Air Act. The particles also impair visibility; and hence, are classified as a secondary (welfare) pollutant.

- A regional visibility model is being developed which will be used in support of the Phase II visibility regulations.

- Phase I visibility regulations are being supported by providing an improved data base for the so-called "plume blight" problem.

- Data is being gathered to measure trends in air quality as coal-fired power plants go into operation. By measuring a broad spectrum of pollutants, it is expected that it will be possible to distinguish urban plume pollutants from pollutants originating from coal-fired plants.

- Field studies which focus on the impact of SO_2 and NO_2 pollutants on crop yield will continue to provide the necessary data base for a national assessment of crop loss/economic impact.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $683,300 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $3,200.

- The Congress reduced agencywide travel cost by $850,000; a decrease of $100 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million a decrease of $3,900 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease of $10,000 was applied to this activity.

- An increase of $5,100 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $3,200 from other activities.

- Transfer of $618,000 to Solid and Hazardous Waste/non-energy to support efforts on Love Canal.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $1,300.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $57,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $1,900.

1982 Plan

The Agency requests a total of $6,321,800 and 4 permanent workyears for this subprogram, of which $1,054,100 is for the Salaries and Expenses Appropriation and $5,267,700 is for extramural purposes under the Research and Development Appropriation.

This reflects a net decrease of $656,000. Specifically, we are reducing visibility modeling and field studies. Efforts will instead focus on analyzing data gathered from field studies performed during FY 1980 and 1981 to determine the appropriate course for future research and regulatory action.

- Further field studies and modeling efforts will be performed on inhalable particles from energy sources. The Agency is planning to substitute the TSP (total suspended particles) standard by a size and possibly chemically specialized standard. This will constitute the major effort by this program element in 1982. Final results should be available in the 1982-1983 time frame.

- The complex terrain modeling effort described above will continue in 1982. It is expected that a field validated model will become available for public use in 1983-1984.

- Crop assessment and modeling integration relevant to the impacts of SO_2 and NO_2 mixtures will be continued. Studies will continue to be field oriented and focus on the interactive effects of year-to-year variation in climatic factors and the yield

response of major crop species to air pollution. Reports describing the results and conclusions from 1981 studies will also be published for input to Air Qualtiy Criteria Documents.

- Validation of environmental impact models involving sulfur dioxide emissions from coal-fired power plants in the Northern Great Plains will continue. The 1982 effort will focus on three field sites, representing: grasslands, pinewoodlands, and agro-ecosystems subjected to chronic exposures of sulfur dioxide.

Change From January Request

This request represents a decrease of $898,700 and an increase of 1 permanent workyear from the January budget, of which $201,300 is an increase for Salaries and Expenses and $1,100,000 is for Research and Development. This net decrease will result in a reduction in efforts for visibility modeling and field studies.

ENERGY

Water Quality - Energy

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Energy Environmental Processes and Effects:					
Salaries and Expenses..	$467	$517	$431	$905	+$474
Research and Development.....	9,491	9,129	8,917	4,590	-4,327
Energy Monitoring Systems/Instrumentation Development:					
Salaries and Expenses.....	160	144	146	145	-1
Research and Development.....	864	986	796	85	-711
Total:					
Salaries and Expenses.....	627	661	577	1,050	+473
Research and Development.....	10,355	10,115	9,713	4,675	-5,038
Grand Total.....	10,982	10,776	10,290	5,725	-4,565
Permanent Positions					
Energy Environmental Processes and Effects.....	2	2	2	5	+3
Energy Monitoring Systems/ Instrumentation Development.....	2	2	2	2	...
Total.....	4	4	4	7	+3
Full-Time Equivalency					
Energy Environmental Processes and Effects.....	8	12	12	16	+4
Energy Monitoring Systems/ Instrumentation Development.....	3	2	5	2	-3
Total.....	11	14	17	18	+1

*January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Budget Request

The Agency requests a total of $5,725,700 and 7 permanent workyears for 1982, a decrease of $4,564,500 from 1981. Included in this total is $1,050,100 for Salaries and Expenses and $4,675,600 for Research and Development, with an increase of $473,200 and a decrease of $5,037,700, respectively.

Program Description

This program has been developed under the auspices of the Water Quality/Energy Research Committees. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

The overall program assesses the environmental transport, fate, and effects of energy-related pollutants on the aquatic environment. The primary objective of the program is to provide a scientific data base to: (1) determine the qualitative and quantitative effects of energy-related pollutants on freshwater (both surface and groundwater), and estuarine environments; (2) assess the ecosystem risks associated with the extraction, processing, transportation, and use of fuels; (3) develop measurement techniques to evaluate the presence of pollutants in aquatic ecosystems; (4) provide information for the establishment of regulations consistent with the needs of the various regulatory offices concerned with water quality; and (5) conduct long-term exploratory research geared at developing improved, more comprehensive and rapid assessment methods for evaluating aquatic systems, especially wetlands.

Activities and program proposals for each sub-program are presented individually in the following material.

ENERGY ENVIRONMENTAL PROCESSES AND EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $9,975,600 for this sub-program, of which $467,000 was for Salaries and Expenses and $9,490,500 was for extramural research activities.

- The ecological characterizations for the coastal ecosystem of the Chenier Plain of Louisiana and Texas and the Sea Island Coastal Region of South Carolina and Georgia were completed and distributed to State, Federal, and local planners for use in developing land use and coastal zone management plans.

- A major study was completed on the effects of a well-established offshore oil/gas drilling field on the biota of ocean systems. The results of the study will provide information relevant to the effects of produced water discharges within the Gulf of Mexico.

- It was confirmed that the short-term dispersion of the bulk of suspended particulate effluents from offshore oil and gas drilling rigs is limited to the immediate vicinity of the rig.

- Discharges of potential toxicants are associated with the drilling of new offshore oil and gas wells. Both drilling fluids and cuttings are discharged to the ocean environment. The initial development of laboratory toxicity tests has been completed. A joint government-industry symposium was held on the fate and effects of drilling fluids and cuttings.

- Two distinct water mass types acting on the Texas Flower Gardens coral reef banks simultaneously were identified. The Flower Garden banks topography helps to shape the boundaries of these water masses.

- A rapid analytical technique was developed to measure Barium, Aluminum, and Cadmium metals in sea water.

- Toxicity cage design criteria was developed to contain and remotely monitor test animals at precisely located grid points in ocean waters. Such a cage would be used for research and perhaps ultimately for routine monitoring of ocean waters near drilling rigs for the presence of toxic agents.

- A drilling fluid standard reference material for chemical analysis and toxicity testing was developed.

- Chemical and toxicity profiles of drilling fluid discharges from an active well were obtained. This information will aid in the development of toxicity based standards/guidelines.

- The use of fluorescent mineral sphalerite as a tracer for use in performing pollutant dispersion studies of offshore oil and gas drilling platform discharges was evaluated. Sphalerite was determined to be suitable for this purpose.

- Vertical columns of acoustically reflective particulate matter were observed in the Gulf of Mexico in waters near the Texas Flower Gardens coral reef banks. These columns are indicative of vertical mixing from the surface down into the nephloid layer and are distinctly different from the numerous gas seep columns found in the area.

- Definite density gradient layers were identified in the Gulf of Mexico waters on which particular pollutant discharges from drilling rigs may spread. These layers are the habitat for large concentrations of mid-water fishes at night.

- It was demonstrated that very dilute concentrations (ppm) of suspended marine particulates originating from offshore oil and gas drilling rigs can be tracked acoustically.

- An important component of the Great Lakes program within EPA is focused on the determination of the atmospheric contribution of pollutants to the Great Lakes System. These pollutants, which include sulfur and nitrogen compounds and heavy metals, are being measured to separate atmospheric inputs from those related to water pollutant discharges.

1981 Program

In 1981, the Agency has allocated a total of $9,348,300 and 2 permanent workyears to this sub-program, of which $431,100 is for the Salaries and Expenses Appropriation and $8,917,200 is for extramural purposes under the Research and Development Appropriation.

- Rates of uptake of metals by brown trout are being measured to investigate the effects of temperature and other stressors on the uptake of priority pollutants by fish in Lake Michigan.

- Bioaccumulation rates and toxicity of Zinc and Cadmium in natural phytoplankton assemblages are being measured using in situ incubation techniques to correlate bioaccumulation rates of priority pollutants with toxicity.

- Field data are being analyzed on plankton communities from 1975-1980 involving the development of correlations between state variables and plankton successional states, documenting the spatial and temporal development trends of the plankton community in the southern basin of Lake Michigan, and analyzing statiscally the correlations between community trajectories and physio-chemical parameters.

- Specimens of fish form Lake Michigan are being analyzed to identify and measure level of priority pollutants. The information will provide current levels of pollutants.

- Research is being conducted to investigate the fate and effects of the natural oil (petroleum) seeps and related pollutants in the Santa Barbara Channel. The effects of aromatic hydrocarbons on selected food resources are being assessed, and the relationship of recruitment and succession of benthic organisms to sediments contaminated with drilling muds and petroleum is being studied. This information will be utilized to establish appropriate NPDES permit conditions.

- The relative hazard of drilling fluid discharge from offshore and the estuarine drilling operations of aquatic organisms are being assessed. The impact of oil and gas drilling activities in the Gulf of Mexico Flower Banks area on coral reefs will be evaluated.

- Toxicity tests for sub-lethal and lethal effects of chemicals dicharged from offshore and gas drilling activities on the American Lobster at George's Bank (New England Coast) are being completed. This information will be utilized to establish NPDES permit conditions.

- A method to disseminate state-of-the-art information on the effects of oil and gas drilling activities on organisms and ecosystems to industry, government, academic community and the general public is being developed.

- Mixing zone calculation methods are being developed and verified for discharges of drilling muds, cuttings, and fluids from oil and gas platforms and from the pumping of brines from strategic petroleum reserve salt domes. Emphasis is being placed on discharges which contain particulates and which are heavier than seawater. The information will be utilized to establish regulations required under Section 403(c) of the Clean Water Act.

- Data are being collected regarding the actual sources, transport mechanisms, fate, extent and cycling of mercury and selenium in the Northern Great Plains reservoirs and its relationship to coal mining development and aquatic resource contamination.

- Improved methods are being developed for utilizing ecological information in the assessment of the effects of energy development activities on coastal ecosystems.

- Ecological relations and values of Playa Lakes and the impact of agriculture, urbanization and industrialization on these ecosystems are being characterized and defined.

- The metabolism and toxicity of hydrocarbons associated with offshore oil and gas drilling operations including the study of bioaccumulation and biotransformation in selected marine vertibrate and invertebrate species, are being examined. Data will be used to establish NPDES permit conditions.

- The long-term consequences of man-induced stresses, such as entrainment and impingement at power plants or mortality due to toxic substances, on fish populations and fishing yields are being projected. This information will be utilized to establish regulations under Section 311 of the Clean Water Act.

- The development of a heavy metal transport and fate model is being completed and additional modeling needs identified. This model provides information for the criteria documents for priority pollutants.

- The biological and physical transformation of petroleum hydrocarbon pollutants into different chemical species is being assessed and techniques are being developed to measure low concentrations of nitrogen-containing hydrocarbons as required to evaluate transport and fate mechanisms.

- The major controls on the movement of important solutes in local and regional groundwater systems within the Fort Union Group affected by surface mining of lignite in western North Dakota is being studied.

- Reaction rates and mechanisms for decomposition of organic compounds in hydrogeological environment similar to those stressed by oil shale developments, lignite strip mining operations and oxidation of coal mine tailings are being analyzed.

- Chemical species found in marine waters resulting from degradation of drilling mud components either during offshore drilling operations or after discharge into seawater are being characterized. Trace elements found in drilling fluid mixture are being quantified.

- Suitable chemical species are being identified that can be used to detect and map drillling mud plumes accurately at even greater distances than present techniques.

- A tethered cage will be developed to remotely monitor the health status of caged animals exposed to discharges from oil and gas drilling rigs.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $297,800 results from several action, as follows:

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $900 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $50,000 was applied to this activity.

- An increase of $3,900 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Transfer of $472,000 to perform work related to alternate fuels research initiative and to obtain information on oil shale, from energy-gases and particles ($231,900); from multimedia energy program ($115,900); from energy-oxidants ($15,300); from energy-hazardous pollutants ($16,500); from energy-drinking water ($28,900); and from energy-toxic chemical testing and assessment ($63,500).

- Transfer $634,000 to solid waste/non-energy to support efforts on Love Canal.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $3,800.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $85,000.

1982 Plan

The Agency requests a total of $5,495,300 and 5 permanent workyears for this subprogram, of which $905,100 is for the Salaries and Expenses Appropriation and $4,590,200 is for extramural purposes under the Research and Dvelopment Appropriation. This reflects a decrease of $3,853,000.

- Due to limited resources, and the regional orientation of the Great Lakes research program, this research was eliminated. In addition, the offshore oil and gas research program was eliminated since the assessment documents and the majority of the ongoing research projects are scheduled to be completed in 1981.

- The acute and chronic effects and bioaccumulation transformation rates of petroleum hydrocarbons and combustion products on marine and freshwater ecosystems will be assessed.

- The aquatic/biological effects of discharges from conventional coal-fired power plants and their control technology facilities, effluents from ash ponds, coal pile, and emission control devices will be studied.

- A research plan for verifying heavy metal transport and fate models and for assessing the binding of heavy metals to organic particulates will be developed.

- Data will be presented relevant to the actual sources, transport mechanisms, fates, extent and cycling of mercury and selenium in Northern Great Plain reservoir and determine its relationship to coal mining development and aquatic source contamination.

- Research will evaluate and document the probable biological effects of small-scale hydroelectric power generating facilities on steam systems that have a high ecological value.

- The preparation of scientific protocols for oil and hazardous material spills will begin. These protocols will: (1) provide guidance for the establishment of a scientific response system in the event of a spill; (2) provide a damage assessment element which eventually translates environmental or societal impact "insurance adjustor" into economic terms; and (3) provide a research element which gathers and assimilates spill data and establish long-range studies for further assessment or evaluation.

- Provide user oriented handbooks and/or guidance documments for the protection of fish and wildlife resources in coastal energy development areas.

- Develop a handbook for applying comprehensive ecological information to coastal energy development areas.

- Develop guidelines and environmental safeguards for the construction and maintenance of electric utility corridors through wetlands.

Changes from January Request

This request represents a decrease of $4,408,200 from the January budget, of which $8,200 is for Salaries and Expenses and $4,400,000 is for Research and Development. This decrease will result in the elimination of Great Lakes research and the offshore oil and gas program.

ENERGY MONITORING SYSTEMS/INSTRUMENTATION DEVELOPMENT

1980 Accomplishment

In 1980, the Agency used a total of $1,024,00 for this sub-program, of which $159,800 was for Salaries and Expenses and $864,200 was for extramural research activities.

- The analytical protocol for the master Analytical Scheme (MAS) used to quantify the organic pollutants present in energy sources discharges was completed.

- Three reports were completed describing preliminary groundwater monitoring systems for active coal strip mines in the West, reclaimed mining situations, and for communities experiencing rapid growth from new energy developments.

- In studying the residuals from landfills, the USGS has found that the distribution of organic species in the subsurface environment at a waste disposal site is controlled principally by the biological degradation of organic matter.

- The use of tracers for monitoring of the integrity of waste disposal sites was evaluated and determined to be a viable approach to an early warning monitoring system. Thiocyanate and iodide ions were found to be suitable as tracers.

1981 Program

In 1981, the Agency has allocated a total of $941,900 and 2 permanent workyears to this sub-program, of which $145,800 is for the Salaries and Expenses Appropriation and $796,100 is for extramural purposes under the Research and Development Appropriation.

- The Master Analytical Scheme (MAS), a system for semi-quantitative analysis of organic compounds by means of validated sample preparation protocols and automated Gas Chromatography /Mass Spectroscopy (GC/MS) is being extended to the analysis of stream sediments.

- Laboratory analytical methodologies for toxic organic compounds in marine waters are being developed. The emphasis is on non-GC/MS methodology so that the methods will be relatively inexpensive.

- Advanced warning systems for detecting leachates from electric power system hazardous waste disposal sites will be developed. Candidate tracer species will be evaluated.

1981 Explanation of Change from Budget Estimate

The net decrease of $188,100 results from several actions, as follows:

- An increase of $1,900 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Transfer of $190,000 to Solid and Hazardous Waste/non-energy to support efforts on Love Canal.

1982 Plan

The Agency requests a total of $230,400 and 2 permanent workyears for this sub-program, of which $145,000 is for the Salaries and Expenses Appropriation and $85,400 is for extramural purposes under the Research and Development Appropriation.

This reflects a decrease of $711,500. In concert with a corresponding cut in the environmental processes and effects sub-program, research for offshore oil and gas was eliminated.

- The development of a groundwater monitoring system for detection of pollutants from mining activities in the Western U.S. will be continued with field studies to validate and refine the system.

Changes From January Request

This request represents a decrease of $901,000 from the Janaury budget, of which $1,000 is for Salaries and Expenses and $900,000 is for Research and Development. This decrease will result in the elimination of the exposure monitoring research pro- which was in support of the offshore oil and gas program.

ENERGY

Drinking Water - Energy

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Energy Health Effects:					
Salaries and Expenses....	$87	$21	$22	...	-$22
Research and Development.	2,496	2,640	2,350	...	-2,350
Total.....	2,583	2,661	2,372	...	-2,372
Permanent Postions	...	...	...	...	...
Full-time Equivalency.....	...	1	...	...	...

* January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Budget Request

The Agency requests no resources for this program in 1982.

Program Description

This program has been developed under the auspices of the Drinking Water Research Committee. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research need in this subject area.

The overall program provides EPA's energy decision-makers with data on the qualitative and quantitative health effects which may be attributed to contamination of drinking water with pollutants derived from energy-related processes. Research performed in this program provides the Office of Drinking Water with a portion of the health effects data necessary for enforcement of the Safe Drinking Water Act (SDWA). This data base assists in the establishment of "Maximum Contaminant Levels" for organic and inorganic contaminants of drinking water, as required by the SDWA. This data is also used for the issuance of criteria for safe use of wastewater for potable purposes. The areas of research that are covered in the program may be described as follows: (1) the refinement and validation of human health monitoring and assay methods for determining the hazards (reproductive and carcinogenic) associated with waters contaminated by pollutants from fossil fuel production and utilization sources; (2) the development of new and better methods for recovering and concentrating trace quantities of waterborne energy-related organic chemicals; and (3) the determination of the most appropriate and accurate measure of pollutant/toxicant dose to body constituents most significantly impacted. In addition, this program includes long-term exploratory research which focuses on the human health problems that may be associated with exposure to drinking waters contaminated with energy-related pollutants.

Activites and program proposals for each sub-program are presented individually in the following material.

ENERGY HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $2,583,200 for this activity, of which $89,300 was for Salaries and Expenses and $2,495,900 was for extramural research activities.

- An improved method for concentrating pollutants in drinking water was developed.

- A specific cell (the hemopoietic stem cell) was established as the primary target for leukemogenic effects.

- Preliminary studies with benzene showed negative results.

- Oocytes were isolated as in vivo indicators of chemical toxicity in reproductive system.

- Abnormalities in sperm shape were positively related to exposure to chemical toxicants and correlated to reproductive effects.

1981 Program

In 1981, the Agency has allocated a total of $2,371,500 to this activity, of which $21,900 is for the Salaries and Expenses Appropriation and $2,349,600 is for extramural purposes under the Research and Development Appropriation. 1981 is the final year for this sub-program.

- The method for concentrating pollutants in drinking water will be completed and fully tested.

- The liver island enzyme assay will be tested and the assay technique evaluated for automation.

- Studies on the leukemogenic effect of benzene through the route of ingestion will be completed.

- A study indicating benzene as a leukemia promotor will be completed.

- Dose-response curves for oocyte damage form oil shale effluents will be developed. Preference will be given to effluents containing aromatic amines and polycyclic aromatic hydrocarbons.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $288,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $100.

- An increase of $100 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

79-248 O—80——55

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $100 from other activities.

- Transfer of $28,900 to energy - hazardous pollutants to perform work related to alternate fuels research initiative and to obtain information on oil shale.

- Transfer of $261,000 to solid waste/non-energy to support efforts on Love Canal.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $100.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $1,400.

1982 Plan

No resources are requested for this program in 1982. The energy health effects drinking water program was eliminated in light of limited resources and redirections in ORD's overall research program. The pollutants addressed in this program can be dealt with in the broader context of ORD's basic research program.

Change from January Request

There is no change from the January budget.

ENERGY

Industrial Wastewater Energy

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
			(dollars in thousands)		
Appropriation					
Energy Environmental Engineering and Technology:					
Salaries and Expenses	$1,207	$1,102	$1,099	$1,113	+$14
Research and Development ...	2,781	2,662	2,185	1,924	-261
Total.....	3,988	3,764	3,284	3,037	-247
Permanent Positions	18	16	14	14	...
Full-time Equivalency	35	31	29	29	...

Budget Request

The Agency requests a total of $3,037,000 and 14 permanent workyears for 1982, a decrease of $247,300 from 1981. Included in this total is $1,113,000 for Salaries and Expenses and $1,924,000 for Research and Development, with an increase of $14,100 and a decrease of $261,400, respectively.

Program Description

This program has been developed under the auspices of the Industrial Wastewater/Energy Research Committees. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

This overall program assures that comprehensive wastewater characterizations are performed and adequate pollution control technologies are developed and evaluated so as to provide the data base needed for the establishment of discharge standards for liquid effluents from conventional power plants, coal mining, coal preparation facilities, oil shale mining, oil and gas production, and uranium mining. This Decision Unit provides support for long-term exploratory research in the area of surface chemistry in order to obtain a better understanding of the pollution adsorption phenomena.

Activities and program proposals for each sub-program are presented individually in the following material.

Energy Environmental Engineering and Technology

1980 Accomplishments

In 1980, the Agency used a total of $3,988,300 for this sub-program, of which $1,206,900 was for Salaries and Expenses and $2,781,400 was for extramural research activities.

- Environmental assessments at two coal preparation plants which showed the presence of low to moderate environmental hazards were completed. This information is required to prescribe control technology requirements for these facilities.

- A technology assessment report on coal cleaning for low sulfur coal was completed. The information is utilized in background documents for an industrial boiler NSPS.

- A study which showed that physical coal cleaning can reduce sulfur variability and substantially increase the availability of compliance coals was completed.

- Engineering support in the effort to assess the effectiveness of various control technologies in reducing the concentration of priority pollutants from steam-electric plants was provided. This information was utilized in the preparation of revised effluent guidelines.

- Continued environmental assessment of toxic pollutants associated with the development of energy sources including coal, oil, natural gas and uranium was provided. This work was in support of the effluent guidelines program.

1981 Program

In 1981, the Agency has allocated to total of $3,284,300 and 14 permanent workyears to this sub-program, of which $1,098,900 is for the Salaries and Expenses Appropriation and $2,185,400 is for extramural purposes under the Research and Development appropriation.

- A study on the relationship between emission regulations, SO_2 emission control technologies and the availability of compliance coals is being completed. This information is required by the Office of Air Programs to evaluate NSPS for industrial boilers.

- A environmental assessment of in-situ uranium mining operations is being continued. This information is required to determine the adequacy of control technologies for these operations and if necessary to establish effluent guidelines.

- Laboratory testing of an improved fly-ash sluicing system has been initiated. This is required in order to reduce the cost of complying with steam-electric effluent guidelines.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate relected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $480,300 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $5,300.

- The Congress directed a reprogramming of $900,000 to support the cold climate research activity; $200,000 was transferred from this activity to water quality/non-energy.

- An increase of $13,600 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $200 to other activities.

- Transfer of $277,000 to solid waste/non-energy to support Love Canal efforts.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $11,400.

1982 Plan

The Agency requests a total of $3,037,000 and 14 permanent workyears for the sub-program, of which $1,113,000 is for the Salaries and Expenses Appropriation and $1,924,000 is for extramural purposes under the Research and Development Appropriation.

This reflects a decrease of $247,300. Due to limited resources and a reduced need for support of effluent guideline regulations, research on wastewater from coal and oil shale mining was reduced.

- A cost effective control technology for high priority mining programs for energy sources will be developed.

- The evaluation of chemical and biological treatment facilities for oil shale and coal conversion wastewaters will be continued. The focus of these programs is the development of innovative, low cost systems to control potentially hazardous water contaminants from the synthetic fuels industry.

Change From January Request

This request represents a decrease of $407,500 from the January budget, of which $7,500 is for Salaries and Expenses and $400,000 is for Research and Development. This decrease will result in a reduction of research on wastewater from coal and oil shale mining.

ENERGY

Solid Waste - Energy (RCRA)

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Appropriation					
Energy Environmental Engineering and Technology:					
Salaries and Expenses	$285	$293	$287	...	-$287
Research and Development	1,340	1,247	647	...	-647
Total	1,625	1,540	934	...	-934
Permanent Positions	2	2	2	...	-2
Full-time Equivalency	6	6	6	...	-6

*January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Budget Request

The Agency requests no resources for this program in 1982.

Program Description

This program has been developed under the auspices of the Solid Waste/Energy Research Committees. The sub-programs of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

The overall program provides continuous monitoring of leachates leaving disposal sites in order to determine the effectiveness of solid waste disposal regulations promulgated for utility and industrial boiler facilities under the Resource Conservation and Recovery Act (RCRA). The data from the program will be used to support revisions to the regulations. Also work is done to determine the impact of new SOx scrubbing technologies on solid waste disposal requirements and to conduct an assessment of the solid waste disposal requirements and to conduct an assessment of the solid waste problems associated with increased coal cleaning activities. In addition, this program includes long-term research on the development of methods to control pollutant releases from solid waste disposal sites.

Activities and program proposals for each sub-program are presented individually in the following material.

ENERGY ENVIRONMENTAL ENGINEERING AND TECHNOLOGY

1980 Accomplishments

In 1980, the Agency used a total of $1,625,100 for this sub-program, of which $285,000 was for Salaries and Expenses and $1,340,100 was for extramural research activities.

- Environmental assessments at two coal preparation plants which showed the presence of low to moderate environmental hazards were completed. The information was required to prescribe the best disposal control technology practices for these facilities.

- A technology assessment report on coal cleaning for low sulfur coal which was utilized in defining cost-effective residuals disposal procedures was completed.

- A study to update field data from coal fired power plants to determine the best practices which can be employed for the disposal of fly ash, flue gas desulfurization sludge and mixture of the two was initiated. This information is required by the Office of Solid Waste for the promulgation of regulations designed to protect groundwater and surface waters in the vicinity of these disposal sites at a reasonable cost.

1981 Program

In 1981, the Agency has allocated a total of $934,300 and 2 permanent workyears to this sub-program, of which $286,900 is for the Salaries and Expenses appropriation and $647,400 is for extramural purposes under the Research and Development appropriation.

- A study of the performance, costs and benefits of using physical coal cleaning to reduce SO_2 emissions for acid rain control is being completed. This information is required to determine whether the residuals from these processes can be a source of groundwater and/or surface water contamination.

- The collection of field data at utility boiler sites for the purpose of defining the best management practices for the disposal of fly ash and/or flue gas desulfurization sludge is being continued. This information will serve as the data base for cost-effective guidelines to be issued under RCRA.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $604,800 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,300.

- The Congress directed a reprogramming of $900,000 to support the cold climate research activity; a decrease of $250,000 was applied to this activity.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $149,000 was applied to this activity.

- An increase of $3,500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $700 from other activities.

- A transfer of $200,000 was made to solid waste/non-energy to support efforts on Love Canal.

- A transfer of $2,700 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 102 of the Clean Air Act.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $6,000.

1982 Plan

The Agency requests no resources for this program in 1982. The elimination of the solid waste program will reduce the data base from twelve to eight field sites. However, the data base from the eight remaining sites is sufficient to prepare a Best Engineering Practices Manual for fly ash and scrubber sludge from utility boilers.

Change from January Request

No resources are requested in 1982 for this program. This represents a decrease of $1,380,200 and 2 permanent workyears from the January budget, of which $242,200 is for Salaries and Expenses and $1,138,000 is for Research and Development. This decrease will result in the elimination of studies to develop techniques for economic disposal of wastes from industrial boilers.

ENERGY

Toxic Chemical Testing and Assessment - Energy

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousand)		
Appropriation					
Energy Health Effects:					
Salaries and Expenses.....	$185	$43	$44	...	-$44
Research and Development..	5,457	5,792	4,905	...	-4,905
Energy Environmental Processes and Effects:					
Salaries and Expenses.....	52	58	59	...	-59
Research and Development..	1,128	1,086	902	...	-902
Total:					
Salaries and Expenses.....	237	101	103	...	-103
Research and Development..	6,585	6,878	5,807	...	-5,807
Grand Total.....	6,822	6,979	5,910	...	-5,910
Permanent Positions					
Energy Health Effects.....	1	1	1	...	-1
Full-time Equivalency					
Energy Health Effects.....	1	2	2	...	-2
Energy Environmental Processes and Effects.....	1	1	2	...	-2
Total.....	2	3	4	...	-4

Budget Request

No funds are requested for the 1982 program.

Program Description

This program has been developed under the auspices of the Chemical Testing and Assessment/Energy Research Committee. The health effects and environmental processes and effects programs are directed toward refining and monitoring techniques to be used for identifying and assessing the toxic effects of energy-related chemical substances on human health and on aquatic and terrestrial environments. Activities and program proposals for each sub-program are presented individually in the following material.

*January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

ENERGY HEALTH EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $5,641,600 for this sub-program, of which $185,000 was for Salaries and Expenses and $5,456,600 was for extramural research activities.

- The rate of uptake of cadmium as a surrogate for trace metals emitted from power plants has been established for rats, guinea pigs and pigs.

