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LONG-TERM RISKS OF HAZARDOUS WASTE SITES:
POST-CLOSURE LIABILITY

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HEARING

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BEFORE THE

SUBCOMMITTEE ON
TRANSPORTATION AND COMMERCE

OF THE

COMMITTEE ON
INTERSTATE AND FOREIGN COMMERCE
HOUSE OF REPRESENTATIVES

NINETY-SIXTH CONGRESS

SECOND SESSION

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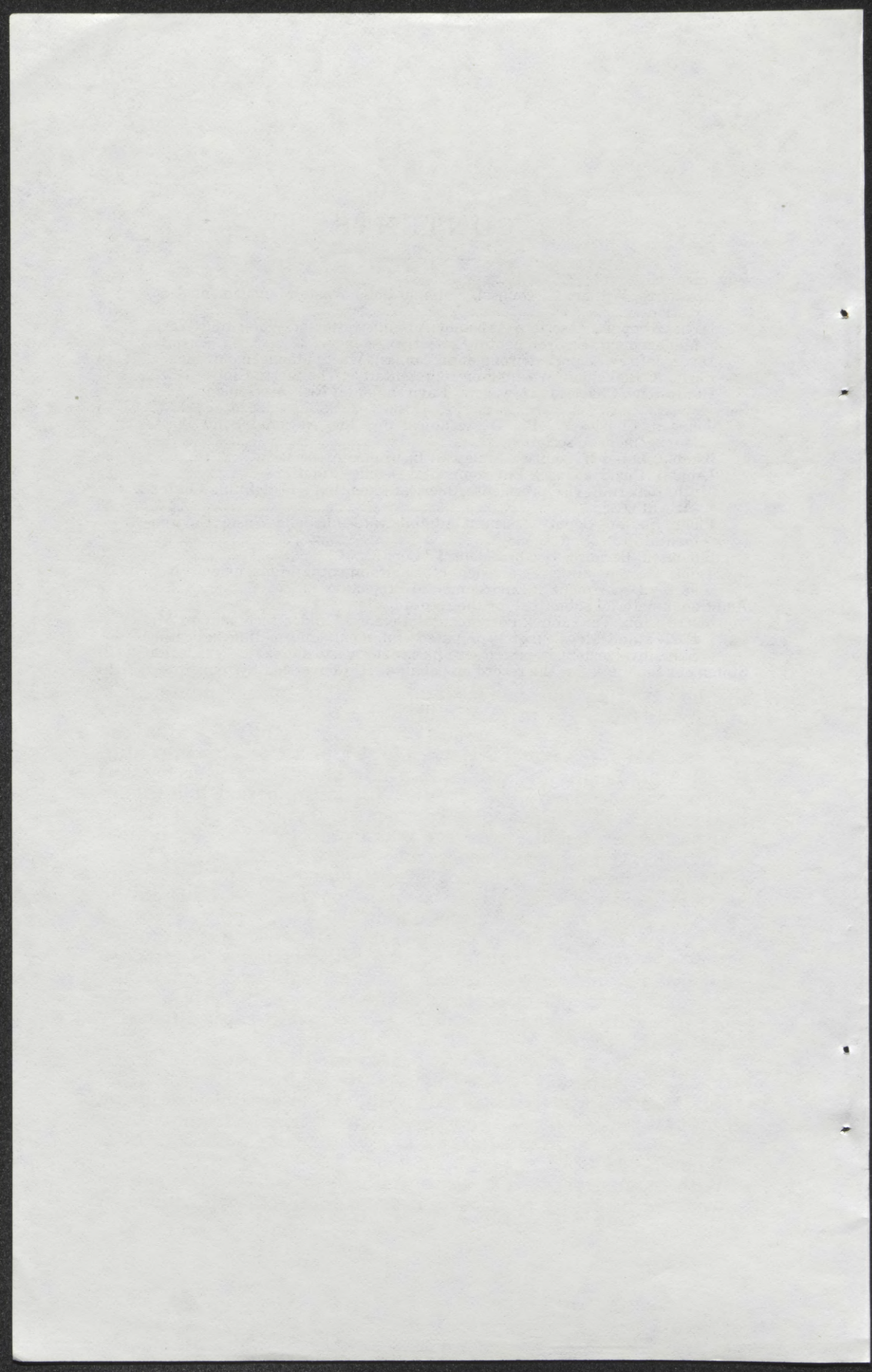
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LONG-TERM RISKS OF HAZARDOUS WASTE SITES: POST-CLOSURE LIABILITY

FRIDAY, JULY 25, 1980

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON TRANSPORTATION AND COMMERCE,
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE,
Washington, D.C.

The subcommittee met, pursuant to notice, at 9:30 a.m., in room 2322, Hon. James J. Florio (chairman) presiding.

Mr. FLORIO. The subcommittee will come to order.

This morning's hearing will focus on one particular aspect of insuring proper hazardous waste management. It is an important aspect which impacts indirectly on the development of additional hazardous waste disposal capacity and the siting of new hazardous waste facilities.

The Resource Conservation and Recovery Act, or RCRA, requires that owners or operators of hazardous waste management facilities demonstrate evidence of financial responsibility. This evidence will be a permit condition for operating a facility in compliance with the law. During the operation of a facility, this condition can apparently be met by private insurance.

For facilities where hazardous waste remains in place after the site has closed, for example, landfills, risk of a mishap will continue after the facility has closed. At this time, it is unclear to what extent insurance is available for the postclosure period, and we are hopeful that we will get some comment today as to this question.

If postclosure liability coverage is unavailable or of very limited availability, serious consequences may result.

Without the means to insure against long term and potentially serious liabilities, responsible businessmen may be reluctant to enter the hazardous waste disposal industry.

At a time when properly designed disposal capacity is estimated to fall seriously short of the demand for it, reluctance by responsible elements to enter the disposal business could stop the national hazardous waste control program before it begins. RCRA will never work if conditions are not right for a responsible disposal industry to grow and prosper.

Perhaps the most critical issue associated with making RCRA work is the siting of new hazardous waste facilities. The American public is appropriately outraged by the disclosures of widespread hazardous waste abuses. They are understandably frightened by the prospect of having a hazardous waste facility located in their neighborhoods.

Without assurances that some mechanism will be available to provide for necessary postclosure maintenance, remedial actions, or

compensation in the event of an unplanned incident, siting of new facilities will be extremely difficult, perhaps impossible.

If postclosure liability insurance is not available on a widespread basis or cannot be relied upon to insure that future hazardous waste releases will be remedied and injured parties compensated, then creation of a Government insurance-type fund may be necessary.

A major purpose of today's hearing is to examine the need for legislation in this area. Assuming a need exists or appears to exist, the hearing will also focus on what type of legislation is appropriate.

The subcommittee is committed to making RCRA work. To do this, we must make sure that conditions are right for a responsible disposal industry to flourish. We must also make sure that this disposal industry is liable to locate new sites to allow proper treatment, storage, and disposal facilities to be created so as to work in tandem with the rest of the Resource Conservation Recovery Act.

We have a long and very impressive list of witnesses and, therefore, we will get right to the business at hand and ask our first witness, Mr. Swep Davis, Associate Assistant Administrator for Water and Waste Management of the U.S. Environmental Protection Agency, to please come forward.

I understand he will be accompanied by Mr. Steffen Plehn, Deputy Assistant Administrator for Solid Waste.

Mr. Davis, Mr. Plehn, we welcome you both.

As is our usual custom, your statement in its entirety will be put into the record. You may proceed in a summary fashion.

STATEMENT OF SWEP T. DAVIS, ASSOCIATE ASSISTANT ADMINISTRATOR FOR WATER AND WASTE MANAGEMENT, ENVIRONMENTAL PROTECTION AGENCY, ACCOMPANIED BY STEFFAN PLEHN, DEPUTY ASSISTANT ADMINISTRATOR FOR SOLID WASTE

Mr. DAVIS. My statement is relatively short and I will read the entire statement. It will stay within or very close to the time you have allotted to us.

Before starting, I wanted to let you know that Mr. Beck, the Assistant Administrator to this program, extends his apologies for not being here before you today. He is required to testify before another subcommittee on the problem of ground water contamination and hazardous waste. He does send his regrets.

I have with me Mr. Steffan Plehn, the Deputy Assistant Administrator for Solid Waste.

We both appreciate the opportunity to be before you today and thank you for allowing us to come before the subcommittee to discuss the control of hazardous materials in our environment.

During the past months this committee has worked long and hard in developing legislation to control and clean up sites throughout this Nation where the disposal, sometimes indiscriminate, of hazardous materials has occurred.

A tremendous amount of thought has gone into the Superfund bill over the issue of responsibility for these disposal sites and the role of the generators, users, and disposers of hazardous materials,

and the government, Federal, State, and local, in sharing this responsibility.

An equal amount, if not more thought, has gone into determining the coverage of the fund with regard to cleanup, damages, liability, monitoring, maintenance, and enforcement. The same is true for the administrative aspects of the fund such as collection, distribution, payback and, of course, the size of the fund. I commend this subcommittee for the work it has done.

EPA has at this same time been working hard to insure that the problems of today's hazardous waste sites are not repeated in the future. Under the Resource Conservation and Recovery Act, RCRA, the Agency has been developing and promulgating regulations that provide sound measures for the operation, maintenance, closure, and postclosure monitoring of hazardous waste disposal sites.

These regulations being issued throughout this year provide technical, operational, and safety standards, closure directions and monitoring requirements that should prevent future Love Canals and Valleys of the Drums.

In addition, the regulations will include a series of financial responsibility requirements intended to provide assurance that funds will be available when needed to close hazardous waste management facilities properly and to monitor and maintain hazardous waste disposal facilities for a period of years after closure.

Further, these regulations call for liability coverage for injuries to people and property which result from the operation of hazardous waste management facilities. A giant step has been taken toward the secure disposal of these hazardous materials.

But, as you are well aware, no regulations are fail-proof. Economic realities have required EPA to set limits on the length of time that a disposer will be responsible for monitoring and maintaining a closed disposal site. The unexpected failure of a business can result in an insufficient site life to build up a closure fund.

Legal issues remain on the impact of bankruptcy on the closure fund. If the financial responsibility requirements are not capable of meeting the problem of an unexpected disaster, who will be responsible for cleanup, liability, and maintenance at a site?

I believe that the Environmental Protection Agency, along with this subcommittee, recognizes that the issue of postclosure responsibility is the next major area we must deal with to insure the safe disposal of hazardous wastes.

I appreciate the opportunity to address you on this issue today.

It might help if I first define a few of the terms I will be using. When I talk about closure, I am talking about the period of time after which wastes are no longer accepted at a facility permitted under RCRA, during which the owners or operators complete treatment, storage, and disposal operations, apply final cover to or cap landfills, or surface impoundments that are closed as landfills, and dispose of or decontaminate equipment.

Post-closure is the period after closure of the site. This period consists of two different parts. The first is the period, a set amount of years identified in the closure plan, during which owners or operators of disposal facilities must conduct certain monitoring and maintenance activities.

The second period is the time beyond which the owner or operator is responsible for postclosure monitoring and maintenance. This second period is important because the risks from some wastes persist for long periods of time, making it desirable in some cases to have continued maintenance of a site.

EPA believes that a properly located, designed, operated, and closed facility will minimize the opportunities for contamination during site life and during the postclosure period and beyond. It is, nevertheless, important to point out that of the approximately 26,000 sites that EPA and authorized States will be permitting over the next several years, there will likely be cases of closure defaults, postclosure monitoring and maintenance defaults, postclosure liability claims and a need for remedial activity during the postclosure period and beyond.

There is both an expectation on the part of the public and a clear public health need for these potential problems to be handled in an appropriate manner. In the absence of such assurances, the public opposition to the siting of facilities could increase, although it probably will be substantial in any event.

Mr. Chairman, there are many ways that this problem could be handled, and EPA has not yet completed its analyses of this very difficult issue. We feel strong, however, about a number of key points.

First, while it would be desirable for private insurers to handle this problem in its entirety, it is possible that only limited insurance will likely be available from the insurance industry.

We also believe that, although EPA could write regulations requiring each owner or operator to provide funds for these contingencies, having each owner or operator put up significant amounts of money against events of low probability events is an inefficient use of capital and a deterrent to increasing capacity.

Conversely, in the absence of some mechanism for pooling of risks so that liability to owners or operators of facilities can be covered at a reasonable cost of the individual firm, many of the more responsible and capable firms simply may not go into the business. This again only aggravates the already difficult siting and capacity problems.

In your letter inviting us to testify on the subject of a postclosure fund, Mr. Chairman, you asked a great many difficult questions. Unfortunately, we do not have all the answers. But we would like to give you our views on a number of key issues that we believe should be considered in any discussion of a postclosure fund.

First, we believe that a risk-pooling mechanism is a viable means of handling the problem. Few firms already in the hazardous waste management industry would have the large amounts of unencumbered capital required to offset these liabilities. New entrants would be faced with unreasonably high capital hurdles. Thus, a risk-pooling mechanism has some merit.

Although we have some observations that may provide some insight as to the issue of pooling and the size of such a fund, it should be noted that any estimates made at this time are subject to substantial uncertainty.

We believe that the pool should be exclusively contributed to by the owners or operators of hazardous waste management treat-

ment, storage, or disposal facilities. The fee or premium should be calculated on a per-ton basis combined with a set per-facility fee. This is important since expenses paid from the pool or fund will probably be related to both the quantity of waste at a facility, as well as the mere existence of a facility.

All treatment, storage, and disposal facilities should probably be included, with fees varying by type of facility. For example, it might be desirable to encourage treatment facilities by lowering the size of the fee for those facilities.

As with our proposal on Superfund legislation, we believe that the industry should be strictly liable for all damages, that the fund should be an insurance pool alone. I can explain more about that at the questioning time.

Thus, there should be no transfer of liability to the fund and no entitlement to the fund or to the administrator of the fund. We feel that strict liability as many of the States now provide is perhaps the best incentive for industry to retain the incentive for proper operation, closure, and postclosure care of a facility.

Unfortunately, we are not able to determine the optimum size of the fund because of a lack of historical information. Nevertheless, we have some observations that may assist in guiding initial estimates of fund size.

With respect to closure defaults, we have recently estimated that up to 3 percent of all treatment, storage, and disposal facilities could default on their closure expenses each year.

Using our estimate of \$6 billion for the proper closure of all RCRA facilities and assuming 10 percent of all facilities closed each year, the fund would need to cover \$18 million per year for closure defaults.

Postclosure monitoring and maintenance defaults will grow over time. Using our estimate of 11,500 surface impoundments and landfills at a cost of approximately \$7 million the first year, and increase that amount by almost another million each succeeding year.

Costs for the period after owner or operator responsibility ceases could be even larger. If the fund were to pay for all such monitoring and maintenance, initial annual costs would be \$230 million. This cost would increase each year as additional sites entered this period.

Liability costs, including third party damages, for the entire period beyond the closure of a site are even more difficult to estimate. Experience has shown that liability costs for sites could be extensive in some cases.

I would point out, however, we have greater experience in estimating cleanup and remedial costs.

Mr. FLORIO. May I ask a question at this point? It is my recollection that the Senate bill, which is an industry-sponsored bill dealing with costs, acknowledges the fact that the industry will constantly replenish the fund, so the concerns you are showing about costs are in no way implying that these will be governmental costs, at least under the Senate proposal. Is that your understanding as well?

Mr. DAVIS. That assumption is correct in theory. The practical problem that we are raising here is for the Senate bill to work in

the way you describe it assumes that the industry, as it exists at whatever time a deficiency becomes apparent in the fund, in fact could afford to pay the increased fees that would be needed to make the fund solvent again and given the uncertainty in estimating liabilities, there is a potential or a chance that in the future that the deficiency would be so large that the industry could simply not afford to pay it.

Mr. FLORIO. There would undoubtedly be a condition for getting the final permit wherein they agree to pay the assessments as called for. If you put together a scenario, everybody goes out of business, and that would be a problem. To the degree you feel the disposal business is here to stay and, hopefully, we will be encouraging more responsible people into the business, you almost have a situation where you have an assured source of funds, so that the horror story scenario, you are sort of driving toward is not likely.

Mr. DAVIS. I can't give you an honest answer to that question, Mr. Chairman. I agree we are dealing with remote possibilities. On the other hand, when we are dealing with victims and we are dealing with their ability to seek relief, I think we have to address or at least consider those remote possibilities.

One other thing I would point out in the Senate bill, if I recollect correctly, the fee as it was proposed would be paid only on those wastes which are not destructed or destroyed in some way. Wastes that are delivered to an incinerator would not be assessed the fee. The fee would only be placed on those wastes that will present possible closure problems.

If there is a trend in the future which some people speculate toward greater and greater quantities of the total waste generation in the country going into destruction-type facilities, you would have a shrinking revenue base for the fund in the future.

The rest of my statement will shed additional light in this area, and we can then discuss it further.

Remedial activity and cleanup costs are likely to be large, although there is little experience on which to base an estimate. Given the uncertainties noted earlier, we cannot estimate the requisite size of the fund without further analysis. Unfortunately, without such information concerning the size of the fund, it is impossible to set an appropriate fee.

The most difficult issue, aside from the size of the fund, is who should administer it. While we recognize the advantages of risk pooling, we do not believe that the administration of such a fund is a Federal responsibility. Although such a fund may require some Federal regulation, we believe that alternatives involving industry responsibility for creating and administering the fund should be explored.

In addition, the potential role of private insurers is an issue that needs to be extensively studied.

Even beyond the issues discussed above, we can envision a large number of practical problems that could arise in administering the fund. For example, what if claims exceed the size of the fund? Would some people not get paid? Or would they have a claim on the fund that would be paid at some point in the future when the fund has recouped its losses? Or would the Federal Treasury be tapped?

What if there is not enough money to pay both third party claims and postclosure monitoring and maintenance? Which would take precedence? What third party claims would be covered?

For example, should it only be medical loss or economic damages, or more. If the fund is not big enough or is depleted by several major incidents, how should this affect the size of the fees collected? Should fees be raised to whatever level is necessary to recoup losses? And over what time period?

These are only several of the many questions that would have to be answered before developing legislative proposals for a postclosure fund.

Mr. Chairman, the postclosure question is one that needs to be addressed. But again, I must remind you of the time and effort that has so far gone into developing the Superfund bill and point out that while many of the issues faced there are similar to those we are facing today regarding postclosure we have not worked as much in this area.

As a result, issues such as the size of the fund and how it should be administered have not been completely resolved. Therefore, we believe that any postclosure legislation would be premature at this time.

I thank you for giving me the opportunity to testify at this hearing.

I will now attempt to address any questions which the subcommittee might have.

Before beginning, let me just add that I certainly do not intend to sound negative on this issue, and it definitely is one, as you have seen in earlier testimony by this administration, that we believe is a serious problem, but we likewise believe these questions and problems should be addressed and have to be resolved before you could have an effective legislation, and in the questioning and answering period, I will do my best to answer some of those questions.

Mr. FLORIO. Thank you.

The relationship of this committee and your organization has been a very, very good one, notwithstanding that I think it is important to note this is the identical testimony you gave us a year and a half ago, when in fact this bill was introduced on the Senate side.

We have been patiently waiting for the administration's postclosure legislation which was promised, and today you are telling us there are a lot of questions.

You have not completed your analysis, and we shouldn't deal with postclosure liability legislation until we have further examination and you have concluded your analysis.

At the same time your organization is going forward with the interim permitting process, and you have the publications for final permitting. If we acknowledge the fact final permitting cannot really occur until this question is resolved, that is the question of financial responsibility, and this being one very key aspect of it, how do we go about expediting what it is we are all trying to expedite, which is safe disposal of hazardous wastes?

How do we go about encouraging appropriate siting when we know this is a very important concern, and what are you even doing in the last year and a half on this subject?

Mr. DAVIS. I can understand your frustration at this point. I can offer you our excuses which may not satisfy you. We have been incredibly tied up and all of our available resources and people who could work on this type of problem are committed to the two areas you have mentioned, developing RCRA regulations and getting that program implemented, and in supporting and working on the Superfund legislation, both of which are extremely difficult problems.

I would hate to be put in a position to pick one over the other, but I believe we have put our resources in the right place.

Mr. FLORIO. Neither of those can be addressed until we have hazardous waste disposal facilities. If we get Superfund tomorrow, we have the money and the authority but we do not know how to go about cleaning up those sites, and we cannot do that until we deal with the financial responsibility question. This is an aspect of that question. We are sort of chasing our tail.

Mr. DAVIS. I hope we will be able to catch up, Mr. Chairman.

I believe you do have this legislation before you from the Senate. You are considering, as a result of this hearing, possibly legislation of your own. I believe we can offer you substantially more progress than we gave in our earlier testimony. It is not all included in our testimony today, but I believe we will be able to show you some progress.

Mr. FLORIO. Are we going to see an administration position if not a bill before too long on this subject? There is some serious consideration if we get to a Superfund conference to dealing with postclosure as part of the Superfund compromise or bill that may be finalized.

We certainly would like to have the administration's input by the way of its response to some of the very profound and difficult questions you have posed to us today, rather than our posing the questions to you.

Mr. DAVIS. Assuming the Superfund legislation can maintain the schedule we are both hoping for, it is impractical you would have an administration bill officially submitted in time for that conference.

I do believe, and we are committed through this hearing and the questions we have answered today and afterward on the work we will be doing between now and that conference, to be able to support in a major way any attempts by this committee or the Senate to address postclosure along with Superfund.

I think it is difficult, and I think there are a number of difficult questions that have not been given the same amount of thought we have been able to give the Superfund, but we are certainly committed to making that effort.

Mr. FLORIO. Do you feel that EPA is at the point now, or will be in the foreseeable future, when they will be in a position to certify and have the standards necessary to certify that a facility that is closed is sufficiently safe, such that they will assume, EPA will assume jurisdiction over the facility for purposes of relieving the owner of the facility of responsibility?

Mr. DAVIS. I will ask Mr. Plehn to address that question because that deals with the operational part of the RCRA program. I would point out there is an assumption in your question that the proper public policy to set in any kind of postclosure legislation is that the fund would in fact relieve the owner/operator of all responsibility.

That is in fact included in the Senate bill and implicit in your question. I would hope that it is an issue that would get some further discussion before being resolved.

Mr. FLORIO. Let me amplify that point, because it fits in with our other suggestion that strict liability for all damages should remain with the owner/operator. Looking at it from an industry perspective, why contribute to a fund if in fact you are going to be strictly liable straight on through, and if you are talking about the potential investing a substantial amount of money, the concept of the fund, it seems to me, would be that at some point your responsibility, after you have been certified, if you are going to be certified, is having done everything that is possible, should be terminated, and that would be the incentive.

The public policy interests may not be that, but I am thinking of it in terms of trying to induce people, private people to go into this business if they have got open ended liability all the way from here to eternity, why would they become involved in this business?

Mr. DAVIS. You are absolutely correct in that observation, that from the point of view from the private sector that is trying, and we all are in many ways trying to encourage them to get into this business, one of the barriers to their entry at this point certainly is the idea of an extended and possibly very unpredictable liability exposure over an indefinite period of time and you have got to address that to some extent.

I simply want to make sure we recognize that there is another interest, the victim's interest. For example, the dilemma that I am worried about if the remote possibility does in fact come true that a fund is created, and the fund becomes insolvent, you have got to follow one of three alternatives.

You have either got to be able to go back and recover, increase the fees enough to make the fund solvent again and meet those claims, or you have got to have the Federal Treasury pick up those commitments which the administration would be in a position to do, of course or, third, turn back to the owners and operators and let them pick up the remaining liability.

Mr. FLORIO. Isn't the approach in the Senate bill the first approach, which is you have a fluctuating fee mechanism whereby there will always be an amount of money in there that meets minimal needs?

Mr. DAVIS. That is correct, but I would point out the reason the insurance industries right now do not offer full cover especially for damages and injury over the full life or beyond the 30 years of the postclosure period, is because they can't predict what the exposure might be.

They are either not going into the business because they might in fact go bankrupt themselves at some future date, or if they set their fees so low or set a fee so high to be safe that the industry

may not be able to afford to pay it, the Federal Government is in a better position than the insurance industry in that regard.

The Federal Government supposedly has the Treasury to fall back on. That is the only difference.

Mr. PLEHN. The point I wanted to make is a little aside from this discussion, and this is something that you personally know are well aware of. But readers of this record might come to the conclusion that the existing RCRA program as embodied in the regulations that were promulgated on May 19 does not deal with the postclosure or the closure question at all.

It is important, particularly with reference to the siting issue, to point out that those regulations require that all facilities develop a closure plan, that once the financial responsibility regulations are promulgated this fall that they will, through one mechanism or another have to set-aside funds sufficient to execute that closure plan and they will also have to set aside funds sufficient to monitor and maintain any site in which wastes are placed in the ground for a period of 30 years, and that is subject to extension, if the regional administrator believes there are grounds for doing that.

Mr. FLORIO. As you know, the difficulty with that approach is that it appears to be somewhat unrealistic. We are trying to encourage people to come in and they can't get insurance for postclosure and the set-aside amounts and requirements that are reasonable in terms of potential needs are so large that it induces someone to make the economic decision it is too large, therefore, I am not going into the business, we really have not achieved anything by the implementation of the regulations, have we?

Mr. PLEHN. I understand the basic point that you are making, and I think it is a very sound point. All I am trying to offer is that we are putting in place a program which should insure first, the facilities are properly closed and, second, that where the wastes are placed in the ground that those sites are monitored and maintained for a 30-year period.

We think that the institutions are in place, the insurance industry, through trust instruments, surety bonds and other mechanisms make that something that can really happen in the real world.

The question you are raising gets to the period after that, and these are very good questions that you are asking.

Mr. DAVIS. I was going to try to go back to the question you asked and maybe offer somewhat positive possibilities for the committee to consider.

The administration's discussion of this has not concluded that there should be either no fund or no pooling mechanism, whether or not administered by the Federal Government. What we are saying is you have this problem of the extreme catastrophic event.

It makes sense to possibly have the owners and operators of these facilities assume some minimal amount of the initial responsibility or liability, such as you in a car insurance policy have a \$250 deductible. What the amount should be in this case is something that would take some discussion, but that seems to be one principle that would make sense to include in any kind of a fund approach.

It minimizes the administrative burden on the funds, some of the drain on the fund and leaves some incentive with the industry to do a proper operation and maintenance of that facility.

The next thing that must be remembered is that there is available a limited amount of private insurance coverage for these events and speculation is that it is starting to increase even in the postclosure period. It would certainly be unfortunate to lose what is developing there. We should try to take advantage of it.

The question, of course, is where do you draw that balance? How much up do you set that hurdle? Do you try to set it right where the industry is today, or set it a little bit further, hoping the industry will move up to it.

You may be getting other testimony on what the status of the private insurance is. A postclosure liability fund would come in, after the deduction and the private insurance have been depleted.

The question I am not able to give you the answer to still, although I can help frame the question better, is what happens when the fund cannot cover a situation? Maybe it is a question that you will conclude that we simply should not worry about at this point. It is a remote possibility and a risk we may have to take in order to get on with this program and solve at least part of the problem, but that is a residual question.

Mr. FLORIO. Two final points.

One point is I am enthusiastic about your suggestion concerning the two-tier approach with regard to an assessment against tonnage which acknowledges that that should not perhaps be the major way of raising money, and then the recognition that facilities differ in terms of the degree of hazards and the prospect for problems from them.

A secure landfill is much more potentially dangerous than is a resource recovery facility when it is closed. Therefore, it may very well that be a preferential assessment against one or the other may very well encourage movement away from secure landfills as disposal facilities toward more technologically safe resource recovery facilities.

The last point is my concern that with the passage of time, and particularly with the implementation of the RCRA regulations, people are becoming frantic and very much concerned that nothing is happening by way of private industry investment and they are turning to other ways of dealing with the problem, and the other ways are to turn to government.

In my own State there is a bond issue which will be voted on by the people of the State, and the moneys conceivably can be used by public authorities for the construction and the creation of resource recovery facilities.

I think that is not the way to go. I do not think it is appropriate to have new authorities that will be public entities in charge of this. The private sector should be encouraged because the private sector can do it safer and more efficiently.

Unless we get about resolving some of these problems, we may be going into a direction from which there is no return, and it will not be the best direction to be going in.

Mr. DAVIS. Mr. Chairman, I would just expand on one point which has not come up in the questions.

It is raised by your comment. Even if there is a fund and we have solved the question of the size of the fund, who should be the responsible managers of these sites in the postclosure period?

If 30 years after a closure occurs, the owner and operator is no longer obligated to maintain and monitor that site and the funds pick up that responsibility, should the Federal Government become the owner and operator of that abandoned, closed site?

I think that is a major question and certainly one which has disturbed the administration in thinking about it. If I fall back to some of our experience in superfund, in the administration bill we made a very explicit proposal that the States would pick up the O. & M. responsibility after the first year of a remedy being put in place.

Mr. FLORIO. Don't the States have the legal responsibility under RCRA to develop waste plans? That fits in, it seems to me, to the whole question of the waste plan. It would seem to me logical that it should be done at a more localized level as opposed to the Federal level.

Mr. DAVIS. I am not as familiar with RCRA, but if that is the case it would be an opportunity to tie into the postclosure plan.

Mr. PLEHN. You are correct under subtitle D of RCRA. The States are encouraged to develop a solid waste management plan which includes the need for facilities for the management of hazardous waste, but I think that is a different question from the one which Swep was just raising, which is if a facility closes and it is in this postclosure period, who has responsibility for that facility?

Should that fall on the Federal or State Government?

Mr. FLORIO. I am saying as part of that plan, that question has to be dealt with. It is the State's responsibility in putting its plan forward to say that it will be responsible, that it will provide for industry responsibility, and county responsibility. That is a question that has to be addressed as part of the overall requirement of addressing the hazardous waste disposal plans for the individual States.

I yield to the gentleman, Mr. Madigan.

Mr. MADIGAN. Let me congratulate you on the ease with which you shift from railroads to hazardous waste.

I have a little more difficulty doing that, and I am just playing catchup, so your discussion has helped me.

Am I correct in stating that we are dealing only with facilities that would have permits under subtitle C of RCRA?

Mr. PLEHN. Yes; you are. The concept of a postclosure fund has been that the opportunity represented by the fund would only be available to facilities which permit or had been permitted and closed pursuant to the regulations under subtitle C of RCRA.

Mr. MADIGAN. We were promised a proposal by your agency in June of last year. That is more than 13 months, but I think I understand from listening to Mr. Davis why that proposal is still not forthcoming.

I thought about asking you to testify on the Senate provisions, and perhaps through an analysis of what you had to say about that, we would in fact get your position, but it seems to me in Mr. Davis' comments what we were getting was a lot of issues that he

was raising that would indicate that the debate is still going on within your agency.

I was a little bit interested to note that he suggested that the operator should be responsible out front for some part of that, like a deductible insurance policy, and he suggested also on the tail end that there ought to be some sort of additional insurance coverage or additional responsibility on the part of the operator.

It seemed to me that we could just take that a step further and say, well, the operator ought to have a showing of financial responsibility through the purchase of a bond or an insurance policy, at the time that he was given the permit under subtitle C, and in the absence of such a showing there wouldn't be any permit, and then we don't need the fund; is that right?

Mr. PLEHN. Maybe I can comment on the first part of your question.

Under our regulations, a land disposal facility will have to show that they have a closure plan and will have to show that they have funds set aside or accumulating funds to execute that plan, accumulating funds, funds with respect to the life of the facility, will have enough to close that facility and funds available to monitor and maintain that facility for 30 years after closure is executed.

What we are talking about today is the period after that.

Mr. MADIGAN. After 30 years?

Mr. PLEHN. After 30 years.

Mr. MADIGAN. What were you going to say?

Mr. DAVIS. Very similar response. The dilemma, if you take the analogy of your car insurance, if you own a car, you don't worry about getting insurance for periodic oil changes or lubrication jobs. These are fairly fixed and small costs that you can cover yourself without insurance and not have a risk of unpredictability of how much those costs will be.

You take the next step for collision insurance on the car; it is something that you want insurance for, and although you may be able to bear a deductible for a certain amount of it, you want to have protection for the low probability event that the entire car is lost.

Even that has a limit, and then you take the case of liability insurance, injuring someone in a car accident, an even lower probability event, but if it does occur, a much, much higher exposure.

Insurance companies, for example, don't give you unlimited protection on liability insurance. You pay a certain amount and get protection up to a certain amount.

You still have that upper part that is not covered in all cases.

Mr. MADIGAN. If you are going to operate a certain type of commercial vehicle, a unit of government will tell you what the upper limit is to be, and then you have to acquire insurance up to that upper limit or you can't get the license to operate.

Mr. DAVIS. That is correct, but I am going into an area I am not entirely familiar with. Just because you have insurance up to that limit, if you have an accident and cause damage beyond that limit, that you are not exempt from liability.

Mr. MADIGAN. I know, but you are talking about \$200 million. I have \$1 million coverage on my own car; \$200 million worth of coverage for a business operation does not represent a premium

that would be beyond the reach of the businessman, if I can afford \$1 million worth of coverage on my own car.

Mr. DAVIS. Our concern, Mr. Madigan. First of all, you may be entirely right——

Mr. MADIGAN. Are you aware insurance companies are required to set aside reserves for claims that may be outstanding?

Mr. DAVIS. That is correct, and——

Mr. MADIGAN. Even if the insurance company goes out of business?

Mr. DAVIS. That is correct, and a fund such as this, just as we had done in the case of designing the Superfund, would have reserves like that.

The problem still is, even though \$200 million is a large amount, some unofficial comments I have heard from industry show they could envision the funding being twice or three times that size. The problem is we are dealing with 26,000 sites and you don't have to have very many catastrophic events where, with personal injury involved, you can have extremely high claims and you would exceed the limit of that fund.

It may be that this is a probability that is so low we don't have to address it at this point, but my point earlier was, what will be the policy in the event that that does happen? Is the victim simply out of luck or do we say to the victim, we will cover you up to a certain amount through the fund, and at that point your only recourse is the owner/operator. It is a question which is left hanging.

If you choose to not address it because it is such a remote possibility, that is your decision, but it is a question still.

Mr. FLORIO. One question before we go. The 26,000 number you have talked about or the existing sites in operation now, we do not expect all of those sites to get to be final permits. The Superfund is designed to cope with those injury sites which do not make final permits.

We get to the point of diminishing returns in terms of those that are going to be permitted in accordance with your safety standards and monitored through the duration of their life. You get to a point of remoteness where you cannot have an all-safe situation.

Mr. DAVIS. I agree and even point out that even if all 26,000 of those sites were to be permitted, they are not all the types of facilities which are going to create this long-term problem. Some of them are incinerators.

Once they are properly closed they don't present a long-term problem.

Mr. FLORIO. Gentlemen, we thank you.

The committee stands in recess for 10 minutes for a recorded vote.

[Brief recess.]

Mr. FLORIO. The committee will come to order. Just by way of explanation I apologize for the disruptions. Some of the Members of the Congress feel we should be debating the activities of the President's brother. Because that is not happening, they are unhappy and they manifest their unhappiness by procedural votes. We are likely to have a number of votes that will interrupt our proceedings, but we will go forward anyway.

I am very personally pleased to have as our next witness Mr. George Tyler, director, Division of Environmental Quality, New Jersey Department of Environmental Protection.

STATEMENT OF GEORGE TYLER, DIRECTOR, DIVISION OF ENVIRONMENTAL MANAGEMENT NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Mr. TYLER. Thank you very much.

Chairman Florio, members of the subcommittee, I am George Tyler and I am assistant commissioner for environmental management in the New Jersey Department of Environmental Protection. I am in charge of the major pollution control elements in our department, including the agencies responsible for regulating solid and hazardous waste disposal practices in New Jersey. I would like to thank you for the opportunity to present our views on the subject of postclosure liability for hazardous waste disposal sites. My understanding is that you intend to limit today's inquiry to disposal sites that will be permitted in the future under the regulations soon to take effect under subtitle C of the Resource Conservation and Recovery Act.

The RCRA regulations and the management strategies that will be enforced by the State and Federal agencies working under them, will be our first line of defense against the creating of future Love Canals and other toxic time bombs that could threaten the health, or even the survival, of future generations. It is important that first line of defense be a strong one. Therefore, I urge you as Members of Congress to look closely at Federal appropriations for funding the RCRA subtitle C program and to support a funding level that will insure the program's effectiveness.

In theory, facilities designed, operated and closed in accordance with the RCRA standards should not cause environmental problems in the future. However, no one should expect the public to accept that theory on faith. Their collective memory contains too many examples of supposedly fool-proof technologies that in fact were not. The unsinkable *Titanic*, the Teton Dam, and the control room at Three Mile Island all point to the uncertainties associated with human attempts at technical perfection.

Even if engineers are satisfied that the design of a hazardous waste facility insures permanent containment, they cannot guarantee it with 100-percent certainty. Even if such a warranty is offered, the citizens of this Nation will be highly skeptical. People will ask, and rightly, "What if you are wrong? What happens if your supposedly secure landfill leaks and chemicals pollute my well? Who will test my water? Who will warn me before my health is affected? Who will pay to replace my water supply?" If for no other reason than to instill public confidence in new hazardous waste management facilities, we need to build a second line of defense in case the RCRA rules prove insufficient or in case accidents occur. That confidence is critical to the establishment of new facilities and therefore an indispensable element without which the entire waste management strategy envisioned by the Congress in RCRA may fail. Even though laws in many States allow the State government to overrule local objections to establishing hazardous

waste management facilities, no one should believe that exercising that power is easy.