- A mammalian short-term test using rodent cells has been developed. This method offers the speed of bacterial tests and the advantage of the application of mammalian cells.

- The impact of dose-rate on carcinogenesis of certain coal power plant effluents has been established at high dose rates. This information is necessary to evaluate carcinogenic effects of Con 1 plant effluents.

- A mathematical model has been developed to relate dose and temporal aspects for chronic exposure and limited exposure to carcinogens to induction of cancer in several organs. This information is used to relate infrequent exposures to continuous exposure occuring in the environment in the vicinity of fossil fuel power plants.

- A relationship has been established between the dose-response function and the reversibility of several cancer promoters. This information is needed to establish the conditions of promoters to the carcinogenic effects of fossil fuel power plants.

- A level II test for carcinogenicity testing has been validated using 20 carcinogens and 20 noncarcinogens. This viral transformation assay of hamster embroyo cells has also been modified to reduce its time from three weeks to about one week.

- The impact of methylation on the toxicity of chromium VI has been established, and quantitative mutagenicity of nine thallium compounds has been completed.

- Certain serum macromolecules (plasma lipoproteins) have been identified as primary transport mechanism of lipophillic toxicants, notably polynuclear aromatic matter.

1981 Program

In 1981, the Agency has allocated a total of $4,949,500 and 1 permanent workyear to this sub-program, of which $44,100 is for the Salaries and Expenses appropriation and $4,905,400 is for extramural purposes under the Research and Development appropriation. 1981 will be the final year for this sub-program.

- The usefulness of papilloma induction (a benign growth on connective tissue) as an indicator of carcinogenesis will be established for several classes of carcinogens including polynuclear aromatic hydro carbons appearing as a result of combustion of petroleum power plants or synfuel combustion.

- The relationship between the dose response function and the reversibility of cancer promoters will be tested for several classes of cancer promoters.

- Studies on the cytogenic effects of benzene as a surrogate compound of energy pollutants including the determination of the influences of age, sex, induction status and exposure using chromosal aberrations and sister chromatid exchange as indicators of cytogenic effects will be completed.

- The viral transformation of the hamster emgryo test (Level II test) will be used in association with immunofluorescence. Antibodies will be developed to permit the instrumental detection of viral transformation.

- Quantitative mutagenesis of a variety of fly ash samples will be completed.

- The significance of plasma lipoproteins for transport of polynuclear aromatic hydrocarbons from blood to target organs will be established.

- The rate and kinetics of the uptake of several polynuclear aromatic hydrocarbons in several species of animals (rats, guinea pigs, and pigs) will be determined to extrapolate data from lower animals to humans.

- A battery of tests for the determination of neurotoxicity of energy-ralated pollutants will be validated.

- The immune response to aromatic hydrocarbons will be established. A comparison of immune responses between rodents and primates such as humans.

- A method for estimating human exposure to toxics from synthetic fuel facilities will be developed. This method will have applicability in environmental assessments other than health.

- A method will be adopted for evaluation of carcinogenic effects of synfuel products. This method will be based on prioritizing various products from synfuels in terms of their carcinogenic potential.

- Coal power plant effulents will be used to evaluate the validity of cell mediated mutagenesis. Emphasis will be on the evaluation of metabolites and the evaluation of most sensitive cells to shorten the testing time.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $885,800 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $200.

- The Congress applied a general reduction of $12,214,000 to the Research and Development appropriation; a decrease of $758,000 was applied to this activity.

- An increase of $700 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $200 from other activities.

- Transfer of $75,000 to solid waste/non-energy to support efforts on Love Canal.

- Transfer of $63,500 to energy-hazardous pollutants to perform work related to alternate fuels research initiative and to obtain information on oil shale.

- A transfer of $10,000 from air environmental engineering and technology for inter-agency agreement support.

1982 Plan

The Agency requests no resources in this sub-program. The energy toxic substances health effects research program was eliminated due to austere financial conditions and a reordering of Agency priorities. If necessary, research on toxic substances from energy sources will be funded by ORD's non-energy base programs.

Change from January Request

There is no change from the January Budget.

ENERGY ENVIRONMENTAL PROCESSES AND EFFECTS

1980 Accomplishments

In 1980, the Agency used a total of $1,180,400 for this sub-program, of which $52,000 was for Salaries and Expenses and $1,128,400 was for extramural research activities.

- Research was initiated to develop test methods for evaluating the effects of sediments contaminated by energy-related pollutants on benthic invertebrates. The test will be designed to evaluate pollutant effects on the life cycle of freshwater invertebrate species. These methods will allow EPA to rapidly screen various energy-related pollutants for toxicity reactions on important food chain organisms.

- A program was initiated to validate the assumption that laboratory methods and laboratory-derived criteria will protect whole ecosystems, using microcosms, mathematical ecosystem models, and field studies. This work is being performed at the Monticello Ecological Research Station.

- Behavior test methods were developed to determine the response of aquatic organisms to energy-related pollutants. Tests have been integrated with a computerized video detection system to document such responses as feeding and swimming rates. A manual which describes the computerized video detection system has also been prepared for use in the quantification of the impacts of petroleum compounds on the behavior of aquatic life. In 1980, a new barnacle larvae bioassay procedure was developed.

- A pilot testing program at two refuse-fired incinerators was completed to assess the emission of pollutants from incinerators which are planned to be used as electric generating facilities.

1981 Program

In 1981, the Agency has allocated a total of $961,300 to this sub-program, of which $59,000 is for the Salaries and Expenses appropriation and $902,300 is for extramural purposes under the Research and Development appropriation. 1981 is the final year for this sub-program.

- Research is being conducted to evaluate the overall effect of selected pollutants associated with coal combustion on aquatic life in experimental channels in the EPA test facility at Monticello, Minnesota.

- Methods are being developed and validated to test the reproductive and chronic effects of petroleum hydrocarbons on freshwater invertebrates.

- A method used to assess the effects of coal combustion products on the behavior of aquatic organisms so as to establish MATC (Maximum Allowable Toxicant Concentrations) is being developed and validated.

- A survey/environmental assessment is being expanded to determine if energy combustion processes at refuse-fired incinerators emit dioxin and other highly toxic organic compounds.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $182,600 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $200.

- An increase of $500 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $300 from other activities.

- Transfer of $135,000 to solid waste/non-energy to support efforts on Love Canal.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $49,300 which is to be rescinded.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $1,100.

1982 Plan

The Agency requests no resources in this sub-program. The energy toxic substances environmental processes and effects program was eliminated due to austere financial conditions and a reordering of Agency priorities. If necessary, research on toxic substances from energy sources will be funded by ORD's non-energy base program.

Change from January Request

There is no change from the January budget.

ENERGY

Municipal Spills - Energy

	Actual 1980	Budget Estimate 1981*	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Municipal Spills Energy:					
Salaries and Expenses.....	$285	$251	$242	120	-$122
Research and Development.....	373	362	362	480	+118
Total.....	658	613	604	600	-4
Permanent Positions.....	6	5	...	4	+4
Full-time Equivalency.....	9	8	3	4	+1

*January 1980 President's Budget as adjusted by the Office of Research and Development restructuring.

Budget Request

The Agency requests a total of $600,000 and 4 permanent workyears for 1982, a decrease of $4,000 from 1981. Included in this total is $120,000 for Salaries and Expenses and $480,000 for Research and Development with a decrease of $122,300 and an increase of $118,300, respectively.

Program Description

This program has been developed under the auspices of the Municipal Spills Research Committee. The disciplinary components (or sub-programs) of the program are integrated into an overall research effort designed to produce outputs clearly focused on Agency research needs in this subject area.

The overall program develops, evaluates and demonstrates new and improved equipment, devices and systems for the prevention, detection, identification, containment, control and removal of oil released in the environment. This includes the cleanup and recovery of oil from spills. The development of hardware is carried beyond the prototype stage to the point where it is ready for field implementation by the commercial community. The program also defines the techniques for the redevelopment and restoration of ecosystems that have been biologically damaged as a result of spills. Methodologies for mitigating the effects of such discharges are also identified. This program also provides support for long-term exploratory research on the refinement of oil spill control technology.

Activities and program proposals for each sub-program are presented individually in the following material.

MUNICIPAL SPILLS

1980 Accomplishments

In 1980, the Agency used a total of $657,800 for this sub-program, of which $284,800 was for Salaries and Expenses and $373,000 was for extramural research activities.

The following 1980 accomplishments addressed technology for the prevention and control of oil spills in support of section 311 of the Federal Water Pollution Control Act.

- Oil spill control equipment including skimmers and floating booms were evaluated, developed and improved at EPA's Oil and Hazardous Materials Simulated Environmental Test Tank (OHMSETT). This equipment is being used by on-scene personnel in the control of oil spills.

- User manuals were developed for oil spill damage assessment and oil spill preventive health assessment as required under Sections 112 and 122 of the Clean Air Act.

- A field study of chemical and physical parameters such as viscosity and particle size, which affect the oil content of produced water discharged into waters of the outer continental shelf from oil and gas production facilities were completed. The data will be evaluated to determine methods of removing oil and other organics from the discharge streams.

1981 Program

In 1981, the Agency has allocated a total of $604,000 to this subprogram of which $242,300 is for the Salaries and Expenses Appropriation and $361,700 for extramural purposes under the Research and Development Appropriation.

- Oil spill control and cleanup related equipment, techniques for using chemicals to control oil spills, and procedures for cleanup of spills in cold climates will be evaluated.

- Techniques for use by Regional on-scene coordinators for directing oil spill cleanup and response efforts will be developed.

- The OHMSETT facility for full-scale evaluation of oil spill cleanup equipment at sea will be funded and managed by EPA.

1981 Explanation of Change from Budget Estimate

The resources reflected under the 1981 budget estimate column are derived from "crosswalking" the program structure presented in the 1981 President's Budget submission to the new structure as presented in the 1981 current estimate reflected in this submission. The details of the restructuring of the research and development program, as well as the crosswalk of resources itself, can be found in the Special Analyses section of this submission.

The net decrease of $8,600 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $1,200.

- An increase of $3,100 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a transfer of $500 to other activities.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $10,000.

1982 Plan

The Agency requests a total of $600,00 and 4 permanent workyears for this sub-program, of which $120,000 is for Salaries and Expenses, and $480,000 is for Research and Development.

This represents a decrease of $4,000; however, priority efforts to develop techniques and technologies for field use in cleaning up oil spills will be continued.

Major outputs to be achieved in 1982 are:

- Techniques will be developed to control and cleanup spills of oil on land and water. This will include the evaluation of new oil spill cleanup and control equipment.

- Techniques and hardware will be developed for the protection and restoration of shorelines contaminated by oil spills.

- Dispersants will be assessed, developed and demonstrated as an aid to oil spill cleanup.

Change from January Request

This request represents a increase of $600,000 and 4 permanent workyears from the January budget, of which $120,000 is for Salaries and Expenses and $480,000 is for Research and Development. This increase will result in the continuation of pirority efforts to develop techniques and technologies for field use in cleaning up ois spills.

MANAGEMENT AND SUPPORT

PROGRAM HIGHLIGHTS

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Salaries and Expenses....	$200,367	$219,403	$213,110	$232,578	+$19,468
Permanent Workyears.....	2,491	2,559	2,497	2,437	-60
Full-Time Equivalency....	3,205	3,303	3,226	3,179	-47
Outlays.....	160,163	186,940	189,998	208,801	+21,803
Authorized Levels.....	26,753	4,666	4,666	...	...

OVERVIEW AND STRATEGY

The Management and Support media includes both headquarters and regional management and executive direction activities. The full cost of these activities is charged to the Salaries and Expenses appropriation. The management and support portions of this media distinguish between program, agency and regional management and support activities.

Program Management includes policy development, program direction and oversight, and associated top management activities in the offices of: Water and Waste Management; Air, Noise and Radiation; Pesticides and Toxic Substances; Enforcement; and Research and Development.

Agency Management pertains to the functions of the Administrator and Deputy Administrator, their immediate staff and the staff offices which report directly to them. Included is the Office of Planning and Management which is responsible for Agencywide budgeting and financial management, analytic and evaluation functions, and the administrative services for EPA headquarters and the Agency's two largest field installations, located at Research Triangle Park, North Carolina and Cincinnati, Ohio.

Regional Management includes the centralized management and administrative functions performed in each region that are not directly associated with a given program.

The scale of management and support activities is a function of the demands of the programs they serve. Therefore, increases reflected under this media are confined to high priority needs or mandatory increases necessary to support the Agency's program activities.

79-248 O—80——56

SUMMARY OF INCREASES AND DECREASES

	(in thousands of dollars)
1981 Management and Support Program.....	$213,110
Management..... The increase is primarily to establish a multi-media policy analysis and strategy development capacity and criminal investigation capability in the Office of the Assistant Administrator for Enforcement; to continue developing and then implement an integrated approach to the regulation of toxic substances; and, provide additional support to negotiate State/EPA Agreements (SEA) and manage the SEA process with the States.	+11,450
Support..... This increase will primarily cover laboratory and office services, utilities, and building maintenance; and nationwide support costs.	+8,018
1982 Management and Support Program.....	232,578

SUMMARY OF BUDGET ESTIMATES

1. Summary of Budget Request

A total of $232,578,000 is requested in 1982 under the Salaries and Expenses appropriation. This represents an increase of $19,468,000 over the 1981 management and support media. This change reflects increases in agency management, regional management and agency's support activities.

2. Changes from Original 1981 Budget Estimate

Changes from the budget are as follows:

	(in thousands of dollars)
Original 1981 estimate.....	$219,403
Congressional reductions:	
Travel.....	-176
Consulting services.....	-928
Senior executive services bonuses.....	-288
ADP services.....	-157
Planning and evaluation contracts.....	-1,000
ADP technical support.....	-5,795
Presidential reduction of $7M (H. Doc. 96-294).....	-5,143
Proposed hazardous waste amendment.....	+838
Proposed supplemental for October 1980 pay raise.....	+1,539
Miscellaneous reprogramming actions.....	+862
March 1981 changes to budget:	
Travel.....	-443
Consulting services.....	-338
Moratorium on Procurement of equipment	-209
Equipment costs.....	-762
Increases to fund PC&B deficits.....	+6,347
Miscellaneous reprogramming actions...	+121
Current 1981 estimate.....	213,110

Congressional changes of $8,344,300 were made through reductions to travel ($.8 million), consulting services ($3.8 million), senior executive service bonuses ($.8 million), ADP services ($2 million), planning and evaluation contracts ($1 million), and ADP technical support ($5.8 million). The proposed supplemental to fund a portion of the October 1980 pay raise will increase this media by $1,539,300.

A Presidential reduction of $7 million in salaries and expenses decreased this media by $5,143,100.

Reprogramming actions result in a net increase of $862,100 to the management and support media and includes net transfers from the air media ($241,900); from water quality ($181,500); from solid waste ($1,275,300); from pesticides ($30,300); from toxic substances ($62,600); from noise ($51,300); from energy ($71,800); to radiation ($259,200); to interdisciplinary ($776,600); and to drinking water ($19,800).

In accordance with OMB Bulletins, the March 1981 changes are as follows: travel (-$443,000); consulting services (-$337,700); and moratorium on procurement of equipment (-$208,800).

Internal agency reprogrammings to fund PC&B deficits are as follows: equipment costs (-$760,600); contractual services (-$762,300); agencywide increases (+$6,346,700); and miscellaneous reprogrammings (+$120,900).

ANALYSIS OF INCREASES AND DECREASES TO OBLIGATIONS

	Current Estimate 1981	Estimate 1982
Prior year obligations	$200,367	$213,110
Effect of October 1980 pay raise	+1,539	...
Program increase	+10,612	19,468
Change in amount of carryover funds available	-3,363	...
Total estimated obligations	213,110	232,578
(From new obligated authority)	(213,110)	(232,578)
(From prior year funds)	(...)	(...)

EXPLANATION OF INCREASES AND DECREASES TO OBLIGATIONS

The effect of the October 1980 pay raise will increase obligations by $1,539,300. The increase in 1981 budget authority over the 1980 level will increase obligations by $10,612,000. In 1982 the increase in budget authority will result in an increase of $19.5 million to obligations.

In 1980, obligations included $3.3 million from carryover funds primarily for prior year support costs. In 1981 and 1982, there are no carryover funds.

MANAGEMENT AND SUPPORT

MANAGEMENT

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Salaries and Expenses:					
Program Management.....	$13,108	$14,058	$13,358	$16,017	+$2,659
Agency Management.....	73,914	75,321	80,671	88,153	+ 7,482
Regional Management....	22,019	23,641	23,455	24,764	+ 1,309
Total.....	$109,041	$113,020	$117,484	$128,934	+$11,450
Permanent Positions:					
Program Management.....	263	281	269	281	+12
Agency Management.....	1,572	1,608	1,585	1,546	-39
Regional Management....	656	670	643	610	-33
Total.....	2,491	2,559	2,497	2,437	-60
Full-time Equivalency:					
Program Management.....	316	386	356	387	+31
Agency Management.....	2,072	2,092	2,070	2,029	-41
Regional Management....	817	825	800	763	-37
Total.....	3,205	3,303	3,226	3,179	-47

Purpose

This activity provides for centralized executive direction and management of EPA programs at the headquarters and ten regional offices. It includes the program management activities for the following EPA offices: Research and Development; Water and Waste Management; Air, Noise and Radiation; Pesticides and Toxic Substances; and Enforcement.

Agency and regional management provides direction, management and administrative support for all EPA programs at headquarters and the ten regional offices. It includes those activities which are not directly associated with a given program activity. Agency and regional management encompasses the salaries and related expenses of the Administrator and the Regional Administrators, their immediate staffs, the staff offices which report directly to them, the Office of Inspector General, and the Office of the General/Regional Counsel. In addition, it includes those organizations within the Agency which provide central management, analytic, and administrative services. These central management activities include program planning and evaluation, economic analysis, budgeting and financial management, personnel administration, contracts and grants management, and other activities required for the effective management of Agency programs. The full cost of these program direction and managerial activities are charged to the Salaries and Expenses appropriation.

PROGRAM MANAGEMENT

Budget Request

The Agency requests a total of $16,016,800 and 281 permanent workyears for 1982, an increase of $2,658,600 and 12 permanent workyears from 1981.

Program Description

This activity provides for the program direction of the following offices: Office of Water and Waste Management, Office of Air, Noise, and Radiation, Office of Pesticides and Toxic Substances, Office of Enforcement, and Office of Research and Development. Specifically, this activity covers the salaries and related expenses for the Assistant Administrators of the aforementioned offices and their immediate staffs.

	1981		1982		Change	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
		(dollars in thousands)				
Office of Air, Noise and Radiation	48	$2,061	53	$3,032	+5	+$971
Office of Enforcement	35	1,604	56	2,771	+21	+1,167
Office of Research and Development	83	4,021	78	3,818	-5	-203
Office of Pesticides and Toxic Substances	47	2,599	47	3,077	-	+478
Office of Water and Waste Management	56	3,073	47	3,319	-9	+246
Total	269	$13,358	281	$16,017	+12	+$2,659

Included in the 12 position net increase for this activity is an increase of 21 positions in the Office of Enforcement to establish a multi-media policy analysis and strategy development capacity and a criminal investigation capability in the Office of the Assistant Administrator. This will enhance the Agency's ability to develop multi-media compliance, monitoring, and inspection programs and integrate compliance and monitoring information. It will also strengthen overall policy direction and coordination in the areas of litigation management, penalty policy, and criminal investigations. The remaining increases and decreases in this component represent priority shifts between central management functions and Agency program activities.

1981 Expanation of Change from Budget Estimate

The net decrease of $700,800 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $75,400.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $23,400 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $82,900 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $33,900 was applied to this activity.

- The Congress reduced agencywide ADP services by $2 million; a decrease $57,500 was applied to this activity.

- An increase of $179,200 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Transfer of $62,600 from air-gases and particles/non-energy, in order to support technical information coordinator and an international travel coordinator.

- Transfers resulted in an increase of $68,100: from energy-gases and particles ($8,100); from air-gases and particles/non-energy ($40,000); and from air-oxidants non-energy ($20,000), in order to support industrial hygienist positions at Research Triangle Park.

- Transfer of $816,500 to interdisciplinary-Minority Institutions Research Support, to reflect the transfer of this program out of the management account.

- Transfer of $27,800 from water quality municipal source control in order to provide additional support for the Office of Water Program Operations.

- A transfer of $15,300 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- A transfer of $65,100 was made to the radition media in order to support the Radiation Policy Council.

- A transfer of $33,900 was made to the Office of Inspector General in order to provide additional resources to that Office.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1795,900 is being used to fund personnel compensation and benefits (PC&B deficits. The reduction applied to this activity is $39,200.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $20,900, which is being redirected to fund PC&B deficits.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment: the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $16,000.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $26,500.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $52,400.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $247,600.

- Transfer of $31,100 to industrial wastewater/non-energy ($7,000); to drinking water non-energy ($7,000); to solid waste non-energy ($5,800); to pesticides non-energy ($5,800); to toxic chemicals testing and assessment ($5,900); to multimedia energy ($5,900), from toxics monitoring systems and quality assurance ($6,300).

- Transfer of $108,000 from drinking water ($19,500); from hazardous waste ($30,000); and from water quality ($58,500), to fund participation in the University of Southern California/Environmental Management Institute.

- Transfer of $4,100 to toxics substances enforcement to realign PC&B costs.

Change From January Request

The net increase in program management of 1 permanent position and $79,000 results from several actions: (1) an increase of 5 permanent positions and $101,000 in the Office of Air, Noise and Radiation is provided to enhance centralized program management activities; (2) an increase of 8 permanent positions and $463,000 in the Office of Enforcement will be used to strengthen multi-media policy analysis and criminal investigation coordination; (3) a decrease of 4 permanent positions and $157,000 in the Office of Research and Development represents a shift from central management functions to program activities and a reduction of administrative support in the Cincinnati, Research Triangle Park, and Headquarters offices; (4) a decrease of 5 permanent positions and $168,000 in the Office of Pesticides and Toxic Substances reflects a management overhead reduction; and (5) a decrease of 3 permanent positions and $160,000 reflects a shift from central management functions to other program activities.

AGENCY MANAGEMENT

Budget Request

The Agency requests a total of $88,152,500 and 1,546 permanent workyears for 1982, an increase of $7,481,800 but a decrease of 39 permanent workyears from 1981.

Program Description

The Agency management component provides for Agencywide policy direction and management activities and includes the salaries and associated costs for the Immediate Office of the Administrator, the staff offices which report directly to the Administrator, the Office of the Inspector General, the Office of General/Regional Counsel, and the Office of Planning and Management.

Office of the Administrator/Executive Offices

The Office of the Administrator includes the Administrator and Deputy Administrator and their immediate staffs. The Administrator and Deputy Administrator are responsible for providing policy direction to the Agency and ensuring the implementation of these policies. The staff offices perform a variety of functions which are closely related to the development and implementation of Agency policies and programs. These staff groups are responsible for legislative services and congressional relations, press services, international activities, civil rights, liaison with other Federal agencies, coordination of regional operations, and relations with State and local governments. The Office of Administrative Law Judges and the Agency's Science Advisory Board are also included in the Office of the Administrator. The Science Advisory Board consists of expert consultants, supported by a small in-house staff, who provide advice to the Administrator on scientific and technical issues.

The Office of the General Counsel provides legal advice and assistance to the Administrator and other Agency components. The Office of Regional Counsel provides similar services within each of the ten regional offices.

The Office of the Inspector General provides independent appraisals of EPA's programs and financial operations and analyzes EPA's legislation and regulations, to ensure that they promote efficiency and economy within the Agency. In addition, it conducts investigations of alleged violations of EPA regulations and Federal criminal statutes.

The 1982 request for the Executive Offices is a net increase of 4 permanent positions.

Office	1981 Pos.	1981 Amount	1982 Pos.	1982 Amount	Change Pos.	Change Amount
Office of the Administrator.....	41	$2,110	51	$2,655	+10	+$545
Office of Legislation.....	35	1,418	34	1,549	-1	+131
Office of International Activities	18	1,200	18	1,363	...	+163
Office of Civil Rights.....	24	1,285	24	1,428	...	+143
Office of Public Awareness.....	32	2,272	4	125	-28	-2,147
Office of Environmental Review....	35	1,408	32	1,507	-3	+99
Administrative Law Judges.....	15	719	26	1,014	+11	+295
Office of Regional Liaison.....	3	172	2	149	-1	-23
Science Advisory Board.....	12	892	15	1,061	+3	+169
Office of Press Services.....	12	667	12	825	...	+158
Office of Small and Disadvantaged Business Utilization.....	4	232	4	209	...	-23
Office of Intergovernmental Relations.....	3	306	2	332	-1	+26
Subtotal Administrator/ Staff Offices.....	234	$12,631	224	$12,217	-10	-$464
Office of the Inspector General...	121	10,483	140	11,752	+19	+1,269
Office of General/Regional Counsel.....	206	8,000	201	8,275	-5	+275
TOTAL Executive Offices.....	561	$31,164	565	$32,244	+4	+$1,080
Full-Time Equivalency.....	677	...	685	...	+8	...

This net increase includes the following increases and decreases:

- A 28 position decrease in the Office of Public Awareness reflects the elimination of functions including information activities and constituency development. This reduction is part of the Agency's effort to reduce duplication of activities performed by headquarters and regional program offices.

- A 19 position increase for the Office of Inspector General does not reflect a true increase. Due to the federal hiring freeze, the authorized level for this program was decreased in FY81. The nineteen positions will restore this Office to the level of service which existed prior to the FY81 reduction.

- An 11 position increase for the Administrative Law Judges includes seven positions to restore this Office to the level of service which existed prior to the hiring freeze related reductions in FY81. An additional four position increase will provide for increased adjudicatory activity in the areas of Pesticide Cancellation hearings, Section 120 of the Clean Air Act, and civil penalties under the Toxic Substance Control Act.

- A 10 position increase in the Administrator's office will provide seven positions for publishing the Calendar of Federal Regulations, a function which was previously carried out by the Regulatory Council. Three positions are added to restore the immediate Office of the Administrator to the 1981 level.

- A 3 position increase for the Science Advisory Board will permit increased scientific review of Agency regulations, and restore this activity to the level of service which existed prior to the hiring freeze related reductions in FY81.

- Decreases in the Offices of Federal Activities, Regional Liaison, Intergovernmental Relations and General/Regional Counsel reflect the transfer of resources to higher priority program activities.

CONTRACTS

The significant contracts for the Executive Offices in 1981 and 1982 are listed below:

	1981	1982	Change	Purpose
	(dollars in thousands)			
Office of the Inspector General	$3,627	$3,680	+$53	Contracts with CPA firms and State agencies for the conduct of construction grant audits.
Office of Public Awareness	$252	-	-$252	Production and distribution of information/educational materials.

Change From January Request

The net decrease in the Executive Offices of 45 permanent positions and $2,506,000 results from several actions as follows:

- An increse of 5 permanent plosítions and $497,000 in the Immediate Office of the Administrator is thenet effect of a 7 position increase for publishing the Calendar of Federal Regulations, and a 2 position decrease of overhead management activities.

- A decrease of 28 permanent positions and $2,753,000 in the Office of Public Awareness reflectsa reassessment of how the Agency manages public awareness activities. Many of these activities which are now managed centrally will be eliminated or consolidated with similar functions performed in program and regional offices.

- Decrease totalling 22 permanent positions and $250,000 in the Office of Legislation, International Activities, Civil Rights, Environmental Review, Regional Liaison, Intergovernmental Relations, Small and Disadvantaged Business Utilization, General/Regional Counsel and Inspector General reflect management overhead reductions.

- The Civil Rights Investigation request represents a slight decrease of $10,000. This decrease will result in slightly fewer Civil rights discrimination complaints being investigated.

Office of Planning and Management

The Office of Planning and Management (OPM) performs agencywide management and analytic functions and provides administrative services to headquarters and the Research Triangle Park (RTP) and Cincinnati, Ohio field facilities.

There are four organizational components within the Office of Planning and Management (OPM). The Office of the Assistant Administrator provides overall direction for all OPM activities and carries out the Agency's occupational health and safety program. The Office of Planning and Evaluation (OPE) serves as an Agencywide economic and policy analysis resource, in addition to performing program evaluation and regulatory review functions. The Office of Resources Management (ORM) is responsible for coordination and management of the Agency's budget, program review and accountability, and financial and grants management. The Office of Management and Agency Services (OMAS) provides services in the areas of personnel administration, contract placement, data processing and system design, management analysis, library services and facilities acquisition and management.

	1981		1982		Change	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Office of the Assistant Administrator	27	$2,167	23	$1,851	-4	-$316
Office of Management and Agency Services	669	25,893	625	25,677	-44	-216
Office of Resources Management	232	9,330	209	8,848	-23	-482
Office of Planning and Evaluation.	96	12,117	124	19,533	+28	+7,416
Total	1,024	$49,507	981	$55,909	-43	+$6,402
Full-Time Equivalency	1,393		1,344		-49	

The Agency requests a net decrease of 43 permanent workyears for the Office of Planning and Management in 1982.

The decrease of 23 positions in the Office of Resources Management results primarily from a decision to merge the budget control and process, data base management, and analytic activities currently split between two divisions into the Office of the Comptroller. The Agency anticipates that this consolidation of budget related activities will produce a more efficient budget operation.

The reduction of 44 positions in the Office of Management and Agency Services is the net result of a 49 position decrease in the contracting, personnel, and facilities management areas and an increase of 5 positions in information management. The position reduction will result in a limitation of some support services but will be partially offset by contracting for commercial kinds of services. The increase for management of information systems will enable the Agency to continue an initiative begun in FY81 to stregthen management of its information resources. This is essential to consolidate and integrate major cross-media information resources, particularly in the toxics and hazardous waste areas.

The Agency is developing and will implement an approach to regulating toxic substances which ensures more consistent, coordinated regulation by EPA's various program offices and regions. In order to finish developing and then implement this strategy, the Office of Planning and Evaluation is requesting an increase of 28 positions and approximately $5,000,000. In total, the Office will dedicate 30 positions to this effort. Other dollar increases in the Office of Planning and Evaluation will provide enhanced statistical support to the regions and program offices.

The major contracts for the Office of Planning and Management for 1981 and 1982 are summarized below:

Office	1981	1982	Change	Purpose
	(dollars in thousands)			
Office of Resources Management	$451	$481	+$30	Contract assistance will be used to determine the resource impact of new regulations, such as those covered by the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act, and to assess the the impacts of alternative construc tion grants formulations. Contracts will be used to modigy the grants information system and to integrate the Office's budget and financial management systems.

Office	1981	1982	Change	Purpose
	(dollars in thousands)			
Office of Planning and Evaluation	$6,355	$12,630	+$6,275	Contracts will help assess the economic impacts and benefits of EPA regulations on major industries, state and local governments, and consumers. OPE will also utilize funds to analyze the energy impact of environmental regulations and the environmental impact of energy legislation and provide statistical analysis to support the regions and programs. In FY82 contract funds also will be used to finish developing and then implement an integrated approach to the regulation of toxic substances.

1981 Explanation of Change from Budget Request

The net increase of $5,322,500 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $379,600.

- A 1981 budget amendment for hazardous waste programs and related activities was submitted to the Congress. This amendment resulted in an increase of $838,000 to this activity.

- The Congress reduced agencywide travel costs by $850,000;a decrease of $93,500 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $562,900, was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $166,000 was applied to this activity.

- The Congress reduced planning and evaluaton contracts by $1 million.

- An increase of $1,015,300 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Transfers resulted in an increase of $369,000 from hazardous waste management regulatory strategies implementation ($253,000) and from hazardous waste permit enforcement ($116,000), to support the legal services workload associated with hazardous waste program implementation.

- Transfers resulting in an increase of $193,900 from hazardous waste regulations, guidelines and policies ($81,600), from hazardous waste enforcement ($7,700), from hazardous waste permit enforcement ($23,000), and from solid waste/non-energy ($81,600), in order to provide the Office of Planning and Management with additional resources to administer RCRA programmatic increases.

- Transfer of $281,400 from agencywide resources for the Office of Inspector General. The net decrease to media is as follows: energy ($12,200); water quality ($144,300);

solid waste ($13,600); air ($11,700); pesticides ($4,700) toxic substances ($18,900); radiation ($11,100); interdisciplinary ($23,300); and other management and support activities ($41,600).

- Transfer of $185,100, agencywide, from various activities to provide additional resources to the Office of the Administrative Law Judges to support a new program for instituting civil noncompliance penalties under Section 102 of the Clean Air Act; the transfers summarized by media are from: air ($100,800); from water quality ($21,800); from pesticides ($11,600); from radiation ($500); from noise ($10,500); from interdisciplinary ($6,000); from toxic substances ($13,300); from energy ($3,700); and from other management and support activities ($16,900).

- A transfer of $87,100 was made to the radiation media in order to support the Radiation Policy Council.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $232,700.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $249,300, which is being redirected to fund PC&B deficits.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this actibity is $30,800.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $166,500.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $61,100.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $5,619,000.

- Transfer of $526,000 to the nationwide support account in order to reflect the agencywide charges for payroll checks in a support account.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in an increase of $376,300: from air stationary source enforcement ($6,800); water quality dredge and fill ($12,700); drinking water standards and regulations implement ($33,800); solid waste management strategies implementation ($33,100); solid waste technical assistance delivery ($1,800); solid waste strategy regulations development ($108,000); pesticides enforcement ($10,600); interdisciplinary EIS review ($8,800); toxic substances management ($7,000); and from regional management activities ($140,600).

Change from January Request

The net decreases of 96 permanent positions and $4,825,000 in the Office of Planning and Management results from several actions as follows:

- A decrease of 2 permanent positions and $112,000 in the Office of the Assistant Administrator for Planning and Management is a management overhead reduction.

- A decrease of 64 permanent positions and $1,242,000 in the Office of Management and Agency Services reflects a 24 position reduction in office and building services provided to Agency programs; a 14 position reduction in personnel counseling and training activities; a 16 position reduction related to the Agency's efforts to stregthen management of its information resources; and a 10 position reduction related to workload decreases in Contracts Management.

- A decrease of 14 permanent positions and $523,000 in the Office of Resources Management reflects the consolidation of budget-related activities, currently split between two divisions, in the Office of the Comptroller.

- The Occupational Health and Safety request represents a decrease of $10,000. This decrease will result in a slight reduction in health related contracts.

- A decrease of 16 permanent positions and $2,948,000 in the Office of Planning and Evaluation limits the amount of statistical support to be provided to the program and regional offices and the Agency's management of the information collection requirements. Additionally, the effort to develop and implement an intergrated approach to regulation of toxic substances has been reduced by $2,000,100.

REGIONAL MANAGEMENT

Budget Request

The Agency requests a total of $24,764,000 and 610 permanent workyears for 1982, an increase of $1,308,900 from 1981 but a decrease of 33 permanent workyears.

Program Description

This component provides for the salaries and expenses of the Regional Administrators, their immediate staffs, and of the staff offices reporting directly to them. Additional activities supported here include the regional central management functions of program planning, analysis and evaluation, financial and personnel management, and administrative services.

The net decrease of 33 positions includes several changes. A decrease of 42 positions in Regional Policy Direction in the functional areas of intergovernmental relations, congressional liaison, civil rights, and public awareness reflects the Agency's effort to consolidate many of these functions with similar headquarters and regional program operations. Small decreases also occur in administrative services, financial management, and personnel. Partially offsetting the decreases is an increase of 11 positions reflecting the centralization of resources to negotiate and manage State/EPA Agreements.

1981 Explanation of Change from Budget Estimate

The net decrease of $186,000 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $138,100.

- The Congress reduced agencywide travel costs by $850,000; a decrease of $57,600 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $177,800 was applied to this activity.

- The Congress reduced agencywide Senior Executive Service bonuses by $750,000; a decrease of $88,400 was applied to this activity.

- An increase of $338,900 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Transfer of $98,300 from municipal waste treatment facility construction, to provide sufficient resources to support regional financial management support of construction grant activities.

- Transfer of $474,000 to regional support as a result of a study made of regional needs.

- Reprogrammings to realign salary and related costs to meet on-board needs resulted in a net transfer and increase of $278,800: to water quality permit issuance ($1,100), to standards and regulations ($1,000), to municipal waste treatment facility construction ($122,500); to drinking water standards and regulations implementation ($46,900), to drinking water enforcement ($6,700); to pesticides use management ($25,200); to toxic substances enforcement ($6,700); from water quality dredge and fill ($1,200); from hazardous wastes enforcement ($255,500), from solid waste regional technical assistance delivery ($8,100), from hazardous waste management regulatory strategies implementation ($86,900); from pesticides enforcement ($26,100); from radiation program implementation ($1,200); from noise regional program implementation ($30,200); from Environmental impact statements ($1,800); from energy review and permitting ($47,800); and from toxic substances strategies ($30,100).

- A transfer of $4,700 was made to the Office of Inspector General in order to provide additional resources to that Office.

- A transfer of $1,600 was made to the Administrative Law Judges to provide additional resources to support a new program for instituting civil noncompliance penalties under Section 120 of the Clean Air Act.

- Transfer $140,600 to agency management, Office of General/Regional Counsel, to realign regional costs to meet on-board needs.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $145,700.

- OMB Bulletin #81-9, January 30, 1981, "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $400.

- An internal agencywide reduction of $6,500,000 to equipment costs is being made in order to fund PC&B deficits. The reduction applied to this activity is $166,000.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $35,000.

- Agencywide increases are required in order to fund the PC&B deficits; the increase applied to this activity is $527,900.

- A decrease of 53 permanent postions and 41,708,000 in the regional policy activity reflects reductions in the following functional areas: public awareness, congressional liaison, and intergovernmental relations. Additionally, the Interagency Regulatory Liaison Group and minority business enterprise/external compliance functions are reduced.

Change from January Request

The net decrease in the regional management activity of 99 permanent workyears and $3,250,000 results from several actions as follows:

- A decrease of 24 permanent positions and $725,000 in regional planning, evaluation, and analysis reflects a 10 position reduction in resources available for the Regional Management Analytic Centers and a 14 position decrease in the activity associated with negotiating and coordinating State/EPA agreements.

- A decrease of 7 permanent positions and $213,000 from the regional personnel management activity reflects a reduction in counseling and training activities.

- A decrease of 9 permanent positions and $423,000 in the regional administrative management activity will result in a slight decrease in support services to the regional programs.

- A decrease of 6 permanent positions and $181,000 in the regional financial management activity will temporarily delay efforts to strengten debt collection and cash management practices.

- A decrease of 53 permanent positions and $41,708,000 in the regional policy activity reflects reductions in the following functional areas: public awareness, congressional liaison, and intergovernmental relations. Additionally, the Interagency Regulatory Liaison Group and minority business enterprise/external compliance functions are reduced.

MANAGEMENT AND SUPPORT
SUPPORT

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Salaries and Expenses:					
Program Support.....	$8,488	$6,338	$6,122	$6,244	+$122
Agency Support.....	74,149	88,371	77,695	86,398	+8,703
Regional Support.....	8,689	11,674	11,809	11,002	-807
Total.....	$91,326	$106,383	$95,626	$103,644	+$8,018

Purpose

Support Services include non-personnel costs for services provided across the Agency, such as laboratory and office services, building operations and maintenance, communications, facilities lease costs, and central ADP services.

PROGRAM SUPPORT

Budget Request

The Agency requests a total of $6,244,000 for 1982, an increase of $122,000 from 1981.

Program Description

These funds pay for support services required to operate the laboratories of the Office of Research and Development, the Office of Pesticides and Toxic Substances, and the Office of Air, Noise, and Radiation. These direct costs consist mainly of laboratory and office services, utilities, building maintenance, and other housekeeping items. The program support increases are due to cost increases for utilities, building operations, and laboratory and office services.

1981 Explanation of Change from Budget Estimate

The net decrease of $216,100 results from several actions, as follows:

- The Congress reduced agencywide travel costs by $850,000; a decrease of $1,600 was applied to this activity.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $94,100 was applied to this activity.

- The Congress reduced agency ADP services by $2 million; a decrease of $99,000 was applied to this activity.

- OMB Bulletin #81-9, January 30, 1981 "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $21,400.

Changes from January Request

The decrease of $500,000 in program support reflects:

- A reduction of $377,000 in support service contracts from Research and Development Laboratory Support.

- A reduction of $123,000 in support service contracts from abatement and control laboratory support.

AGENCY SUPPORT

Budget Request

The Agency requests a total of $86,398,400 for 1982, an increase of $8,703,600 from 1981.

Program Description

The Agency support component provides general support services to all program operations at EPA headquarters; Research Triangle Park (RTP), North Carolina and Cincinnati, Ohio. It also includes a number of support activities which serve the needs of all Agency programs and which are managed at the headquarters level. The Agency support subactivity can be summarized in terms of the following major areas of cost:

Office Services--Common services at the three locations referred to above, including laboratory and office supplies, audio-visual equipment and contracts, and printing and duplication.

Building Services--Utilities, local telephone service, routine maintenance and minor modifications to accommodate staff relocations, building maintenance contracts, equipment rentals, guard and janitorial services, and employee health service contracts.

Library Services--Books, journals, equipment, and service contracts for the headquarters library and the branch libraries at Research Triangle Park and Cincinnati, as well as specialized ADP services, literature searches, technical report processing and library systems development for the Agencywide library system.

Nationwide Costs--Agencywide costs for the following support activities: facilities rental and associated costs; payments to the U.S. Postal Service; Federal Telecommunications Service (FTS); security investigations; reimbursements to the Federal Employees Compensation Fund; payments to the Public Health Service for personnel administration services for commissioned officers assigned to EPA; and contracts which support the Agency's occupational health and safety program.

ADP Technical Support--Contracts for systems development and evaluation and other technical services required to support the Agency's central ADP activities.

ADP Timesharing Services--ADP timesharing and related services provided to all Agency programs through contracts with commercial suppliers and inhouse computer facilities.

The following tabulation is a breakdown of overall costs of providing support services:

	1981	1982 (dollars in thousands)	Change
Office Services	$3,105	$3,211	+106
Building Services	13,869	15,208	+1,339
Library Services	1,444	1,488	+ 44
Nationwide Costs	35,968	41,210	+5,242
ADP Technical Support	3,647	3,987	+340
ADP Timesharing	19,190	20,771	+1,581
Professional Training	472	523	+51
Total	$77,695	$86,398	+$8,703

79-248 O—80——57

The requested increase of $106,000 for Office Services will provide for expected cost increases for expendable office supplies.

The Building Services increase of $1,339,000 provides for increased costs of telephones, utilities, equipment rentals, and maintenance of facilities due to the higher costs of fuel, services, and contracts.

The Library Services increase of $44,000 will provide for higher costs of scientific and technical publications.

The $5,242,000 increase requested for Nationwide costs provides for costs of additional space which is being leased to accommodate additional personnel and programs authorized in 1980, 1981, and 1982 at Headquarters, and regional offices and field laboratories.

The ADP technical support increase of $340,000 provides for funds to design, develop, and integrate EPA's central budget, financial management, personnel, and contracts information systems.

The ADP Timeshare increase of $1,581,000 provides for expanded air, drinking water, hazardous waste, and toxic substances systems support provided through the Agency central data center.

The $51,000 increase for professional training provides for implementation of the Senior Executive Service Candidate Program mandated by the Civil Service Reform Act of 1978.

1981 Explanation of Change from Budget Estimate

The net decrease of $10,648,600 results from several actions, as follows:

- Shortly after the 1981 budget estimate was submitted, President Carter transmitted revisions to the budget (House Document 96-294); these revisions resulted in a decrease of $7 million to EPA's request for Salaries and Expenses. The reduction applied to this activity is $4,550,000.

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $3,300 was applied to this activity.

- The Congress reduced ADP technical support by $5,795,000.

- An increase of $5,900 results from the cost of the October 1980 pay raise and is included in a proposed supplemental appropriation.

- Transfer of $526,000 from agency management to reflect the agencywide payroll check charges in the agencywide support account.

- Transfer of $205,400 from hazardous waste regulations, guidelines, and policies ($117,000); hazardous waste enforcement ($22,000); and solid waste/non-energy ($66,400), to provide additional funds to meet increased RCRA programmatic requirements.

- A transfer of $119,800 was made to the radiation media in order to support the Radiation Policy Council.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B) deficits. The reduction applied to this activity is $6,300.

- OMB Bulletin #81-8, January 24, 1981, "Reductions in Fiscal Year 1981 Consulting and Related Services", required a total reduction of $1,794,200 to consulting services; the reduction applied to this activity is $67,500, which is being redirected to fund PC&B deficits.

- OMB Bulletin #81-9, January 30, 1981 "Moratorium on Procurment of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $142,600.

- An internal agencywide reduction of $6,550,000 to equipment being made in order to fund PC&B deficits; the reduction applied to this activity is $184,100.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $516,500.

- Agencywide reprogrammings are required in order to fund the PC&B deficits; the decrease applied to this activity is $800.

Changes from January Request

The reduction of $12,593,000 in agency support results from several actions as follows:

- A decrease of $8,765,000 in headquarters support costs reflects cancellation of the major ADP system acquisition projects that had been planned in accordance with OMB Circular A-109.

- The ADP Support cost request remains at the same level as the January budget.

- A decrease of $3,801,000 from nationwide support costs reflects reduction of support services and is related to the reduction in Agency positions and to a slow down in the acquisition of additional office space.

- A decrease of $27,000 in professional training will result in a reduction in training opportunities offered to EPA staff.

REGIONAL SUPPORT

Budget Request

The Agency requests a total of $11,002,300 in 1982, a decrease of $806,900 from 1981.

Program Description

This activity covers the mandatory support for regional offices including telephone service, guard service, supplies, printing, copying services, rental of office equipment, GSA work orders, and ADP equipment. This activity also provides for other necessary services such as management surveys of equipment utilization, library services, and laboratory analyses. The decrease of $806,900 results from non-recurring equipment purchases and space alterations that occurred in 1981, as well as a planned reduction in the current level of services.

1981 Explanation of Change from Budget Estimate

The net increase of $135,100 results from several actions, as follows:

- The Congress reduced agencywide consulting services by $3.8 million; a decrease of $7,400 was applied to this activity.

- Transfer of $474,000 from regional management activities reflecting a study made of regional needs.

- OMB Bulletin #81-7, January 24, 1981, "Fiscal Year 1981 Travel Reduction", required agencywide reductions to travel; the total reduction of $1,795,900 is being used to fund personnel compensation and benefits (PC&B deficits. The reduction applied to this activity is $19,100.

- OMB Bulletin #81-9, January 30, 1981 "Moratorium on Procurement of Certain Equipment", required agencywide reductions to equipment; the total reduction of $421,000 is being used to fund PC&B deficits. The reduction applied to this activity is $19,000.

- An internal agencywide reduction of $6,550,000 to equipment costs is being made in order to fund PC&B deficits; the reduction applied to this activity is $196,100.

- An internal agencywide reduction of $1,790,800 to other contractual services is being made in order to fund PC&B deficits; the reduction applied to this activity is $97,300.

Changes from January Request

The decrease of $749,000 reflects a reduction in the level of regional support services to be provided.

BUILDINGS AND FACILITIES

PROGRAM HIGHLIGHTS

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
Buildings and Facilities:					
Appropriation.....	$1,667	$4,115	$4,115	$4,115	...
Outlays.....	1,592	2,500	2,500	3,700	+1,200
Authorization Level.....	Authorization is by virtue of the Appropriation Act.				

OVERVIEW AND STRATEGY

The Buildings and Facilities appropriation funds design, construction, repairs and improvements to federally-owned or leased buildings occupied by EPA.

In 1981, EPA began an analysis of its capital budget and facilities program to ensure that Agency laboratories meet health and safety standards for current operations and can safely handle high-hazard samples to be generated by hazardous waste site inspection and permitting activities under RCRA. The first phase of this analysis documented widespread health and safety deficiencies in EPA laboratories, including inadequate ventilation and hazardous material storage areas and a need for partial-containment areas in all laboratories performing analytic chemistry. To correct these deficiencies, the Agency has deferred all essential maintenance other than emergency repairs, and has cancelled plans to upgrade laboratory capabilities in several locations. All uncommitted funds from the 1981 Building and Facilities appropriation and the entire 1982 appropriation have been earmarked to correct known health and safety deficiencies and install appropriate pollution control facilities.

The second phase of the capital budget analysis will produce Agency policies and procedures to more explicitly link laboratory and other capital investment plans to EPA program requirements, and to establish the appropriate balance between EPA laboratory capacity and reliance on commercial and other extramural laboratories.

Two additional changes have been made in this account in response to Congressional directives and concerns. First, a separate amount has been identified for emergency repair projects costing under $100,000. The current estimate for emergency repairs in 1981 is $147,000, of which $50,000 has been committed; $115,000 is planned for emergency repairs in 1982. Second, the Agency has earmarked funds for engineering design and management services to ensure timely obligation of Building and Facilities appropriation. Past obligation lag has in part been due to EPA's inability to recruit and maintain an adequate construction engineering staff to plan and provide on-site supervision of new construction and repair projects. An estimated $250,000 will be spent for engineering management services in both 1981 and 1982.

SUMMARY OF INCREASES AND DECREASES

	(in thousands of dollars)
1981 Buildings and Facilities Program	$4,115
1982 Buildings and Facilities Program	4,115

SUMMARY OF BUDGET ESTIMATES

1. Summary of Budget Request

An appropriation of $4,115 is requested for the Buildings and Facilities account. The total amount requested will be used for repairs and improvements to existing facilities.

2. Changes from Original Budget Estimate

There is no change from the budget estimate.

ANALYSIS OF INCREASES AND DECREASES

	Current Estimate 1981	Estimate 1982
	(In thousands of dollars)	
Prior Year Obligations.....	$1,667	$4,300
Change in amount of carryover available.....	+718	-185
Program increase.....	+2,448	...
Change in rate of obligation.....	-533	+722
Total estimated obligations.....	4,300	4,837
(From new obligation authority)....	(3,393)	(4,115)
(From prior year funds).....	(907)	(722)

EXPLANATION OF INCREASES AND DECREASES TO OBLIGATIONS

The amount of carryover funds to be obligated in 1981 is $907,000, an increase of $718,000 from the 1980 level. The amount of carryover funds to be obligated in 1982 is $722,000, a decrease of $185,000 from the 1981 level.

The increase of 1981 budget authority over the 1980 level will increase obligations by $2,448,000. A change in the rate of obligations in 1981 reflects a decrease of $533,000; the change in 1982 reflects an increase of $722,000.

BUILDINGS AND FACILITIES

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation					
Repairs and Improvements..	$1,522	$3,665	$3,665	$4,115	+$450
New Facilities.....	145	450	450	...	-450
Total.....	$1,567	$4,115	$4,115	$4,115	...

Budget Request

The Agency requests a total of $4,115,000 for 1982, the same amount as 1981.

Program Description

This appropriation covers the design and construction of new EPA facilities as well as necessary repairs and improvements to federally-owned or leased facilities occupied by EPA. In previous years this account provided only for projects at federally owned installations. Formerly, projects at leased buildings were funded from support services or program accounts.

NEW FACILITIES

1980 Accomplishments

Design work was completed for a Marine Environmental Assessment Laboratory Building located at the Environmental Research Laboratory in Gulf Breeze, Florida. A construction contract was awarded for this facility and construction is underway. Also at Gulf Breeze, a contract was awarded for the design of a shop and warehouse facility.

1981 Program

Funds for construction of the shop/warehouse facility at Gulf Breeze originally scheduled for award in June, 1981, will be reprogrammed and used to correct health and safety deficiencies in existing EPA laboratories. The funding for this activity is $450,000.

REPAIRS AND IMPROVEMENTS

1980 Accomplishments

The bulk of the repair and improvement projects, undertaken to correct health and safety conditions, effect pollution control, or maintain property have been completed or are underway.

1981 Program

An estimated $4,115,000 ($3,665,000 originally appropriated plus $450,000 to be reprogrammed from New Facilities) will be spent for design and completion of projects to correct health and safety deficiencies; install pollution control facilities in EPA laboratories; secure engineering management services; and for emergency repair projects. Health and safety projects consist primarily of modifications to central ventilating systems and fumehoods, and construction of hazardous material storage areas and partial containment areas for handling hazardous chemicals and field samples.

1982 Plan

The funds requested in 1982 will be used to continue the process of correcting health and safety deficiencies and installing pollution control facilities in EPA laboratories. Included will be projects to: upgrade fumehoods and ventilation; provide safe storage for hazardous and toxic materials; modify emergency exits; upgrade electrical systems; modify or replace fire detection systems; and provide for incineration of chemicals. Pollution control expenditures include sewage disposal projects, hazardous waste incineration facilities and the installation of special hazardous waste treatment facilities at Duluth, Minnesota.

All essential maintenance and program expansion projects originally planned for 1982 have been deferred pending correction of health and safety and pollution control deficiencies.

In line with reforms introduced in 1981, the 1982 request earmarks funds for emergency repairs and for engineering management services essential to the timely and effective obligation of Building and Facilities funds.

Change from January Request

The reduction of $2,531,000 represents a deferment of all maintenance projects, such as repairs to roofs, sidewalks, floors and exterior building maintenance.

SCIENTIFIC ACTIVITIES OVERSEAS

PROGRAM HIGHLIGHTS

	Acutal 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
			(dollars in thousands)			
Scientific Activities Overseas:						
Appropriation	$28	$1,000	...	...	...	
Outlays	2,053	3,000	$2,700	$1,300	-$1,400	
Authorized Levels	By Virtue of Appropriation Act.					

OVERVIEW AND STRATEGY

Scientific Activities Overseas (SAO) are funded from excess foreign currencies accruing to the United States from the sale of agricultural commodities under PL 480. The use of these currencies enables EPA to engage in unique environmental research programs which establish and strengthen links between EPA and foreign agencies and institutions that have mutual interests in seeking solutions to environmental problems. The SAO program supports the Agency's international goals, and is designed to: (1) augment EPA's multimedia data base, (2) assist in the solution of environmental problems by merging the expertise of U.S. and foregin investigators, (3) extend new technology into a broader world community, (4) assist in meeting EPA international agreements, and (5) develop and/or demonstrate new technologies including sampling, modelling, and control strategies.

No new obligational authority is being requested for this program in 1982. However, $805,000 of prior year carryover funds will be available in 1982. These funds will be used for technological programs in environmental research directly related to problem areas of concern to EPA, such as studies to provide increased capability to evaluate the environmental impact of chemicals, the development of waste water treatment technology, the gathering of primary data on the health consequences of the use of toxic substances, and the demonstration of the best available technology for air pollution control. $25,000 of carryover funds will be used for SAO-related travel.

SUMMARY OF INCREASES AND DECREASES (in thousands of dollars)

1981 Scientific Activities Program	...
1982 Scientific Activities Program	...

SUMMARY OF BUDGET ESTIMATES

1. Summary of Budget Request

There is no appropriation request for the Scientific Activities Overseas activity.

2. Changes from Original 1981 Budget Estimates

The decrease of $1 million was made by the Congress.

ANALYSIS OF INCREASES AND DECREASES TO OBLIGATIONS

	Current Estimate 1981	Estimate 1982
	(in thousands of dollars)	
Prior year obligations	$28	$2,500
Change in amount of carryover funds available	+2,472	-1,695
Total estimated obligations	2,500	805
(From new obligation authority)	(...)	(...)
(From prior year funds)	(2,500)	(805)

EXPLANATION OF INCREASES AND DECREASES TO OBLIGATIONS

The amount of carryover to be obligated in 1981 is $2.5 million, an increase of $2,472,000 over the 1980 level. In 1982, the amount of carryover funds decreases by $1,695,000.

SCIENTIFIC ACTIVITIES OVERSEAS
(Special Foreign Currency Program)

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981	Page
			(dollars in thousands)			
Program Levels						
SAO Projects		6	...	...	...	
Technology Transfer Seminars		1	...	...	...	
Appropriation						
Pakistan		$300	...	...	...	
India	28	700	...	...	...	
Total	28	1,000	No funds are requested			

Budget Request

The Agency requests no funds for 1982. Carryover funds totalling $805,000 will be used.

1980 Accomplishments

SAO activities currently cover projects in Egypt, India and Pakistan, in the areas of air pollution control, industrial waste problems, and water reclamation and reuse.

SAO cooperative project reports were published through the EPA and in U.S. scientific journals. Research results shown in the reports are useful to the EPA, environmental decision-makers, regulatory officials, and the public use and private sectors.

1981 Program

The SAO program will relate directly to environmental problem areas specific to EPA domestic priority programs. New activities will build on the solid base of operations that have been established as a result of direct involvement in US/Foreign Science and Technology Subcommissions and Joint Board activities. Cooperative projects of mutual interest to EPA and participating countries, India and Pakistan, will be designed to augment EPA's multi-media data base used by Office of Research and Development, program and regional offices to establish domestic goals and standards; seek solutions to environmental problems by merging the expertise of U.S. trained foreign investigators with scientists and engineers from EPA laboratories, universities and industries; meet EPA international obligations under the National Environmental Policy Act, and the Water and Air Pollution Control Act Amendments.

1981 Explanation of Change from Budget Estimate

The reduction of $1 million resulted from congressional action.

1982 Plan

The SAO program will be directed toward cooperative projects in India and Pakistan. These projects will include studies to provide increased capability for the evaluation of environmental impact of chemicals, and increased activity in the development of waste management technology for maximum utilization of limited water resources. In addition, an interchange program will be developed to bring EPA and foreign scientists together to exchange technology for the enhancement of control and abatement of pollution in both countries.

Change from January Request

There is no change from the January budget.

U.S. REGULATORY COUNCIL

PROGRAM HIGHLIGHTS

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
		(dollars in thousands)			
U. S. Regulatory Council					
Appropriation	$2,449	$3,338	$2,560	...	-$2,560
Permanent Workyears	9	11	11	...	-11
Full-Time Equivalency	33	26	26	...	-26
Outlays	1,869	2,800	2,110	$1,030	-1,080

OVERVIEW AND STRATEGY

This appropriation covers the salaries and expenses of the U.S. Regulatory Council and its supporting staff. The Council is composed of the heads of those agencies within the Executive Branch which have regulatory responsibilities. Its purpose is to maintain an overview of Federal regulatory activities; to assist the President in managing them in a coordinated manner in order to limit their adverse impacts on the Nation's economy; and to publish the semiannual Calendar of Federal Regulations. The Regulatory Council is composed of 18 executive agencies and 18 independent agencies. The member agencies are:

Executive Agencies

Administrative Conference of the United States
Department of Agriculture
Department of Commerce
Department of Energy
Department of Health and Human Services
Department of the Interior
Department of Justice
Department of Labor
Department of Transportation
Department of Treasury
Environmental Protection Agency
Equal Employment Opportunity Commission
General Services Administration
National Credit Union Administration
Small Business Administration
United States International Trade Commission
Veterans Administration
Department of Housing and Urban Development

Independent Regulatory Agencies

Civil Aeronautics Board
Commodity Futures Trading Commission
Consumer Product Safety Commission
Federal Communications Commission
Federal Deposit Insurance Corporation
Federal Election Commission
Federal Energy Regulatory Commission
Federal Home Loan Bank Board
Federal Maritime Commission
Federal Mine Safety and Health Administration
Federal Reserve System
Federal Trade Commission
Interstate Commerce Commission
National Labor Relations Board
Nuclear Regulatory Commission
Occupational Health and Safety
Postal Rate Commission
Securities and Exchange Commission

The Council reports directly to the President. No new obligational authority is requested for this function in 1982. A small staff is shifted into the Immediate Office of the Administrator in 1982 to continue the development of the Calendar of Federal Regulations.