People are very fearful these days of chemical exposure, and they become very emotional when they believe a new facility might threaten their health. If people in an area selected as the site for a new hazardous waste management facility decide it is a threat to their lives and property, they will fight it in every possible manner. They will exercise political influence, they will file lawsuits, and I am certain some will be ready to block the bulldozers with their bodies.

I am not contending that public opposition can be completely defused with guarantees of postclosure monitoring and compensation. But it cannot be defused at all with them. It is unfair to expect a small minority of the public—the neighbors of hazardous waste management facilities—to bear the consequences of a breach in the security of our hazardous waste management system.

It is therefore necessary that postclosure guarantees include regular monitoring of sites to insure that leakage into the environment is not occurring; if releases do occur, then postclosure guarantees should cover any and all remedial actions necessary to the protection of public health and the environment. These must include physical repair of the containment facility; removal of any toxic substances that had escaped into surrounding solid or aquifers; temporary or permanent evacuation of threatened populations; provision for alternative water supplies, and compensation for economic damages, including property damage and personal injuries where an injury has been caused by exposure to the escaped toxic waste.

A number of questions concerning the manner in which postclosure guarantees should be provided have been raised. The first of these was whether a Federal fund is necessary or could the need be met in another way, such as private insurance. We are not insurance experts in my Department. However, our past experience with liability insurance for hazardous waste facilities indicates that insurance companies are unwilling to underwrite liability for nonsudden and continuing occurrences of environmental damage even during the active life of the facility.

In any case, such policies provide coverage only as long as the premiums are kept up. Unless perpetual corporate existence and perpetual payment of insurance premiums are mandated, it is uncertain how long after closure private insurance could be maintained. It is also unclear what constitutes sufficient coverage. A recent study of six cases of toxic substances pollution, prepared for the Senate Committee on Environment and Public Works, estimated damages of \$2.6 billion from one pesticide disposal incident alone. The whole point of the RCRA subtitle C program is to prevent incidents like this from happening again, but accidents that might occur at RCRA-permitted facilities are likely to occur in unforeseen ways. We have not enough experience to be able to predict the likelihood, or the consequences of a discharge from an RCRA-permitted facility 50 or 100 years from now. Because of the actuarial uncertainties, I suspect it will be very difficult to get the kind of coverage we want from the private insurance market. A

Federal postclosure fund will be easier to establish, will last longer, and should instill greater public confidence.

The problems we are attempting to forecast and deal with, like those surrounding nuclear waste, are perhaps the best argument against allowing these wastes to be buried in a harmful state at all. It is important to clarify what we are talking about when we discuss postclosure liability. Hazardous waste storage, treatment, fixation and incineration facilities should not be permitted under RCRA without a clear and legally enforceable condition that the site be completely decontaminated and prepared as much as possible for unrestricted rise at the end of the useful life of the facility. A postclosure fund or Superfund should be in place simply to insure that such decontamination occurs. Long-term postclosure maintenance funding should be available in these cases only where complete decontamination becomes technically impossible. A contingency clause providing for such instances is necessary in any legislation establishing postclosure requirements.

Postclosure maintenance concerns will then be limited to those instances where land burial wastes that are still in a chemically hazardous state is permitted. This is in contrast with facilities engaged solely in treatment, where no hazardous residues are meant to be left behind, or with the burial of waste that has been chemically detoxified or bound up in chemical complexes so that the toxic molecules are immobilized and cannot migrate from the disposal site. Secure landfills do not dispose of hazardous waste, they merely leave the problem for another generation. Lewis Mumford, in "The City in History," described a 19th Century Italian archeological expedition that unearthed several pits of black goo that emitted a stench so overpowering the diggers fainted. They were the garbage dumps of ancient Rome, still foul smelling after almost 2,000 years.

We must not allow any more chemical caskets to come into existence than necessary; we should, as rapidly as possible, compel our industries to shift their production processes, their disposal techniques, or both, to systems that do not force us to leave toxic time bombs in the ground. We should regard the landfilling of hazardous wastes in potentially harmful states as a temporary measure, until we can shift over to better methods.

As to the technical responsibility for long-term maintenance for those sites that now must be watched, we would opt for the States. The site owner or operator has no incentive—especially once the facility is closed and there is no more income from the facility—to be vigilant in the detection of leakage. In any case, we urge that provisions be made to allow for the administration of a Federal postclosure liability fund, as well as such other moneys made available for remedial action at abandoned dump sites, by a State level entity once it has been established that the requisite commitments and capability to do the job exist. In such instances, the primary authority to draw on the Federal fund should be delegated to the State level entity with a general oversight role for the Federal agency. In States where delegation cannot be accomplished, a Federal agency would remain responsible for administering the fund.

Further, the creation of a nationally supported fund should not mean that individual States may not impose additional revenue

raising plans to create a State fund to cope with postclosure liability problems. In States like New Jersey, where high population density and intensive industrial development create a very real possibility that Federal funds, however substantial, can be exceeded, Federal law must not hamper efforts to supplement the fiscal resources available to deal with the problem.

I must point out that the subcommittee's other questions are very difficult to address at this time; not enough information has been collected and there are many uncertainties. Responses, therefore, must of necessity be intuitive. Take, for example, your question of what size the fund should be, given the likelihood and seriousness of potential releases from closed sites? No one has any experience yet with sites closed under RCRA criteria.

Some private firms have closed facilities, on their own, in ways that would meet RCRA standards, but it is too soon to tell if their containment methods worked. Failure mode analyses and computer simulations could be performed, as in the NRC's attempts to estimate the probability of nuclear accidents, but the results are likely to be widely disputed because the researchers must make numerous assumptions in the course of such studies, and those could turn out to be wrong. In the end, you are left with a rule of thumb. What seems to be reasonable?

The Senate Committee on Environment and Public Works, in reporting out S. 1480, decided that \$200 million seemed about right for a postclosure fund. That is enough, certainly, to handle evacuation and other immediate remedial aspects of a Love Canal-type incident; though it would not be enough for the compensation aspects.

Intuitively, it seems imprudent to tie up large sums of money as a hedge against speculative harms. So, while we support the basic revenue raising devices proposed to create the fund, we think that the important thing, in an insurance-type scheme, is to be able to raise the money and spread the cost around should harm materialize. Even if a \$4 billion damage incident occurs, you do not need to have \$4 billion set aside in a postclosure fund if you can raise the levies and get that money into the fund once you know you need it. In other words, it is not so much the fund's size that is important, as its ability to raise funds when there is a demand upon it.

One postclosure amendment to S. 1480 we have reviewed presents a reasonable approach to the issues of fundraising and liability transfer. Under that amendment, the postclosure fund would be raised from a fee on each unit of hazardous waste that would remain at the facility following closure in accordance with the RCRA standards. This is extremely important as an economic incentive to discourage landfilling of hazardous residues. The higher the price of landfilling goes, the more incentive there is for the generator of hazardous waste to find ways to reduce the volume generated, to recycle or to find other means of disposal that leave only innocuous residues.

The principle is reinforced by scaling the fee to reflect the hazardous characteristics of each waste. Thus, one should pay more to bury highly dangerous dioxin than, say, a sludge containing low levels of lead that are not likely to migrate. The problem here is that it is very difficult and time consuming to evaluate the relative

danger of every kind of hazardous waste; if the job is to be done at all, it must necessarily be done in a somewhat arbitrary fashion. And the language in S. 1480 gives the EPA Administrator discretion to establish fee levels for different wastes.

Some would argue that facility owners or operators should remain liable in perpetuity, and that a postclosure fund should not take over liability but should act as a backstop for defaulting owners or operators only. But this is not realistic over the long run.

Finally, I would like to share with you the Department's overall perspective on the issue of postclosure liability for RCRA permitted facilities vis-a-vis the Superfund legislation generally.

If Congress has legislated well in RCRA, as I believe you have, and if the USEPA and the State regulatory agencies do our jobs as I believe we will, and if the hazardous waste management industry behaves responsibly, as I believe they must, the chances of creating new environmental dangers will be greatly reduced. The resolution of issues relating to postclosure liability for such facilities can only foster in the public mind the confidence in our efforts which is vitally necessary for their success.

But the need for the Superfund legislation surpasses even this necessity. Today there exists an unknown number—hundreds?, thousands?—of unregulated hazardous waste disposal sites we have been accumulating at an increasingly alarming rate since 1945. Congress must pass legislation to provide moneys we need to carry out the sampling, the environmental analysis and the remedial and containment work we must do to insure that people's lives and health are not being endangered by uncontrolled toxic wastes right now. We see this as the absolutely essential task that Congress must address now.

We support the resolution of all the issues, including postclosure liability for RCRA permitted facilities, in the present legislation. However, recognizing the complexity of all the issues present, it should be recognized that issuance of permits under RCRA is still many months away. There is still time to deal with postclosure liability questions. Thus, if November rolls around and no comprehensive bill has passed both houses, we would hope that Congress can at least reach agreement on the abandoned sites provisions in this session.

Mr. FLORIO. I am really very pleased to hear your thoughts on the lack of desirability of dealing with hazardous wastes in the secure landfill approach. My recollection is that in New Jersey today there are no landfills that are certified to accept hazardous wastes. I am hopeful that will begin to be the policy in this State tilting toward resource recovery type facilities as opposed to burying materials.

Mr. TYLER. We have approximately 35 facilities that are licensed to take various kinds of hazardous wastes, some very small oil solvent recoveries. There are a number of secure landfills, approximately five, operating in private industrial settings where they are only used by one company and we are taking a very hard look at those right now. But you are correct.

Mr. FLORIO. Those ones that you are talking about, are they in holding lagoons or permanent storage facilities?

Mr. TYLER. The intent when they were originally designed and proposed in the late 1970's was for permanent storage. They are monitored fairly well at this point in time but postclosure liability there becomes a big issue in our minds in terms of the maintenance over the long term.

Mr. FLORIO. The testimony that is going to be delivered from the Sierra Club and the Environmental Defense Fund suggests that the States pay a certain portion of the expense at a closed site, the rationale being it would not be possible to provide an amount to do everything possible to insure that its certification is appropriate. Do you think that is an inappropriate incentive for the State to do what it should be doing anyway?

Mr. TYLER. In fact, in New Jersey we are already doing it. We have a spill compensation act that provides moneys for clean up of abandoned dumps. We have gone through money like water awaiting the Federal Superfund. I think the intent was to have a small State fund analogous to amounts on an insurance policy, as a deductible. We could deal with small problems and use the Superfund for larger problems.

In any case, I could not oppose anything that might tend to make State agencies more accountable. I think if the intent is to have another deep pocket to go to, it probably will be beyond the capabilities of most State governments to insure against all of the contingencies that can occur; which is why we are looking for Federal contingency funds if the escrow account system or the other RCRA proposals fail over the long term.

Mr. FLORIO. Is it legally clear and unambiguous that the State fund in New Jersey is able to be used for postclosure expenditures?

Mr. TYLER. If a facility operator walks away or becomes bankrupt or otherwise judgment proof, he has created an abandoned dump which will be eligible for some funding at some point in time. There might be some legal gymnastics we would have to go through but for example Chemical Control was a licensed facility, and the spill fund is being used to clean that site at this point in time. Presumably if all the RCRA failsafe mechanisms failed, we would end up with a closed facility that had been permitted but it would be eligible for funding for either maintenance or clean up.

Mr. FLORIO. You are presupposing that a duly licensed permitted closed and certified disposal facility is now going to be reclassified as an abandoned dump site?

Mr. TYLER. I think it is possible under State law. I am not sure it is under the Federal system that is evolving, but it would be possible under our State spill act. However the financial resources would not be there to do the job.

Mr. FLORIO. Industry people take the position there should be no ability to have State postclosure funds for a number of reasons. One is if the Federal Government does it would be duplicative. Another perhaps less private interest that concerns many of us would be that we would get into interstate competition to attract industry, and that relocation decisions and industrial development decisions would be made on the basis of economics, one fact of which would be the amount of assessments that are made.

Mr. TYLER. I think we would rather see a Federal super insurance fund to tap in these instances, but it might be analogous to

the spill situation in the spill act where this State need not tap into the Federal fund for every small incident and can handle problems more quickly and more directly up to a certain dollar amount, say, and then only for the disasters turn to the Federal fund for financial support.

Mr. FLORIO. Mr. Lee?

Mr. LEE. No questions.

Mr. FLORIO. Ms. Mikulski?

Ms. MIKULSKI. Mr. Tyler, on page 2 of your testimony in paragraph 2 you have a very good description of what you think a postclosure strategy is inasmuch you talk about physical repair of the containment, removal of the toxic substance, et cetera. Could you tell me what you think would be an appropriate Federal role for fulfilling those if at all?

Mr. TYLER. I would like to——

Mr. FLORIO. Ranging from the kind of insurance that we are discussing to technical assistance, to a variety of other things.

Mr. TYLER. I think that the State should be the prime operating or maintenance people with the Federal Government as a source for technical assistance and with Federal fiscal resources to rely on. That seems to work well in many of the environmental programs that we have in air and water pollution and in other regulatory areas. I prefer to see that in the Superfund area as long as the State is first judged by standard criteria to be technically competent to carry out that role.

Ms. MIKULSKI. We talk about the performance of States has been uneven in their management of hazardous wastes. Some of us have had more to deal with than others. Still the performance, No. 1 and the will and the actual performance has been uneven. I am a believer that you can motivate people by two ways: One, you can punish or push, or you can give what I call good-buy bonuses. In any legislation we might consider what do you think would be good-buy bonuses for States to really take responsibility in this area of posthazard waste control?

Mr. TYLER. That is easy—just dollars. That analogy again applies to almost all the environmental programs that operate in New Jersey. I do not think you see an apportionment of dollars to States that tend to be cooperative or tend to go out and look for trouble and find it and then try to deal with it on their own.

Ms. MIKULSKI. You say we do or do not?

Mr. TYLER. I do not think you see that pattern now in the Federal system. It would be a good one to encourage.

Also in the economic development side to counteract the allegations that may come up because you are more aggressive in environmental protection, you are therefore a bad State to do business in. I do not think that has been our experience in New Jersey. We have had people inquire about the state of the environment before moving an operation to the State and looking for a good environment to locate their corporate operations. Nevertheless, either on the environmental grants program side or the economic development side that kind of support for States that are responsible would be most welcome.

Ms. MIKULSKI. Do you think there should be some type of bonus or credit system? Let us say you are really dealing with your

environmental waste matters and therefore did not require the same maintenance of effort but because you had done well and maybe used the Federal assistance widely in all probability you would not get any more money from us. But that should be recognized and maybe also in a larger Federal scale be recognized for other Federal assistance to increase your economic development capacity.

Mr. TYLER. There are some analogies to that in the Clean Air Act where already certain economic sanctions cut off of construction dollars in areas that are just tangentially related to the goal of clean air that might serve as a model for that kind of thing.

Ms. MIKULSKI. I just wanted to clarify my own philosophy. It would be of more concern to me as a matter of fundamental unfairness where the States that have done the sloppiest, most cavalier job would get the most bucks to clean that up if we decide not to clean it up but to insure it.

Thank you very much.

Mr. TYLER. You are welcome. Thank you.

Mr. FLORIO. I want to thank you. I would like to use you as an opportunity to perhaps solicit support from any of the audience who might be interested in one of the developments that took place yesterday which reinforced your point about the wrong people not being reinforced. On the House floor yesterday the EPA budgeted \$10 million which was the last installment of a \$35 million program that had 63 entities, municipalities or authorities, that are two-thirds of the way through their solid waste planning studies and programs. The Federal Government has provided two-thirds of the funding. In the final phases they have decided to cut the last money out. In my own area and a number of other areas the program is there, two-thirds of the way completed, you are in the last phases, and the money has been cut off.

My reason for mentioning this is that was the House action. The Senate has not taken action and I am hopeful that the Senate will correct this really cost-inefficient decision that has been made so as to use those moneys in the Senate bill so in conference those moneys can be put into the final appropriation and we can conclude the program which is two-thirds through. I know you are familiar with this.

Mr. TYLER. Yes, I am.

Mr. FLORIO. I would like to urge your assistance.

Mr. TYLER. We have been trying to work in support of that \$10 million budget item. That money will be used in New Jersey municipalities primarily for feasibility studies for resource recovery operations. We tend to lose sight when we talk about hazardous wastes, that ordinarily garbage becomes quite hazardous to ground water and to local residents when mishandled. The resource recovery option seems to be the way you can handle it based on the experience in other countries where plants are now making a profit. Our department has consistently supported that. We would hate to see the program fail now for the lack of a few million dollars when compared with the costs later of not having spent them.

Mr. FLORIO. Thank you very much.

Our next witnesses we are pleased to have with us is Mr. A. Blakeman Early, the Washington Representative of the Sierra Club who will be accompanied by Mr. David Lennett of the Environmental Defense Fund.

STATEMENT OF A. BLAKEMAN EARLY, WASHINGTON REPRESENTATIVE, THE SIERRA CLUB, AND DAVID LENNETT, COUNSEL, ENVIRONMENTAL DEFENSE FUND

Mr. FLORIO. Your testimony will be entered in the record in its entirety. Please proceed as you see fit.

Mr. EARLY. This testimony was developed jointly by myself and Mr. Lennett. It does not lend itself to being divided up so we can both have the opportunity to deliver it. Since he was really the principal in the development of the testimony, I want to ask him to deliver it and then we will both be ready to answer any questions you may have.

Mr. LENNETT. Mr. Chairman, members of the subcommittee: We appreciate the opportunity to appear before you on behalf of the Environmental Defense Fund and the Sierra Club to present our views on a postclosure liability fund for hazardous waste disposal sites.

These organizations have also testified on numerous occasions before Senate and House committees concerning hazardous waste issues. Their efforts contributed to legislative enactment of the Resource Conservation and Recovery Act of 1976 (RCRA). In addition, the organizations have actively participated in the implementation of RCRA, including forcing the current regulation promulgation schedule through litigation. Finally, these organizations are actively involved in the development of Superfund legislation currently pending before Congress.

A postclosure liability fund should be established to accomplish three equally important policy objectives: One, to remove obstacles to the development of a sound and effective waste disposal industry; two, to insure sufficient funds are available both for perpetual maintenance of disposal sites and for cleanup and compensation to innocent victims of releases from these sites; and three, to provide nonregulatory incentives to minimize the number and magnitude of hazardous waste releases. Too often this last objective is overlooked or deemphasized. We believe it is critical because proper planning and management by disposal facility operators can effectively supplement RCRA regulation and further reduce potential risks to human health and the environment. Therefore, in this statement, we suggest various ways incentives to prevent release can be built into the system.

Those States issuing RCRA permits should be charged with the responsibility for the long-term maintenance of closed sites. Significantly, EPA predicts that all States will be issuing RCRA permits by July 1983.

The emphasis on State, as opposed to Federal administration of closed facilities rests on three important policy principles—responsiveness, simplicity, and willingness.

State officials are more accountable to citizens at risk from hazardous waste facilities. And to the extent that these responsibilities are delegated to local governmental bodies, accountability is in-

creased logarithmically. This accountability can provide the necessary incentive for diligent administration and enforcement required in all phases of a hazardous waste management program. It is critical to RCRA's success that the public perceive regulatory officials to be acting both responsively and responsibly.

Second, simplicity also argues for State administration of postclosure care. RCRA provides for States with authorized programs to administer the remainder of the cradle-to-grave permitting and enforcement process. It makes the most sense to have the disposer deal with the same level of government throughout the life of the facility. States with authorized programs will already have complete data on the type of facility, the geological and hydrological conditions of the area, and the kinds of wastes stored at the facility. Therefore, they will be in a knowledgeable position to assume responsibility from the disposer.

Finally, a number of States have already enacted, or have proposed after long study, postclosure funds and assorted procedures for the State to assume long-term responsibility for these facilities. (See appendix A) Two conclusions seem warranted. First, the States are willing to assume such a responsibility, if necessary. Second, the States have, or can foreseeably develop, the institutional capacity to carry out postclosure functions effectively.

We currently advocate that the government rather than the private sector take responsibility for perpetual care because such a program would offer the advantages of certainty and reliability. The length of time for which a hazard will persist, and for which monitoring, maintenance, and liability must therefore continue, is indefinitely long. Sites may be abandoned because of changes in ownership, better investment opportunities, bankruptcy, or other factors. There is no incentive for companies to spend money on commercial sites after closure because at that time they are no longer producing income for the disposal company.

Government at some level is the only institution sufficiently long lived to provide reasonable assurance that administration and liability will continue to exist for as long as necessary.

The Randolph amendment to S. 1480 establishes a \$200 million fund. We believe the fund should be larger. The basis for this belief is that since it is not possible to predict the extent of the fund's future obligation, it is necessary to err on the side of caution and thus avoid severe and unanticipated fee assessments if the fund is depleted. Establishing a larger fund has other benefits as well. It provides greater assurance to impacted communities that adequate money will be available for cleanup and compensation should a release occur. In addition, a larger fund at the outset reduces the impact of the "Social Security Phenomenon," where a stable number of active facilities must pay higher fees to support an increasing number of closed facilities. Finally, a larger fund provides EPA with the flexibility necessary to reward low-risk facilities with rebates upon closure, and not deplete the fund. These rebates are part of our proposal to include nonregulatory incentives to prevent release, as we shall now explain.

Upon closure, EPA should be required to perform an engineering assessment of the facility to determine the probability of a release from the facility and the magnitude of the damage likely to occur.

This kind of assessment is very similar to what insurance companies will require before setting premiums for facilities seeking compliance with RCRA's financial responsibility regulations.

A typical assessment will examine the acute and chronic toxicity of the waste remaining at the site—the inherent hazard of the site—including the solubility and persistence of the waste, the size and the distance of populations at risk, the potential environmental pathways—location of ground water, soil permeability, et cetera—and waste management practices and attitudes, including claim history and records of past violations.

These parameters would then be plugged into a scoring system, and if the closed facility was found to present a low risk, EPA would then be authorized to rebate the owner/operator a substantial portion of the amount that facility contributed to the fund. Significantly, this determination of low risk should not be directly related to RCRA compliance; rather it should be an independently determined supplemental reward for siting, constructing, operating and maintaining a facility in the most environmentally acceptable fashion.

As an illustration, the fees required to double the size of the fund in the Randolph amendment are quite small. Assuming that 57,000,000 metric tons of hazardous waste are generated each year, a fee of only \$1.40 per metric ton would be required to create a \$400 million fund in 5 years, only 70 cents per ton if the pay period were extended to 10 years. The higher figure is only 2 percent of the estimated disposal costs at a secure landfill, which is \$70 per metric ton. Thus, establishing a larger fund at the outset will not adversely impact the disposal industry.

Normally, neither the Federal nor the State taxpayer should be required to subsidize the fund. However, we strongly believe that incentives are required to insure that State and local officials perform their job in a prudent manner. Otherwise, improper closure certificates could be issued regularly because of regional pressures or improperly trained personnel. We recommend two methods of insuring effective regulation at the State and local level. The first method is to give the administrator the authority to run the closure program if it is not performed properly. This method is common in environmental statutes, and although rarely used, has been effective at times. The second incentive should be to require States to reimburse the fund for a percentage of the expenditures made pursuant to a release from a site deemed by the administrator of the fund to be improperly certified for closure or improperly maintained by State officials. States should be penalized for failing to comply with appropriate Federal and State regulations. Thus, States would have a financial interest in guaranteeing that the facility was closed in accordance with RCRA and its own hazardous waste statute, and properly maintained thereafter. This is another way of adding a preventive element to the postclosure program.

The fund should be authorized to pay for the monitoring and maintenance of closed facilities upon expiration of RCRA's jurisdiction. States should be authorized to enter into agreements with owners/operators to perform these functions on the State's behalf. The fund should also be authorized to pay for operation and main-

tenance of closed facilities before 30 years in case of default on either closure or postclosure regulatory requirements.

Finally, the cost of cleanup, damages to victims for personal and property loss, and damages for natural resource loss due to a release from a closed facility should be available from the fund. This is consistent with EPA policy regarding RCRA's financial responsibility requirements under section 3004, which include the ability to pay for injuries to people and property.

Furthermore, if the siting problem is to be resolved, broad coverage must be provided to communities to alleviate their concerns regarding compensation for damages incurred. This is the philosophy behind the Randolph amendment to S. 1480.

The coverage provided in the Randolph amendment suffers from one serious shortcoming, however: There is a 5-year gap between closure and coverage by the fund, in which time neither RCRA's financial responsibility requirements nor the fund will be in effect. This gap in coverage leaves victims unprotected and should be slowed by extending either the RCRA regulations forward or the fund backward to closure.

One final comment is in order here. In a case where a release has occurred and it is impossible to determine whether it came from a closed, fully permitted facility or from an inactive site, a presumption should be made in favor of one of these sites to avoid needless bickering over whether superfund or the postclosure fund has jurisdiction.

Thank you. We will be glad to answer any questions which you may have at this time.

[Attachment to Mr. Early's and Mr. Lennett's prepared statement follows:]

APPENDIX A

Information indicating state involvement in the post-closure administration of hazardous waste sites has been obtained on the following states:

1. Michigan

In what many consider the model state hazardous waste law, Michigan Act 64 contains several provisions providing for a state-administered trust fund and, when necessary, assumption of responsibility and liability for the site by the state.

Sec. 41. (1) An owner or operator of a hazardous waste disposal facility shall file as a part of the application for a license to operate, a surety bond or other suitable instrument, or establish a secured trust fund to cover the cost of closing, monitoring, and long term maintenance of the disposal facility after its capacity is reached or operations have otherwise terminated. The bond, instrument, or fund shall be based upon a reasonable estimate of the cost required to adequately close, monitor, and maintain the site for a period of 15 years or less, as approved by the director....

(2) Following the expiration of the time stipulated in subsection (1), a determination of responsibility of the owner or operator of a disposal facility shall be accomplished by a process established by the rules of the director. If the director determines that the site does not have a foreseeable alternative use, the owner of the site may transfer ownership of the site to the state and the state shall assume the responsibility for the long-term care of the site. After the site is transferred to the state, all claims for injuries occurring after the transfer to persons, property, or the environment brought against the waste generator or the disposal facility owner or operator become the liability of the state....If a determination is made that the site is suitable for further use, the director shall make the necessary authorization on the restrictive covenant as required in section 39.

Sec. 42. There is created in the state treasury a disposal facility trust fund. Each owner or operator of a disposal facility shall periodically pay to the department a surcharge fee as determined by rule of

the department....The department shall promulgate rules establishing the method of payment from the disposal facility trust fund for payment of all costs of long term care of a disposal facility accruing after the responsibility of the owners has been terminated as provided in section 41. (emphases added.)

2. Wisconsin

The owner or operator of a hazardous waste facility is responsible for long-term care of his site for either twenty or thirty years after closure (using trust funds, surety bonds, or escrow accounts required by law.) "After that the State assumes responsibility. The State Waste Management Fund is used to pay for costs of long term care of a site occurring after the owner's or operator's responsibility has ended. The Waste Management Fund is supported by fees collected from facility owners or operators." (emphasis added.)

3. Oregon

"Oregon requires an owner or operator to obtain a cash bond in the name of the State to cover closure and post-closure costs... Before Oregon will issue a permit to an owner or operator, the owner or operator must deed to the State all portions of his disposal site in or upon which hazardous waste will be disposed." (emphasis added.)

4. New Jersey

"Private firms cannot be relied upon to provide perpetual management and financial responsibility for closed facilities. There are no assurances private firms will remain viable in perpetuity, nor is it likely an insurer will insure against risks forever. Even if one was willing to do so, insurance companies, too, can fail. However, local communities cannot be asked to accept the risk of having a hazardous waste facility operating in their midst unless they are guaranteed

protection should potential for harm become actual harm. Since only government has likelihood of perpetual existence, government must at some point take over responsibility for closed facilities.

One way of doing this is to have the State take ownership of the site after closure -- or perhaps 20 years after closure, after the operator's RCRA-mandated responsibility has expired. The State would then become responsible for monitoring and for compensating any damaged parties for subsequent pollution. To prevent this from being a form of subsidy to the facility operator, there should be a requirement that the operator leave with the State an escrow fund built up from revenues during the facility's operating life. (emphases added.)

5. Kansas

...The owner of a site shall be responsible for the long-term care of the site for ten (10) years after the closing of the site, except the secretary may extend the long-term care responsibility of a particular site or sites as the secretary may deem necessary to protect the public health and safety or the environment.

The secretary is authorized and directed to:...(b) Adopt rules and regulations establishing a schedule of fees to be paid to the secretary by (1) permittees operating hazardous waste disposal areas for the land disposal of hazardous waste...The secretary shall remit any moneys collected from such fees to the state treasurer to be deposited in the state treasury and credited to the perpetual care trust fund, which fund is hereby established, to be limited to the following three (3) uses: (1) Payment of extraordinary costs of monitoring a site occurring after the responsibility of owner and operating interests has terminated; (2) payment of costs of repairing a site, as a result of a post-closure occurrence not anticipated in the plan of operation which poses a substantial hazard to public health and safety or the environment. If an expenditure made under this paragraph would not have been necessary had the person responsible for the operation or long-term care of the site complied with the requirements of the approved plan of operation, a cause of action in favor of the fund shall be accrued to the state of Kansas against such persons and the department shall take such action as is appropriate to enforce this cause of action by recovering any amounts so expended... (3) on an emergency basis up to twenty percent (20%)...may be allocated [for clean-up of abandoned sites posing imminent risks].

The secretary may by lease, license, or contract with any person provide for the operation, closure, monitoring, or maintenance of any site subject to K.S.A. 1979 Supp. 65-3406a (i.e. preceding paragraph) for the purposes of carrying out this act.

6. Illinois

The Agency shall deposit all such receipts in the State Treasury to the credit of the Hazardous Waste Fund established by this Act. All monies in such Fund shall be used by and under the direction of the Agency for the purpose of taking whatever preventive or corrective action is necessary or appropriate in circumstances certified by the Governor or the Director to exist in which hazardous waste disposal sites will or may cause an immediate or long-term danger to the environment or to the public health or to the welfare of the People...

Sources

Michigan - Michigan Act No. 64, approved by Governor July 25, 1979.

Wisconsin - 1977 Wisconsin Hazardous Waste Management Act (Assembly Bill 1024), summarized in U.S. Environmental Protection Agency, Office of Solid Waste, Background Document to Part 265 Subpart H Interim Status Financial Requirements, April 25, 1980, at I.21 (hereinafter cited as "EPA Background Document").

Oregon - Environmentally Hazardous Wastes, Oregon Solid Waste Control, Section 459.600, summarized in EPA Background Document.

New Jersey - Report of the [New Jersey] Hazardous Waste Advisory Commission to Governor Brendan Byrne, January 1980, p. 47.

Kansas - K.S.A. 1979 Supp. §65-3406 et seq.

Illinois - Ill. P.A. 81-56 Sections 22.2(d) (September 21, 1979), S.H.A. Ch. 111 1/2 §1022.3

Mr. LEE [presiding]. Ms. Mikulski?

Ms. MIKULSKI. I would like to compliment the Sierra Club on its testimony in terms of a very good summary of the Randolph amendment and also the philosophy incorporated in this amendment which deals with that good guy or good gal bonus concept that I raised with Mr. Tyler here.

I would like to ask you two questions related to testimony, 1, on page 3 of your testimony in which you talk about why it is such a terrific idea for States to have this responsibility.

I agree with the first principle, but I have some reservations about principle No. 2, because my concern is, No. 1, States have been unable, and we have seen it in things like OSHA and others, that going back to Mr. Florio's point, my concern is some States would be less than aggressive in their monitoring and so on under the guise of using it as a closet marketing strategy toward business and for those of us who represent the East, Midwest Coalition, I think I make myself clear.

Mr. LENNETT. Well, that is exactly—

Ms. MIKULSKI. What is your response?

Mr. LENNETT. That is the exact reason why we put the contribution of State costs into releases caused by functions the States should have been performing. It is this financial incentive to do the job right, we believe, that is going to be the ultimate arbiter in deciding how effective the States are going to be in running that program.

Mr. EARLY. One thing that is important to recognize here is, under our proposal the State would have no ability to modify the initial fees that are being charged. That would provide some uniformity in terms of how all States would be operating.

This program could obviously be used to provide a benefit to an industry coming into the State. It is a very difficult thing to monitor how the States would enforce the RCRA and insure that absolute uniformity in administering the fund would occur.

Ms. MIKULSKI. Under other environmental statutes, are there other models that would give us an indication of how your idea would function or is your idea so fresh, so new, so minute that we don't quite know?

Mr. LENNETT. Well, under Superfund provisions there are, at least on the State side, there are provisions for a State to contribute to the long-term maintenance and care of facilities.

Ms. MIKULSKI. Are there other environmental laws that are being enforced currently that follow the strategy you are advocating?

Mr. LENNETT. Not that I am aware of. The basic stick is to take away the program.

Ms. MIKULSKI. Take away the money.

Mr. EARLY. Take away or actually have the Federal Government administer it.

Ms. MIKULSKI. That is like someone sending in the National Guard, and we rarely do that.

Mr. EARLY. It has worked on occasion. The State of Ohio has been less than rigorous in the enforcement of its environmental law. In part pursuing the strategy that you have suggested, that they can attract industry by letting them know that the environ-

mental requirements will have to be met. They won't be as severe as in Ohio.

EPA did threaten to take over the water pollution control regulations and was able to get improvements in administration by the Ohio EPA, but I think this area remains a difficult one in terms of Federal/State relations. Beyond the nuclear deterrent of having EPA actually come in and take over the program, it is difficult to insure adequate administration.

One area that has been long a favorite of public interest organizations is to have strong citizen suit provisions in legislation so that citizens may sue a State when it is violating a regulation or a requirement. It gives you a whole extra dynamic in terms of not having the Feds be the only ones monitoring performance but also having the citizens who are actually affected doing so.

Ms. MIKULSKI. One last question: On your low risk rebate idea on page 5, you talk about the criteria by which that would be given.

Could you talk a little more about that? When would you assess low risk? Would you have an ongoing assessment for low risk, or make a one-time payment to them after assessment?

Mr. LENNETT. The way we envision it, and we have not worked out all the details, is that the facility would be certified for closure, and at that point EPA would send in its own engineering team or hire an engineering firm which does this for insurance companies on a regular basis, to go in and evaluate the site in terms of its risk probability in terms of the magnitude of the risk that would occur.

We would anticipate it would be a one-shot rebate after the assessment, partly because many of these operators will be one-site facility owners and operators, and to make that incentive work they are going to have to get the money soon upon closure, because they won't be existing 10 years from now.

Ms. MIKULSKI. I would like to thank you for some very refreshing ideas.

Mr. LEE. I compliment you for your statement.

Ms. Mikulski, you focused on this last concept, this rebate concept. If you are able to develop further your thinking on this fresh concept, we would welcome this very much.

Thank you very much for your testimony.

Mr. LENNETT. The rebate system is only going to work when the fund is large enough to take care of the needs of the fund in terms of perpetual monitoring and maintenance and for other needs that you plug into the fund depending on whether you want to cover RCRA permit owners and operators who go bankrupt and can't do better than the financial responsibility under RCRA.

They are covered for \$5 million insurance, but the cost is \$10 million and they go under. If you include those kinds of assessments in the fund and you have to make the fund large enough so governments are secure, when push comes to shove, the money will not come out of Federal or State revenues, and you also need to have sufficient play in the fund, so offer these incentives to people.

The trouble is going to come in figuring out what kinds of numbers you need and in playing with the numbers, and that is where we need more help from EPA in developing these kinds of numbers.

Mr. LEE. To say nothing of the development for the criteria for the scoring system.

Mr. LENNETT. That is going to be pretty far along in the private sector by the time EPA will get underway with the rulemaking. That kind of thing is being done now by insurance companies and engineering firms, because they are anticipating with RCRA permitting facility that they will begin to get underway to send out engineering firms to set premiums for them, so a large body of evidence is being gathered right now to do that. That won't be a problem.

Mr. EARLY. Establishing criteria does not have to be done actually until the first permitted site is facing closure, so that we have a period of time when the entire technology is going to be developing before those criteria do have to be developed. Right now it looks like a pretty impressive job, but it might not necessarily be as impressive as it looks right now because we are talking about 15 years down the road.

I would like to call the committee's attention to the comments of Mr. Tyler regarding the very strong need to provide incentives to reduce the amount of hazardous waste being generated.

I would hope that the committee would put on its agenda the development of incentives to industry to reduce the amount of waste being generated, because right now not enough attention is being given to this area.

The development of the RCRA regulations and the development of these concepts we are talking about will provide some incentive, but it is just very crucial that we drastically reduce the amount of waste being generated either by not generating it at all or finding ways of recycling it, and I hope the committee will give stronger consideration to that when it is looking at its agenda in the next Congress on this subject area.

Mr. LEE. The Chair thanks you for that comment and I am sure Chairman Florio will take that under advisement.

Thank you very much, gentlemen.

The Chair calls Mr. James Kimble and Mr. Charles Humpstone.

The Chair assumes each of you would like to make a statement. Let's let Mr. Kimble proceed first, if that is satisfactory, and at the conclusion of both of your statements we will go to questions and dialog.

Thank you so very much for coming.

STATEMENTS OF JAMES L. KIMBLE, COUNSEL, AMERICAN INSURANCE ASSOCIATION; AND CHARLES C. HUMPSTONE, PRESIDENT, ENVIRONMENTAL RISK ASSESSMENT SERVICE

Mr. KIMBLE. Thank you for inviting us.

My name is Jim Kimble, counsel to the American Insurance Association.