SUMMARY OF INCREASES AND DECREASES

	(in thousands of dollars)
1981 Regulatory Council Program.....	$2,560
1982 Regulatory Council Program.....	...

SUMMARY OF BUDGET ESTIMATES

1. Summary of Budget Request

No new obligational authority is requested for the Regulatory Council in FY82.

2. Changes from Original 1981 Budget Estimates

Changes from the budget are as follows:

	(in thousands of dollars)
Original 1981 estimate.....	$3,338
Congressional reduction.....	-838
October 1980 pay raise, proposed supplemental.....	+60
Current 1981 estimate.....	2,560

ANALYSIS OF INCREASES AND DECREASES TO OBLIGATIONS

	Current Estimate 1981	Estimate 1982
	(in thousands of dollars)	
Prior year obligations.....	$2,449	...
Program increases.....	+51	...
Effect of October 1980 pay raise.....	+60	...
Total estimated obligations.....	2,560	...
(From new obligational authority)....	(2,560)	...
(From prior year funds).....	...	...

EXPLANATION OF INCREASES AND DECREASES TO OBLIGATIONS

No new obligational authority is requested for the Regulatory Council in 1982.

Budget Request

No new obligational authority is requested for the Regulatory Council in 1982.

Program Description

The U.S. Regulatory Council was established to provide the President with a complete picture of the regulation development effort of the various agencies under his direct control, and to help him provide for better management of the Federal regulatory process. The Council, consisting of a small staff of professionals trained in law, economics, and sciences supported by research assistants and clerical personnel, work in the following areas:

Calendar Development - This involves refining and maintaining a consolidated calendar, published semiannually, of all major regulatory actions proposed by the member agencies. This calendar helps make it possible to identify the interrelationships among existing and proposed regulations. The Council also publishes supplementary information on special topics such as regulatory initiatives.

Liaison - A substantial amount of effort is spent maintaining liaison with member agencies, interest groups, and the public over the effects of various regulations and the ways in which the Administration is attempting to cope with regulatory problems and reform.

Special Projects - The staff also undertakes a number of special projects aimed at resolving specific regulatory problems. These include:

- Unique short term problems which involve the regulatory activities of member agencies;
- Sector studies which focus on the effect of specific regulations on certain industries, such as the coal, automobile and nonferrous metal industries; and
- Improved techniques for regulatory analysis including cost benefit studies and assessments of innovative regulatory techniques.

1980 Accomplishments

- Publication of three issues of the Calendar of Federal Regulations.
- An interagency policy on chemical carcinogens.
- Regulatory Reform Highlights - a compilation of major regulatory reform achievements.
- A report on regulation in a small city.
- A Presidential directive on minimizing regulatory burden in small businesses.
- Special projects which identify overlapping and conflicting regulations and develop alternative means of reducing the regulatory burdens.

1981 Program

The U.S. Regulatory Council, composed of the heads of the Executive Branch, regulatory agencies and certain independent regulatory agencies, reviews the cumulative impact of regulations and publishes the semiannual Calendar of Federal Regulations, which identifies and coordinates resolution of inter-Agency regulatory issues; holds, formal Regulatory Council meetings which establish committees to focus on specific regulatory problems; conducts special projects which identify overlapping and conflicting regulations and develops alternative means of reducing the regulatory burdens; and, undertakes projects on cross-cutting issues, such as determining the costs and benefits of regulation or regulatory alternatives.

1981 Explanation of Change from Budget Estimates

The decrease of $778,000 results from two actions. First, the Congress reduced the request by $838,000. Second, a proposed supplemental to cover the October 1980 pay raise, provides an increase of $60,000.

1982 Plan

No new obligational authority is requested in 1982.

CONTRACTS

	1981	1982	Change	Purpose
Office of Regulatory Council	226	...	-226	Monitor contracts and projects on the effect of regulations in the following areas: Health and Safety Human Resources, Natural Resources, Trade and Commerce, Transportation Communications Banking and Finance.

Change from January Request

The U.S. Regulatory Council request reflects a reduction of 11 permanent positions and $2,580,000. The Council is eliminated in this request.

79-248 O—80——58

CONSTRUCTION GRANTS

	Actual 1980	Estimate 1981	Budget Estimate 1981	Current Estimate 1982	Increase + Decrease - 1982 vs. 1981
			(dollars in thousands)		
Appropriation.....	2,800,000	3,700,000	2,304,837	...	-2,304,837
Obligations					
(Gross)*.....	4,673,011	4,500,000	3,800,000	1,400,000	-2,400,000
Appropriation.....	(4,566,594)	(4,500,000)	(3,523,197)	1,400,000	(-2,123,197)
Contract Authority....	(106,417)	(...)	(276,803)	(...)	(-276,803)
Outlays.....	4,343,010	3,950,000	4,180,000	3,840,000	-340,000
Appropriation.....	(1,923,765)	(1,750,000)	(2,265,000)	(2,640,000)	(+375,000)
Contract Authority....	(2,419,245)	(2,200,000)	(1,915,000)	(1,200,000)	(-715,000)
Liquadition of Contract Authority.....	1,500,000	1,700,000	1,700,000	1,000,000	-700,000
Authorization Levels....	5,950,000	5,950,000	5,950,000	5,950,000	

*Net obligations in 1980, 1981, and 1982 are $300 million less each year.

Budget Request

At this time no appropriation is requested in 1982 for the municipal construction grants program established under Title II of the Clean Water Act (CWA), as amended. An appropriation of $1.0 billion is being requested for 1982 for the liquidation of contract authority pursuant to authority contained in Section 203 of the CWA, to cover the demand for payments on previously awarded grants.

The President is proposing reduced appropriations and a more cost-effective targeting of the municipal waste treatment grant program administered by the Environmental Protection Agency. This action will reduce near term expenditures for capital investments, consistent with the need to reduce Federal expenditures. Through major reforms to the program, it will also relieve the burden on the Federal Government for financing projects that improve the environment only marginally or not at all. These reforms will greatly reduce the current Federal responsibility from the estimated $90 billion required under current law; and would do so without sacrificing our objective of cleaner water.

The change in the program will be achieved by the following three actions: (1) rescissions of $1 billion in FY 1981 funds, of approximately $586 million in FY 1980 funds, and $114 million in Talmadge-Nunn funds; (2) legislative amendments to provide Federal funding for only those projects that are selected and designed to improve significantly the quality of the receiving waters in the near term; and (3) the withdrawal of the request to appropriate 1982 funds until the reforms have been enacted. To the extent that needed reforms are enacted expeditiously, the Administration will be prepared to request $2.4 billion for FY 1982. By the end of FY 1981 there will be $15 billion already appropriated from the Treasury but not yet spent, which will be used to continue construction on committed facilities. New starts that would have been funded with the 1981 funds proposed for rescission and with the 1982 appropriation will be postponed until reform legislation is enacted.

Specific legislation will be forwarded to Congress by the Environmental Protection Agency in the near future. This legislation will concentrate the program on treatment projects that directly enhance the quality of receiving waters. Projects, or features of projects, that do not result in direct environment improvement, or which focus on future community growth will have to be built, if at all, without Federal assistance.

With a zero appropriation request in 1982, EPA will have approximately $1.1 billion in carryover funds to continue making some grant awards during the year. Gross obligations for 1982 are expected to total $1.4 billion, a reduction of $2.4 billion from 1981. The reason that gross obligations are $300 million higher than the carryover is that we expect approximately $300 million in deobligations. Outlays will decrease by $340 million in 1982, to a total of $3.84 billion.

The carryover at the end of 1980 was $2.95 billion. In 1981 the rescission of $1.7 billion (1.0 billion from the FY 1981 appropriation, $586 million from the FY 1980 appropriation, and $114 million of Talmadge/Nunn funds) will result in net obligations of $3.5 billion and a reduced end of year carryover of $1.1 billion, a reduction of $1.85 billion. A zero appropriation in FY 1982 will result in the obligation of all remaining carryover funds leaving no carryover balance at the end of the year.

Program Description

This program provides grants to municipal, intermunicipal, State, and interstate agencies to assist in financing the planning, design, and construction of municipal waste water treatment facilities. In addition, under the State management assistance grant program (Section 205(g) of the Clean Water Act), a maximum of two percent of the funds authorized for each State or $400,000, whichever is higher, may be used to fund State management functions delegated through specifically negotiated agreements. Amounts made available for obligation are allotted to each State on the basis of formulas set forth in the Clean Water Act as amended. Within these allotments, grants are awarded on a priority basis for individual projects. Generally, each project is eligible for 75 percent Federal assistance, although grants may provide up to 85 percent for projects using innovative or alternative technology in treatment facility design. The Clean Water Act of 1977 amended selected portions of the Act, including provisions for a five-year extension of the funding authorization and a mandate to delegate major portions of the program to the States, but did not substantially alter the basic objectives or intent of the original 1972 Amendments (P.L. 92-500).

Under the current legislation, a 3-step approach to funding projects is required. The first step is development of the facilities plan, which includes a preliminary description of the project, a cost-effectiveness analysis of alternatives, an environment assessment, an infiltration/inflow evaluation, and an identification of effluent discharge limitations. The second step is the development of design plans and specifications. The third and final step is to fund the actual construction of the treatment works. Grants are made for each of these steps, with funding of subsequent steps contingent on the successful completion of prior steps and the availability of funds. Under the 1980 amendments to the Clean Water Act, upon completion of an approved facility plan, communities of 25,000 or less are eligible for a combined design and construction grant in those cases where total estimated cost of treatment works does not exceed $4 million (or $5 million in stipulated "high cost" States). Payments against obligations are made to the grantee as all or portions of each of these steps are completed, usually in the form of progress payments on a monthly basis.

The State management assistance grant program authorizes, at the Administrator's discretion, two percent or $400,000, whichever is greater, of each delegated State's authorization to cover the cost of delegation of the construction grants program and (to the extent that funds suffice) the National Pollutant Discharge Elimination System (NPDES) permit, dredge and fill, and Section 208 management programs to the States. Until 1981 the 2 percent was based on the appropriation rather than the authorization.

Beginning in 1982 additional activities, currently funded under Section 106 State program grants, can be funded under 205(g) for States with 205(g) delegation agreements. The goal of this program is to allow the States, rather than EPA, to assume responsibility for day-to-day management of construction grants and related activities. The timing and extent of delegation and financial support to each State depends on the State's ability to operate a program that meets the necessary competency requirements and policy direction mandated by the law and EPA objectives. A grant is given to a State when it can show that it is able to assume delegaed responsibility for a substantial portion of construction grants program activities.

Pending the enactment of needed reforms, the program strategy will continue to recognize that there are limited funds available to meet these pollution control needs and that available funds must go toward assisting municipalities in meeting the most critical needs in the shortest possible time. Accordingly, the major objectives guiding the program over the near term will continue to be the following:

- Available funds must go toward meeting the environmental requirements of the Clean Water Act in an efficient, effective, and timely manner, using stringent cost-effectiveness criteria on a project-by-project basis to ensure the most appropriate use of funds.

- A portion of funds are to be oriented toward innovative and alternative technology leading to more environmentally compatible solutions to waste control, including water and energy conservation, reuse, and reclamation.

- Funds specifically available for State delegation under Section 205(g) of the Act are to be used to maximize State assumption of program activities in the shortest possible time, under specific EPA policy direction and environmental objectives.

EPA has established a detailed review process related to funding of advanced waste treatment projects. This review ensures that such funding is strictly limited to those situations where the higher level of treatment is both necessary to meet water quality standards and be effective in meeting higher standards. In accordance with the Conference Report of the 1981 appropriation for construction grants, the EPA Administrator will continue to review all waste treatment projects involving treatment levels more stringent than secondary where the incremental cost of the advanced component is greater than $3 million. The review of these projects will not be delegated to the regions but will be performed by EPA staff in headquarters; the regional offices will be responsible for review of similar projects with an incremental cost of $3 million or less.

1980 Accomplishments

During 1980, awards in the construction grants program totalled $4,673 billion, including 752 Step 1, 608 Step 2, 303 Steps 2+3, and 729 Step 3 awards. This level of activity resulted in 11,054 active projects in various states of planning, design and construction by the end of 1980. The level of Federal outlays, at $4.3 billion, was the highest annual total in the history of the program, with 845 Step 3 projects completed during the year.

Under the Section 205(g) State delegation program, a total of 8 delegation agreements were negotiated and signed, bringing the total number of States with delegation agreements as of the end of 1980 to 38. A total of $61 million was obligated in 1980 as these States began to assume the primary responsibility for the day-to-day management of the program.

1981 Program

Concurrent with the submission of this budget, the Administration has implemented a recission of approximately $1.7 billion in construction grants appropriations ($1.0 billion from the FY 1981 appropriation, $586 million from the FY 1980 appropriation , and approximately $114 of Talmadge/Nunn funds) which will reduce the planned level of obligations for the year by about 10 percent. This results in a projected gross obligation level of $3.8 billion during 1981. This will fund 2,570 new awards for the planning, design and construction of treatment facilities. About 11,390 projects will be in various stages of preconstruction or construction activity by the end of the year. Outlay levels will be $4.2 billion.

Beginning in 1981, Congress tied the 2 percent reserve for 205(g) State delegation management assistance to the State's authorized level rather than appropriated level as in the past. EPA estimates that a total of 43 States will receive State management assistance grants, totalling $80 million.

1981 Explanation of Changes from Budget Estimate

The Congress reduced the budget request by $300 million. In addition, the HUD-Independent Agencies Appropriation Act, 1981 (P.L. 96-526), directed a two percent reduction to budget authority; this resulted in an additional decrease of $95,163,000. The Administration is implementing an additional rescission of $1.0 billion.

1982 Plan

At this time the appropriation request for construction grants funding is zero for FY 1982. If needed legislative reforms are enacted expeditiously the Administration is prepared to request an appropriation of $2.4 billion. Without this appropriation EPA will have approximately $1.1 billion in carryover funds to continue awarding grants during the year. At this funding level EPA expects to award approximately 700 grants totalling $1.4 billion. Approximately 8,120 projects will be in the preconstruction or construction stage by year end.

Without an appropriation, no additional funds would be available for State Management Assistance Grants. With funds carried over from the previous year and with any additional funding in FY 82, the Agency will require that, in addition to direct construction grants management activities, additional activities can also be funded under the 205(g) grants for those States which have signed Section 205(g) delegation agreements. These activities, currently funded under Section 106 State Program Grants, include pretreatment, operation and management training, Section 402/404 delegation, municipal compliance monitoring and point/nonpoint source planning in support of construction grant decisions.

The following table summarizes the 1982 program and compares activity levels to the previous two years:

Item	1980 Actual	1981 Estimated	1982 Estimated
Total Gross Obligations	$4.673 Billion	$3.8 Billion	$1.4 Billion
New Awards			
Step 1	752	590	120
Step 2	608	900	250
Step 3	729	710	230
Step 2 & 3	303	370	100
Active Projects (All Steps)	11,054	11,390	8,120
Construction Completions (Steps 3 & 4)	845	1,487	1,623
Total Outlays	$4.343 Billion	$4.2 Billion	$3.8 Billion
State Management Assistance Grants			
Numbers	38	43	46
Amount	$61 Million	$80 Million	0*

* Does not reflect obligations made from unobligated prior year funds.

Change from January Request

This request represents a decrease from the January request of $3.7 billion to the Construction Grant program. The total 1982 obligations will decrease from the January request estimate by $3.85 billion; new 1982 awards will be 405 less than the January estimate; and active projects will be 2,743 less. The 1982 outlays will be $440 million less than the earlier estimate.

COMPREHENSIVE ENVIRONMENTAL RESPONSE,
COMPENSATION, AND LIABILITY FUND

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs 1981
			(dollars in thousands)		
Appropriation					
Hazardous Substance Response Actions	...		$56,600	$154,200	+$97,600
Assessing and Replacing Natural Resources	...		3,500	3,500	
Operations Support	...		7,900	42,300	+34,400
Total	...	$250,000	68,000	200,000	+132,000
Permanent Positions					
Hazardous Substance Response Actions	...	...	...	329	+ 216
Assessing and Replacing Natural Resources	...	...	...	1	...
Operations Support	...	...	...	173	+ 145
Total	...	...	...	503	+ 361
Full-time Equivalency					
Hazardous Substance Response	...	...	...	410	+ 279
Assessing and Replacing Natural Resources	...	...	...	1	...
Operations Support	...	...	...	173	+ 145
Total	...	...	...	584	+ 424

Overview and Strategy

The following provides a brief overview to put our request in perspective. It presents the general dimensions of the problems that Superfund was designed to address, a general description of the functions mandated by the legislation, and our current strategy for responding. We have had to make difficult choices among alternative investments. We believe, however, that by taking maximum advantage of both State and Federal capabilities this request represents the most effective use of the resources available to address this pressing national concern.

Nature of the Problem

For decades, many thousands of tons of chemical-bearing wastes have been disposed of using environmentally unsound methods. Given a relative surplus of land, an economic system which failed to incorporate environmental damages into product costs, and general ignorance of the consequences, past disposal practices have created tens of thousands of sites which threaten public health and the environment. A study done under contract for EPA estimated a range of 30,000 to 50,000 sites, of which 1,200 to 2,000 may present potentially significant problems.

Examples are numerous: the contamination by chemicals of 54 public wells serving 100,000 Long Island residents; the discovery of up to 20,000 to 30,000 barrels of discarded, leaking, and unlabeled wastes in the "Valley of the Drums" in Kentucky; the suspected leaching of arsenic into the water supply of 300,000 people in Charles City, Iowa; and scores of other cases indicate the magnitude of our national inheritance from uncontrolled and illegal dumping of waste material.

The Superfund legislation also addresses spills of hazardous substances. The new legislation goes beyond the current authority in the Clean Water Act (section 311) and enables us to address not only spills into navigable waters but all discharges including those onto land. A preliminary estimate indicates that there may be about 3,500 chemical spill incidents in 1981 which have the potential of releasing significant quantities of hazardous substances either onto land or into water. With Superfund's expanded reporting requirements for hazardous substance spills, the number of reported incidents demanding a response could be increased several-fold over past experience.

The nature and extent of the problem of uncontrolled hazardous waste sites and spills present a serious national problem. Within the constraints of the budget submitted to Congress, we have tried to design a program that would make maximum use of existing resources not only in the Federal government but in State governments as well.

Functions Mandated by the Legislation

The Comprehensive Environmental Response, Compensation and Liability Act of 1980, commonly known as Superfund, was passed by Congress and signed into law on December 11, 1980 to address this problem. Specifically, the legislation mandates that the following major functions be carried out:

- Emergency response to hazardous substance spills in all media.
- Emergency response to uncontrolled and abandoned hazardous waste sites which may present an imminent danger to public and environmental health and welfare.
- Long-term remedial and containment actions at sites where the responsible party cannot be identified or refuses to take appropriate remedial action.
- Assessment of damages to natural resources on lands owned by any governmental entity and payment of claims against the fund for damage to these areas.
- Revision of the existing National Contingency Plan to include definitive guidelines on methods of site discovery, conduct of evaluations, alternative remedial actions, and the roles of the various Federal, State, and local jurisdictions involved in implementing the Act.
- Conduct of enforcement activities designed to identify parties responsible for hazardous waste sites and spills and use of enforcement actions to induce these responsible parties to undertake acceptable removal or remedial action in the first instance.
- Enforcement actions against liable parties to recover costs incurred by Federal or State agencies for clean-up actions at sites and spills.

The statute also provides an opportunity for EPA to design a joint State/Federal program. Whenever possible, States will be given lead responsibility for the identification of sites, emergency removal actions, enforcement, and the design and implementation of remedial measures.

Strategy for Superfund Implementation

Because implementation efforts are in a formative stage, many aspect of our plans are still evolving. The program we are developing will take advantage of existing resources not only throughout the Agency but across Federal and State governments as well. Briefly, the main elements of our strategy for the initial period of implementation are to:

- o Establish the framework for implementation
- o Make maximum use of State capabilities
- o Address the most serious removal and remedial situations
- o Continue and enhance enforcement efforts
- o Advance the state-of-the-art in safe, cost-effective emergency response and remedial actions

Framework for Implementation

The initial phase of implementation will be devoted to the continuing establishment of the essential elements of the program. Perhaps the most critical effort is the revision of the National Contingency Plan which will govern many aspects of the program's field operations. We will also give a high priority to developing and implementing a program to maximize use of State capabilities. In addition, there will be a directed effort to developing state-of-the-art technologies and techniques for handling hazardous waste. Also essential are the support systems. For example, we must establish an effective financial control system for the Fund, train field and laboratory employees in approriate health and safety precautions, renovate laboratories, and issue a variety of program and technical support contracts. In addition, the Superfund program will demand support for information systems, legal services, policy analysis and other elements.

Hazardous Substances Response

There are two basic components of this program, removal and remedial actions. Removal actions are primarily short-term, emergency responses for uncontrolled sites or spills. Remedial actions involve situations that are less urgent but which require more expensive, complex solutions to prevent threats over the long term.

The highest priority will be given to implementing an effective emergency response program for major spills and releases at hazardous waste sites. In addition, a five year remedial program to contain or clean-up the most serious uncontrolled hazardous waste sites will be initiated. While a balanced remedial effort is being designed to ensure that well documented existing problems are cleared up promptly, the first two years of the program will focus on identifying the most serious sites. The majority of the engineering studies and remedial actions will take place in the third through the fifth years.

Another high priority will be an effort to maximize use of State capabilities. Eventually, the primary responsibility for the identification of serious uncontrolled sites, and for the design and implementation of remedial and removal actions will rest with the States. Where States assume responsibility, EPA will provide technical support and intervene directly only in cases of imminent hazard or where irreversible harm or costly remedy will result unless Federal response proceeds without delay.

Enforcement Strategy

A key element of the Agency's strategy is to invest approximately 35 percent of our resources in enforcement actions. From our experience to date, we have been able to identify financially solvent owners or operators for many of the hazardous waste sites investigated. Where a responsible party can be identified, our policy will be to bring enforcement actions to force the responsible party to undertake required removal or remedial actions in the first instance. This strategy is designed to preserve the Fund for use at "orphan" sites, sites with insolvent owner/operators and "mystery" spills where responsible parties cannot be identified. In instances where Fund monies have been expended, enforcement actions will be brought to recover these monies where recovery is possible. Since the total number of sites requiring remedial action will clearly out strip the Fund's direct cleanup resources. This enforcement strategy is crucial to address the entire scope of the national problem.

BUDGET REQUEST

The Agency requests a 1981 supplemental appropriation of $68,000,000 and a 1982 appropriation of $200,000,000 for implementation of the Comprehensive Environmental Response, Compensation and Liability Act of 1980. In 1981, the Agency is requesting salaries and expenses for an estimated 142 permanent workyears that will be made available to the program through transfer only upon enactment of the supplemental budget. The figures indicating workyear increase between 1981 and 1982 in the media summary chart assume the transfer of these workyears in 1981. In addition, the Agency will take steps to insure that the number of permanent positions available at the end of FY 1981 does not exceed the number of permanent positions requested for FY 1982.

The resources requested in the supplemental budget are in addition to the Agency's base levels of 233 permanent workyears and $39,000,000. In 1982 all of these resources will be transfered to the Hazardous Response Trust Fund.

Hazardous Substance Response

The Agency is requesting a total of 113 permanent workyears and $56,636,000 dollars in 1981 and 329 permanent workyears and $154,200,000 dollars in 1982 for this activity. This represents an increase of 216 permanent workyears and $97,564,000.

Program Description - 1981

The Office of Water and Waste Management (OWWM) supplemental request for removal activities is 12 permanent workyears and $12 million. The Federal Government will be able to pay for an additional 50 spill removals and 20 emergency response actions at sites. This will result in 113 spill cleanups in FY 81 (100% of estimated total need) and 50 site emergency responses (84% of estimated total need). The request includes workyears for upgrading State removal capabilities and developing cooperative working agreements with several States that will lead to their assuming up to 20% of the removal workload in FY 81.

The OWWM supplemental request for remedial activities is for 51 permanent workyears and $33.4 million. The resources requested will support Federal coordination of the following activities to be carried out by States or private contractors: development of a notification system and receipt of 15,000 notices of hazardous waste sites; 5,000 preliminary assessments; 300 site inspections; 10 full field investigations; 10 feasibility studies; and 5 remedial actions.

Resources at the level requested will allow the Agency to make a modest beginning at implementing a comprehensive strategy for remedying serious uncontrolled hazardous waste sites. This will create a backlog of sites requiring action in subsequent years. However, a total of 40 full field investigations, 20 feasibility studies and 5 remedial actions will be initiated in FY 81.

The request includes positions to work with States to help them develop capabilities and assume responsibility for up to 20% of remedial activities in FY 81. The request also contains workyears for technical support to enforcement cost recovery actions.

The OWWM supplemental request for claims actions is 3 permanent workyears. This staff will permit the Federal Government to receive, process, and evaluate 50 to 100 claims for costs incurred by States or private parties for removal and remedial actions. The EPA on-scene coordinator must first approve all requests by eligible parties to undertake removal or remedial actions for which claims may later be submitted. Eligible claims will be paid for from the $45.4 million available for removal and remedial activities.

The Office of Enforcement will devote 12 permanent workyears and $1,221,000 of the supplemental increase requested to enforcement actions.

Cost recovery actions to recover Fund monies from identified "responsible parties," will be taken where the Fund has been used for removal activities at hazardous waste sites or spills. In those cases where the responsible party has refused to cooperate with governmental cleanup efforts, Enforcement may also seek treble punitive damages.

These recovery actions are critical to the integrity and effectiveness of the Fund. A favorable cost recovery ratio will "multiply" limited Fund resources and "recycle" resources to permit the Fund to respond to a larger number of sites. Additional recovery actions increase the percentage of cleanup costs borne by directly culpable parties -- and in the long run -- lessen the appropriations and industry tax burdens of the Fund.

In 1981, removal cost recovery actions will require the drafting and issuance of 1 additional demand letter or order to parties responsible for hazardous spills and for negotiation and settlement or filing and prosecution of 1 additional case in Federal District Court to recover the Federal monies.

Cost recovery actions will require the drafting and issuance of 5 additional demand letters to parties responsible for release of hazardous substances from hazardous waste sites and the negotiation and settlement or the filing and prosecution of 5 additional cases in Federal District Court to recover the Federal monies.

In 1981, the Office of Enforcement will devote 2 workyears in legal assistance to States for removal activities.

The Office of Enforcement will devote 24 permanent workyears and $3,815,000 of the supplemental increase requested to enforcement actions associated with remedial actions.

In 1981, privately financed remedial activity will require the drafting and issuance of 7 additional demand letters. Five (5) additional consent decrees will be negotiated and agreed to. Five (5) administrative orders will be issued in 1981 to the remaining responsible parties. Assuming noncompliance with the administrative order by 2/3 of these, litigation in Federal District Court will be initiated against 3 responsible parties.

In addition to the above described new enforcement activity seeking privately financed remedial work by responsible parties, the Office of Enforcement has 56 site cleanup cases already filed against responsible parties at sites where hazardous waste activities are presenting an imminent and substantial endangerment to public health and the environment. Of these 56 cases filed, 10 consent decrees have been negotiated and 7 preliminary judicial orders have been issued. Approximately $51.5 million in privately financed site cleanup has been completed, initiated or legally committed as of February 1981.

The Office of Enforcement will fully support the 3 additional cases of this on-going case load that are predicted to be completed in 1981. Based on current experience, total 1981 cases will generate $96 million in privately financed cleanup.

In 1981, the Office of Enforcement will devote 4 workyears to legal assistance to States for remedial activities.

The Office of Research and Development will devote 6 permanent workyears and $1.74 million to removal activities in FY 1981. Research and Development activities during Fiscal Year 1981 will first be directed to a major cooperative effort with the Office of Hazardous Emergency Response (OHER) in revising sections of the National Contingency Plan (NCP) covering methods for evaluating facility relative costs and for remedying any releases or threats of releases from facilities which pose substantial danger to the public health or the environment; methods and criteria for determining the appropriate extent of removal, remedy and other measures; and 8(a) criteria for determining priorities among releases or threatened releases. Specific areas of directed effort including defining minimum reportable quantities, preparing manuals for identification, procurement, maintenance and storage of response equipment, evaluating alternative emergency measures for operating equipment for field response and site restoration; and for relating the movement, persistence, transformation and effects of hazardous substances in the soil environment, plant tissue and ground water. A report on technology applicability for preventing releases and an evaluative assessment of treatment applicability will also be prepared.

The Agency Mandatory Quality Assurance program will be extended into the emergency response area, and field methods and protocols for the analytical program will be prepared. GS/MS methods for organic chemicals in air samples will be developed and analyses of complex mixture samples will be carried out for Regional support in implementing the NCP. Analytical analyses will be conducted of selected surface, groundwater and biological samples as necessary to improve analytical methods and to provide technical input to the solution of complex regional and program office problems.

Emergency response equipment will be field tested in cooperation with the Emergency Response Team, resulting in a report on equipment applicability, cost and performance. A definitive report evaluating emergency response technology will be prepared based on field test data obtained at carefully selected sites.

The Office of Research and Development will devote 5 permanent workyears and $4.46 million to remedial activities in Fiscal 1981. Remedial activities will be directed to a major extent to direct input to the revision of the National Contingency Plan (NCP) as mentioned above.

1982 Plan

The Agency requests a total of 329 permanent workyears and $154,200,000 for this activity, an increase of 216 permanent workyears and $97,564,000 over the 1981 supplemental request.