The American Insurance Association is a trade association of 152 publicly owned property and casualty insurance companies. In the absence of legislation establishing a postclosure fund in lieu of insurance coverage, the member companies of AIA will be asked to be the principal domestic source of postclosure liability insurance for hazardous waste disposal sites.

The American Insurance Association supports the concept of a postclosure liability fund for hazardous waste disposal sites. Ideally, the fund would supplement private sector offerings. There will be, to some extent, some coverage available in the private sector.

There are four major identifiable problem areas which suggest that there will be an availability and/or affordability of insurance problems without the fund.

The first of these areas is, traditionally, there is narrow application of current insurance coverage for pollution liability. Since 1970, there has been in the commercial general liability policy a restrictive endorsement which states that coverage will apply only if the discharge is both sudden and accidental.

For the most part, your waste disposal site fact situations which cause liability would be seepage, or some sort of gradual occurrence, so that the nonsudden exclusion would eliminate most coverage. However, there is a current trend which indicates that that may no longer be the case.

The Howden-Swan group is currently writing seepage coverage. Some of my companies are writing a new policy which says that the discharge must be neither expected nor intended. I interpret that as suggesting that seepage coverage would be available. Non-accidental coverage would not, but seepage coverage would.

The second major area is the type of risk which we are talking about in the underwriting process. There are some very basic problems which are very difficult. The first one is you would ask the insurer to provide coverage for a 30-year period.

An insurer, when liability begins to manifest itself, would be interested in getting off that risk as quickly as possible. You at that point would have a great deal of difficulty finding another insurer who would accept the risk. It would be similar to insuring the burning building.

There also is clearly a potential for catastrophic loss in this area. Insurers are comfortable with high frequency, low severity situations, fender benders, fingers in punch presses, it is predictable. There are large numbers of them. You can crank it through a formula.

What we are talking about in this instance is a very low frequency situation with potential for extremely high losses. You go beyond judgmental rating in a situation like that. It is very difficult to justify your premium to your insured. You may collect premiums for years, and there may never be a loss, but your premium may continue to go up. That is difficult to explain to your insurance consumer.

You may collect premiums for 15 years and never have a loss, and suddenly you have a \$20 million potential loss. There is also a difficulty in appraising esthetic type situations. The superfund legislation suggests liability for loss of use of national resources or destruction of national resources.

There is no fundamental principle applied to assessing natural resource losses at this time. Also, there are some basic legal concerns which are unavoidable. Waste disposal site situations are long latency, slow developing situations. The types of injuries often will be multiple causation types of injuries.

Do you get your emphysema from the discharge or from the three packs of cigarettes you smoke a day? Probably both.

It is very, very difficult because you have a long latency situation to prove your causal relationship between the event and the injury or disease.

Finally, there is a lot of controversy with respect to the definition of an occurrence. Is the occurrence when the disease manifests itself or is it when the liner breaks and the toxic substance begins to leach?

The third major problem area is the application of the new liability laws which seem to be coming down the road, the superfund legislation, H.R. 85 and S. 1480.

The results of any conference committee which produces some sort of a compromise ground between those bills will at the very least nationally codify the most advanced common law theories of liability in this area. Currently, you have common law theories such as nuisance, trespass, negligence, riparian rights, and in some areas strict liability applied.

Both of the superfund bills, H.R. 85 and S. 1480, would codify a joint and several strict liability systems for all jurisdictions.

Finally, recent events are the fourth major problem area. Love Canal, the James River, asbestosis, DES, the Sindell case which suggests a market share liability theory. You no longer have to locate the defendant if you have, for instance, a pharmaceutical, and the claimant cannot identify the manufacturer. You simply divide up responsibility based on market share.

All of these kinds of developing liability concepts, and situations such as Love Canal create a psychological problem for underwriters. They are concerned; they feel they are losing control of liability concepts.

With respect to asbestosis, some of my companies now feel they will be held responsible or will pay liability for manufacturers for exposure to asbestosis which may have taken place three or four decades ago. All of these things create a psychological block to writing post-closure liability situations.

Now, what are the results or what conclusions can I draw from this? There will be some coverage available. I think that for a site which is constructed in 1981 there might be coverage for postclosure, that is a site which is designed, constructed, and lives out its operational existence under EPA scrutiny and under RCRA regulations.

In a situation like that, the underwriter could literally participate in the design and construction phase of that site, and probably would feel comfortable during the postclosure period.

Waste disposal site owners who can offer a very large commercial general liability premium will probably be able to find coverage in the postclosure period. The commercial general liability policy is a policy which includes four or five or six different kinds of insurance, general liability for a slip and fall in your plant, commercial auto for your fleet of trucks, property coverage for your plant, and possibly liability coverage for your waste disposal site.

I think some insurers reluctantly would provide postclosure liability simply because they did not want to lose that insured, be-

cause he offers a very large premium for all of these lines in this package.

Finally, there may be some owners of well-managed large sites who will find coverage, again because their sites are well managed. They would meet sound underwriting criteria and the premium would be fairly low, but there are many gaps here, particularly the small site owners.

I doubt that a site which has been operational for 30 years and will enter its postclosure phase in the near future will find coverage unless it is one of these large risks that offer a large CGL policy premium.

The insurer was not involved in the design phase or the construction phase and, therefore, there is a blind spot, and certainly, if I were an underwriter, I would not advise my company to write that kind of risk.

Thank you.

[Testimony resumes on p. 45.]

[Mr. Kimble's prepared statement follows:]

STATEMENT OF
THE AMERICAN INSURANCE ASSOCIATION
BEFORE THE
SUBCOMMITTEE ON TRANSPORTATION AND COMMERCE
OF THE
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
CONCERNING
THE NEED FOR A POST-CLOSURE LIABILITY FUND FOR WASTE DISPOSAL SITES
JULY 25, 1980

The American Insurance Association (AIA) is a trade association of 152 publicly-owned property and casualty insurance companies. In the absence of legislation establishing a post-closure fund in lieu of insurance coverage, the member companies of AIA will be asked to be the principal domestic source of post-closure liability insurance for hazardous waste disposal sites.

The American Insurance Association supports the concept of a post-closure liability fund for hazardous waste disposal sites. Although the foreign market and some domestic insurers have expressed an interest in providing insurance coverage for pollution liability, the market is insufficient to provide coverage to owner/operators of all hazardous waste disposal sites, and the coverage is narrow in its application. Without the establishment

of a post-closure liability fund, owner/operators, particularly the small, independent site owner/operators, will experience an immediate availability and/or affordability of insurance problem.

Section 3004 (6) of the Resource Conservation and Recovery Act of 1976 requires EPA to establish financial responsibility standards applicable to owners and operators of hazardous waste management facilities. The establishment of levels and categories of insurance coverage by federal mandate is a serious problem for the insurance industry. The demand for insurance coverage to service state and federal pollution liability systems may exceed the industry's capacity to provide protection. Legislation which imposes levels of financial responsibility on owner/operators as a prerequisite for doing business transforms insurance from a consumer product to a societal necessity. The supply of insurance to service a liability system which responds to toxic discharges and hazardous waste disposal is not perfectly elastic. It is largely a function of, and limited by, the general condition of the United States and foreign insurance markets, the competing demands for capacity from a variety of other insurance risks, and the specific economics of the risk of catastrophic loss associated with hazardous waste.

The establishment of a post-closure fund which responds to liability generated by hazardous waste disposal sites is a necessary supplement to the limited availability of insurance to respond to pollution liability situations which are neither sudden nor accidental.

The current limitations on pollution liability insurance are a result of public policy, rapidly developing common law liability theory, potential

magnitude of loss associated with toxic waste, and the inevitable legal ambiguities of causal relationship and multiple causation associated with disease-related injuries.

The independent development of federal tort law concepts which would nationally codify the most advanced common law theories and add presumptions which are common to compensation systems but not liability systems will further impede the development of an insurance market.

The current status of insurance coverage for potential liability associated with hazardous substances releases and hazardous waste disposal is inadequate to assure an immediate response to the post-closure financial responsibility requirements referenced in the Resource Conservation and Recovery Act.

There is a substantial deficiency in the availability of liability coverage to pay damages and attorney's fees for toxic substances liability claims based on common law theories such as negligence, trespass and nuisance. Coverage to service the compensation system contemplated in the various initiatives proposed by the 96th Congress generally would be limited to toxic substances emissions which are both sudden and accidental, thereby eliminating from coverage most pollution situations.

A liability insurance contract is an agreement between the company and the insured by which, in consideration of the payment of a premium:

The company will pay on behalf of the insured all sums which the insured shall become legally obligated to pay as damages because of bodily injury or property damage to which this insurance applies, caused by an occurrence, and the company shall have the right and duty to defend any suit against the insured seeking damages on account of such bodily injury or property damage, even if any of the allegations of the suit are groundless, false or fraudulent.¹

1/ Standard Comprehensive General Liability
policy wording, 1966 edition (no change 1973)

The extent of coverage for toxic substances pollution and hazardous waste disposal is limited by a restrictive endorsement which states:

It is agreed that the insurance does not apply to bodily injury or property damage arising out of the discharge, dispersal release or escape of smoke, vapors, soot, fumes acids, alkalis, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere or any watercourse or body of water; but this exclusion does not apply if such discharge, dispersal, release or escape is sudden and accidental.

Insurance protection against oil discharges by an onshore facility into a water course or body of water is generally not available today, having been similarly excluded from the comprehensive general liability policy in 1970. The restrictive endorsement reads:

It is agreed that, if with respect to operations described in the endorsement, there is a discharge, dispersal, release or escape of oil or other petroleum substance or derivative (including any oil refuse or oil mixed with wastes) into or upon any watercourse or body of water, the insurance does not apply to bodily injury or property damages arising out of such discharge, dispersal, release or escape whether sudden or accidental.

Therefore, as to oil industry exposures, oil pollution is not covered regardless of the cause, even if accidental.

Arguably, it would be against public policy to offer insurance for liability from hazardous substances pollution. Certainly, the concept of readily available, inexpensive coverage for intentional pollution is neither rational nor appealing. Many instances of pollution are intentional. Polluters often know they are polluting but cannot or will not stop.

A discharge of harmful waste from a disposal site which an insured knows is occurring continuously and which he can reasonably conclude will cause property damage or bodily injury is not a proper subject matter of insurance.

The dissimilarities between the current liability theories for toxic substances discharges and disposal and the liability theories preferred in "superfund" legislation will impede the development of an insurance market. Traditionally, insurers have been reluctant to provide insurance coverage to serve a new or rapidly developing liability and compensation system. Normal problems of risk assessment are intensified when insurers lack the experience and data base generated by a well established, predictable liability system. Accurate pricing of the insurance mechanism is impossible until a class of potential claimants is identified and the scope of potential liability is determined through a period of exposure to the system.

"Superfund" legislation introduces broad new categories of claimants and compensable damages which will make risk assessment extremely difficult until a data base is generated through claims experience under the liability system. During this initial period insurers would be in the uncomfortable position of basing their rates more on conjecture than on responsible judgment supported by hard data.

In reviewing the basic criteria for determining insurability of losses as delineated by Commercial Liability Risk Management and Insurance, the difficulty in underwriting pollution insurance for hazardous waste sites becomes evident.²

^{2/} Requisites for insurability were excerpted from Commercial Liability Risk Management and Insurance, Volume II, ch.11 "Special Liability Exposures and Their Treatment"

Losses must be definite in time, place, and amount.

Many pollution losses cannot be pinpointed as to time and place, nor to any one source. They are attributable to prolonged misuses or exposures by many sources. For example, it would be almost impossible to determine whether, and to what extent, illnesses or property damages are solely attributable to an insured. Another difficulty would be to prove that the actual cause of some diseases -- emphysema for example -- is the air pollution. Such diseases can be caused by other factors, such as smoking, or working in a hazardous industry. Multiple causes of loss could pose causation problems, even when a pollution incident is sudden and accidental.

Losses must be accidental in nature.

Without question, some of the pollution that culminates in damage is willful or done with flagrant disregard to its possible effects. Also, some acts are intentional, but the results are unforeseen. A typical example is the dumping of mercury into streams and rivers, an occurrence that went on for a number of years. It was thought that mercury would sink and do no harm. However, it was subsequently discovered that mercury so disposed of would produce another harmful substance.

Losses should not have an unmanageable catastrophe potential.

Pollutants and contaminants are obviously capable of producing catastrophic results. Whether the catastrophe potential of pollution liability can be managed now or in the future is not yet clear but the severe consequences of an error in making this judgment justify some caution on the part of insurers.

There should be a large number of homogeneous exposure units.

In order that losses may be predicted accurately enough, there should be a large number of homogeneous exposure units - i.e., similar type businesses or organizations in order to permit satisfactory predictions of the losses that will be incurred by firms that are actually insured. There also should be a substantial volume of credible loss experience and an acceptable means of forecasting significant increases in future losses. It would seem that there are ample numbers of similar firms interested in purchasing pollution liability insurance if the price is reasonable. Nonetheless, it is still a difficult task to predict the frequency and severity of insurable pollution liability losses for those who would constitute the insured group.

Losses should be measurable in terms of money.

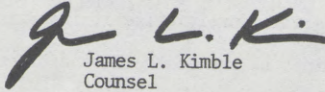
Measuring the dollar costs of property damage, bodily injury, sickness, death, loss of earning power, and loss of consortium and other such intangibles is sometimes difficult, though it is not impossible in the context of most types of legal liability. However, in some pollution cases, as mentioned earlier, it may well be impossible to determine the proper portion of a total dollar loss that was caused by a particular insured. There may be many causes involved, as well as many different polluters. Moreover, additional problems will surely arise if insurers are required to pay damages for such things as the aesthetic and/or enjoyment value of recreational areas or lakes.

Insurance must be economically feasible.

If the statutory goals of curbing water, air, noise, and thermal pollution are met in the future, and if anti-pollution control devices and other effective techniques are implemented on a widespread basis, perhaps pollution liability insurance will become more readily available at economically feasible premiums. At present, however, these are not the realities. Pollution is still rampant. Pollution costs are enormously high and appropriate insurance is difficult to obtain, especially for premiums prospective buyers would pay.

An insurance market may develop to serve liability resulting from waste disposal sites which have been designed, constructed, and live out their operational existences under EPA scrutiny. However, sites currently in existence which will be regulated by EPA during their post-closure phase and small site owner/operators may experience difficulty in obtaining and/or affording liability coverage. A federal post-closure liability fund is a necessary supplement to private sector insurance and will provide an immediate source of compensation while an insurance market develops voluntarily.

Respectfully submitted,


James L. Kimble
Counsel

JLK/dab

Mr. LEE. Mr. Humpstone?

STATEMENT OF CHARLES C. HUMPSTONE

Mr. HUMPSTONE. Mr. Lee, Ms. Mikulski, it is a great pleasure to be invited to testify before the subcommittee this morning.

Mr. Kimble mentioned, as he began his testimony, the Howden-Swan group is offering gradual coverage. I am here as a representative of that insurance program which is currently providing insurance liability for third-party liability and offsite cleanup costs resulting from gradual and unintended releases of contaminants from hazardous waste disposal facilities, as well as for other industrial operations.

My firm, Environmental Risk Assessment Service, provides the engineering survey that the insurers require as a prerequisite to insuring a site. A couple of witnesses have mentioned the availability or nonavailability of this insurance.

Mr. Kimble referred to 1970 when it was removed from the commercial general liability policy.

Let me go over that history a bit. In the old days, that is to say before 1965, the ordinary general liability policy covers today sudden and accidental, but for a very modest additional premium, in the range of 5 percent, you could also get gradual coverage, and it was written on an occurrence basis and I will come to a definition of an occurrence basis in a minute.

In 1965, the commercial general liability underwriters for the first time agreed on a standard wording. Up until then, each carrier had a different wording, and when they agreed on that standard wording in 1965, they thought that gradual pollution was so modest an exposure that they eliminated the distinction and gave gradual coverage for no extra premium, from 1965 until 1970.

In 1970, partly because of the attention that was being made in these halls to pollution problems, partly because of the aftermath of *Torrey Canyon* in 1967 and the creation of EPA in 1970, partly because of Earth Day, some underwriters began to grow uneasy about resurrecting that old distinction and this time deleted gradual, nonsudden pollution coverage from this CGL policy entirely.

By early 1971 this coverage was not available with a few significant exceptions that are not pertinent here. It was not available anywhere in the world, not from Lloyds of London, not from anywhere. That is the point.

The program which I am involved in began to evolve. This worldwide insurance program was organized by a London brokerage organization, H. Clarkson, Ltd., in 1972. In the United States, the managing agent for the program since 1975 has been Howden Agencies, Ltd., of Cranford, N.J., a subsidiary of Alexander Howden Group Ltd. of London, one of the largest insurance brokers in the world, with assets in excess of \$500 million.

The basic coverage provided is for liability arising out of the gradual and unintentional release of pollutants which result in bodily injury, property damage or offsite cleanup costs. It is intended to dovetail with the coverage available under the standard general liability policy which provides pollution coverage only when the discharge is sudden and accidental.

In many instances, however, we are called upon to provide coverage for both sudden and gradual exposures. This can be accomplished through the deletion of a standard policy exclusion.

The program provides a 1-year policy which is made on what the insurance industry calls a "claims-made" form.

Let me expand on that. There are two general forms of liability insurance. Claims-made, which is our program, and occurrence-base, which is the standard BGL.

An occurrence base insurance policy, if I may say so, is prospective, it looks forward in time.

It says if you buy this insurance for 1 year, which is usually 12-month term, and you pay the premium and 1 occurrence happens during that 12 months and the ramifications of that occurrence don't happen until down the line some time, but if the occurrence happens during those 12 months, then this policy will respond even though next year you choose not to renew this policy.

You either buy it from somebody else or you don't buy it at all. If the tank explodes this year and the poison does not do its deadly work for 5 years, the occurrence base policy will respond in the future to the occurrence that happened this year.

There is usually some kind of a time limit on the occurrence-base policy. It will only protect you for what, 5 years, 10 years down the line. It looks ahead to things that went wrong this year. The claims-made policy is retrospective. It works the opposite way. The claims-made policy says we don't care when the occurrences or events happen. If the claim is made during the term of the policy, if the widow walks in during those 12 months and presents a legitimate claim, the policy will respond.

Our policy is a claims-made policy for the reason that when the insurance industry is anxious, nervous about a set of prospective exposures, getting ready to write a new kind of insurance, the reserve requirements that are necessary for a claims-made program are very clear.

At the end of 12 months you know whether there has been a claim made or not. If there has not been a claim made you don't need a reserve.

If there is \$12 million worth of claims pending, you need \$12 million. You know when you want to stop writing that kind of insurance because the claims history has been just too awful, or you raise all the premiums to live with it.

An occurrence-base policy has the unfortunate effect, at least on the board of directors of the insurance company that writes it, that they never know what their exposure may be. The policy may be over, the premium may be in their pocket, but somewhere out there a claim may be germinating that will arrive tomorrow for \$19 million, so they have to go by rule of thumb to predict what their reserves should be.