The OWWM request for removal activities is 39 permanent workyears and $38 million. This will permit 90% of the major spills and 55% of the expected site emergencies to be dealt with. The Federal Government will process in excess of 4,000 spills notifications and will supervise and pay for emergency actions at 205 major spills and 50 sites. The actual cleanup work will be done through cooperative agreements with States or contracts with private firms. The request will allow for a limited program to monitor private party response to emergencies

The OWWM request for remedial activities is 125 permanent workyears and $88,680,000. This will permit the Federal Government to process approximately 2,000 notifications of hazardous waste sites. In addition, the resources will support a program to be conducted through States and private contracts that includes the following activities: 10,000 preliminary assessments; 900 site inspections; 65 full field investigations, 40 feasibility studies; and 8 remedial actions. Approximately 30% of those sites ready for and needing inspection will have inspections and 65% of those sites which are waiting will have full field investigations. Remedial actions will be started at approximately one third of the sites that are ready. EPA will continue in 1982 to work to get States to assume responsibilities for the remedial workload. It is anticipated that states will pick up as much as 30% of the effort. Technical support to enforcement efforts is also provided.

The OWWM request for claims actions is 3 permanent workyears. This staff will permit the Federal Government to receive, process, and evaluate 50 to 100 claims for costs incurred by States or private parties for removal and remedial actions. The EPA on-scene coordinator must first approve all requests by eligible parties to undertake removal and remedial actions for which claims may later be submitted. Eligible claims will be paid for from the $126.7 million available for removal and remedial action.

The Office of Enforcement will devote 38 permanent workyears and $3,350,000 to removal activities in 1982.

Where the Fund has been used to pay for the costs of removal at hazardous waste sites or hazardous substance spills, the Office of Enforcement will take legal action, critical to the integrity and effectiveness of the Fund, to recover Fund expenditures from identifiable "responsible parties." In those cases where the responsible party has refused to cooperate with governmental cleanup efforts, Enforcement may also seek treble punitive damages.

In 1982, this will require the drafting and issuance of 10 demand letters/orders to parties responsible for hazardous spills and for the negotiation and settlement, or the filing and prosecution of 3 cases in Federal District Court to recover Federal monies. It will also require the drafting and issuance of 14 demand letters to parties responsible for the release of hazardous substances from hazardous waste sites and for the negotiation and settlement, or the filing and prosecution of 12 cases in Federal District Court to recover Federal monies.

Where financially viable responsible parties can be identified at sites where removal activity is required, the Office of Enforcement will undertake enforcement activity to require the responsible parties to bear the financial burden of the removal activity. In 1982, this will require the drafting and issuance of 6 demand letters. Assuming that 1/2 or 3 of these demands result in a favorable response from the responsible parties, 3 consent decrees will be negotiated and agreed to. Three (3) administrative orders will be issued in 1982 to the remaining responsible parties. Assuming noncompliance with the administrative orders by 2/3 of these, litigation in Federal District Court will be initiated against 2 responsible parties in 1982.

In 1982, the Office of Enforcement will devote 12 workyear to legal assistance to States for removal actions.

In 1982, the Office of Enforcement is requesting 71 permanent workyears and $8,710,000 for remedial activities.

In 1982, cost recovery actions for remedial activities will require the drafting and issuance of 3 demand letters to parties responsible for the release of hazardous substances from sites where the Fund has been utilized and the negotiation and settlement, or filing and prosecution, of 3 actions in Federal District Court to recover Federal expenditures.

Privately financed activity in 1982 will require the drafting and issuance of 25 demand letters. Assuming that 1/2 of those demands result in a favorable response from the responsible parties, 12 consent decrees will be negotiated and agreed to. Thirteen (13) administrative orders will be issued in 1982 to the remaining responsible parties. Assuming noncompliance with the administrative order by 2/3 of these, litigation in Federal District Court will be inititated against 8 responsible parties in 1982.

In addition to the above described new enforcement activity seeking privately financed remedial work by responsible parties, the Office of Enforcement has 56 cases already filed against responsible parties at sites where hazardous waste activities are presenting an imminent and substantial endangerment to public health and the environment. Of the 56 cases filed to date, 10 consent decrees have been negotiated and 7 preliminary judicial orders have been issued. Approximately $51.1 million in privately financed site cleanup has been completed, initiated or legally committed.

The Office of Enforcement will devote 14 workyears in 1982 to support the successful prosecution of these on-going cases. This level will allow the Office of Enforcement to fully support the 10 cases of this on-going case load that are predicted to be completed in 1982. The requested level of funding will also allow the Office of Enforcement to undertake the additional cost recovery activities and new enforcement seeking privately financed removal and remedial activities described above.

The Office of Research and Development will devote 17 workyears and $6,560,000 to removal activities in FY 1982. Efforts to revise the National Contingency Plan (NCP) and the technical documentation background documents will continue. This second year effort will be directed more to the upgrading and refinement of the NCP, which was revised and reissued on a short time schedule in FY '81. More work will go into the manuals relating to response equipment, and evaluation of emergency response measures. This includes clothing, equipment and personnel safety, technology applicable for release prevention, response equipment operation, and site restoration. Data gathered in the field in FY 81 and early FY 82 will be utilized for this purpose.

The mandatory quality assurance program will continue, as will the development of analytical program field methods and protocols. Development of organic analysis methods for air samples will continue and analysis of complex mixtures will be provided to support regional operations in implementing the NCP.

Expertise in the area of movement, persistance, transformation and effects of hazardous substances in the soil environment, plant tissue and groundwater will also be directed to revising the NCP. In FY '82, field data collected from field investigations will be factored into this updating effort.

Analysis for selected surface water, groundwater and biological samples will be carried out to provide information needed by the regional offices and OHER in solving complex hazardous problems.

In addition to outputs in FY 1981, the Office of Research and Development will perform field evaluations of remedial technology applications to provide added data for NCP implementations. Field testing and evaluation of personnel safety equipment and clothing will be continued.

Further testing and evaluation of emergency response equipment will be conducted in cooperation with the Emergency Response Team, with a report on results affecting cost, applicability and performance.

The Office of Research and Development will devote 22 permanent workyears and $8,000,000 to remedial activities in Fiscal 1982. Remedial activities will as in FY 81, be largely devoted to the revision and updating of the National Contingency Plan (NCP). The evaluation and protocols for remedial action will be used at selected sites, evaluated and the results fed back to the NCP improvement. The field sampling methods and protocols for use on hazardous waste sites will continue in the development and test mode, as will the work on sampling methods for remote sensing. Additional proposals and plans for remedial action will be reviewed cooperatively with OHER and the information obtained from the cooperative effort with the Department of the Army will continue to feed into NCP updating. Additional work will be directed to the production of and testing of the manual for evaluating remedial technology cost effectiveness.

Technical expertise will be brought to bear on NCP sections dealing with hazard assessment. Toxicity and exposure criteria for defining hazard levels relating to minimum reportable quantities will be further improved. Field investigations at specific sites will be carried out to obtain basic data on fate and effects of hazardous substances for use in updating the NCP. Assistance in developing relative Agency priorities will be provided for individual chemical mixtures and generic groups. From this base, assistance in developing the relative priorities will be applied.

Additional reviews of action plans and proposals will be carried out in cooperation with OHER and the information gained will be used for improving design for cost effective remedial plans. The annual survey and assessment of technology will be continued. Post remedial action evaluation efforts will be expanded and the information gained utilized for adding updating of the NCP. In conjunction with these field evaluations, the methods and techniques for cost effectiveness findings will be subjected to added evaluation. A report will be prepared covering cost and performance of equipment for destruction, cleanup and groundwater control.

II. Assessing and Replacing Natural Resources

The Agency requests a total of 1 workyear and $3,520,000 in 1981 and 1 workyear and $3,540,000 in 1982 for this activity. This represents an increase of $20,000.

Program Description 1981

The Office of Water and Waste Management requests a total of $3,500,000 and no workyears in 1981. These resources will permit EPA to review 30 to 40 damage assessments submitted by state and federal agencies to determine which claims should be eligible for reimbursement, and to make necessary payments.

The Office of Planning and Management requests 1 workyear and $20,000 to establish a Board of Arbitrators, as mandated in the Superfund legislation.

1982 Plan

The Office of Water and Waste Management requests a total of $3,500,000 and no workyears in 1982. As in 1981, these resources will be used to review damage assessments submitted by state and Federal agencies in order to determine eligibility for reimbursement.

The Office of Planning and Management requests 1.0 workyear and $40,000 to establish a Board of Arbitrators as mandated in the Superfund legislation.

III. Operations Support

The Agency requests a total of 28 permanent workyears and $ 7,864,000 in 1981 and 173 permanent workyears and $ 42,300,000 in 1982, an increase of 145 permanent workyears and 34,436,000 over 1981.

1981 Program Description

The OWWM supplemental request is for 2 permanent workyears and $1 million. The resources requested will permit the development and implementation of safety and other training programs.

In 1981 the Office of Enforcement is requesting an additional 2 permanent workyears and $164,000 to participate in the development and issuance of Superfund policy guidance as required by law. This will include enforcement participation in Congressionally mandated Studies and revision of the National Contingency Plan.

Supplemental resources requested will also be used to help support the provision of specialized in-house evidence development expertise in support of Nationally Managed Cases and selected Regionally Managed Cases, special laboratory analysis capability for extremely dangerous samples, and evidence audit contracts to assure proper chain of custody and qulaity assurance procedures resulting in legally admissible evidence. This work is performed through the National Enforcement Investigation Center in Denver, Colorado.

In 1981, the Office of Planning and Management requests a supplemental appropriation of $3,548,000 and 14 permanent workyears for Program Management activities and $3,132,000 and 10 permanent workyears for Other Management activities. These management activities will provide direct support to authorized response activities and will play a key role in the implementation of the Superfund program.

- $560,000 and 8 permanent workyears will be used to ensure that fund monies are properly managed and to provide central budget and financial control, and analytic support for the Superfund program.

- $433,000 and 5 permanent workyears will be devoted to establishing the contract mechanisms necessary to carry out the response and remedial activities authorized under the Fund, and will be used to award and administer the contracts.

- $645,000 and 5 permanent workyears will provide administrative support services including mail distribution, telecommunications support and management, and printing and copy center management, at both headquarters and the regional offices.

- $608,000 and 2 permanent workyears will be devoted to policy direction and analysis. These activities include statistical, economic and financial analysis of regulations and guidelines; program evaluation; and the management of the rulemaking process. Additionally, staff and contract resources will be used to provide analytic support necessary to meet requirements imposed by the Act - particularly in the areas of financial responsibility and liability.

- $108,000 and 2 permanent workyears will be devoted to hiring, processing, and maintaining the Superfund staff.

- $447,000 and 1 permanent workyear will be dedicated to addressing health and safety concerns under this new program. Activities in this area include the development of procedures and guidelines designed to protect the safety of our field and laboratory employees and to monitor the training and certification of these employees. In addition, a technical support and audit team will be established to review and assist in the implementation of regional safety programs and support EPA/NOISH/OSHA cooperative agreements. Training funds ($300,000) have been included in this request to meet an immediate and continuing need for safety training of our employees, who risk exposure to toxic and other hazardous substances in the field and EPA laboratories.

- $1,454,000 is requested for agencywide support services including rent and utilities; janitorial, guard, and housekeeping services; health units; preventive maintenance and repair; laboratory and office supplies; and postal charges.

- $795,000 is included in this request for laboratory related equipment. These funds will be used to purchase one mobile laboratory ($400,000) to provide on-site chemical analysis for the immediate assessment of the toxicity of hazardous materials; and, laboratory equipment ($395,000), including electronic photographic processing and analysis equipment which will be used to meet remote sensing requirements during site discovery and field investigations and to identify complex and co-mingled substances in support of field investigations.

- $300,000 will provide central technical support for developing, testing, operating, and maintaining the Agencywide information systems required to collect and track data associated with notification, assessing and setting site clean-up priorities, identification of financial responsibility, tracking and reporting cleanup actions and enforcement.

- $1,330,000 and 1 permanent workyear is requested for modifications to EPA laboratories, to be used as follows:

Full Containment Facility at Edison, N.J. ($900,000)

During FY 1981, EPA will obligate funds for design of the modifications to correct existing health and safety deficiencies and a full containment facility. In addition, the Agency plans to obligate phase I construction funds which will provide for modifications to existing heating, ventilation, electrical systems and water and sewage services.

Relocation of S&A Laboratories ($400,000)

The $400,000 requested for this purpose will be used for initial design work at all three locations.

The personnel resources will be used to manage the planning and designing of the containment laboratory facilities.

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EPA plans for implementing the Act assume that 90% or more of the required laboratory analysis will be performed by commercial, state and other non-EPA laboratories. Under this arrangement, EPA will be responsible for:

- Developing protocols for the collection and analysis of samples to ensure safe handling of hazardous substances, accurate analytic results and adherence to chain of custody requirements essential for enforcement actions, fund recovery and claims adjudication.

- Quality control/quality assurance certification of contractor, State and EPA laboratories analyzing site and spill samples.

- Analyzing samples when response decisions are required in public health emergencies.

A significant proportion of the samples obtained from uncontrolled sites and spills will consist of highly concentrated chemical solutions that are either known to be highly toxic or because their composition is unknown, must be treated as highly toxic. These "high risk" samples must be analyzed, or at least diluted for subsequent analysis, in a "full-containment" facility that has both "primary containment" features to protect the laboratory work force from acute exposure and "secondary containment" features which protect the laboratory work force from chronic exposure and guard against accidental release to toxic substances outside the laboratory.

At present, EPA has one "full-containment" laboratory, at the National Enforcement Investigative Center (NEIC) in Denver, which is adequate to handle the "high risk" workload generated by RCRA permitting and compliance activities and other Agency programs. The NEIC facility cannot handle additional "high risk" workload and is not appropriate for protocal development or quality control/quality assurance work. Thus, even assuming (heavy reliance) on contractor and state laboratories, EPA must establish a separate "full containment" facility to handle the "high risk" sample analysis workload generated by the Act.

To meet this need, we propose to construct a full containment facility in addition to the existing EPA facilities at Edison, New Jersey which now house the Region II Surveillance and Analysis Laboratory, the National Emergency Response Team and the research group responsible for oil and hazardous spill control technology. In addition to being the location of these three activities which are central to EPA's implementation of the Act, the Edison site has several major advantages:

- Edison is located in the eastern industrial region that will be a major locus of site and spill containment work.

- The Edison facility is EPA-owned and located on a Federal reservation, which will greatly simplify construction planning and management

- The Edison site is sufficiently isolated from residential and other structures to avoid any risk or appearance of risk in the event of a fire or accident involving toxic substances.

The remaining field samples gathered pursuant to the Act will be "medium risk" samples. The EPA role with respect to these samples -- certification of contract and state laboratories and performing sample analysis on sites and spills requiring direct Federal action -- will be performed in EPA's regional surveillance and analysis laboratories. Upon completion of health and safety modification planned in FY 1981 and FY 1982, five of the nine S&A laboratories will be able to perform "medium risk" work safely and effectively. The remaining four will require either extensive modification or relocation.

The Region II facility requires extensive modifications, which would be accomplished as part of the construction of a full-containment addition to the same facility. Three other S&A laboratories cannot perform the work required of them under the Act unless they are relocated, either because necessary modifications cannot be made in their present facility (Region IV - Athens, GA) or because toxic analysis cannot be performed in their present location without the reality or appearance of risk to nearby, nonEPA activities (Region V - Chicago, Il; Region VI - Houston, TX). To remedy this situation, we propose to move all three laboratories to more suitable locations if at all possible within their present commuting areas.

1982 Plan

The OWWM request is for 55 permanent workyears and $10,000,000. The types of activities that will be performed with these resources include the establishment of a new Assistant Administrators' office; policy analysis and promulgation of regulations; ADP activities; and purchase of field equipment needed for removal and remedial activities.

In 1982 the Office of Enforcement requests a total of 39 workyears and $3,150,000 for Operations Support to be used as follows:

- 17 workyears to manage and coordinate Superfund enforcement activities. This will involve assessment of actual and projected Fund recovery ratios, review of enforcement progress in generating privately financed cleanup, and the development of any necessary mid-course corrections in enforcement guidelines and policy. Areas requiring policy review will include; 1) guidelines concerning coordination of judicial and administrative legal authorities available under Superfund and other statutues, 2) guidelines on right-of-entry and access to records, guidelines on punitive damages; 3) adequacy of site documentation and evidence retention under the National Contingency Plan; 4) regulations and guidelines relating to notification procedures, record keeping requirements, testing orders, cost-effective federal response actions, defenses to liability and claims procedures.

- 5 workyears to continue to support Nationally managed cases such as the current actions against Hooker Chemical Company at Love Canal. These cases involve significant, precedent setting issues of National scope which cut across Regional lines and are thus directed out of EPA headquarters.

- 17 workyears to provide specialized in-house evidence development expertise in support of Nationally Managed Cases and selected Regionally Managed Cases, special laboratory analysis capability for extremely dangerous samples, and evidence audit contracts to assure proper chain of custody and quality assurance procedures resulting in legally admissable evidence. This work is performed through the National Enforcement Investigation Center in Denver, Colorado.

In 1982, the Office of Planning and Management requests $11,170,000 and 47 permanent workyears for Program Management activities and $17,980,000 and 33 permanent workyears for Other Management activities. The resources requested in 1982 will enable the Agency to provide key supporting activities and services to meet an expanded program.

- $1,108,000 and 15 permanent workyears will provide central budget and financial control to ensure that fund monies are properly managed. Ten of the 15 positions will be located in our regional offices.

- $1,510,000 and 26 permanent workyears will be devoted to the award and administration of contracts which are required to carryout response and remedial activities.

- $1,564,000 and 11 permanent workyears will provide administrative support services including mail distribution, telecommunications support and management, space and facilities management, printing and copy center management, at both headquarters and the regional offices.

- $2,520,000 and 13 permanent workyears will be assigned to the Office of the Inspector General to appraise the adequacy of internal control over the receipts and disbursements of the Fund and to assure the proper administration of the Fund and expeditious handling of claims. The Act requires the Inspector General to submit to the Congress an interim report on these matters after one year, and a final report after two years. contract funds ($2,000,000) will permit the office to conduct pre-award, interim and final audits of contracts supporting the Superfund program.

-- $320,000 and 3 permanent workyears will be allocated to the Office of General/Regional Council for advice and consultation on financial and administrative matters, including eligible uses of the fund, financial assistance to states, claims, federal procurements, and record keeping and reporting requirements. The office will provide legal support for the development of regulations and for the defense of regulations and disbursement decisions.

- $2,360,000 and 4 permanent workyears will be devoted to policy direction and analysis. These activities include statistical, economic and financial analyses of regulations and guidelines; program evaluation; and the management of the rulemaking process. Additionally, staff and contract resources will be used to provide analytic support necessary to meet requirements imposed by the Act -- particularly in the areas of financial responsibility and liability.

- $136,000 and 2 permanent workyears will be devoted to hiring, processing, and maintaining the Superfund staff.

- $1,540,000 and 3 permanent workyears will be dedicated to addressing health and safety concerns under this new program. Activities in this area include the development of procedures and guidelines designed to protect the safety of our field and laboratory employees and to monitor the training and certification of these employees. In addition, a technical support and audit team will be established to review and assist in the implementaion of regional safety programs and support EPA/NOISH/ OSHA cooperative agreements. Training funds ($590,000) have been included in this request to meet an immediate and continuing need for safety training of our employees in the field and EPA laboratories who risk exposure to toxic and other hazardous substances.

- $4,200,000 is requested for agencywide support services including rent and utilities, janitorial, guard, and housekeeping services, health units, preventive maintenance and repair, laboratory and office supplies, and postal charges.

- $5,932,000 is included in this request for laboratory related equipment. These funds will be used to purchase seven mobile laboratory ($2,800,000) to provide on-site chemicals analysis for the immediate assessment of the toxicity of hazardous materials; and laboratory equipment including electronic photographic processing and analysis equipment ($1,557,000) which will be used to meet remote sensing requirements during site discovery and field investigations and five Gas Chromatograph/Mass-Spectrometers (GC/MS) ($1,575,000) to identify complex and co-mingled substances in support of field investigations.

- $2,380,000 and 1 permanent workyear is requested and will provide central technical support for developing, testing, operating, and maintaining the Agency-wide information systems required to collect and track data associated with notification, assessing and setting site clean-up priorities, identification of financial responsibility, tracking and reporting clean-up actions and enforcement.

- $5,540,000 and 1 permanent workyear is requested to complete the work begun in FY 1981 to construct a full containment laboratory at Edison, New Jersey and relocate three S&A laboratories which cannot safely perform site and spill sample analysis in their present facility.

- Full Containment Facility at Edison, New Jersey ($3,100,000)

The funds requested will be obligated or modification and expansion of the existing structure to accomodate both the full containment facility and essential health and safety modification to enable the Region II surveillance and Analysis laboratory to certify and support site and spill work carried out by the State laboratories.

- Relocation of S&A Laboratories ($2,400,000)

The amount requested assumes that EPA will be able to relocate all three regional S&A laboratories into existing government owned or leased structures that can be expanded or modified to meet operational and safety standards for toxic chemicals analysis. Should it prove necessary to build an entirely new facility, these funds would not be sufficient.

The personnel resources will be used to support and manage contractor activities in the design and construction of these laboratory facilities.

1982

Change From January Request

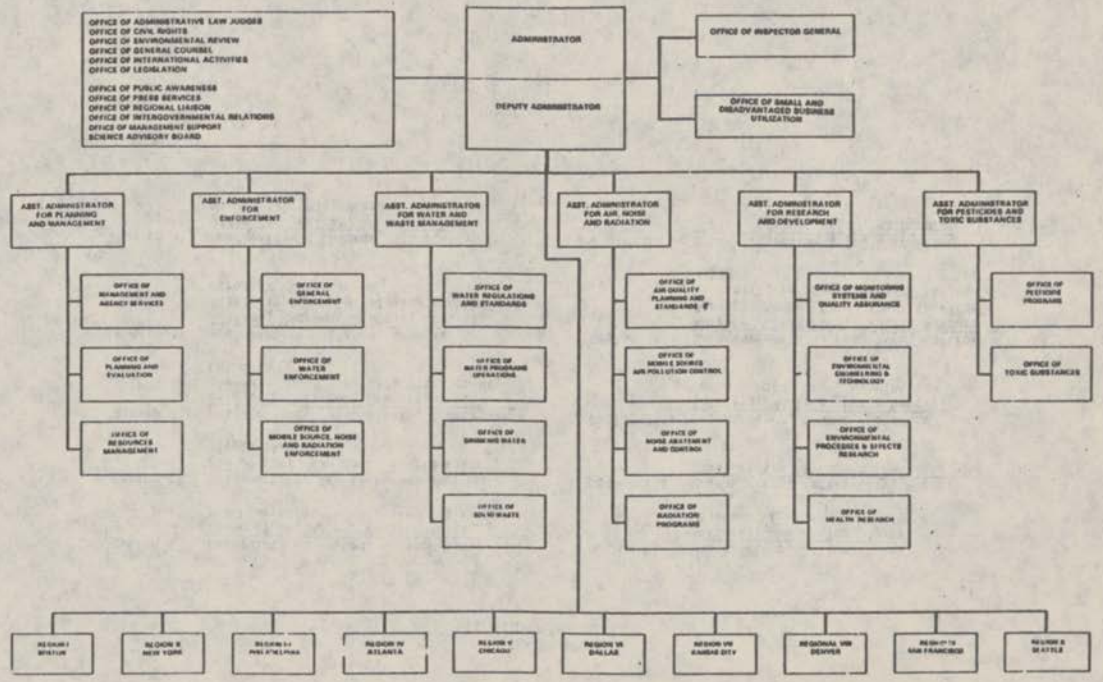
This request reflects a decrease of 132 permanent workyears and $50,000,000 from the January request. The decrease reflects a shifting of emphasis from high cost long term remedial actions to identification and analysis of known and expected sites, continued emphasis on using states capabilities to assume major responsibility for the program, and a greater balance between enforcement and technical response capabilities without diminishing the Agency's ability to maintain adequate response capabilities.

SPECIAL ANALYSES

Contents

	Page
EPA Organization Chart	SA-2
EPA Regional Offices - Locations	SA-3
Summary of Resources	SA-4
Workyears and Budget Authority, By Media and Appropriation, 1981	SA-7
Workyears and Budget Authority, By Media and Appropriation, 1982	SA-8
Total Funds Obligated, 1981	SA-9
Total Funds Obligated, 1982	SA-11
Positions by Grade and Average Employment	SA-13
Classification by Objects:	
Research and Development	SA-17
Abatement, Control and Compliance	SA-19
Salaries and Expenses	SA-22
Buildings and Facilities	SA-29
Scientific Activities Overseas	SA-31
Regulatory Council	SA-32
Research and Development Crosswalk	SA-45

U.S. ENVIRONMENTAL PROTECTION AGENCY



EPA REGIONS
LOCATIONS AND STATES

Region I	Headquarters, Boston, Massachusetts Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	Region VI	Headquarters, Dallas, Texas Arkansas, New Mexico, Texas, Oklahoma, Louisiana
Region II	Headquarters, New York, New York New Jersery, New York, Puerto Rico Virgin Islands	Region VII	Headquarters, Kansas City, Misso Iowa, Kansas, Missouri, Nebraska
Region III	Headquarters, Philadelphia, Pennsylvania Delaware, Maryland, Pennsylvania, Virginia, West Virginia, District of Columbia	Region VIII	Headquarters, Denver, Colorado Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming
Region IV	Headquarters, Atlanta, Georgia Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee	Region IX	Headquarters, San Francisco, California Arizona, California, Hawaii, Nevada, American Samoa, Guam, Trust Territories of Pacific Islands, Northern Mariana Islands
Region V	Headquarters, Chicago, Illinois Illinois, Indiana, Michigan Minnesota, Ohio, Wisconsin	Region X	Headquarters, Seattle, Washington Alaska, Idaho, Oregon, Washington

Summary of Resources
(dollars in thousands)

	Actual 1980	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Salaries and Expenses				
Budget authority	$524,773	$561,694	$582,769	+$21,075
Obligations	522,137	561,694	582,769	+21,075
Outlays	471,062	547,052	614,122	+67,070
Permanent Workyears	10,572	10,547	9,825	-722
Full-time equivalency	12,940	12,977	12,209	-768
Abatement, Control and Compliance				
Budget authority	506,430	538,494	413,928	-124,566
Obligations	573,518	534,844	418,940	-115,904
Outlays	503,017	494,190	465,000	-29,190
Permanent Workyears	...	...	...	...
Full-time equivalency	39	55	...	-55
Research and Development				
Budget authority	233,481	250,836	190,635	-60,201
Obligations	236,888	248,336	188,509	-59,827
Outlays	277,218	229,900	213,000	-16,900
Scientific Activities Overseas				
Budget authority	...	...	...	...
Obligations	28	2,500	805	-1,695
Outlays	2,053	2,700	1,300	-1,400
Buildings and Facilities				
Budget authority	2,177	4,115	4,115	...
Obligations	1,667	4,300	4,837	+537
Outlays	1,592	2,500	3,700	+1,200

	Actual 1980	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Construction Grants				
Budget authority	$3,400,000	$2,304,837	...	+$2,304,837
Obligations	4,673,011	3,500,000	$1,100,000	-2,400,000
Outlays	4,343,010	4,180,000	3,840,000	-340,000
Hazardous Substances Response Trust Fund				
Budget authority	...	68,000	200,000	+132,000
Obligations	...	68,000	200,000	+132,000
Outlays	...	17,000	84,000	+67,000
Permanent Workyears	...	...	503	+503
Full-Time Equivalency	...	...	584	+584
Operations, Research and Facilities				
Obligations	917	1,669	...	-1,669
Outlays	2,890	3,200	2,000	-1,200
Revolving Fund				
Obligations	580	650	700	+50
Outlays	-92	50	100	+50
Trust Funds				
Budget authority	16	...	...	...
Obligations	4	20	25	+5
Outlays	7	20	20	...
Reimbursements				
Obligations	24,781	30,000	30,000	...
Permanent Workyears	58	63	59	-4
Full-time equivalency	66	72	68	-4

	Actual 1980	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Regulatory Council				
Budget authority	$2,538	$2,560	...	-$2,560
Obligations	2,449	2,560	...	-2,560
Outlays	1,869	2,110	1,030	-1,080
Permanent Workyears	9	11	...	-11
Full-time equivalency	33	26	...	-26
Consolidated Working Fund				
Obligations	...	...	...	...
Outlays	...	17	...	-17
Total, Environmental Protection Agency				
Budget authority	4,669,415	3,730,536	1,391,447	-2,339,089
Obligations	6,035,980	4,954,573	2,526,585	-2,427,988
Outlays	5,602,626	5,478,739	5,224,272	-254,467
Permanent Workyears	10,639	10,621	10,387	-234
Full-time equivalency	13,078	13,130	12,861	-269

1981 Resources
By Media and Appropriation
(dollars in thousands)

	Salaries & Expenses		Abatement, Control & Compliance	Research & Development	Total	
	Permanent Workyears	Amount	Amount	Amount	Permanent Workyears	Amount
Air	1,788	$78,799	$126,529	$41,195	1,788	$246,523
Water Quality	2,789	115,734	184,002	37,944	2,789	337,680
Drinking Water	513	21,728	42,500	18,665	513	82,893
Hazardous Waste	812	34,980	91,325	25,059	812	151,364
Pesticides	885	33,873	31,178	4,618	885	69,669
Radiation	186	8,340	7,411	1,437	186	17,188
Noise	90	4,884	8,161	...	90	13,045
Interdisciplinary	120	5,957	1,288	3,376	120	10,621
Toxic Substances	727	33,703	46,100	24,189	727	103,992
Energy	141	10,586	...	94,353	141	104,939
Management and Support	2,497	213,110	...	...	2,497	213,110
Subtotal	10,548	561,694	538,494	250,836	10,548	1,351,024
Regulatory Council	...	...	...	...	11	2,560
Buildings and Facilities	...	...	...	...	...	4,115
Reimbursements	...	...	...	...	62	...
Hazardous Substance Response Trust Fund	...	...	...	...	...	68,000
Subtotal	10,548	561,694	538,494	250,836	10,621	1,425,699
Construction Grants	...	...	...	...	...	2,304,837
Total	10,548	561,694	538,494	250,836	10,621	3,730,536

1982 Resources
By Media and Appropriation
(dollars in thousands)

	Salaries & Expenses		Abatement, Control & Compliance	Research & Development	Total	
	Permanent Workyears	Amount	Amount	Amount	Permanent Workyears	Amount
Air	1,766	$83,588	$119,986	$35,549	1,766	$239,123
Water Quality	2,426	108,699	114,178	24,456	2,426	247,333
Drinking Water	514	24,664	42,091	20,911	514	87,666
Hazardous Waste	658	32,296	64,805	22,700	658	119,801
Pesticides	818	32,897	28,227	945	818	62,069
Radiation	160	9,794	2,323	771	160	12,888
Noise	29	1,906	365	...	29	2,271
Interdisciplinary	134	6,453	4,604	4,247	134	15,304
Toxic Substances	738	37,127	37,349	23,677	738	98,153
Energy	145	12,767	...	57,379	145	70,146
Management and Support	2,437	232,578	...	...	2,437	232,578
Subtotal	9,825	582,769	413,928	190,635	9,825	1,187,332
Buildings and Facilities	...	...	...	...	...	4,115
Reimbursements	...	...	...	...	59	...
Hazardous Substance Response Trust Fund	...	...	...	...	503	200,000
Subtotal	9,825	582,769	413,928	190,635	10,387	1,391,447
Construction Grants	...	...	...	...	...	...
Total	9,825	582,769	413,928	190,635	10,387	1,391,447

ENVIRONMENTAL PROTECTION AGENCY

Total Funds Obligated, 1981
(dollars in thousands)

	Budget Authority	Unobligated Balance Brought Forward	Unobligated Balance Carried Forward	Total Obligations
Research and Development	250,836	+4,874	-7,374	248,336
Air	41,195	+1,149	-1,868	40,476
Water Quality	37,944	+2,288	-3,475	36,757
Drinking Water	18,665	+280	-500	18,445
Hazardous Waste	25,059	+471	-323	25,2
Pesticides	4,618	+414	-643	4,389
Radiation	1,437	...	...	1,437
Interdisciplinary	3,376	+256	-565	3,067
Toxic Substances	24,189	+16	...	24,205
Energy	94,353	...	...	94,353
Abatement, Control and Compliance	538,494	+21,362	-25,012	534,844
Air	126,529	+3,852	-4,921	125,460
Water Quality	184,002	+4,575	-4,806	183,771
Drinking Water	42,500	+3,754	-4,059	42,195
Hazardous Wastes	91,325	+5,779	-7,672	89,
Pesticides	31,178	+2,277	-2,410	31,045
Radiation	7,411	...	...	7,411
Noise	8,161	...	...	8,161
Interdisciplinary	1,288	+1,091	-1,135	1,244
Toxic Substances	46,100	+34	-9	46,125
Salaries and Expenses	561,694	...	...	561,694
Air	78,799	...	...	78,799
Water Quality	115,734	...	...	115,734
Drinking Water	21,728	...	...	21,728
Hazardous Waste	34,980	...	...	34,9
Pesticides	33,873	...	...	33,873
Radiation	8,340	...	...	8,340
Noise	4,884	...	...	4,884
Interdisciplinary	5,957	...	...	5,957
Toxic Substances	33,703	...	...	33,703
Energy	10,586	...	...	10,586
Management and Support	213,110	...	...	213,110

	Budget Authority	Unobligated Balance Brought Forward	Unobligated Balance Carried Forward	Total Obligations
Regulatory Council	2,560	...	...	2,560
Buildings and Facilities	4,115	+907	-722	4,300
Scientific Activities Overseas	...	+3,305	-805	2,500
Construction Grants	2,304,837	+3,016,758	-1,821,595	3,500,000
Operations, Research and Facilities	...	+1,669	...	1,669
Hazardous Substance Resp. Trust Fund	68,000	...	...	68,000
Total	3,730,536	+3,048,875	-1,855,508	4,923,903

ENVIRONMENTAL PROTECTION AGENCY

Total Funds Obligated, 1982
(dollars in thousands)

	Budget Authority	Unobligated Balance Brought Forward	Unobligated Balance Carried Forward	Total Obligations
Research and Development	190,635	+7,374	-9,500	188,509
Air	35,549	+1,868	-3,259	34,158
Water Quality	24,456	+3,475	-3,235	24,696
Drinking Water	20,911	+500	-557	20,854
Hazardous Waste	22,700	+323	-700	22,323
Pesticides	945	+643	-371	1,217
Radiation	771	...	...	771
Interdisciplinary	4,247	+565	-1,378	3,434
Toxic Substances	23,677	...	...	23,677
Energy	57,379	...	...	57,379
Abatement, Control and Compliance	413,928	+25,012	-20,000	418,940
Air	119,986	+4,921	-5,979	118,928
Water Quality	114,178	+4,806	-4,152	114,832
Drinking Water	42,091	+4,059	-2,476	43,674
Hazardous Waste	64,805	+7,672	-3,869	68,608
Pesticides	28,227	+2,410	-1,690	28,946
Radiation	2,323	...	...	2,323
Noise	365	...	...	365
Interdisciplinary	4,604	+1,135	-1,248	4,491
Toxic Substances	37,349	+9	-586	36,773
Salaries and Expenses	582,769	...	...	582,769
Air	83,588	...	...	83,588
Water Quality	108,699	...	...	108,699
Drinking Water	24,664	...	...	24,664
Hazardous Waste	32,296	...	...	32,296
Pesticides	32,897	...	...	32,897
Radiation	9,794	...	...	9,794
Noise	1,906	...	...	1,906
Interdisciplinary	6,453	...	...	6,453
Toxic Substances	37,127	...	...	37,127
Energy	12,767	...	...	12,767
Management and Support	232,578	...	...	232,578

79-248 O—80——60

	Budget Authority	Unobligated Balance Brought Forward	Unobligated Balance Carried Forward	Total Obligations
Regulatory Council	...	...	...	...
Buildings and Facilities	4,115	+722	...	4,837
Scientific Activities Overseas	...	+805	...	805
Construction Grants	...	+1,821,595	-721,595	1,100,000
Operations, Research and Facilities	...	...	...	...
Hazardous Substance Response Trust Fund	200,000	...	...	200,000
Total	1,391,447	+1,855,508	-751,095	2,495,860

ENVIRONMENTAL PROTECTION AGENCY

Positions By Grade and Average Employment

Grades	1980	Actual 1981	Estimate 1982
Executive Level II	1	1	1
Executive Level III	1	1	1
Executive Level IV	7	7	7
Subtotal	9	9	9
ES-4	142	142	142
ES-3	22	22	22
ES-2	29	29	29
ES-1	32	32	32
Subtotal	225	225	225
GS-16	10	10	11
GS/GM-15	525	517	474
GS/GM-14	1,083	1,055	967
GS/GM-13	1,692	1,656	1,518
GS-12	1,798	1,762	1,613
GS-11	1,168	1,134	1,033
GS-10	62	62	61
GS-9	984	958	864
GS-8	192	185	160
GS-7	853	828	750
GS-6	555	542	498
GS-5	833	812	743
GS-4	442	427	391
GS-3	126	128	120
GS-2	20	20	20
GS-1	2	2	2
Subtotal	10,345	10,098	9,225

Grades	Actual 1980	Estimate 1981	Estimate 1981
Positions established by act of July 1, 1974 (42 U.S.C. 207):			
Assistant Surgeon General. $31,558 to $45,990.....	1	1	1
Director Grade, $23,393 to $40,410.....	91	91	91
Senior grade, $18,709 to $32,969.....	143	143	143
Full grade, $15,772 to $27,572.....	41	41	41
Senior assistant grade, $14,656 to $23,843.....	17	17	17
Assistant grade, $12,776 to $17,690.....	2	2	2
Subtotal.....	295	295	295
Positions established by act of November 16, 1977 (42 U.S.C. 201) compensation for which is not to exceed the maximum rate payable for a GS-18.....	30	30	30
Ungraded.....	100	100	100
Total permanent positions....	11,004	10,757	9,884
Full-Time Equivalency:			
Permanent.....	10,631	10,621	10,387
Other.....	2,418	2,509	2,473
Total.....	13,049	13,130	12,860

Regulatory Council

	Actual 1980	Estimate 1981	Estimate 1982
GS-17	1	1	...
GS/GM-15	2	2	...
GS/GM-14	2	2	...
GS-12	1	1	...
GS-11	1	1	...
GS-9	1	1	...
GS-8	1	1	...
GS-6	1	1	...
GS-5	1	1	...
Total permanent positions	11	11	...

HAZARDOUS SUBSTANCES RESPONSE TRUST FUND

Positions By Grade and Average Employment

Grades	Actual 1980	Estimate 1981	Estimate 1982
Executive Level IV	...	1	1
ES-4	...	5	5
ES-3	...	3	3
ES-2	...	2	2
Subtotal	...	11	11
GS/GM-15	...	13	24
GS/GM-14	...	42	78
GS/GM-13	...	41	78
GS-12	...	44	87
GS-11	...	25	53
GS-10	...	2	2
GS-9	...	23	43
GS-8	...	5	10
GS-7	...	19	36
GS-6	...	12	21
GS-5	...	16	31
GS-4	...	11	21
GS-3	...	4	6
GS-2	...	1	1
GS-1	...	1	1
Subtotal	...	259	492
Total permanent positions	...	270	503

RESEARCH AND DEVELOPMENT

Classification by Objects
Includes Direct Obligations Only
(In thousands of dollars)

	Actual 1980	Current Estimate 1981	Estimate 1982
21 Travel and Transportation of persons	$8	...	...
22 Transportation of things	20	...	...
23.2 Communications, utilities, and other rent	228	...	...
24 Printing and reproduction	231	...	...
25 Other services	150,241	152,303	112,186
26 Supplies and materials	170	...	...
31 Equipment	284	...	...
32 Lands and structures	95	...	...
41 Grants, subsidies, and contributions	82,026	89,870	71,823
Total other objects	$233,303	$242,173	$184,009
Total obligations	$233,303	$242,173	$184,009

EXPLANATION OF INCREASES AND DECREASES TO OBJECT CLASSIFICATIONS

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Other Services	$150,241	$177,627	$152,303	$112,186	-$40,117

The decrease of $25,324 to the 1981 current estimate results from the following:

Congressional add-on for acid rain	+$500
Congressional add-on for Great Lakes	+800
Congressional reduction for urban systems	-125
Congressional reduction for innovative research	-1,000
Congressional general reduction against all research areas	-5,000
Shift of contract funds to grants within this appropriation	-11,681

New estimate based on 1980 actual data.....	-3,685
Reduction in the amount of carryover originally projected to be carried forward in 1981.....	-5,133
	-$25,324

The decrease of $40,117 in the 1982 request reflects a major reduction in contracted research in the energy program. Other smaller reductions occur in water quality and hazardous waste.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Grants, subsidies, and contributions.....	$82,026	$80,873	$89,870	$71,823	-$18,047

The increase of $8,997 to the 1981 current estimate reflects a shift of $11,681 from contract to research grants activities within this appropriation; a 5% consulting services rescission of $149; and reduction of $2,535 for the 1% transfer authority that was shifted to S&E.

The decrease of $18,047 in the 1982 request reflects both the transfer of the MIRS program from the Salaries and Expenses appropriation($598); an increase of $2.5 million in the amount of carryover available; and the reduction in research grants for air, water quality, pesticides, radiation, toxic substances and energy.

ABATEMENT, CONTROL AND COMPLIANCE

Classification by Objects
Includes Direct Obligations Only
(in thousands of dollars)

		Actual 1980	Current Estimate 1981	Estimate 1982
Personnel Services		$741	$922	...
Other Objects:				
21	Travel and transportation of persons	6	...	$75
22	Transportation of things	14	...	...
23.2	Communications, utilities, and other rent	25	...	...
24	Printing and reproduction	619	...	...
25	Other services	225,116	246,998	178,628
25	Supplies and materials	65	...	...
31	Equipment	887	...	...
41	Grants, subsidies, and contributions	305,776	286,434	240,237
	Total other objects	$532,508	$533,432	$418,940
	Total obligations	$533,249	$534,354	$418,940
Position Data:				
	Average salary, GS positions	$24,874	$27,288	$27,510
	Average grade, GS positions	10.3	10.3	10.3

EXPLANATION OF INCREASES AND DECREASES TO OBJECT CLASSIFICATIONS

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Personnel services	$740	$78	$922	...	-$922

The increase of $844 in the 1981 current estimate supports the estimate for actual salary costs needed for the authorized State assignees in the grant programs.

The decrease of $922 in the 1982 request reflects the termination of the State assignee program.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Travel and transportation of persons	$6	$10	...	$75	+$75

The increase of $75 in the 1982 request reflects the travel associated with the underground injection control grant program.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Printing and reproduction	$619	...	...	...	...

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Other services	$225,116	$244,200	$246,998	$178,628	-$68,370

The increase of $2,798 in the 1981 current estimate results from the following:

Congressional add-on to clean-up PCBs in Waukegan Harbor	+$1,200
Congressional reduction to pesticides	-2,500
Congressional reduction against all abatement, control and compliance activities	-4,000
Hazardous Waste Amendment	+4,562
Increase due to shift from grants to contracts	+6,575
Reduction for 5% consulting services rescission	-1,253
Reduction for 1% transfer authority moved to S&E	-5,436
Change in rate of obligation for contract program	+3,650
	+$2,798

The decrease of $68,370 in the 1982 request reflects the following:

Transfer of contract activities to Hazardous Substance Reponse Trust Fund	
Increases in contracts for pesticides premanufacture review process, energy review and permitting, and ocean disposal	+7,500
Reduction in contracting for air quality, effluent guidelines, water quality management, radiation, noise, and toxic substances	-49,050
	-$68,370

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Grants, subsidies, and contributions	$305,776	$298,643	$286,434	$240,237	-$46,197

The decrease of $12,209 in the 1981 current estimate to grants results from the following:

Congressional reduction to Clean Lakes	-2,000
Congressional add-on for Section 106 grants	+2,000
Congressional reduction to underground injection control grants	-1,500
Congressional reduction to resource recovery grants	-4,000
Congressional add-on for academic training	+710
Shift from grant object class to personnel services to support salaries for State assignees	-844
Reduction due to shift from grants to contracts	-6,575
	-$12,209

The decrease of $46,197 to grants in the 1982 request primarily results from the termination of several grant programs, including State and local areawide planning grants (Section 208), Clean Lakes, Solid Waste Management, and Resource Recovery. Additional reductions were applied to toxic substances enforcement grants and pesticides certification and training. Grant increases went to hazardous waste and pesticides enforcement grants.

SALARIES AND EXPENSES

Classification by Objects
Includes Direct Obligations Only
(In thousands of dollars)

		Actual 1980	Current Estimate 1981	Estimate 1982
Personnel Services		$339,886	$378,416	$357,172
Other Objects:				
21	Travel and transportation of persons	15,812	15,563	16,565
22	Transportation of things	2,229	1,944	2,307
23.1	Standard level user charges	18,800	20,494	25,402
23.2	Communications, utilities, and other rent	35,268	33,326	36,126
24	Printing and reproduction	8,142	8,593	10,855
25	Other services	72,652	80,143	100,564
26	Supplies and materials	12,739	13,461	16,011
31	Equipment	15,146	8,897	17,767
32	Lands and structures	120	30	...
41	Grants, subsidies, and contributions	1,307	827	...
42	Insurance claims and indemnities	11	...	...
	Total other objects	$182,226	$183,278	$225,597
	Total obligations	$522,112	$561,694	$582,769
Position Data:				
	Average salary, GS positions	$24,874	$27,288	$27,510
	Average grade, GS positions	10.3	10.3	10.3

EXPLANATION OF INCREASES AND DECREASES TO OBJECT CLASSIFICATIONS

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Personnel services	$339,886	$357,056	$378,416	$357,172	-$21,244
The increase of $21,360 in the 1981 current estimate results from the following:					
Reduction to Budget Estimate by President Carter (House Document 96-264)					+3,175
Hazardous Waste Amendment					+300
Congressional add-on for personnel costs to cover review of AWT projects					-1,741
Congressional reduction for consulting services					-750
Congressional reduction for SES Bonuses					+6,165
Supplemental for partial payment of October 1980 pay raise					+1,796
Travel reduction transferred into PC&B in March revisions					+7,971
1% transfer authority transferred into PC&B					+392
5% S&E consulting services reduction transferred into PC&B in March revisions					+421
Equipment moratorium reduction transferred into PC&B in March revisions					+3,631
Net increase from other object classes for PC&B					+21,360

The decrease of $21,244 in the 1982 request results from a reduction of 768 authorized workyears.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Travel and transportation of persons.....	$15,812	$17,714	$15,563	$16,565	+$1,002

The decrease of $2,151 in the 1981 current estimate reflects an increase of $495 for the Hazardous Waste Amendment; a congressional reduction of $850 including a reduction of $250 in international travel; and an OMB directed travel reduction of $1,796 in the March revisions and shift of these funds into PC&B.

The increase of $1,002 in the 1982 request reflects that amount required to cover a portion of the increase costs already realized with increases in commerical air fares, higher per diem rates, and higher mileage rates.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Transportation of things.....	$2,229	$1,655	$1,944	$2,307	+$363

The increase of $289 in the 1981 current estimate results from an adjustment to cost estimates using 1980 actual costs as a base.

The increase of $363 in the 1982 request again reflects estimates based on 1980 actual costs and expected increases for the shipping of materials.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Standard level user charges.....	$18,800	$21,480	$20,494	$25,402	+$4,908

The decrease of $986 in the 1981 current estimate reflects revised projections of SLUC and direct lease costs.

The increase of $4,908 in the 1982 request covers the cost for the expansion in space that the Agency acquired in 1980 and will acquire in 1981. This also covers GSA set price increases.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Communications, utilities, and other rent.....	$35,268	$32,606	$33,326	$36,126	+$2,800

The increase of $720 in the 1981 current estimate reflects the adjustment in utility costs for increasing energy costs.

The increase of $2,800 in the 1982 request supports increasing costs for rental of equipment, telephones, and the continually rising cost of utilities.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Printing and reproduction.....	$8,142	$8,284	$8,593	$10,855	+$2,262

The increase of $309 in the 1981 current estimate supports an adjustment for increasing printing and reproduction costs.

The increase of $2,262 in the 1982 request will support increases in printing and reproduction costs and Federal Register changes for the pesticides RPAR process, pesticides registration program, toxic substances test rules, as well as anticipated cost increases for these services in other agency programs.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decre 1982 vs. 1981
Other services.....	$72,652	$91,260	$80,143	$100,564	+$20,421
The decrease of $11,117 to the 1981 current estimate results from the following:					
Reduction to budget estimate by President Carter (House Document 96-264).....					-$4,550
Hazardous Waste Amendment for ADP Contracts and other services.....					+$1,784
Congressional reduction for A-109 program.....					-5,795
Congressional reduction for consulting services.....					-2,459
Congressional reduction for ADP.....					-1,955
Congressional reduction to planning and evaluation contracts.....					-1,000
New estimate of costs based on 1980 actual data.....					+2,858
					-11,117
The increase of $20,421 in the 1982 request results from the following:					
Regional contracts for increased analytical activities and State/EPA agreement process.....					+708
Increase for ADP timesharing that will provide increase for contractor management of EPA's owned and leased computer facilities.....					+1,581
Increase to ADP contracts which will primarily support the design, development, and implementation of the major toxics data bases and a R&D ecosystems effects predictive model.....					+866
Increase to provide contract dollars for such services as telecommunications, mail and property and supply.....					+1,065
Increase to planning and evaluation contracts most of which is a new initiative to develop a more fully integrated approach to the regulation of toxic substances.....					+6,275
Increase to support anticipated increases for administrative and maintenance service contracts that support the operation of facilities, equipment, training, publication of notices, and other related services..					+9,926
					+20,421

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Supplies and materials.....	$12,739	$14,637	$13,461	$16,011	+$2,550

The decrease of $1,176 in the 1981 current estimate reflects an adjustment on actual 1980 costs and shift into PC&B.

The increase of $2,550 in the 1982 request primarily represents cost increases for supplies and materials, including paper products and other consumables used agency-wide. This increase also supports the RPAR process in pesticides and the premanufacture review process in toxic substances that are growing programs in 1982.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Equipment.....	$15,146	$16,628	$8,897	$17,767	+$8,870

The reduction of $7,731 to the 1981 current estimate includes a decrease of $45 for a congressional cut to ADP and the remaining decrease of $7,686 for adjustments based on 1980 actual costs and shift in PC&B.

The increase of $8,870 to the 1982 request reflects planned purchases in the radiation program for emergency response and nonionizing monitoring equipment, and in our air, water quality, hazardous waste and toxic substances research program.

79-248 O—80——61

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Lands and structures	$120	$55	$30	...	...

The reduction of $25 to the 1981 current estimate results from the congressional directive that no projects over $20 be funded under this appropriation.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Grants, subsidies, and contributions	$1,307	$1,167	$827	...	-$827

The decrease of $340 in the 1981 current estimate reflects a redefinition and shift of these activities to other services.

The decrease of $827 in the 1982 request reflects the shift ($598) of the minority institutions research support (MIRS) program to the Research and Development appropriation in the interdisciplinary media and also the redefinition and shift of activities ($229) into other services.

BUILDINGS AND FACILITIES

Classification by Objects
Includes Direct Obligations Only
(in thousands of dollars)

		Actual 1980	Current Estimate 1981	Estimate 1982
21	Travel and transportation of persons	$25	$23	$23
23	Communications, utilities and other rent	21	...	...
25	Other services	1,481	350	1,500
26	Supplies and materials	1	...	...
31	Equipment	12	...	...
32	Lands and structures	127	3,742	2,592
	Total obligations	1,667	4,115	4,115

EXPLANATION OF INCREASES AND DECREASES TO OBJECT CLASSIFICATIONS

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Travel and transportation of persons	$25	$23	$23	$23	...

There is no change from the 1981 budget estimate or the 1982 estimate.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Communications, utilities and other rent	$21	...	...	...	...

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Other services	$1,481	$200	$350	$1,500	+$1,150

The increase of $150 in the 1981 current estimate results from carryover which was not anticipated one year ago.

The increase of $1,150 in the 1982 estimate supports architectural and engineering design contracts to correct health and safety deficiencies in EPA laboratories and to modify several laboratories to permit high hazard sample testing.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Supplies and materials	$1	$25	...	...	...

The decrease of $25 in the 1981 current estimate results from an adjustment based on the actual costs in 1980.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Equipment	$12	$20	...	...	...

The decrease of $20 in the 1981 current estimate results from nonrecurring requirements from 1980.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Lands and structures	$127	$2,707	$3,742	$2,592	-$1,150

The increase of $1,035 in the 1981 current estimate results from carryover which was not anticipated one year ago.

The decrease of $1,150 in the 1982 request reflects the shift to other services for health and safety modifications to EPA facilities.

SCIENTIFIC ACTIVITIES OVERSEAS

Classification by Objects
Includes Direct Obligations Only
(In thousands of dollars)

		Actual 1980	Current Estimate 1981	Estimate 1982
22	Travel and transportation of persons	$12	$15	$25
25	Other services	...	2,485	780
	Total obligations	12	2,500	805

EXPLANATION OF INCREASES AND DECREASES TO OBJECT CLASSIFICATIONS

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Travel and transportation of persons	$12	$15	$15	$25	+$10

The increase of $10 in the 1982 request supports travel costs which has to be financed in 1981 from Salaries and Expenses.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Other services	...	$1,185	$2,485	$780	-$1,704

The increase of $1,299 in the 1981 current estimate reflects a higher carryover balance than was anticipated one year ago.

The reduction of $1,705 in the 1982 request reflects the decrease in carryover funds anticipated for 1982 and the fact that no new funds are available in either 1981 on 1982.

REGULATORY COUNCIL

Classification by Objects
Includes Direct Obligations Only
(In thousands of dollars)

	Actual 1980	Current Estimate 1981	Estimate 1982
Personnel Services	$1,130	$999	...
Other Objects:			
21 Travel and transportation of persons	19	25	...
22 Transportation of things	2	5	...
23.2 Communications, utilities, and other rent	95	185	...
24 Printing and reproduction	295	650	...
25 Other services	852	626	...
26 Supplies and materials	22	23	...
31 Equipment	34	47	...
Total other objects	1,319	1,561	...
Total obligations	2,449	2,560	...

EXPLANATION OF INCREASES AND DECREASES TO OBJECT CLASSIFICATIONS

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Personnel services	$1,130	$939	$999	...	$-999

The increase of $60 in the 1981 current estimate reflects the supplemental request for the October 1980 pay raise.

The reduction of $999 in the 1982 request reflects the deletion of this appropriation in the March revisions. Support for preparation of the calendar of Federal Regulations will continue in the Office of the Administrator.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Travel and transportation of persons.....	$19	$38	$25	...	-$25

The reduction of $25 in the 1982 request reflects the deletion of this appropriation in the March revision.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Transportation of things.....	$2	...	$5	...	-$5

The increase of $5 in the 1981 current estimate reflects a change in the estimate of needs after the first year of operation.

The reduction of $5 in the 1982 request reflects the deletion of this appropriation in the March revisions.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Rent, communications, and utilities.....	$95	$190	$185	...	-$185

The reduction of $5 in the 1981 current estimate reflects a readjustment of costs to provide for increased equipmental rentals.

The reduction of $185 in the 1982 request reflects the deletion of this appropriation in the March revisions.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Printing and reproduction.....	$295	$651	$650	...	-$650

The decrease of $1 in the 1981 current estimate reflects an adjustment in the estimate for printing and reproduction costs.

The reduction of $650 in the 1982 request reflects the deletion of this appropriation in the March revisions.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Other services	$852	$1,450	$626	...	-$626

The decrease of $824 in the 1981 current estimate reflects the majority of the $838 congressional reduction to the appropriation.

The reduction of $626 in the 1982 request reflects the deletion of this appropriation in the March revisions.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Supplies and materials	$22	$23	$23	...	-$23

The reduction of $23 in the 1982 request reflects the deletion of this appropriation in the March revisions.

	Actual 1980	Budget Estimate 1981	Current Estimate 1981	Estimate 1982	Increase + Decrease - 1982 vs. 1981
Equipment	$34	$47	$47	...	-$47

The reduction of $47 in the 1982 request reflects the deletion of this appropriation in the March revisions.

RESTRUCTURING THE BUDGET FORMAT
OFFICE OF RESEARCH AND DEVELOPMENT
JANUARY 1981

Introduction - The Research Committee System

Over the past two and a half years, EPA's Office of Research and Development (ORD) has steadily progressed toward a stated goal of increasing the responsiveness of its programs to Agency-wide requirements for scientific data in support of EPA's mission. One of the most important steps in achieving this goal has been the design and establishment of the Research Committee system as a cornerstone of ORD's program planning process.

The concept of this system was introduced in 1978 when ORD tested the feasibility of joint planning in five Research Committees. Composed of representatives from ORD and each of EPA's other major organizational components, the Committees addressed ORD's programs in five major regulatory areas: drinking water; industrial wastewater; particulate air pollution; mobile sources air pollution; and pesticides. The success of the pilot project led ORD to expand the number of Committees from five to twelve, developing the Committee structure in concert with each concerned Assistant Administrator. In addition, ORD established a thirteenth Energy Research Committee early last calendar year to specifically address the portions of the energy program which are multi-media, such as synthetic fuels. This group will also coordinate with the Committees in planning the remainder of the program to assure a necessary overall energy perspective. The Committees and their relationship to EPA's regulatory program offices are shown in Figure 1.

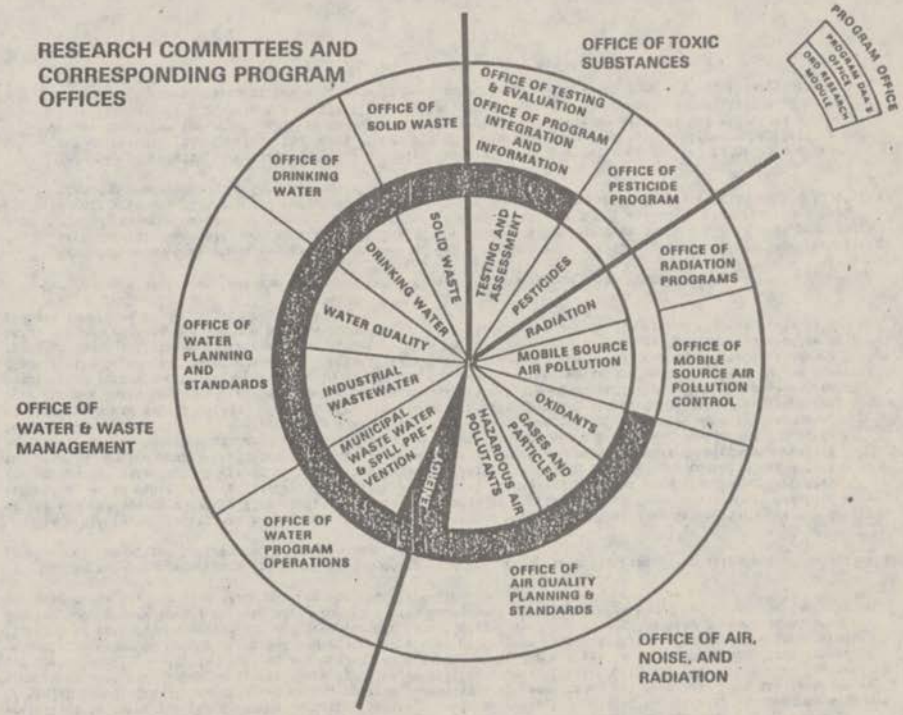
Current Status - The Committee System and Planning Process

Early in the design of the Committee system, ORD recognized the need to substantially modify its internal planning process to incorporate Committee input. This has been accomplished by aligning its Fiscal Year 1981 budge subactivities to the subject areas addressed by the Committees. The proposal to restructure ORD's budget subactivities resulted from an exhaustive ORD analysis of the existing structure and its ideal relationship to the Committees. The analysis began in April 1979 and drew heavily on experience gained in aligning the Committee system to the ZBB process.