Therefore, when the insurance industry is getting into a new area, it will go to a claims-made policy for at least some years while it gets actuarial experience with the deal it is dealing with.

Now, our existing program currently offers limits of up to \$5 million per claim, or a group of related claims with an aggregate of \$10 million in 1 year. The policy has no retroactive date. The poison could have been put in the ground 40 years ago, and it has

no discovery period. If you choose not to renew on December 30, you don't renew the policy, then a claim comes in on January 2, this policy will not respond.

The programs portfolio of current insureds includes some of the largest hazardous waste disposal operations in the United States as well as some of the smallest.

Some years ago at Congress request, EPA furnished a sort of profile of the so-called offsite, the hazardous waste disposal contractors. It concluded that there were 100 firms in the business. Well, today maybe they would double or triple that figure, I don't know.

They asserted that on the basis of their investigation, probably the biggest 5 or 10 firms accounted for 90 percent of the business in the offsite disposal contracting business. If that is true, then I guess we are now currently insuring something over 50 percent and maybe over 75 percent of the licit capacity of the offsite hazardous disposal sites.

We are insuring a number of the small sites.

Mr. LEE. I am going to have to interrupt you, sir. I ask your indulgence for us to go over to the floor and vote.

I will declare a 15-minute recess to go over and do that and then return. My apologies.

[Brief recess.]

Ms. MIKULSKI [presiding]. Mr. Humpstone, I am going to ask you to continue your testimony.

Mr. HUMPHSTONE. Thank you, Madam Chairman.

I was saying that the existing portfolio of insureds covered by the program I described earlier covers both the largest and the smallest of the waste disposal operations as well as industrial organizations that have onsite waste disposal facilities of their own.

Under a number of these policies both regarding offsite waste disposal contractors or onsite chemical companies that dispose of their own wastes we are now covering closed sites.

I thought it important to put before the subcommittee that fact, that this insurance program and its competitors are currently able and will remain able to insure closed sites.

There is nothing magic about the moment of closure that makes the insurance problem any different. What is different is perpetual insurance. That is the difficulty. If you look forward for an infinite number of years in the future and try to get present day insurance to cover all that period, that is the difficulty.

The key to the insurers' willingness to underwrite this coverage is the engineering survey which is undertaken prior to or at the time coverage is bound. There was a good summary of what we do in the testimony that the Sierra Club gave a few minutes ago when they described what a State should do at the time it is deciding whether a site is being properly closed. We do that. We examine the location of the population at risk as he put it, the management attitudes, the effectiveness of management, and having done all that contact the registry agency to see whether the site has been meeting its permit requirements.

The findings of our engineers are translated into recommendations that form the basis of the preconditions or policy conditions which must be met by the insured. Even after coverage is bound, we provide for a system of followup surveys, where needed, to

verify that our survey recommendations are being met. All policies contain a specific exclusion for liability rising out of intentional noncompliance with any applicable statute or regulation. The underwriters will not cover the willful and knowing polluter; however, if a particular site or operation is in noncompliance but is operating under a temporary permit or variance, we will provide coverage so long as the insured is actively working toward bringing the operation into compliance.

We are proud of the fact that in many instances the implementation of our survey recommendations has resulted in a better, safer operation than the insured had previously maintained.

We are aware that this committee is considering several alternative methods of handling the problem of financial responsibility for postclosure sites. We do not advocate any particular approach nor propose to offer a packaged solution. Rather, my purpose for being here is to make you aware that one portion of the private insurance sector is prepared to offer pollution coverage that can assist in solving this problem. If there remains, after the closure of a particular site, a responsible party, either an ongoing operating corporation or a private or public sector trustee, that can supervise maintenance and monitoring and pay premiums, coverage can be provided.

We are not in a position to offer coverage to abandoned sites. Where there is no party responsible for the continued maintenance of the closed site, our underwriting requirement cannot be met.

I wish to emphasize that this program does not have, at the current time, the capacity to insure every postclosure site in the United States which falls within the criteria mentioned.

We have heard a 23,000 site figure mentioned earlier today. However, the traditional development of a new coverage within the insurance industry has been its introduction by an innovator, on a limited scale, followed by the entrance of other companies into the field once it has been established that the risk is insurable and that there is profit potential. We believe we are seeing this process now, since in May of this year another pollution liability program, with coverage closely tracking ours, was introduced by a U.S. insurance company. A third program is being formed and has made its initial marketing presentations, although it has not yet initiated public advertising, so the availability of this coverage will not be limited to a single source but will be increasingly widespread.

I believe that our involvement in this program demonstrates that one portion of the insurance industry has addressed itself to the issue of postclosure site financial responsibility and hope that this information will assist you in your deliberations.

Let me speculate a bit and go beyond what I have said so far. I have mentioned that we can insure postclosure provided there was an owner or trustee in possession or supervision. One possibility that was briefly mentioned by the EPA testimony this morning was the possibility there might be a several tiered solution to this problem. Let me suggest I can imagine a future in which the pool that we heard described earlier, where a \$200 million or \$400 million or any other number, can greatly leverage itself as either if the administrator of the pool is allowed to on a competitive basis annually for each site as its renewal time comes due take bids for

insuring that site in the commercial market, the exact same insurance we are writing today. There is no reason why the administrator cannot pay the premium and presumably someone is going to have to look after monitoring if that is to be carried forward. If it is not, that could affect the price of the premium or refusal of the commercial market to insure. There is no reason why the administrator could not, in a competitive insurance market place each site out for commercial insurance each year and use the fund to cover the insurable sites. In any insurance there are some assigned risks, there are automobile drivers who cannot get insurance and the fallback is some kind of a collective kitty.

There is no reason why this fund could not be used to pay the claims against the uninsurable postclosure site as well as paying the catastrophic loss. I want to emphasize that most of the costs claims are not going to be \$2 and \$3 billion claims, they are going to be \$500,000, \$2 million, \$3 million. The likelihood is that the administrator of such a program would find that a very large—98 percent of his sites had no trouble insuring on the commercial market which would leave the balance in the kitty to deal with the catastrophic once in a lifetime or twice in a lifetime happening.

I wanted to make one last contribution and then be quiet. There was mention by one of the committee members this morning of coverage of financial responsibility requirements by bonding. There has been some earlier mention of trust funds the same way but bonding has been a somewhat misleading concept for the Congress. There have been several statutes in which Congress has, in the process of trying to create financial responsibility standards, assumed and said so in the legislation bonding would accomplish that result.

Let me explain why it will not. Bonding is not a process by which a company offers to pay an enormous debt or loss in exchange for a modest annual premium. Bonding is an administrative convenience where a performance bond is posted. The company posts it because it knows very well the contractor is going to be able to fulfill and if he does not know that the bonding company requires the down payment of collateral and will require 100-percent collateral where 100 percent in doubt. Whereas here there is nothing but doubt out here a requirement legislatively that a bond be posted to create a fund of \$5 million or \$10 million would simply be another way of requiring the permit holder to post cash collateral of \$5 or \$10 million.

So as long as the committee intends that there is not any problem. That is one of the things you are trying to avoid. That is the effect if you require a bond. If you allow a bond as an alternative it simply means no one will use that alternative.

[Mr. Humpstone's prepared statement follows:]

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STATEMENT OF CHARLES C. HUMSTONE
TO THE UNITED STATES HOUSE OF REPRESENTATIVES
SUBCOMMITTEE ON
TRANSPORTATION AND COMMERCE

I am here as a representative of an insurance program that is currently providing insurance coverage for third party liability and off-site clean-up costs resulting from gradual and unintended releases of contaminants from hazardous waste disposal facilities as well as for other industrial operations.

My firm, Environmental Risk Assessment Service, provides the engineering survey that the insurers require as a prerequisite to insuring a site.

This world-wide insurance program was organized by a London brokerage organization, H. Clarkson, Ltd. in 1972. In the United States, the managing agent for the program since 1975 has been Howden Agencies, Ltd. of Cranford, New Jersey, a subsidiary of Alexander Howden Group Ltd. of London, one of the largest insurance brokers in the world, with assets in excess of 500,000,000 dollars.

The basic coverage provided is for liability arising out of the gradual and unintentional release of pollutants which result in bodily injury, property damage or off-site clean-up costs. It is intended to dovetail with the coverage available under the standard general liability policy which provides "pollution"

coverage only when the discharge is sudden and accidental. In many instances, however, we are called upon to provide coverage for both sudden and gradual exposures. This can be accomplished through the deletion of a standard policy exclusion.

The program provides a one year policy which is made on what the insurance industry calls a "claims-made" form. It currently can offer limits up to \$5 million per claim, \$10 million aggregate per year, inclusive of legal fees and costs. The policy has no retroactive date and no discovery period. This means that the insurer's liability is determined by the date the claim is presented. The occurrence that gives rise to the claim may have happened many years in the past, but if the claim is presented during the policy period, it will be honored. The absence of a discovery period means that once the policy has expired, no coverage exists for a claim subsequently made.

The program's portfolio of insureds includes some of the largest hazardous waste disposal operations in the United States as well as a cross section of other industries including the petroleum industry and various manufacturing and processing industries. Under a number of these policies coverage is being provided for previously used, now closed, waste disposal sites.

The key to the insurers' willingness to underwrite this coverage is the engineering survey which is undertaken prior to or at the time coverage is bound. Environmental Risk Assessment Service uses professional engineers with many years of experience in environmental controls. They visit the sites to be covered,

investigate the insured's past and present pollution control measures, and contact the applicable regulatory agencies to determine whether the operations to be covered are in compliance with current standards.

The findings of our engineers are translated into recommendations that form the basis of the preconditions or policy conditions which must be met by the insured. Even after coverage is bound, we provide for a system of follow-up surveys, where needed, to verify that our survey recommendations are being met. All policies contain a specific exclusion for liability arising out of intentional non-compliance with any applicable statute or regulation. The underwriters will not cover the willful and knowing polluter; however, if a particular site or operation is in non-compliance but is operating under a temporary permit or variance, we will provide coverage so long as the insured is actively working toward bringing the operation into compliance.

We are proud of the fact that in many instances the implementation of our survey recommendations has resulted in a better, safer operation than the insured had previously maintained.

We are aware that this committee is considering several alternative methods of handling the problem of financial responsibility for post-closure sites. We do not advocate any particular approach nor propose to offer a packaged solution. Rather my purpose for being here is to make you aware that one portion of the private insurance sector is prepared to offer pollution coverage that can assist in solving this problem. If there remains, after the closure of a particular site, a responsible party, either an on-going operating corporation or a private or public-sector trustee, that can supervise

maintenance and monitoring and pay premiums, coverage can be provided.

We are not in a position to offer coverage to abandoned sites. Where there is no party responsible for the continued maintenance of the closed site, our underwriting requirements cannot be met.

I wish to emphasize that this program does not have, at the current time, the capacity to insure every post-closure site in the United States which falls within the criteria mentioned above. However, the traditional development of a new coverage within the insurance industry has been its introduction by an innovator, on a limited scale, followed by the entrance of other companies into the field once it has been established that the risk is insurable and that there is profit potential. We believe we are seeing this process now, since in May of this year another pollution liability program, with coverage closely tracking ours, was introduced by a U. S. insurance company. A third program is being formed and has made its initial marketing presentations, although it has not yet initiated public advertising, so the availability of this coverage will not be limited to a single source but will be increasingly widespread.

I believe that our involvement in this program demonstrates that one portion of the insurance industry has addressed itself to the issue of post-closure site financial responsibility and hope that this information will assist you in your deliberations.

Mr. KIMBLE. Let me add something in that area. The function of a bondor is to eliminate risk by choosing types of people who will not cause a loss. The function of an insurer is to bear a risk—entirely different functions.

Ms. MIKULSKI. Let me just ask a few questions. Mr. Humpstone, I was intrigued by many parts of your testimony but in the last part when you were talking about using some type of pool to leverage and then, second, using another set of funds to insure the uninsurable, what pool were you talking about?

Mr. HUMPSTONE. I was talking about the pool to be created by the proper legislation, that is the Senate bill levies a charge—

Ms. MIKULSKI. You mean the Randolph?

Mr. HUMPSTONE. Yes.

Ms. MIKULSKI. Are you saying that it should be used for both functions?

Mr. HUMPSTONE. I am. I am saying that pool once created rather than have it respond to all claims postclosure, could leverage its effectiveness by using some of its resources to pay annual insurance premiums, to transfer some of the risk of loss out to the private commercial insurance industry.

To the extent that losses exceeded the limits of the insurance policies that were written—EPA's current proposed regulation speaks of \$5 million per claim—assuming those limits were the ones carried forward into the postclosure period, then the pool would still be available to pay losses in excess of \$5 million per.

Ms. MIKULSKI. I have a question of you, Mr. Kimble. During the early part of your testimony you said the trade association you recommended in this uncharted area still would not give insurance or you would provide it where the liability of the accident was not expected or intended I believe was the word you used. How do you define that and how would that be handled?

Mr. KIMBLE. Neither expected nor intended indicates to me that the insurer will not write a polluter who purposely, intentionally pollutes.

Ms. MIKULSKI. All right.

You, Mr. Humpstone, said you do not provide insurance unless the occurrence is sudden or accidental.

Mr. HUMPSTONE. No, ma'am. I said the opposite of that. I said I am here as a representative of an insurance program that covers gradual and unintended release.

Ms. MIKULSKI. So you cover the seepage?

Mr. HUMPSTONE. Yes.

Mr. KIMBLE. One or two of my companies are now seriously considering writing seepage coverage.

Ms. MIKULSKI. I am trying to get a picture of what you cover in your respective testimony which is really developing the theory with the conceptual basis of any funding we might do.

Mr. KIMBLE. The only area in which there would be no coverage would be for the intentional polluter.

Mr. HUMPSTONE. Our existing policy begins by covering gradual and if possible we will expand our policy to cover sudden and accident also. Our standard policy covers gradual. For additional premium we will also cover sudden and accidental.

Ms. MIKULSKI. Could you elaborate a little more on the year to year policy. As I understand, you said you cannot provide perpetual insurance. I do not know what you mean by that.

Mr. HUMPHSTONE. I mean that as of today our program and any program is to buy an insurance policy today which will let us say is the first day postclosure of a site—it has been operating for 30 years, it has been closed and now we are in a final period. At that moment you want to buy an insurance policy which will pay any claims or costs related to that site. That is what is very hard to do. What I am saying, you can buy commercial insurance which will allow you to buy 1 year's coverage and at the end of that year you come back and buy another year's coverage. There is no reason why the administrator cannot continue as the site operators today are now doing to renew coverage every year.

Ms. MIKULSKI. So the year to year coverage offers in terms of this developing area opportunities, one, right now there is very little in the private sector that is offering insurance?

Mr. HUMPHSTONE. No, there is quite a lot.

Ms. MIKULSKI. Your company is but it is not a widespread availability of insurance?

Mr. HUMPHSTONE. There are some competing companies that have just come into the market.

Ms. MIKULSKI. But if I had a dump site and wanted to buy coverage I cannot go to Sears and Allstate to get that?

Mr. HUMPHSTONE. That is correct.

Ms. MIKULSKI. By the management administrative technique of year to year, what you are saying this is how this is all developing so you can provide coverage and yet at the same time provide proper safeguards to your own industry. Is that correct?

Mr. HUMPHSTONE. That is correct. That is the theory behind it.

Ms. MIKULSKI. If I have this disposal site and I keep coming back year by year do you analyze every year the state of my disposal site to determine premiums?

Mr. HUMPHSTONE. Yes; although probably not with the same degree of intention before we first insured it. At the present time when we do a renewal there may or may not be a physical visit to the site. It may be a series of telephone calls with managers of the registry agencies to see how things are going.

Ms. MIKULSKI. Let us say I intend to do a very good management job. I meet all those standards. What happens to my premiums? Do they go up or down or stay the same every time I come back?

Mr. HUMPHSTONE. I do not want to embarrass myself in front of my client who is sitting in front of the room but I would say sooner or later they should come down if you are doing a good job.

Ms. MIKULSKI. Is that in a decade?

Mr. HUMPHSTONE. I say sooner or later because this program has been covering waste sites in this country since 1977. The question is how long we need to show a good record before the underwriting gets some sense of actuarial certainty.

Ms. MIKULSKI. Right now the premiums would be the same?

Mr. HUMPHSTONE. The same as they were earlier. I would say within 5 years we can expect to see the sites we have confidence in have their particular premiums start to decline. The sites that we

are apprehensive about and increasingly so expect to see their premiums increase.

Mr. KIMBLE. Experience is a key factor in establishing premium, but there are other factors as well. For instance, a premium for a waste disposal site situation today would go up after superfund becomes law because the liability system associated with that waste disposal site would be harsher.

Ms. MIKULSKI. I see.

In your testimony, Mr. Kimble, on page 1 you talked about "The American Insurance Association supports the concept of a postclosure liability fund for hazardous waste disposal sites." Then you go on to say but "the market is insufficient to provide coverage to owner/operators of all hazardous * * * sites."

I don't know what you mean. One of the things Mr. Humpstone has just said is that nobody can provide all the insurance to meet all the needs. Can you tell me why the market is insufficient? It seems to me the market is tremendous.

Mr. KIMBLE. The market in this specific area. There is a large insurance market but the insurers who would be interested in writing this kind of coverage are few.

Ms. MIKULSKI. But not the potential procurers?

Mr. KIMBLE. Right.

Ms. MIKULSKI. I misunderstood your testimony. I thought you were saying that the people didn't want to get into it because there was a small market of procurers.

Mr. KIMBLE. No. By market I mean the insurance industry, not the insurance consumers.

Ms. MIKULSKI. On behalf of the committee, I would like to thank you for a helpful testimony in terms of insurance. The Congress, as you know, doesn't often get into actuarial insurance because of the traditional way we handle insurance in this country, but you have given us insights into the functioning of your business and the criteria by which we could set up some programs. Thank you very much.

Mr. Muth of the American Smelting & Refining Co.

STATEMENT OF ROBERT J. MUTH, VICE PRESIDENT, AMERICAN SMELTING & REFINING CO., INC. (ASARCO)

Mr. MUTH. I would like to explain what I do and what my company does so you will understand why I am here.

ASARCO Inc., my employer, is a company engaged in the United States, and through associated companies, in several other parts of the world, in the mining and processing of nonferrous metals and minerals, principally copper, lead, zinc, and silver and their associated byproducts, but including as well asbestos, coal, and other nonmetallic minerals. We are not in the insurance business.

ASARCO is likely to be impacted by Superfund legislation in two ways: The fees or taxes that will be levied to generate funds to implement such legislation may include charges against several of the metals and chemicals that we produce, for example, lead, cadmium, and arsenic, as well as sulfuric acid, which we are unfortunately required to produce in unwanted quantities as a byproduct of pollution control facilities.

Second, although the wastes generated in the mining and processing of nonferrous metal ores are generally innocuous, or of quite low toxicity, these wastes and their disposal sites may fall within the ambit of such legislation. We are, then, very much an interested party.