This restructuring establishes a total of 24 budget subactivities for ORD, rather than the 31 which existed for the Fiscal Year 1980 ZBB process. Twenty-two of these subactivities cover 95% of ORD's total program, and correspond directly to the Research Committees. Sub-programs are structured within each new subactivity for clear reporting, tracking, and accounting.

Two subactivities are not aligned to Research Committees. Program Management and Support is one of these an presented separately. The remaining subactivity, Intermedia Programs, contains only those portions of the ORD effort which are either strongly intermedia in nature or are not readily relatable to the Committees' areas of concern.

FIGURE 1


RESEARCH COMMITTEES AND CORRESPONDING PROGRAM OFFICES
OFFICE OF TOXIC SUBSTANCES
OFFICE OF WATER & WASTE MANAGEMENT
OFFICE OF AIR, NOISE, AND RADIATION
PROGRAM OFFICE
PROGRAM DAA'S OFFICE
ORD RESEARCH MODULE
OFFICE OF SOLID WASTE
OFFICE OF DRINKING WATER
OFFICE OF WATER PLANNING AND STANDARDS
OFFICE OF WATER PROGRAM OPERATIONS
OFFICE OF TESTING & EVALUATION
OFFICE OF PROGRAM INTEGRATION AND INFORMATION
OFFICE OF PESTICIDE PROGRAM
OFFICE OF RADIATION PROGRAMS
OFFICE OF MOBILE SOURCE AIR POLLUTION CONTROL
OFFICE OF AIR QUALITY PLANNING & STANDARDS
SOLID WASTE
DRINKING WATER
WATER QUALITY
INDUSTRIAL WASTEWATER
MUNICIPAL WASTE WATER & SPILL PRE-VENTION
ENERGY
TESTING AND ASSESSMENT
PESTICIDES
RADIATION
MOBILE SOURCE AIR POLLUTION
OXIDANTS
GASES AND PARTICLES
HAZARDOUS AIR POLLUTANTS

The new structure orients ORD's program so that each subactivity contains the appropriate mix of research activities to carry out the Research Committee strategy. For example, the oxidant subactivity is composed of a mix of health effects, environmental processes, control technology, and monitoring sub-programs. The sub-programs are structured according to major disciplinary types of activities such as "Health Effects," "Environmental Engineering and Technology," "Monitoring Systems and Quality Assurance," etc. These areas in turn correspond directly and uniquely to each ORD Deputy Assistant Administrator's area of program responsibility. The new structure permits tracking by Research Committee subject area (at the subactivity level) and by disciplinary or functional area (at the sub-program level) corresponding to ORD's line management structure. Planning, budgeting, implementation, and accountability are thus tied together for the first time.

In the new structure there are fourteen non-energy and ten energy subactivities. The alignment of subactivities to Research Committees to Program Offices in described in Table 1.

In order to derive the new structure, the old subactivities were, in general crosswalked into the sub-programs of the new regulatory subactivities as follows. In most media categories such as Toxic Substances, Drinking Water, Radiation, Solid Waste, and Pesticides, the health and control technology programs were translated directly. The ecological effects, pollutants characterization, and transport and fate efforts were consolidated into the new sub-program, Environmental Processes & Effects. The monitoring and measurement methods development, quality assurance, and technical assistance efforts were consolidated into the new sub-program, Monitoring & Quality Assurance. By constrast, in the large Air & Water Quality Medium, some old subactivities were in some cases split between new subactivities. For example, the old Health Effects/Non-Criteria Pollutants translates into both the new Gases and Particles Subactivity and Hazardous Air pollutants Subactivity. Such cases of a more complicated nature are comparatively few in number and the resource crosswalks are being supplied to the Congress Finally, the Scientific Assessments and Technical Information programs were moved from the Interdisciplinary Medium to align these activities to Research Committees. These activities should be integral to the presentation of a total program package and are now planned accordingly. The basic crosswalk is diagrammed for one media as an example in Figure 2.

Our analysis indicates that the following benefits are obtained through the restructuring:

- Research Committees are a fundamental feature of ORD's improvements of its planning and oversight processes. Each Committee annually produces a research strategy which relates the regulatory plans of that program to needed research outputs in specific timeframes. If these plans are to be valuable, they must be linked directly to the planning and budgeting system i.e., the subactivities which form the building blocks of the planning process and the Congressional Budget submission.

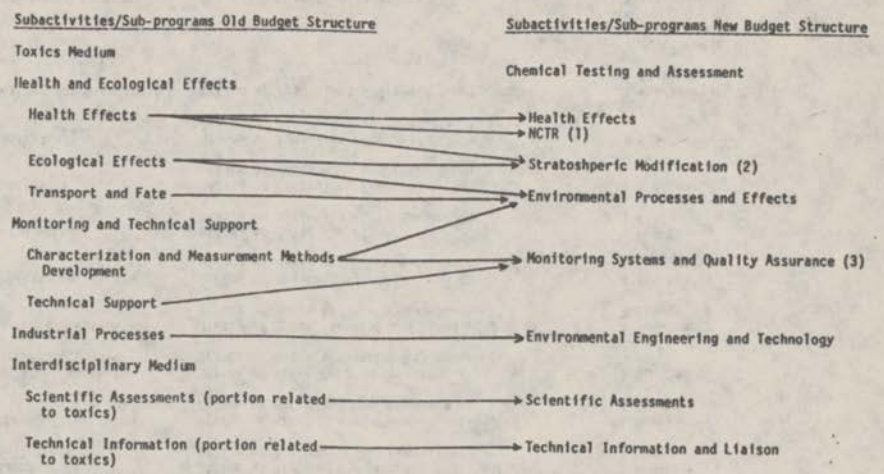
- The new subactivity structure permits a cohesive description of the research in each major regulatory subject area. This confines the areas of concern of a Research Committee to identified subactivities and makes it easier for each Committee to work with its program. Experience with the old structure showed that the text of the various subactivities together did not provide an adequate description of a given Committee's overall area of concern, because each subactivity was written from a disciplinary rather than Committee perspective.

TABLE 1

SUMMARY OF ALIGNMENT BETWEEN RESEARCH COMMITTEES AND BUDGET SUBACTIVITIES

Committee	Program Office	Budget Subactivity
Mobile Sources	Office of Mobile Source Air Pollution Control/ Office of Air, Noise and Radiation	1 Non-Energy
Gases and Particles	Office of Air Quality Planning and Standards/ Office of Air, Noise and Radiation	1 Non-Energy 1 Energy
Oxidants	Office of Air Quality Planning and Standards/ Office of Air, Noise and Radiation	1 Non-Energy 1 Energy
Hazardous Air Pollutants	Office of Air Quality Planning and Standards/ Office of Air, Noise and Radiation	1 Non-Energy 1 Energy
Water Quality	Office of Water Planning and Standards/ Office of Water and Waste Management	1 Non-Energy 1 Energy
Municipal Waste-Water and Spills	Office of Water Program Operations/ Office of Water and Waste Management	1 Non-Energy
Industrial Wastewater	Office of Water Planning and Standards/ Office of Water and Waste Management	1 Non-Energy 1 Energy
Drinking Water	Office of Drinking Water/ Office of Water and Waste Management	1 Non-Energy 1 Energy
Solid Waste	Office of Solid Waste/ Office of Water and Waste Management	1 Non-Energy 1 Energy
Pesticides	Office of Pesticides Programs/ Office of Pesticides and Toxic Substances	1 Non-Energy
Radiation	Office of Radiation Programs/ Office of Air, Noise and Radiation	1 Non-Energy
Testing and Assessment	Office of Pesticides and Toxic Substances	1 Non-Energy 1 Energy
Energy	All	1 Multi-Media Energy Subactivity
Intermedia Programs Program Management and Support	Not aligned to Committees	1 Intermedia 1 Program Management and Support

Figure 2
Subactivity Crosswalk - An Example
Toxic Substances Medium



(1) National Center for Toxicological Research - joint support with FDA.
(2) Special program appearing in this medium only.
(3) In 1981, there was no quality assurance program. In other media having such programs, quality assurance is identified and transferred to the new structure in the new monitoring and quality assurance sub-program.

- EPA's regulatory offices have indicated that the way in which the Committees' areas of responsibility have been delineated is, from their perspective, the most sensible way to partition the research program. Consequently, resource allocations made on that same basis in the planning process should lead to a more balanced research and development program.

- The subactivities present a complete proposal for research on a given regulatory subject area, including program description, resource levels, and a discription of the Agency research requirements to be addressed in that area. This facilitates review by the appropriate Research Committee, OMB, and the Congress, ensuring that ORD's programs reflect established priorities.

- The sub-program areas are unique to each of ORD's Deputy Assistant Administrators or staff office directors. This automatically eliminates organizationally shared program elements, which have historically required staff effort to solve administrative problems. Even more importantly, the sub-programs clearly and explicitly align to the disciplinary structure of the ORD management organization which will continue to implement the program.

- The disciplinary (ORD line organization) and problem area (Research Committee) orientations are the two main perspectives from which to view ORD's program. If both perspectives are brought to bear on planning in a complementary way, the result should strengthen and enhance planning and resource allocation efforts. The new structure provides a means for doing this.

- It is easier for non-research program personnel to translate the program from regulatory subject areas to disciplines than to make the reverse translation. Thus, the restructuring achieves a basic intent, i.e., to simplify the way in which ORD arrays its program plans.

- The 1982 budget request to the Congress represents the first set of plans developed entirely within the committee system and using the new budget format. This is thus the cumulation of several years of effort to integrate ORD activities with those of the rest of the Agency.

969

Summary of Media Changes

Table 2 provides a summary by media of the changes in workyears and dollars between the old and new budget structure, while Figure 3 provides a programmatic diagram of the changes. The most dramatic media change is a shift of programs out of the Interdisciplinary category and into the subactivities which correspond to and are within the purview of the Research Committees. The impetus for this change lies in ORD's recognition that the programs are relatable to the Agency's regulatory and operational areas of concern; the result of this change is a more complete and better planned research package. As noted earlier, the change involves the alignment of both the scientific assessment and technical information activities and the Interdisciplinary medium to the Committees. The change also concerns the old Anticipatory program and the recognition that its activities such as acid rain are no longer anticipatory, but are dealing with present problems. In addition, the change involves moving all of the exploratory program but core support to the Committee system.

The 1981 restructured President's Budget for the Air Medium totals $73.8 million and 451.8 permanent workyears. This represents an increase of $3.7 million and 43.8 permanent workyears from the original 1981 President's Budget. The majority of this increase is the result of transferring resources from Interdisciplinary (Technical Information, Scientific Assessment and Anticipatory); and Energy (Monitoring Methods and Systems).

The 1981 restructured President's Budget for the Water Quality Medium totals $63.7 million and 494.3 permanent workyears. This represents an increase of $3.7 million and 23.1 permanent workyears from the original 1981 President's Budget. The majority of this increase is the result of transferring resources from Interdisciplinary (Technical Information, Scientific Assessment and Anticipatory); Drinking Water (Monitoring Methods and Systems); and Energy (Technical Support).

The 1981 restructured President's Budget for the Drinking Water Medium totals $28.7 million and 153.1 permanent workyears. This represents an increase of $1.2 million and 13.6 permanent workyears from the original 1981 President's Budget. This increase is the result of transferring resources from Interdisciplinary (Technical Information and Anticipatory); and Water Quality (Monitoring Methods and Systems).

The 1981 restructured President's Budget for the Solid Waste Medium totals $26.8 million and 73.4 permanent workyears. This represents an increase of $350,200 and 4.4 permanent workyears from the original 1981 President's Budget. This increase is the result of transferring resources from Interdisciplinary (Technical Information, Scientific Assessment and Anticipatory).

The 1981 restructured President's Budget for the Pesticides Medium totals $10.1 million and 114.1 permanent workyears. This represents an increase of $617,100 and 11.1 permanent workyears. This increase is the result of transferring resources from Interdisciplinary (Technical Information, Scientific Assessment and Anticipatory).

The FY 1981 restructured President's Budget for the Radiation Medium totals $3.3 million and 33.4 permanent workyears. This represents an increase of $78,000 and 0.3 permanent workyears from the original 1981 President's Budget. A portion of this increase is the result of transferring resources from Interdisciplinary (Technical Information).

970

Table 2

Research and Development
FY 81 President's Budget
Summary by Media

Media	Old Structure		New Structure		Difference	
	PFTE	$(000)	PFTE	$(000)	PFTE	$(000)
Air	408.0	70,167.4	451.8	73,823.6	+43.8	+3,656.2
Water Quality	471.2	60,021.9	494.3	63,732.2	+23.1	+3,710.3
Drinking Water	139.5	27,446.1	153.1	28,693.3	+13.6	+1,247.2
Solid Waste	69.0	26,445.8	73.4	26,796.0	+4.4	+350.2
Pesticides	103.0	9,435.8	114.1	10,052.9	+11.1	+617.1
Radiation	33.1	3,181.3	33.4	3,259.3	+.3	+78.0
Interdisciplinary	160.4	22,844.1	30.1	6,300.2	-130.3	-16,543.9
Toxic Substances	155.3	36,895.0	187.1	40,384.8	+31.8	+3,489.8
Energy	149.4	107,598.6	151.6	110,994.4	+2.2	+3,395.8
Program Management	87.3	4,666.1	87.3	4,665.4	.0	-.7
Total	1,776.2	368,702.1	1,776.2	368,702.1	.0	.0

FIGURE 3

MAJOR MEDIA CHANGES

- **INTERDISCIPLINARY ACTIVITIES**

  ANTICIPATORY

  ACID RAIN → **ENERGY - MULTI-MEDIA**

  TRANS & FATE, & CANCER → **TOXICS**

  CORE SUPPORT FOR EXPLORATORY RESEARCH → **INTERMEDIA**

  SCIENTIFIC ASSESSMENTS → **COMMITTEE DU's**

  TECH. INFORMATION → **COMMITTEE DU's**

- **REGIONAL SERVICES STAFF (FROM AIR & WATER)** → **COMMITTEE DU's**

- **MIRS (FROM PM & S** → **INTERMEDIA**

- **WATER QUALITY MICROBIOLOGY/ RADIONUCLIDE MEASUREMENTS** → **DRINKING WATER**

972

The 1981 restructured President's Budget for the Interdisciplinary Medium totals $6.3 million and 30.1 permanent workyears. This represents a decrease of $16.5 million and 130.3 permanent workyears from the original 1981 President's Budget. This decrease reflects the transfer of resources to Air (Technical Information, Scientific Assessment and Anticipatory); Water Quality (Technical Information, Scientific Assessment and Anticipatory); Drinking Water (Technical Information, Scientific Assessment and Anticipatory); Solid Waste (Technical Information, Scientific Assessment and Anticipatory); Pesticides (Technical Information, Scientific Assessment and Anticipatory); Radiation (Technical Information); Toxic Substances (Technical Information, Scientific Assessment and Anticipatory); and Energy (Anticipatory and Acid Rain).

The 1981 restructured President's Budget for the Toxic Substances Medium totals $40.4 million and 187.1 permanent workyears. This represents an increase of $3.5 million and 31.8 permanent workyears from the original 1981 President's Budget. The majority of this increase reflects the transfer of resources from Interdisciplinary (Technical Information, Scientific Assessment and Anticipatory).

The 1981 restructured President's Budget for the Energy Medium totals $111.0 million and 151.6 permanent workyears. This represents an increase of $3.4 million and 2.2 permanent workyears from the original 1981 President's Budget. The majority of this increase reflects the transfer of resources from Interdisciplinary (Anticipatory).

There is no change in the 1981 restructured President's Budget for the Program Management Medium.

The details of the crosswalk from the old budget structure to the new structure are presented in the following table by program element, and within program element, by workyears and dollars.

79-248 O—80——62

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media:Air

DU/PE: Health Effects- Transportation

Old Structure

PE Code	PFTE	OPFTE	$(000)
A01A1A	39.1	18.5	3,179.0
C01A1A			3,438.3
A105	39.1	18.5	6,617.3

Media: Air

PE: Health Effects (9XA1C)
Monitoring Sys. & Quality Assurance (9WA1C)
Environmental Processes & Effects (9YA1C)

New Structure

PE Code	PFTE	OPFTE	$(000)
A9XA1C	34.1	17.5	3,179.0
A9WA1C	5.0	1.0	—
	39.1	18.5	3,179.0
C9XA1C			2,670.3
C9WA1C			568.0
C9YA1C			200.0
			3,438.3

974

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Air

DU/PE: Health Effects-Criteria Pollutants

Media: Air

PE: Health Effects (9GA1A)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A02A1A	28.1	6.0	2,365.8	A9GA1A	28.1	6.0	2,365.8
C02A1A			4,499.4	C9GA1A			4,499.4
A110	28.1	6.0	6,865.2				6,865.2

975

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Air

DU/PE: Health Effects - Non-Criteria Pollutants

Media: Air

PE: Monitoring Sys. & Quality Assurance (9FA1A)
Monitoring Sys. & Quality Assurance (AFA1D)
Health Effects (AGA1D)
Health Effects (9RA1B)
Monitoring Sys. & Quality Assurance (9QA1B)

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A03A1A	114.7	16.0	6,499.8
C03A1A			9,860.0
A115	114.7	16.0	16,359.8

New Structure			
PE Code	PFTE	OPFTE	$(000)
A9FA1A	2.0	—	—
AAFA1D	10.0	—	—
AAGA1D	88.6	12.8	6,154.8
A9RA1B	6.1	3.2	345.0
A9QA1B	8.0	—	—
	114.7	16.0	6,499.8
CAGA1D			6,832.2
C9RA1B			3,027.8
			9,860.0

976

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Air

DU/PE: Ecological Processes and Effects

Old Structure

PE Code	PFTE	OPFTE	$(000)
A04A1A	11.0	18.0	975.0
C04A1A			1,320.3
A120	11.0	18.0	2,295.3

Media: Air

PE: Environmental Processes and Effects (DWA1A, DTA1D)

New Structure

PE Code	PFTE	OPFTE	$(000)
ADWA1A	6.5	10.4	568.5
ADTA1D	4.5	7.6	406.5
	11.0	18.0	975.0
CDWA1A			766.0
CDTA1D			554.3
			1,320.3

977

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Air

DU/PE: Transport and Fate

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A05A1A	42.0	6.0	2,470.3
C05A1A			10,635.4
A125	42.0	6.0	13,105.7

Media: Air

PE: Environmental Processes & Effects (DWA1A, 9TA1B, DTA1D)

New Structure			
PE Code	PFTE	OPFTE	$(000)
ADWA1A	15.5	2.5	925.2
A9TA1B	3.0	—	154.2
ADTA1D	23.5	3.5	1,390.9
	42.0	6.0	2,470.3
CDWA1A			4,132.8
C9TA1B			195.8
CDTA1D			6,306.8
			10,635.4

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Air

DU/PE: Industrial Processes

Media: Air

PE: Environmental Engineering & Technology (9HA1A, 9SA1B, AHA1D)

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A06A1B	18.1	13.3	1,069.0
C06A1B			3,029.8
A128	18.1	13.3	4,098.8

New Structure			
PE Code	PFTE	OPFTE	$(000)
A9HA1A	10.6	7.8	627.0
A9SA1B	3.6	2.7	214.2
AAHA1D	3.9	2.8	227.8
	18.1	13.3	1,069.0
C9HA1A			1,773.7
C9SA1B			605.5
CAHA1D			650.6
			3,029.8

979

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Air

DU/PE: Characterization and Measurement Methods

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A07A1D	61.2	2.6	3,102.3
C07A1D			4,942.1
A130	61.2	2.6	8,044.4

Media: Air

PE: Envir. Processes and Effects
(DWA1A, 9TA1B, 9YA1C, DTA1D)
Monitoring Sys. & Quality Assurance
(9QA1B, AFA1D, 9FA1A)

New Structure			
PE Code	PFTE	OPFTE	$(000)
ADWA1A	11.0	—	534.6
A9TA1B	3.0	—	145.8
A9YA1C	11.2	1.6	544.3
ADTA1D	13.0	—	759.8
A9QA1B	10.5	—	510.3
AAFA1D	12.5	1.0	607.5
	61.2	2.6	3,102.3
CDWA1A			839.8
C9FA1A			31.0
C9TA1B			920.2
C9QA1B			978.7
C9YA1C			455.7
CDTA1D			707.2
CAFA1D			1,009.5
			4,942.1

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Air
DU/PE: Monitoring Methods and Systems

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A08A1D	21.0	11.5	2,223.5
C08A1D			2,948.0
A135	21.0	11.5	5,171.5

Media: Air

PE: Monitoring Sys. & Quality Assurance
(9QA1B, 9WA1C, 9FA1A, AFA1D)

New Structure			
PE Code	PFTE	OPFTE	$(000)
A9QA1B	4.0	0.8	328.3
A9WA1C	5.1	3.6	595.0
A9FA1A	2.3	4.0	367.0
AAFA1D	9.6	3.1	933.2
	21.0	11.5	2,223.5
C9QA1B			207.7
C9WA1C			165.0
CAFA1D			2,575.3
			2,948.0

981

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Air

DU/PE: Quality Assurance

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A09A1D	42.2	3.5	2,224.7
C09A1D			2,430.0
A145	42.2	3.5	4,654.7

Media: Air

PE: Monitoring Sys. & Quality Assurance (9QA1B, 9WA1C, 9FA1A, AFA1D)

New Structure			
PE Code	PFTE	OPFTE	$(000)
A9QA1B	6.4	1.2	370.1
A9WA1C	1.2	—	58.4
A9FA1A	3.6	0.2	185.0
AAFA1D	31.0	2.1	1,611.2
	42.2	3.5	2,224.7
C9QA1B			493.2
C9WA1C			35.6
C9FA1A			121.0
CAFA1D			1,780.2
			2,430.0

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Air

DU/PE: Technical Support

Media: Air, Water Quality, Toxics, Radiation

PE: Monitoring Sys. & Quality Assurance (9QA1B, 9WA1C, 9FA1A, AFA1D)
Technical Information & Liaison (9EA1A, 9PA1B, 9VA1C, AEA1D, CQL1A, CEF1A)

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A10A1D	30.6	6.3	1,949.5
C10A1D			1,005.2
A140	30.6	6.3	2,954.7

New Structure			
PE Code	PFTE	OPPTE	$(000)
A9QA1B	10.8	3.1	765.9
A9WA1C	.4	—	22.1
A9FA1A	7.5	2.4	546.5
AAFA1D	6.9	0.8	425.0
A9EA1A	1.0	—	29.2
A9PA1B	1.0	—	16.4
A9VA1C	1.0	—	17.7
AAEA1D	1.0	—	55.3
ACQL1A	1.0	—	44.5
ACEF1A	—	—	26.9
	30.6	6.3	1,949.5
C9QA1B			565.5
C9WA1C			55.9
C9FA1A			332.5
CAFA1D			51.3
			1,005.2

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Water Quality

DU/PE: Health Effects

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A27B1A	31.8	18.3	2,124.5
C27B1A			5,032.8
B103	31.8	18.3	7,157.3

Media: Water Quality

PE: Health Effects (AQB1A, AYB1B, BFB1C)

New Structure			
PE Code	PFTE	OPFTE	$(000)
AAQB1A	13.5	9.0	891.9
AAYB1B	17.3	9.0	1,165.7
ABFB1C	1.0	0.3	66.9
	31.8	18.3	2,124.5
CAQB1A			2,638.9
CAYB1B			2,208.2
CBFB1C			185.7
			5,032.8

984

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Water Quality

DU/PE: Transport and Fate

Media: Water Quality

PE: Environmental Processes and Effects (ARB1A)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A28B1A	8.7	6.6	573.2	AARB1A	8.7	6.6	573.2
C28B1A			694.4	CARB1A			694.4
B106	8.7	6.6	1,267.6				1,267.6

985

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Water Quality

DU/PE: Chesapeake Bay

Media: Water Quality

PE: Chesapeake Bay Study (ASB1A)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A29B1A	6.4	4.3	409.7	AASB1A	6.4	4.3	409.7
C29B1A			2,503.3	CASB1A			2,503.3
B145	6.4	4.3	2,913.0				2,913.0

986

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Water Quality

DU/PE: Great Lakes

Old Structure

PE Code	PFTE	OPFTE	$(000)
A30B1A	7.0	6.3	945.0
C30B1A			654.5
B142	7.0	6.3	1,599.5

Media: Water Quality

PE: Great Lakes Study (ATB1A)

New Structure

PE Code	PFTE	OPFTE	$(000)
AATB1A	7.0	6.3	945.0
CATB1A			654.5
			1,599.5

987

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Water Quality

DU/PE: Marine Ecological Effects

Media: Water Quality

PE: Environmental Processes & Effects (ARB1A)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A31B1A	54.4	62.4	2,860.7	AARB1A	54.4	62.4	2,860.7
C31B1A			445.1	CARB1A			445.1
B112	54.4	62.4	3,305.8				3,305.8

886

79-248 O—80—63

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Water Quality

DU/PE: Freshwater Ecological Effects

Old Structure

PE Code	PFTE	OPFTE	$(000)
A32B1A	88.1	36.9	3,916.7
C32B1A			1,724.1
B115	88.1	36.9	5,640.8

Media: Water Quality

PE: Environmental Processes and Effects (ARB1A)
Monitoring Sys. & Quality Assurance (BEB1C)

New Structure

PE Code	PFTE	OPFTE	$(000)
AARB1A	88.1	36.6	3,916.7
ABEB1C	—	.3	—
CARB1A			1,724.1
	88.1	36.9	5,640.8

686

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Water Quality

DU/PE: Industrial Processes

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A33B1B	33.0	9.3	1,754.9
C33B1B			9,162.8
B118	33.0	9.3	10,917.7

Media: Water Quality

PE: Envir. Engineering & Technology (AZB1B, BGB1C)

New Structure			
PE Code	PFTE	OPFTE	$(000)
AAZB1B	4.5	2.0	270.0
ABGB1C	28.5	7.3	1,484.9
	33.0	9.3	1,754.9
CAZB1B			1,485.0
CBGB1C			7,677.8
			9,162.8

066

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Water Quality

DU/PE: Renewable Resources

Media: Water Quality

PE: Environmental Processes & Effects (ARB1A)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A34B1B	10.0	—	319.3	AARB1A	10.0	—	319.3
B133	10.0	—	319.3				

991

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Water Quality

DU/PE: Wastewater Systems

Media: Water Quality

PE: Environmental Engineering & Tech. (AZB1B)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A35B1C	56.7	14.9	2,522.7	AAZB1B	56.7	14.9	2,522.7
C35B1C			4,275.2	CAZB1B			4,275.2
B124	56.7	14.9	6,797.9				6,797.9

392

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Water Quality

DU/PE: Urban Systems, Toxics

Media: Water Quality

PE: Environmental Engineering & Tech. (AZB1B)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A36B1C	55.1	3.2	2,315.2	AAZB1B	55.1	3.2	2,315.2
C36B1C			5,686.5	CAZB1B			5,686.5
B121	55.1	3.2	8,001.7				8,001.7

993

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Water Quality

DU/PE: Characterization & Measurement Methods Development

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A37B1D	27.7	4.7	1,302.1
C37B1D			202.8
B127	27.7	4.7	1,504.9

Media: Water Quality

PE: Monitoring Sys. & Quality Assurance (APB1A, BEB1C)
Environmental Processes & Effects (ARB1A)

New Structure			
PE Code	PFTE	OPFTE	$(000)
AAPB1A	10.7	2.3	565.4
AARB1A	2.0	—	150.0
ABEB1C	15.0	2.4	586.7
	27.7	4.7	1,302.1
CAPB1A			135.1
CBEB1C			67.7
			202.8

994

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Water Quality

DU/PE: Monitoring Methods and Systems

Media: Water Quality, Drinking Water, Pesticides, Solid Waste, Radiation

PE: Monitoring Sys. & Quality Assurance (BEB1C, APB1A, BLC1A)
Technical Information & Liaison (ANB1A, AWB1B, BDB1C, BKC1A, BUD1A, BYE1A, CEF1A)

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A38B1D	60.3	18.4	3,009.9
C38B1D			1,135.2
B136	60.3	18.4	4,145.1

New Structure			
PE Code	PFTE	OPFTE	$(000)
ABEB1C	16.0	8.0	892.8
AAPB1A	32.3	10.4	1,588.1
ABLC1A	6.0	—	300.0
AANB1A	1.0	—	45.9
AAWB1B	1.0	—	44.6
ABDB1C	1.0	—	35.6
ABKC1A	1.0	—	40.6
ABUD1A	1.0	—	18.6
ABYE1A	1.0	—	39.2
ACEF1A	—	—	4.5
	60.3	18.4	3,009.9
CBEB1C			575.3
CAPB1A			559.9
			1,135.2

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Water Quality

DU/PE: Quality Assurance

Media: Water Quality

PE: Monitoring Sys. & Quality Assurance (BEB1C, APB1A)

Current Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A39B1D	23.0	5.7	1,233.7	ABEB1C	16.0	4.0	859.6
C39B1D			4,055.5	AAPB1A	7.0	1.7	374.1
B139	23.0	5.7	5,289.2		23.0	5.7	1,233.7
				CBEB1C			3,658.7
				CAPB1A			396.8
							4,055.5

966

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Water Quality

DU/PE: Technical Support

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A40B1D	9.0	10.4	773.0
C40B1D			389.1
B130	9.0	10.4	1,162.1

Media: Water Quality

PE: Monitoring Sys. & Quality Assurance (AXB1B, BEB1C, APB1A)

New Structure			
PE Code	PFTE	OPFTE	$(000)
AAXB1B	4.6	5.3	535.9
ABEB1C	.6	2.0	—
AAPB1A	3.8	3.1	237.1
	9.0	10.4	773.0
CAXB1B			313.0
CAPB1A			76.1
			389.1

997

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Drinking Water

DU/PE: Health Effects

Media: Drinking Water

PE: Health Effects (BMC1A)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A60C1C	52.0	20.9	3,054.0	ABMC1A	52.0	20.9	3,054.0
C60C1C			9,305.1	CBMC1A			9,305.1
C105	52.0	20.9	12,359.1				12,359.1

866

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Drinking Water

DU/PE: DW Treatment and Groundwater

Media: Drinking Water

PE: Envir. Engineerig & Technology (BNC1A)
Environmental Processes and Effects (BPC1A)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A61C1C	77.5	23.2	3,588.6	ABNC1A	62.0	21.2	2,958.5
				ABPC1A	15.5	2.2	630.1
					77.5	23.4	3,588.6
C61C1C			10,490.6	CBNC1A			9,220.7
				CBPC1A			1,269.9
							10,490.6
C110	77.5	23.2	14,079.2				

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Drinking Water

DU/PE: Quality Assurance

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A62C1D	10.0	4.0	574.8
C62C1D			433.0
C115	10.0	4.0	1,007.8

Media: Drinking Water

PE: Monitoring Sys. & Quality Assurance (BLC1A)

New Structure			
PE Code	PFTE	OPFTE	$(000)
ABLC1A	10.0	4.0	574.8
CBLC1A			433.0
			1,007.8

1000

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Solid Waste

DU/PE: Control Technology

Media: Solid Waste, Water Quality

PE: Envir. Engineering & Technology (BRD1A)
Montoring Sys. & Quality Assurance (BSD1A)
Health Effects (BVD1A)
Enviro. Processes & Effects (BWD1A)
Scientific Assessments (BTD1A)

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A73D1C	69.0	19.8	3,883.6
C73D1C			22,562.2
D110	69.0	19.8	26,445.8

New Structure			
PE Code	PFTE	OPFTE	$(000)
ABRD1A	43.0	18.2	2,529.6
ABSD1A	18.0	—	940.0
ABVD1A	2.0	0.6	114.0
ABWD1A	3.5	1.0	190.0
ABTD1A	2.5	—	110.0
	69.0	19.8	3,883.6
CBRD1A			17,070.2
CBSD1A			3,638.0
CBVD1A			630.0
CBWD1A			854.0
CBTD1A			370.0
			22,562.2

1001

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Pesticides

DU/PE: Health Effects

Media: Pesticides

PE: Health Effects (CAE1A)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A86E1A	31.0	12.3	2,439.2	ACAE1A	31.0	12.3	2,439.2
C86E1A			321.3	CCAE1A			321.3
E105	31.0	12.3	2,760.5				2,760.5

1002

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Pesticides

DU/PE: Ecological Effects

Media: Pesticides

PE: Environmental Processes & Effects (CBE1A)

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A87E1A	49.0	26.1	2,178.1
C87E1A			244.3
E110	49.0	26.1	2,422.4

New Structure			
PE Code	PFTE	OPFTE	$(000)
ACBE1A	49.0	26.1	2,178.1
CCBE1A			244.3
			2,422.4

1003

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Pesticides

DU/PE: Integrated Pest. Mgt.

Media: Pesticides

PE: Environmental Processes & Effects (CBE1A)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A88E1B	—	—	117.0	ACBE1A	—	—	117.0
C88E1B			2,783.0	CCBE1A			2,783.0
E120			2,900.0				2,900.0

1004

79-248 O—80——64

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year:1981

Media: Pesticides

DU/PE: Quality Assurance

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A89E1D	12.0	1.4	517.4
C89E1D			48.0
E125	12.0	1.4	565.4

Media: Pesticides

PE: Monitoring Sys. & Quality Assurance (DZE1A)

New Structure			
PE Code	PFTE	OPFTE	$(000)
ABZE1A	12.0	1.4	517.4
CBZE1A			48.0
			565.4

1005

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Pesticides

DU/PE: Exposure Assessment

Media: Pesticides

PE: Environmental Processes and Effects (CBE1A)

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A8PE1A	11.0	—	403.9
C8PE1A			383.6
E130	11.0	—	787.5

New Structure			
PE Code	PFTE	OPFTE	$(000)
ACBE1A	11.0	—	403.9
CCBE1A			383.6
			787.5

1006

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Radiation

DU/PE: Health Effects

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A98F1A	28.1	5.5	1,556.9
C98F1A			1,433.3
F105	28.1	5.5	2,990.2

Media: Radiation

PE: Health Effects (CGF1A)

New Structure			
PE Code	PFTE	OPFTE	$(000)
ACGF1A	28.1	5.5	1,556.9
CCGF1A			1,433.3
			2,990.2

1007

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Radiation

DU/PE: Quality Assurance

Media: Radiation

PE: Monitoring Sys. & Quality Assurance (CFF1A)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A7WF1D	5.0	—	191.1	ACFF1A	5.0	—	191.1
F115	5.0	—	191.1				

1008

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Interdisciplinary

DU/PE: Anticipatory R&D

Media: Indisciplinary

PE: Environmental Processes & Effects (BPC1A, CVL1A, DWA1A, 9TA1B, DTA1D, ARB1A)
Monitoring Sys. & Quality Assurance (BSD1A, CRL1A)
Health Effects (CSL1A, 9RA1B, AGA1D, AQB1A, AVB1A, BMC1A, BVD1A, CAE1A)
Acid Rain (CVN1A)
Exploratory Research Core Program (CHH1A)

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A1MH1E	57.7	23.4	3,433.2
C1MH1E			11,312.0
H105	57.7	23.4	14,745.2

New Structure			
PE Code	PFTE	OPFTE	$(000)
ABPC1A	4.0	—	169.2
ABSD1A	—	8.0	—
ACRL1A	9.0	—	380.7
ACSL1A	2.0	—	84.6
ACUL1A	15.6	4.9	232.2
ACVN1A	3.0	—	126.9
ACHH1A	24.1	10.5	2,439.6
	57.7	23.4	3,433.2
CDWA1A			50.0
C9RA1B			25.0
C9TA1B			150.0
CAGA1D			75.0
CDTA1D			200.0
CAQB1A			25.0
CARB1B			900.0
CAYB1A			25.0
CBMC1A			75.0
CBPC1A			450.8
CBVD1A			100.0
CCAE1A			75.0
CCRL1A			630.3
CCSL1A			1,065.4
CCUL1A			744.8
CCVN1A			3,073.1
CCHH1A			3,647.6

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Interdisciplinary

DU/PE: Scientific Assessments

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A1LH1A	66.3	39.2	3,117.4
C1LH1A			2,114.2
H110	66.3	39.2	5,231.6

Media: Interdisciplinary

PE: Scientific Assessments
(9DA1A, 9NA1B, ADA1D, AMB1A, BTD1A, BXE1A, CPL1A))

New Structure			
PE Code	PFTE	OPFTE	$(000)
A9DA1A	5.0	3.0	236.0
A9NA1B	25.0	11.7	1,082.7
AADA1D	4.5	3.0	221.3
AAMB1A	19.0	13.5	1,011.4
ABTD1A	1.3	2.0	62.0
ABXE1A	9.5	4.5	413.0
ACPL1A	2.0	1.5	91.0
	66.3	39.2	3,117.4
C9DA1A			157.0
C9NA1B			599.9
CADA1D			171.7
CAMB1A			1,146.6
CBXE1A			39.0
			2,114.2

1010

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Interdisciplinary

DU/PE: Technical Information

Media: Interdisciplinary

PE: Technical Information & Liaison (9EA1A, 9PA1B, 9VA1C, AEA1D, ANB1A, AWB1B, BDB1C, BKC1A, BUD1A, BYE1A, CEF1A, CQL1A, CXN1A)

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A1NH1D	30.4	24.0	2,265.0
C1NH1D			390.0
H115	30.4	24.0	2,655.0

New Structure			
PE Code	PFTE	OPFTE	$(000)
A9EA1A	2.5	2.0	189.6
A9PA1B	1.2	.9	85.4
A9VA1C	.6	.5	47.3
AAEA1D	5.0	3.9	371.2
AANB1A	2.7	2.1	197.5
AAWB1B	4.3	3.3	316.0
ABDB1C	2.1	1.7	157.9
ABKC1A	2.6	2.1	197.3
ABUD1A	2.1	1.7	157.9
ABYE1A	.6	.5	47.3
ACEF1A	.3	.3	23.8
ACQL1A	3.2	2.5	236.9
ACXN1A	3.2	2.5	236.9
	30.4	24.0	2,265.0

1011

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Interdisciplinary Continued

DU/PE: Technical Information

Old Structure

PE Code	PFTE	OPFTE	$(000)

Media: Interdisciplinary

PE: Technical Information & Liaison
(9EA1A, 9PA1B, 9VA1C, AEA1D,
ANB1A, AWB1B, BDB1C, BKC1A,
BUD1A, BYE1A, CEF1A, CQL1A, CXN1A)

New Structure

PE Code	PFTE	OPFTE	$(000)
C9EA1A			13.8
C9PA1B			6.2
C9VA1C			3.4
CAEA1D			27.0
CANB1A			14.4
CAWB1B			248.0
CBDB1C			11.5
CBKC1A			14.4
CBUD1A			11.5
CBYE1A			3.5
CCEF1A			1.7
CCQL1A			17.3
CCXN1A			17.3
			390.0

1012

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Interdisciplinary

DU/PE: Environmental Workforce Development

Old Structure

PE Code	PFTE	OPFTE	$(000)
A7YH1D	6.0	.7	212.3
H125	6.0	.7	212.3

Media: Interdisciplinary

PE: National Env. Workforce (DVH1A)

New Structure

PE Code	PFTE	OPFTE	$(000)
ADVH1A	6.0	.7	212.3

1013

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Toxic Substances

DU/PE: Health Effects

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A1TL1A	46.2	6.0	3,675.3
C1TL1A			12,473.0
			1,219.1
A1WL1A	3.0		193.0
C1WL1A			1,219.1
L105	49.2	6.0	17,560.4

Media: Toxic Substances

PE: Health Effects (CSL1A)
Stratospheric Modification (CML1A)
NCTR (CNL1A)

New Structure			
PE Code	PFTE	OPFTE	$(000)
ACSL1A	46.2	6.0	3,675.3
ACML1A	3.0	—	193.0
CCSL1A			7,973.0
CCNL1A			4,500.0
CCML1A			1,219.1

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Toxic Substances

DU/PE: Industrial Processes

Old Structure

PE Code	PFTE	OPFTE	$(000)
A1YL1B	11.5	2.7	614.2
C1YL1B			1,157.5
L110	11.5	2.7	1,771.7

Media: Toxic Substances

PE: Envir. Engineering & Technology (CTL1A)

New Structure

PE Code	PFTE	OPFTE	$(000)
ACTL1A	11.5	2.7	614.2
CCTL1A			1,157.5
			1,771.7

1015

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Toxic Substances

DU/PE: Characterization and Measurement Methods

Old Structure

PE Code	PFTE	OPFTE	$(000)
A1ZL1D	8.4	2.0	381.1
C1ZL1D			574.1
L115	8.4	2.0	955.2

Media: Toxic Substances

PE: Environmental Processes and Effects (CUL1A)
Monitoring Sys. & Quality Assurance (CRL1A)

New Structure

PE Code	PFTE	OPFTE	$(000)
ACUL1A	5.4	1.0	234.7
ACRL1A	3.0	1.0	146.4
	8.4	2.0	381.1
CCUL1A			203.0
CCRL1A			371.1
			574.1

1016

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

FY: 1981

Media: Toxic Substances

DU/PE: Technical Support

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A2AL1D	18.0	5.0	1,312.5
C2AL1D			979.0
L125	18.0	5.0	2,291.5

Media: Toxic Substances, Energy, Radiation

PE: Monitoring Sys. & Quality Assurance (CRL1A)
Tech. Information and Liaison (CEF1A, CXN1A)

New Structure			
PE Code	PFTE	OPFTE	$(000)
ACRL1A	17.0	5.0	1,274.5
ACEF1A	—	—	21.2
ACXN1A	1.0	—	16.8
	18.0	5.0	1,312.5
CCRL1A			979.0

1017

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Toxic Substances

DU/PE: Ecological Effects

Media: Toxic Substances

PE: Environmental Processes & Effects (CUL1A)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A1UL1A	43.5	2.6	3,141.4	ACUL1A	43.5	2.6	3,141.4
C1UL1A			8,158.1	CCUL1A			8,158.1
L130	43.5	2.6	11,299.5				11,299.5

1018

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Toxic Substances

DU/PE: Transport and Fate

Media: Toxic Substances

PE: Environmental Processes and Effects (CUL1A)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A1VL1A	24.7	11.0	1,361.9	ACUL1A	24.7	11.0	1,361.9
C1VL1A			1,654.8	CCUL1A			1,654.8
L135	24.7	11.0	3,016.7				3,016.7

1019

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Energy

DU/PE: Fuel Processing, Preparation and Advanced Combustion

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A2GN1E	47.9	17.8	2,762.4
C2GN1E			15,774.9
N105	47.9	17.8	18,537.3

Media: Energy

PE: Energy Envir. Eng. & Technology (BBN1G, BQN1A, CZN1A)

New Structure			
PE Code	PFTE	OPFTE	$(000)
ABBN1G	1.4	3.6	210.0
ABQN1A	1.2	3.6	201.6
ACZN1A	45.3	10.6	2,350.8
	47.9	17.8	2,762.4
CBBN1G			190.0
CBQN1H			148.4
CCZN1A			15,436.5
			15,774.9

1020

79-248 O—80——65

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Energy

DU/PE: Fuel Extraction - Energy

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A2HN1E	19.0	12.9	1,056.8
C2HN1E			1,920.3
N110	19.0	12.9	2,977.1

Media: Energy

PE: Municipal Spills Energy (AUN1K)
Envir. Engineering and Technology (BBN1G)

New Structure			
PE Code	PFTE	OPFTE	$(000)
AAUN1K	5.0	2.6	250.8
ABBN1G	14.0	10.3	806.0
	19.0	12.9	1,056.8
CAUN1K			361.7
CBBN1G			1,558.6
			1,920.3

1021

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Energy

DU/PE: Environmental Assessment of Conventional and Advanced Energy Systems

Old Structure

PE Code	PFTE	OPFTE	$(000)
A2JN1E	24.3	8.2	1,644.7
C2JN1E			10,305.8
N120	24.3	8.2	11,950.5

Media: Energy

PE: Envir. Engineering & Technology (9KN1C BBN1G, BQN1H, CZN1A)

New Structure

PE Code	PFTE	OPFTE	$(000)
A9KN1C	7.0	2.5	480.7
ABBN1G	1.0	.7	86.2
ABQN1H	1.0	.8	91.0
ACZN1A	15.3	4.2	986.8
	24.3	8.2	1,644.7
C9KN1C			3,161.3
CBBN1G			913.8
CBQN1H			1,098.0
CCZN1A			5,132.7
			10,305.8

1022

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Energy

DU/PE: Flue Gas Sulphur Oxide Control

Media: Energy

PE: Energy Envir. Eng. & Technology (AAN1D)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A2KN1E	4.8	2.0	367.5	AAAN1D	4.8	2.0	367.5
C2KN1E			3,146.0	CAAN1D			3,146.0
N125	4.8	2.0	3,513.5				3,513.5

1023

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Energy

DU/PE: Nitrogen Oxide Control

Media: Energy

PE: Energy Env. Eng. & Tech. (9BN1B)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A2LN1E	19.9	9.9	1,514.0	A9BN1B	19.9	9.9	1,514.0
C2LN1E			10,970.2	C9BN1B			10,970.2
N130	19.9	9.9	12,484.2				12,484.2

1024

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Energy

DU/PE: Flue Gas Particulate Control

Media: Energy

PE: Energy Env. Eng. & Tech. (AAN1D)

Old Structure				New Structure			
PE Code	PFTE	OPFTE	$(000)	PE Code	PFTE	OPFTE	$(000)
A2MN1E	15.0	6.6	1,128.6	AAAN1D	15.0	6.6	1,128.6
C2MN1E			6,911.4	CAAN1D			6,911.4
N135	15.0	6.6	8,040.0				8,040.0

1025

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Energy

DU/PE: Transport, Fate and Effects of Energy Related Pollutants

Media: Energy

PE: Energy Env. Processes & Effects (9CN1B, ABN1D, AKN1E, CLN1J, DAN1A)

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A2NN1E	3.5	13.8	902.2
C2NN1E			13,765.1
N140	3.5	13.8	14,667.3

New Structure			
PE Code	PFTE	OPFTE	$(000)
A9CN1B	.1	.4	26.1
AABN1D	.5	1.7	114.0
AAKN1E	2.0	7.9	516.8
ACLN1J	.2	.9	57.4
ADAN1A	.7	2.9	187.9
	3.5	13.8	902.2
C9CN1B			378.9
CABN1D			1,652.3
CAKN1E			7,924.2
CCLN1J			936.6
CDAN1A			2,873.1
			13,765.1

1026

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Energy

DU/PE: Atmospheric Transportation & Transformation of Energy Related Pollutants

Media: Energy

PE: Energy Health Effects (9JN1C, CYN1A)
Energy Envir. Processes & Effects (ABN1D, DAN1A)
Energy Monitoring System Instrumentation Dev. (ACN1D)
Acid Rain (CVN1A)

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A2PN1E	3.0	4.0	224.6
C2PN1E			7,395.3
N145	3.0	4.0	7,619.9

New Structure			
PE Code	PFTE	OPFTE	$(000)
A9JN1C	—	.3	
AABN1D	.8	3.2	123.9
ACYN1A	—	—	28.7
ADAN1A	.4	.5	—
AACN1D	.2	—	—
ACVN1A	1.6	—	72.0
	3.0	4.0	224.6
CABN1D			3,046.0
CCYN1A			971.3
CCVN1A			3,378.0
			7,395.3

1027

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Energy

DU/PE: Measurement System & Instrumentation Development for Energy Related Pollutants

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A2QN1E	10.0	22.5	973.8
C2QN1E			8,444.1
N150	10.0	22.5	9,417,9

Media: Energy

PE: Energy Envir. Processes & Effects (9LN1C, ABN1D, AKN1E, CLN1J, DAN1A)
Energy Monitoring Systems Instrumentation Dev. (9MN1C, ACN1D, ALN1E)
Monitoring Sys. & Quality Assurance (AFA1D, APB1A, AXB1B)

New Structure			
PE Code	PFTE	OPFTE	$(000)
A9LN1C	0.2	1.2	16.1
A9MN1C	1.0		71.9
AACN1D	.8	4.7	186.4
AABN1D	1.3	13.9	496.6
AAKN1E	—	2.7	—
AALN1E	1.7	—	143.9
AAFA1D	1.0	—	15.0
AAPB1A	2.0	—	13.9
AAXB1B	2.0	—	30.0
	10.0	22.5	973.8
C9LN1C			483.9
C9MN1C			428.1
CACN1D			1,746.6
CABN1D			2,244.4
CAKN1E			1,205.0
CALN1E			986.1
CCLN1J			150.0
CDAN1A			1,200.0
			8,444.1

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year: 1981

Media: Energy

DU/PE: Health Effects

Old Structure			
PE Code	PFTE	OPFTE	$(000)
A2RN1E	2.0	3.7	145.6
C2RN1E			18,245.3
N155	2.0	3.7	18,390.9

Media: Energy

PE: Energy Health Effect
(9AN1B, 9JN1C,
92N1D, DUN1F, CKN1J, CYN1A)
Energy Envir. Engineering & Technology
(AAN1D)

New Structure			
PE Code	PFTE	OPFTE	$(000)
A9AN1B	0.2	0.2	10.2
A9JN1C	0.2	0.3	12.8
A9ZN1D	0.3	0.6	23.0
ADUN1F	0.3	0.5	20.5
ACKN1J	.5	1.2	43.4
ACYN1A	.5	.9	35.7
	2.0	3.7	145.6
C9AN1B			1,391.6
C9JN1C			1,504.5
C9ZN1D			2,730.7
CDUN1F			2,639.5
CCKN1J			5,791.9
CCYN1A			3,187.1
CAAN1D			1,000.0
			18,245.3

1029

OLD STRUCTURE/NEW STRUCTURE RESOURCE CROSSWALK

Year:1981

Media: Management/Support

DU/PE: Program Management

Old Structure

PE Code	PFTE	OPFTE	$(000)
A2SR5A	87.3	29.0	4,666.1
R166	87.3	29.0	4,666.1

Media: Management/Support

PE: Program Management (DER1A)

New Structure

PE Code	PFTE	OPFTE	$(000)
ADER1A	87.3	29.0	4,666.1

1030

INDEX

Environmental Protection Agency

A

	Page
Acid rain	69, 167, 168, 170
Air program	5, 57
Acid rain regulations	69
Airborne carcinogen policy	68
Air monitoring networks	67
Air oxidants nonenergy program	66, 137
Air quality and stationary source planning	57
Air quality strategies implementation	62
Ambient air quality standards	15
Asbestos products	72
Automobile—caused air pollution	68
Bubble policy	26
Carbon monoxide and hydrocarbon standards	57
Clean Air Act; proposed legislation for	17
Diesel engine emission standards	71
Emission standards	60
Enforcement activities	65
Exex plan	71
Hazardous air pollutants activity	67
Hazardous waste in industrial incinerators	70
Hydrocarbon emissions	72
Inhalable particulate network	67
Inhalable particulates studies	67
Inspection and maintenance program	59
Mobile source enforcement	64, 65
Mobile sources non-energy	66
Mobile source reprogramings	59, 62
Northeast corridor regional project	61
Northeast regional oxidant study	69
Preproduction compliance verification	63
Proposed rulemaking	70
Reductions to mobile source standards and guidelines	58
Research and development	66
State air grants—section 105	62
State programs assistance permanent positions	61
State programs resource assistance	61
Stationary source enforcement	64
Transfer of pollutants	14
Vehicle testing standards; in use	58

B

Budget: Page
Effect of budget restrictions on agency ... 30
Comparison of submission ... 2
Justifications ... 219
President Carter's versus President Reagan's fiscal year 1982 budget ... 31

C

Clean Air Act; proposed legislation for ... 17
Construction grants program ... 4, 178
Deferral of funds ... 184
Funding in 1982 ... 8
GAO report on wastewater treatment plant permit violations ... 185
Operator training ... 186
Recission proposal ... 180
Reform ... 4
State funding in 1981 and 1982 ... 183
Strategy in 1990 ... 184
Talmadge-Nunn funds ... 183

D

Drinking water program ... 6, 88
Asbestos cement pipe ... 93
Asbestos research ... 92
Enforcement ... 91
Granular activated carbon ... 95
Ground water protection program ... 89
Program level summary ... 89
Public water system supervision program grants ... 90
Regulations: ... 90
Cost to small communities ... 93
Reducing costs to small communities ... 94
Research program ... 91
Transport and fate of pollutants in ground water ... 94
Trichloroethylenes ... 95
Underground injection control grants ... 90

E

Energy program ... 7, 158, 166
Acid rain coordinating committee ... 168
Acid rain research ... 167
Acid rain resources ... 168, 170
Anticipatory research for energy environmental engineering and technology ... 170
Fossil fuel and wood-burning fires ... 169
Love Canal research; transfer of resources for ... 170
National acid precipitation data system ... 168
Pass through research funding to other agencies ... 169
Review and permitting ... 158

G

Grants:
Grant to Health Effects Institute ... 18

Grants—Continued Page
Planning fund costs 11
State grant programs 33
Transfer of funding obligations to State and local government 11

H

Hazardous waste program 6, 96
Amendment 136
Dioxin risk assessment 118
Environmental processes and effects 136
Financial assistance program State assignees 121
Ground water research; area of responsibility for 133
Impact of RCRA regulations on economic sectors 115
Interagency coordinating committee on Federal RCRA activities 118, 119
Intervenor funding 133
Love Canal/Three Mile Island 132
Midnight dumping, investigation of 113
National advisory commission on resource conservation and recovery 119, 120
Permits issuance 131
Program levels 114
Regulations, review of 112
Report by Adams and Wojick on information burden analysis 96
Research and development 131
Siting policy committee 115
Subtitle D Federal financial assistance resources 122
Technical assistance programs 130
Training programs in areas of regulations 116
Uncontrolled hazardous waste sites 130
Urban resource recovery grant program 120, 123
Versatile demonstration combustion research facility 134

I

Interdisciplinary program 6,157
Anticipatory research resources 158
Competitive grants program versus innovative research program 159
Competitive research grants program 158
Competitive research grant recipients 159
Funding for exploratory centers 160
Innovative research research 158
Scientific sabbatical training 160

L

Land use; land dumping versus ocean dumping 9

M

Management and support program 7, 170
ADP technical support resources 175
Air, noise, and radiation increases 171
Budget; adjusted 171
Contract summary in executive offices 173
Data management 176
Equipment needs in radiation program 177
Equipment program 177

Management and support program—Continued
Page
Equipment resources for 178
Press services resources 172
Planning and evaluation contracts 173
Senior executive service bonuses 172
Space; need for additional 178
Standard level user charge 177
Toxics integration studies 173

N

Noise program 6, 156
Reduction in force 156

O

Oklahoma facility 19
Operating programs; changing priorities in 4

P

Personnel:
Employment in fiscal year 1981 30
Employment levels 28
Effect of freeze on employment 29
Effect of January freeze on agency 29
Reduction in work force 27
Pesticides program 6, 141
Court cases 142
Integrated pest management program 145
Program levels 144
Resources in 1981 144
Silvex-indemnification payments 146

Q

Questions submitted by Mr. Boland 67, 193–208
Questions submitted by Mr. Stokes 208–211
Questions submitted by Mrs. Boggs 137, 211–212
Questions submitted by Mr. Coughlin 212–217
Questions submitted by Mr. Alexander 218

R

Radiation program 6, 147
Contracting abuses against radiation 151, 152
Equipment needs 177
Federal emergency management agency 148
Federal emergency management agency; coordination with 148, 149
Funding responsibility to clean up mill tailings sites 156
Radiation exposure regulations 149
Radiation policy council 151
Regulations for cleanup of inactive uranium mill tailing sites 155
Salaries and expenses dollars to workyears; relation of 147
Regulations:
Affected by freeze 25
Regulatory oversight 25

Page

Research and development:
- Reductions ... 18
- Restructured budget request ... 20

Rules review ... 27

S

Salaries and expenses supplemental ... 30
Statement, Mr. Boland's opening ... 1
Statement, Acting Administrator's ... 3
Statement, Acting Administrator's prepared ... 5
Suits ... 10
Superfund ... 30, 188
- Ceilings imposed by Public Law 96-510 ... 193
- Financing of ... 13
- Full containment facility at Edison, N.J ... 192
- Joint State-Federal program ... 190
- Oil and hazardous substances spill prevention ... 15
- Orphan sites; funds for ... 193
- Resources ... 13
  - Administrative and personnel support ... 190
  - Breakout of ... 15
  - Enforcement actions ... 191
  - Use ... 191
- Spending ... 14
- Supplemental for 1981 ... 188
- Tertiary and sewage treatment construction ... 193
- Transfer of resources to ... 17
- Workforce ... 29

T

Toxic substances program ... 7, 160
- Abatement, control and compliance resources in 1980 ... 161
- Analysis; EPA ... 164
- Authorization ... 160
- Enforcement rules and regulations ... 162
- Environmental engineering and technology ... 166
- Interagency committee on stratospheric ozone protection ... 163
- Mussel watch—coastal environmental assessment system ... 165
- Obligations ... 161
- Proposed rulemaking ... 162
- Report on XAD-2 thermal blank determination ... 165
- Toxics integration studies ... 173

Transfer authority ... 31

W

Water quality program ... 5, 72
- Advanced waste treatment projects ... 83
- Ammonia; listing as a toxic pollutant ... 77
- Amount devoted to water quality programs by States ... 72
- Chesapeake Bay program ... 76, 85
- Criteria ... 83
- Clean lakes program ... 88
- Effluent standards and guidelines ... 76, 78, 87
- Environmental management institute ... 78

Water quality program—Continued Page
Environmental processes and effects 86
Flathead river basin environmental impact study 74
Grants assistance programs 79
Great Lakes program 75, 84
Health effects research efforts 86
Manpower planning and training 117
Municipal sludge, treatment of 87
Ocean dumping versus land dumping 9
PCB study on the Pine and Saginaw Rivers 73, 83
PCB's in Waukegan Harbor 79
Position decrease in State program regulations and guidelines 73
Radiated sludge support since 1975 86
Section 106 assistance priorities 75
Section 108(a) demonstration grants 75
Section 205(g) resource support 74
Section 208 plans 72, 76
Synfuels 77
Strategies implementation funding for hazardous waste amendment 80

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