The views that I will express are those only of ASARCO and should not be taken as representing any other company or any trade association.

With respect to superfund legislation generally, it has been ASARCO's position—formulated many months ago—that abandoned and inactive toxic waste disposal sites present a significant environmental problem, and it is appropriate that this problem be addressed through legislation at the national level. We recognize the difficulties of funding a major cleanup effort. We believe that the cost should be borne by both government and industry, and we believe that a modest tax or fee levied upon the consumption of petroleum and organic and inorganic substances is a reasonable means of raising the share to be contributed through industry.

We have thus favored the enactment of Superfund legislation this year so long as the bill is carefully drawn to address the issue of abandoned and inactive waste disposal sites, and so long as it does not impose undue burdens upon any one industrial sector.

We support H.R. 7020 as passed by the House Commerce Committee and I welcome the opportunity to acknowledge with appreciation the leadership role played by the chairman of this subcommittee and his willingness to respond to the legitimate concerns of affected industry. We appreciate also the efforts of other members of the subcommittee who have appreciated the concerns of industry and have pursued constructive compromise in order to enact appropriate legislation this year.

Coming then to the subject of these hearings, it is my purpose to register support for a postclosure liability amendment; to urge certain changes in the Randolph amendment to S. 1480; and to make some general observations on the pending Superfund legislation in the House and the Senate to the extent that such observations are relevant to the question of insurance coverage.

Ms. MIKULSKI. Would it be helpful to summarize the testimony with the understanding that the total will be entered into the record?

Mr. MUTH. I will be happy to do that. [See p. 59.]

Our view on what has come to be known as the Randolph amendment is one that I find to be consistent with nearly all the testimony you have heard. We support the Randolph amendment because we do believe that at this time there is inadequate insurance coverage available in the commercial market. We are optimistic, however, that given a better opportunity to come to grips with the problems—and they are difficult—the private insurance industry may well be able to come up with solutions to the problem or at least, as Mr. Humpstone indicated, partial solutions whereby the private insurance industry could fulfill an important role in underwriting at least some of these risks.

My principal point in being here today is to urge that you give serious consideration to seeking to alter the Randolph amendment

so as to provide for the development of a voluntary private insurance option.

This will require some study. It will require the development of minimum standards as to what would be acceptable in the way of coverage as an alternative to the fund.

It may require some looking into layering, as Mr. Humpstone indicated. It may be that a disposal industry self-insurance fund could be created to underwrite certain of the risks.

I would like to point out one example where the insurance industry has in the past provided a very ingenious and helpful solution to an analogous problem. It is an old example but I think it illustrates a point. There was a time when industrial boilers could not be insured, when the explosion of boilers was indeed thought to be an act of God, such a high risk it couldn't be covered. But, given time to adjust to the problems, the insurance industry has been able to evolve a very ingenious program and it is an interesting program for our purposes because even today industrial boiler insurance consists very largely of inspection and monitoring services. As a result of these services the incidence of loss has become so small that the percentage of the premium dollar that goes to underwriting risk is minor.

I mention this simply because it represents a response by the private sector to a difficult problem. It has been successful. I believe, given the opportunity, the private sector will do a better job in the long run than a government agency trying to deal with these problems through writing of regulations. I hope that the Randolph amendment, while needed today, can be enacted in such a form as to encourage and provide for the development of a private option.

[Testimony resumes on p. 67.]

[Mr. Muth's prepared statement follows:]

TESTIMONY OF ROBERT J. MUTH
VICE PRESIDENT OF ASARCO, Incorporated
BEFORE THE
SUBCOMMITTEE ON TRANSPORTATION AND COMMERCE
OF THE
COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
CONCERNING
THE NEED FOR A POST-CLOSURE LIABILITY FUND FOR WASTE DISPOSAL SITES

JULY 25, 1980

Mr. Chairman and Members of the Subcommittee:

I want to express my sincere appreciation for the opportunity to appear and present some views on the very important question of the extent to which the United States Government should be involved in providing a post-closure liability fund for approved waste disposal sites.

ASARCO Incorporated -- my employer -- is a company engaged in the United States, and through associated companies, in several other parts of the world, in the mining and processing of nonferrous metals and minerals, principally copper, lead, zinc and silver and their associated byproducts, but including as well asbestos, coal and other non-metallic minerals.

ASARCO is likely to be impacted by Superfund legislation in two ways: the fees or taxes that will be levied to generate funds to implement such legislation may include charges against several of the metals and chemicals that we produce, for example, lead, cadmium and arsenic, as well as sulphuric acid, which we are unfortunately required to produce in unwanted quantities as a byproduct of pollution control facilities.

Secondly, although the wastes generated in the mining and processing of non-ferrous metal ores are generally innocuous, or of quite low toxicity, these wastes and their disposal sites may fall within the ambit of such legislation. We are, then, very much an interested party.

The views that I will express are those only of ASARCO and should not be taken as representing any other company or any trade association.

With respect to Superfund legislation generally, it has been ASARCO's position - formulated many months ago - that abandoned and inactive toxic waste disposal sites present a significant environmental problem, and it is appropriate that this problem be addressed through legislation at the national level. We recognize the difficulties of funding a major clean-up effort. We believe that the cost should be borne by both government and industry, and we believe that a modest tax or fee levied upon the consumption of petroleum and organic and inorganic substances is a reasonable means of raising the share to be contributed through industry.

We have thus favored the enactment of Superfund legislation this year so long as the bill is carefully drawn to address the issue of abandoned and inactive waste disposal sites, and so long as it does not impose undue burdens upon any one industrial sector.

We support H.R. 7020 as passed by the House Commerce Committee and I welcome the opportunity to acknowledge with appreciation the leadership role played by the Chairman of this Subcommittee and his willingness to respond to the legitimate concerns

of affected industry. We appreciate also the efforts of other members of the Subcommittee who have appreciated the concerns of industry and have pursued constructive compromise in order to enact appropriate legislation this year.

Coming then to the subject of these hearings, it is my purpose to register support for a post-closure liability amendment; to urge certain changes in the Randolph Amendment to S. 1480; and to make some general observations on the pending Superfund legislation relevant to the question of insurance coverage.

We concur in what we understand to be the fundamental theory supporting enactment of post-closure liability legislation. It is difficult to find new locations for off-site disposal of industrial wastes. I do not believe that waste disposal siting has yet become a critical problem for the mining industry, due perhaps to the remote locations of most mining operations. It may well become such however, if citizen concerns are not adequately addressed.

Indeed, citizen opposition to the nearby siting of waste disposal facilities may well become unrelenting unless nearby residents of proposed sites are assured of effective mechanisms to prevent releases of hazardous wastes and to correct errors before damage results.

The need for such assurance extends into the post-closure period, and yet this period seems today to present the most difficult

challenge for waste generators, the waste disposal industry and for commercial insurance underwriters. Given all of this, it is reasonable that the government should step in with a tax or fee in the nature of an insurance premium to build a federally administered fund to assure post-closure responsibility.

While we agree with this statement of the problem, and welcome the suggestion that government should do more to contribute to a constructive solution than simply grind out more regulations, we seriously doubt that the Randolph Amendment's exclusive reliance upon a mandatory fee and federally administered liability fund is the best approach. Instead, we believe that a voluntary private insurance option should be provided for, and should be encouraged. We are, moreover, concerned that the liability provisions of S. 1480 - especially in its original form - could so multiply the already considerable financial risk to anyone generating or disposing of toxic wastes as to usher in an era when only the government is capable of insuring these risks and spreading them among the citizenry.

It is wrong that innocent persons should suffer uncompensated injury. It is also wrong to require that productive enterprise take on the burden of unreasonable and hence uninsurable risks, and it is equally wrong, except in the most extreme circumstances, to require that citizens generally in their capacity as taxpayers or consumers bear such risks, even when government acts as the intermediary.

We believe that the right approach is to define and limit in an equitable and even-handed way the risks that must be

assumed. This is a task that traditionally has been performed by state courts and legislators through the law of torts. Then, the private sector, including waste generators and disposers as well as the private insurance industry should be given every opportunity and encouragement to assume these risks. In this way, we can take maximum advantage of the existing experience, skills, mechanisms, and procedures of the commercial insurance industry. Only when it is clear that a risk must fairly be undertaken that goes beyond the capacity of the private sector to underwrite, should government play the role of insurer of last resort.

There are considerable attractions to a compensation fund operated by the federal government, but there are negative features as well. One need only look at the sad experience under the so-called Black Lung Act to see how readily a well-intentioned federally enacted compensation program can be converted into a virtually uncontrollable social welfare system.

On the other hand, under the Randolph Amendment, a prerequisite for insurance coverage by the fund would be a determination by a federal agency employee that all regulatory requirements had been complied with, and that no signs of impending leakage are present. Anyone with first-hand experience in attempting to obtain any sort of final sign-off from a federal agency, especially where it results in potential liability to the government, would have to doubt that such sign-off can practically be obtained.

By trying to create a new insurance mechanism through legislation and the inevitable regulations that follow, we are taking on the task of reinventing a system that exists in the private sector and that may well be able to provide an adequate response, given time to adjust.

For example, the Randolph Amendment would base the fee - or premium - initially upon the volume of waste disposed, with the discretionary burden placed upon a federal agency to adjust the fee to reflect varying degrees of hazard. We agree that such a schedule reflecting degrees of hazard would be essential, and I will return to this point in a moment, but imagine the efforts - and conflict - that may go into fashioning that schedule. Yet the negotiation of premiums in the competitive insurance market, reflecting relative degrees of risk, is the day-to-day business of insurance underwriters and their assureds. Wouldn't we all be better off to leave this chore to the private sector, if we can?

We do not doubt the statements made to you that adequate post-closure liability insurance is not available today from the private sector. But we have really just begun to come to grips with the problem of assessing and controlling the long-term risks associated with toxic waste disposal. The ingenuity of the private sector ought not be too easily written off.

There was a time, for example, when the risk of explosion of industrial boilers was uninsurable. Boiler explosions were thought to be so uncontrollable that they were deemed an Act-of-God. But in time the insurance industry devised a highly specialized

program to control and underwrite the risk. Even today, industrial boiler insurance coverage consists chiefly of inspection services intended to prevent mishap. Explosions have become so rare that only a small portion of the premium dollar goes to underwrite the risk of loss. This may be a model worth studying to see if it can be adapted to the problem of toxic waste disposal sites. It is a model that has considerable attraction, given the emphasis it places upon prevention of damage rather than after the fact compensation.

Approaching the problem in another way, there may not yet have been time for generators and disposers of toxic waste to explore fully the alternatives offered by self-insurance plans, or by a combination of self-insurance - perhaps through an industry pool - and excess coverage placed with private underwriters. Such plans have been successful in recent years in solving what appeared to be extremely difficult insurance liability problems.

Also to be kept in mind is that for many of us a most unsettling event has been S. 1480, particularly in its original form. The ability of responsible parties in the private sector to cope with the admitted risks of toxic waste disposal will in part be a function of the kind of Superfund legislation that finally emerges from the Congress.

Specifically, then, there is a case to be made at this time for a governmentally constituted fund that is prepared to underwrite the long-term risks associated with toxic waste disposal. We believe, however, that the Randolph Amendment contains several shortcomings.

First, we believe that the fund should provide coverage for the liability of waste generators as well as of disposal site operators. It is, after all, the generator to whom the cost of the fees will initially be passed on.

Secondly, a matter of considerable concern to ASARCO is the fact that in the ^{Original} Randolph Amendment the Administrator is given discretion to adjust fees to take into account degrees of hazard, but is not directed to do so. ^{This may be corrected in the Senate Bill as reported,} Because we deal in internationally traded commodities, - copper, lead, zinc, silver - whose prices are set by the workings of commodity exchanges, we have little or no ability to pass on additional costs through price adjustments. We thus feel it imperative that any costs assessed against the industry take account of the relatively low level of risk associated with most mining wastes. We can ill afford to take on any undue burdens.

Third, there should be a reasonable statute of limitations for claims against the fund. The Senate Committee recognized this need elsewhere in its Superfund bill, but apparently failed to provide any comparable limit for the post-closure liability fund.

But most importantly, we believe that Superfund legislation generally should refrain from seeking to achieve revolutionary change in the tort law; and that the Randolph Amendment should be adopted, but changed to provide for the development of a voluntary private insurance option as an alternative to the governmentally established fee. To encourage the development of such an option,

the bill should be changed to require a comprehensive study to determine adequate and realistic minimum standards for such privately placed insurance, and to assist in the formulation of workable insurance programs.

Here, we do not use the term "study" as a code word for delay or resistance. Rather, we urge that any legislation relating to post-closure liability expressly state a Congressional preference for a voluntary private insurance alternative, direct a public study of how best to implement this preference consistent with the goals of the Act, and authorize and direct the administrator to implement the recommendations of the study.

We will be eager to participate in such a study and to render whatever help we can. We believe that our objective is the same as yours: to build a system that will provide proper safeguards for the citizen, and yet not discourage financially and morally responsible companies from engaging in businesses that unavoidably involve the generation and disposal of toxic wastes.

Ms. MIKULSKI. Thank you very much, Mr. Muth. Let me ask a few questions of you. What has been the experience of your company in obtaining private insurance?

Mr. MUTH. I should say that our company is not typical of the problems that are faced by the chemical industry. The mining industry, as I said, generates very large quantities of very low toxic potential waste. To date we have not had difficult problems in obtaining insurance.

I should underscore what other speakers have said. Our ability in the future to obtain insurance is going to be in part a function of the harshness of the legislation that emerges from the Congress.

Ms. MIKULSKI. You mean the general Superfund?

Mr. MUTH. If the general Superfund legislation coming from the Congress imposes exceedingly harsh liability risks on us, it will have the result of making it very difficult for us to obtain commercial insurance and, therefore, of continuing to operate our businesses. We are not anxious to assume uninsurable risks any more than Mr. Davis is anxious to have the Federal Government assume them. None of us can afford to do that.

Ms. MIKULSKI. The Randolph amendment, according to your testimony, containing "a prerequisite for insurance coverage by the fund would be a determination by a Federal agency employee that all regulatory requirements had been complied with, and that no signs of impending leakage are present."

Do you consider that harsh?

Mr. MUTH. The answer is "No."

Ms. MIKULSKI. No what? No, that it is harsh, or, no, that it is fair?

Mr. MUTH. It is not unfair but it is a difficult burden to place upon a Government employee. It is the kind of question as to which there is no absolute yes or no answer. It is the kind of question insurance underwriters deal with every day in assessing risks, and when they accept a risk it means that in their judgment the risks are reasonable. But it is a matter of judgment.

To put the burden on a Government employee to make a once and for all judgment, allowing liability to be shifted to a governmentally sponsored fund, I suggest that is going to be a very hard document to get signed.

Ms. MIKULSKI. As you know, one of the points I have been bringing up throughout the morning is this good buy bonus. How would you see, as we talk about the implementation of the legislation, the imposition of fees, the variety of risks because of the nature of the business—some are more risky than others, some are very much better management practices—what would be some of the kinds of incentives that we could build into the legislation to encourage better management?

One of the things Mr. Humpstone said by the very criteria they provide in order to qualify for insurance, they resulted in better management of postclosure site. In order to get the insurance you have to at least try to be neat. What similar things would you say would be incentives in the Federal program?

Mr. MUTH. There have been mentioned today several of them. The proposal for an assessment at the close of the active life of the site with a refund of premium dollars was an effort to grope toward this kind of thing.

I am afraid, though, what you are setting out to do is to reinvent the insurance industry. You see, the insurance industry already has all of these techniques in hand. They have variable premiums, retrospective rating procedures that in effect raise or lower premiums dependent upon past experience.

The insurance industry, operating in a competitive market, has the ability to assess risks, and in effect to reward the careful operator through lower premiums and better coverage.

To try to reinvent that system through a set of regulations that spells out precisely how certain rewards will be given I am afraid is a very difficult task.

Ms. MIKULSKI. I don't think the Congress wants to get into the insurance business. I think we are getting into this because of the kind of testimony we received from Mr. Kimble in which he said insurance companies are not lining up and holding conferences and think tanks on how they can get into this business. There isn't a wide range of alternatives in the private sector. Therefore, if we have to provide some type of social assurance to people that there would be some kind of catastrophic protection, it looks as if we are going to be in it for a while.

Mr. MUTH. Mr. Tyler indicated the only and most effective form of a reward is money. I suppose it would be possible to devise a system of scaled premiums. Certainly, we in the mining industry feel very strongly that a program that did not involve a scale of premiums dependent upon the degree of risk could be a crushing burden to us. Some allowance must be made for very large-scale disposal of materials of very low toxicity.

For example, in the copper industry today in the United States, we mine typically half a percent copper ore. So that for every ton of copper produced we produce 199 tons of mine waste somewhere along the way. Mr. Early's presentation suggested a premium of \$1.40 a ton, which seems quite small. But when you multiply even \$1.40 by the kinds of tonnage figures in the mining industry the resulting sums become astronomical.

For the legislation to function there will have to be some mechanism for recognizing degrees of toxicity of waste. By the same token, one can recognize degrees of efficiency of management, monitoring results, and so forth.

I would think location alone, for example, whether a facility is or is not within a reasonable distance from an aquifer is a factor that affects risk. All of these things would have to be taken into account. But I say again I am frankly at a loss as to how you formulate all of this in regulations.

Ms. MIKULSKI. This hearing is really a briefing for many members in order to organize our own conceptual orientation to the bill. Right now pending the Superfund legislation establishes a Federal liability only for sites without a RCRA permit. How would this legislation affect your ability to get insurance or RCRA permit sites? Do you think it would have any impact whatsoever?

Mr. MUTH. I am sorry, I think I missed the point.

Ms. MIKULSKI. The pending legislation would not apply under Federal rules of liability to releases from RCRA permanent sites. Those are the only ones embraced under a postclosure liability scheme, so aren't we really talking about oranges and apples insofar as the impact of Superfund legislation on a bill to procure insurance?

Mr. MUTH. Perhaps, but I am unable even to guess at what is going to emerge finally from the Senate bill or from the conference committee. I don't know what is coming. I felt it was essential to sound a warning here.

Ms. MIKULSKI. If final Superfund legislation does not apply Federal liability rules to releases from RCRA permanent sites, then how would you respond?

Mr. MUTH. Then my concern over that, obviously, is misplaced.

Mr. FLORIO. First of all, I apologize for trying to save the railroads.

Mr. MUTH. Good luck. We need those too.

Mr. FLORIO. Did I understand you to say that you understood that the Superfund proposal may jeopardize in some way the ability to obtain insurance for disposal sites?

Mr. MUTH. Oh, indeed, sir. I think this is a point that you have recognized earlier on today. Our ability to obtain insurance is a function of the predictability and the burdensomeness of the risks to which we are exposed. We have great concerns—and we are not alone—that the liability provisions that have been inserted in the Senate bill—

Mr. FLORIO. You are talking about liability of third parties, not the liability that goes to the fund? That seems to me to provide more assurance for insurance purposes rather than less.

Mr. MUTH. Oh, yes.

Mr. FLORIO. So you are concerned about the Senate approach and the approach that some are saying should be strictly built for anything that occurs to anyone?

Mr. MUTH. Yes.

Mr. FLORIO. I understand that now.

Mr. MUTH. On the other side, the question of creating a fund so as to assume the liabilities, of course, is a reassuring thing, and we are supportive of the Randolph amendment with some amendments that we were talking about.

Mr. FLORIO. I just think it is not as productive as it could be to mix the Superfund complex and the postclosure because the Superfund, at least the House version, deals with interim permitted sites and, if they get to be sites with final permits, will not apply to those sites. Then comes the need to deal with the subject that we are talking about today, which is insurance for the life of those sites, perhaps insurance for a period after those sites are closed.

But what happens way out, after they are closed? That is what we are talking about today. I am not really sure the relevance of the Superfund to this subject works one way or the other. If it works either way, it works to the degree of giving assurance to site operators rather than making them less sure.

Mr. MUTH. That is certainly true of the House bill, and we are very supportive of your bill and of your efforts to fashion an appropriate response to this problem.

Mr. FLORIO. Thank you very much for your testimony.

Our last witness is Dr. Charles Johnson, the technical director of the National Solid Wastes Management Association. I understand he has some colleagues that we would like him introduce for the record.

We are very pleased to have you back before our committee. You and your organization have been very helpful to us over the years in providing us information. We look forward to your testimony today.

As is the custom of the committee, your testimony will be entered into the record in its entirety and you may feel free to proceed in summary fashion. We appreciate your tolerance for a rather long and somewhat disjointed hearing.

STATEMENT OF CHARLES A. JOHNSON, PH. D., TECHNICAL DIRECTOR, NATIONAL SOLID WASTES MANAGEMENT ASSOCIATION, ACCOMPANIED BY WILLIAM C. BRASHARES, NSWMA COUNSEL; JEFFREY DIVER, SENIOR ENVIRONMENTAL COUNSEL, WASTE MANAGEMENT, INC.; AND BERNARD SIMONSEN, VICE PRESIDENT, IT CORP.

Dr. JOHNSON. Mr. Chairman and members of the committee, my name is Charles A. Johnson. I am technical director of the National Solid Wastes Management Association. With me today are representatives of two of our member companies who manage hazardous wastes, Mr. Bernard Simonsen, vice president of IT Corp., and Jeffrey Diver, senior environmental counsel of Waste Management, Inc. Also joining us, William Brashares, counsel for the association. You have copies of our written testimony, and with your permission, I will summarize and add a few points prompted by the testimony of the previous witnesses.

Mr. FLORIO. Please proceed.

Dr. JOHNSON. Included among the 2,000 members of the National Solid Wastes Management Association are the leading companies that offer the services of management of hazardous wastes to the industry of America. We estimate that our member firms treat, store and dispose of about 7 million metric tons of these wastes annually.

NSWMA has been working diligently with committees of Congress for the past decade to secure a national program of regulations of the practices for management of hazardous wastes. Our industry has taken the unusual step of calling for its own regulation because it cannot compete economically with those who would dispose of wastes by uncontrolled dumping—practices which, as recent developments have revealed, are extremely detrimental to the public and the environment.

We have been particularly supportive of the regulatory requirement that companies participating in this business be financially responsible for their actions. The regulations should assure that funds will be available to close a permitted hazardous waste management facility and monitor it for an extended period after closure. Companies also should be required to maintain levels of liability insurance to compensate third parties in the unlikely event that they suffer injury as a result of the facility.

During our study of this matter which began more than 3 years ago, we found one element of the financial responsibility matrix that cannot be resolved with existing mechanisms, that is, how to provide assurance that funds would be available after a facility is closed to pay for corrective actions and compensate third parties for damages arising from hazardous wastes interred at the closed facility.

We believe that EPA's regulatory program will be effective and that such postclosure problems are very unlikely to occur but nevertheless the eventuality must be provided for. This led us to propose the development of legislation to fill this void. It was introduced as Senate bill 1325.

S. 1325 would create a postclosure liability fund to which all RCRA permitted treatment and disposal facilities would contribute based on the amount of wastes received and their degree of hazard. Administered by the Secretary of the Treasury, the fund would be available to carry out corrective actions at a closed facility should they become necessary and to compensate for damages to third parties awarded by the courts or agreed to in negotiations with the administrator.

This coverage would take effect only if the site has been operated according to conditions of its permit and only after it had been certified as properly closed according to the regulations. S. 1325 proposes to fill another void in the financial responsibility matrix; that is, to provide funds to compensate third parties for damages incurred during the operating life of the site in excess of the insurance coverage required of the site operator, proposed by EPA to be \$5 million per occurrence, \$10 million per year.

Recently the Senate Environment Committee accepted unanimously an amendment to their Superfund bill, S. 1480, which includes key elements of S. 1325. The key difference is that the

postclosure liability fund of S. 1480 would not provide excess coverage during the operating life of the site and accordingly would require contributions only from those facilities where hazardous wastes would remain interred after closure.

Also, S. 1480 would mandate a period of monitoring of up to 5 years after closure before the fund would be available to provide coverage. We think the concept of S. 1325 provides better protection for the public but we agree that S. 1480 resolves the most difficult of the issues.

Questions continue to arise as to whether the entire matter of postclosure damage compensation might be provided by commercial insurance carriers. During the past several years, insurance companies have struggled with the question of nonsudden coverage, that is, protection from damages caused by slow, gradual escape of hazardous substances from a facility.

Operators are able to obtain conventional sudden insurance for their facilities to cover, for example, explosions and fires. Now the insurance industry has given indication that nonsudden coverage, in limited amounts, is becoming available for hazardous waste disposal operations, but only on a claims-made basis. Only those claims received while the policy is in effect are insured.

No insurance company has come forward with an occurrence basis policy for nonsudden events, the type of insurance that would be needed to provide protection for the public in perpetuity.

I think we have had a good explanation this morning from Mr. Humpstone of the difference between the claims-made and occurrence basis policies.

There are at least two scenarios, both very plausible, under which the public would find itself unprotected if it were to rely on claims-made insurance for protection during the postclosure period.

First, the operator might be unable to pay the annual premium required to keep the policy in effect. Since the facility would not be receiving revenues after closure, this is a very real possibility. In fact, the operator might not even continue to exist.

Second, the insurance companies may decide not to continue this type of insurance coverage either for the individual facility or in general. Insurance companies are not required to provide nonsudden insurance forever.

This leads to the most compelling reason why we feel the Congress should create a national post closure liability fund. Large additional quantities of wastes are likely to be designated as hazardous under EPA's regulatory program. At the same time the regulations are likely to force the closure of many of the sites now used for disposal of hazardous wastes. We expect that, at a minimum, 50-60 new regional facilities will be required in the very near future for proper treatment, storage and disposal of hazardous waste off-site.

Mr. FLORIO. Do you have an expectation of what percentage of those anticipated sites will be sites to intern waste, landfill type sites as opposed to higher technology disposal sites.

Dr. JOHNSON. In the short term, I think they will be the majority. In the longer term, I think the percentage will decline. I really don't have a projection of that.

Mr. FLORIO. Landfill type in the short term?

Dr. JOHNSON. Landfill will continue to be the dominant method of waste disposal in one form or another including land farming and underground injection.

Mr. FLORIO. I must have a distorted view of reality by virtue of my State. Nobody gets landfill anymore. Apparently that is not the case around the country.

Dr. JOHNSON. The fact is, I think that your State is dependent upon some secure landfills in other States for the disposal of those wastes that are being landfilled today other than wastes that are disposed of onsite about which we know very little actually.

Mr. FLORIO. I will have to ask for a recess at this point to go and vote.

Dr. JOHNSON. OK.

[Brief recess.]

Mr. FLORIO. You may proceed, Dr. Johnson.

Dr. JOHNSON. I am sorry; during the recess we lost one of our panelists, Mr. Diver, who had an airplane to catch. He had to leave us, and I am sure we can continue without him but we will miss him.

We were talking about siting, the relationship of the postclosure liability fund to siting, and that is in fact the very next point of my testimony, and I would like to go through that and if you would like to return to the matter of specifics on that I would be very happy to.

EPA is about to announce a siting strategy policy on which they have been working for some period of time, and it is my understanding that they will announce that their major strategy will be to encourage private sector solutions to the problem of establishing sites.

We are very much encouraged by their position on this, because we believe that is the way it should go, but development of new facilities is being stymied by public opposition to these sites because, while everyone agrees they are needed, no one wants one nearby. Opposition is not limited to secure landfill, it includes incinerators, treatment facilities and the like.

The opposition is uniform.

Mr. FLORIO. The theory that I have is that we take something that is terrible, make it a little less terrible and it becomes more attractive. The Saugus Facility was an old landfill that nobody liked. Apparently, the people who acquired it did so to close the unattractive landfill, and everybody was happy over the net improvement.

Is this an approach that anyone has given thought to institutionalizing?

Dr. JOHNSON. Our members who have attempted to obtain sites realize that one of the best places to put a site is on the site where wastes are already being managed on an old landfill, so that is one of the first places they look. Sometimes it does not work but it certainly is a good strategy.

Mr. FLORIO. We have had a landfill in the city of Camden smoldering for the last week, and we would be happy to retain one of your members to clean it up and build a resource recovery facility.

Dr. JOHNSON. A legitimate concern often raised by opponents of a proposed facility is whether funds will be available should some-

thing go awry and action be required. Existence of a postclosure liability fund to insure availability of moneys to restore a site and pay legitimate claims for damages will reinforce public confidence and support the national regulatory program.

Consider this from the viewpoint of the private waste management industry. No company can accrue potential liabilities without at the same time accruing offsetting assets. Unless there is some means to fund their liabilities with an insurance-type mechanism such as the proposed postclosure liability fund, companies who plan to remain in business for the long term will be discouraged from seeking new facilities.

Instead, we are likely to have some companies established to operate single facilities, companies that will dissolve following closure of the facility leaving the potential liability completely exposed. We don't want that to occur.

Mr. FLORIO. Do you contemplate that EPA would permit that to occur in terms of granting permits, that they would not be stipulating bonds or something of that sort? That seems to me an obvious point that EPA would write into the regulations for the issuance of any kind of permit.

Dr. JOHNSON. They do this for part of the requirement, for closure of a facility and postclosure maintenance. EPA's regulations require the company to be able to show that it can meet those two specific predictable obligations, they know they will occur; but they cannot, however, require that a company purchase insurance that is not offered in perpetuity.

They also cannot require as a condition of permit that the company they permit never go out of business. That is rather difficult to do.

All injured parties, be they local governments or private citizens, should be afforded access to the fund by means of petition to the fund administrator or by awards from the courts.

We believe the fund administrator should have discretionary authority to settle claims out of the court but also we would suggest that the Congress create an advisory committee composed of those who pay into the fund, to report independently to the Congress on the manner in which the Secretary discharges this responsibility.

This is the approach taken in the Senate amendment which has been incorporated into their Superfund bill, S. 1480.

Some people have voiced the concern that the availability of a postclosure liability fund would reduce the incentive of the operator to take precautions to protect the environment. In fact just the opposite is true.

The operator is required to perform properly if he is to obtain the benefits of the fund. Consider the provisions of S. 1480. An operator must comply with the conditions of his permit; he must close the facility according to the regulations; and he must monitor the closed facility for up to 5 years after closure. Only then will the fund cover any claims or damages. We think that provides him a very real incentive for operating properly.

Another concern about the postclosure fund that has been expressed is that the Federal Government will ultimately assume the liabilities. We disagree. The likelihood that there will ever be dam-

ages caused by RCRA permitted facilities we believe to be very low. Furthermore, if the balance of the fund should prove to be inadequate, the administrator has the power to increase the fees to provide greater revenues.

The administrator is pressing vigorously for establishment of a superfund to provide moneys for cleanup of old abandoned hazardous waste facilities. These actions will result in thousands of tons of wastes being exhumed and shipped for disposal to secure facilities.

The Federal Government will be taking on the legal status of the generator of these exhumed wastes, in the process assuming substantial liabilities. Furthermore, S. 1480 would require the Secretary of the Treasury to maintain the balance of Superfund by selling notes if necessary.

We suggest that the administration would be arguing out of both sides of its mouth if it supports a Superfund in spite of the liabilities it will assume and at the same time opposes a postclosure liability fund because of liabilities it might assume.

Finally, we believe that action by this Congress is imperative. While some aspects might invite further study, as provided in S. 1480, the urgency for action is undeniable. In the absence of a means to manage postclosure liabilities, the administration's siting strategy is unlikely to work and we will be left with a substantial shortfall of hazardous waste management facility capacity beginning as early as 1981.

What we are asking for is an effective means to insure the risks we incur by being in this business. We believe the proposed postclosure liability fund provides what is needed.

Thank you.

[Testimony resumes on p. 87.]

[Dr. Johnson's prepared statement follows:]

Statement of

Dr. Charles A. Johnson
Technical Director

National Solid Wastes Management Association

Mr. Chairman and members of the Committee: My name is Dr. Charles A. Johnson and I am Technical Director for the National Solid Wastes Management Association. With me at the table are NSWMA appreciates this opportunity to share with the Committee our thoughts on the necessity and desirability of creating a post-closure liability compensation fund for facilities licensed under Subtitle C of the Resource Conservation and Recovery Act.

The National Solid Wastes Management Association represents the leading private firms engaged in the proper management of this nation's wastes -- residential, commercial and, of particular relevance to our discussion today, industrial. Our members represent those companies providing treatment and disposal services to those industries which generate chemical wastes. Most of these wastes are presently treated and/or disposed of by the generators themselves on their own property, but our members process and dispose of about 7 million metric tons of these chemical wastes every year. All told, NSWMA represents more than 2,000 companies engaged in the waste management industry and has, since 1963, been the voice of our growing industry.

NSWMA has been working constructively with committees of Congress for the past decade to design the federal solid waste management program. We are proud of our part in helping fashion the Resource Conservation and Recovery Act of 1976. We are also proud of our role in developing, in this Congress, the bill S.1325 to create a post-closure liability fund such as is the subject of this hearing. Our proposal is aimed at providing a solution to one aspect of the "financial responsibility" requirements for facilities which will be permitted under the Resource Conservation and

Recovery Act. In contrast, the "Superfund" legislation, H.R.7020, passed by this Committee addresses problems of existing and past disposal practices.

As members of this Committee may be aware, the Committee on Environment and Public Works of the Senate has incorporated the proposal of a post-closure liability fund into its version of the "Superfund" bill, S.1480, which is now in the final stages of markup. Your Committee is to be congratulated for its timely consideration of this important subject which will enable this Congress to address these important issues.

And action by this Congress is important. While some details may invite further study -- as provided in the Senate bill -- the urgency for action is undeniable. Meaningful insurance coverage is not available today, especially in the post-closure period. And only those who would oppose construction of these facilities altogether would suggest that the insurance mechanism is inappropriate to manage these liabilities.

It must be remembered that any additional post-closure liability fund would supplement the existing hazardous waste management program created by RCRA. As you know, the U.S. EPA testified before your Committee last year on the desirability of such a fund and has informed the federal District Court of its intent to develop such a proposal as part of its implementation of Subtitle C of RCRA. In another part of the comprehensive hazardous waste regulatory program created by RCRA, the EPA is accepting public comment on its proposed "financial responsibility" regulations which would require hazardous waste facility operators to demonstrate that they possess the financial wherewithal to meet liabilities which may result from the operation of these facilities. These regulations include available liquid assets or insurance up to a fixed amount during the period of facility operation and accumulation of a trust fund sufficiently large to meet all anticipated

expenses of proper facility closure and routine monitoring and maintenance for 30 years following closure. NSWMA supports the concept of "financial responsibility" because it provides necessary assurances to facility neighbors and the public at large and also because it creates an incentive to manage facilities in a manner which minimizes risks.

By their very nature, however, EPA's regulations will fall short in two respects: they cannot guarantee resources above and beyond the minimum "financial responsibility" requirement during the operating life of the facility and they cannot assure the existence of any funds to satisfy unanticipated claims after operations cease and a facility has been closed.

To protect the public in cases where damages occurring while the facility is operating exceed the operator's "financial responsibility," Senator Randolph's S.1325 proposed creating a post-closure fund to pay damages greater than \$5 million -- the figure EPA was using at that time to represent an operator's "financial responsibility" -- and to pay all damages from closed RCRA-permitted facilities. Thus, operators would be required, in effect, to buy supplemental "insurance" without the limits of available commercial insurance during facility operation and perpetual coverage in the post-closure period.

During the past several years, commercial insurance companies have struggled with the question of "non-sudden" coverage -- that is, protection for damages caused by slow, gradual escape of hazardous substances from a facility. Operators have had no difficulty in obtaining conventional "sudden" insurance for their facilities to cover, for example, explosions and fires. Now the insurance industry has given indication that "non-sudden" coverage, in limited amounts, is becoming available for hazardous waste disposal operations, but only on a "claims-made" basis. Only those claims received

while the policy is in effect are insured. No insurance company has come forward with an "occurrence" basis policy for non-sudden events, the type of insurance that would provide protection for the public in perpetuity.

There are at least two scenarios, both very plausible, under which the public would find itself unprotected if it were to rely on claims-made insurance for protection during the post-closure period. First, the operator might be unable to pay the annual premium required to keep the policy in effect. Since the facility would not be receiving revenues after closure, this is a very real possibility. Second, the insurance companies may decide not to continue this type of insurance coverage either for the individual facility or in general. No insurance company has guaranteed to provide non-sudden insurance forever.

This leads to the most compelling reason why we feel that the Congress should create a national post-closure liability fund. With the vast additional quantities of hazardous wastes which will be subject to regulation for the first time under the Resource Conservation and Recovery Act, this country will need, in the very near future, 50-60 additional regional commercial hazardous waste sites and specialized facilities for proper treatment, storage and disposal of hazardous wastes. Companies need to begin developing these facilities now. They are expensive and they require 3-5 years for development and construction.

Development of these facilities, however, is being stymied by public opposition to these sites -- the "not-in-my-backyard" syndrome. Everyone agrees the sites are needed; no one wants one near by. But consider the alternative. If sufficient facilities are not available to manage hazardous wastes properly, it's back to the real hazard in hazardous wastes --

mismanagement. In all of the attention which we have given hazardous wastes in the past several years, the one clear lesson is that the biggest hazard in hazardous wastes is not the wastes themselves, but how they are managed. If we are going to solve our "problem" with hazardous wastes, we need more than laws and regulations, we need many new modern treatment and disposal facilities.

Creation of a post-closure liability fund offers part of the solution to this problem. Without question, the enormous amounts of publicity which past mismanagement practices have received in the media have reinforced the "not-in-my-backyard" syndrome. Citizens' reading of the confusion and delays at Love Canal where it has been difficult to assign responsibility, where municipal agencies lack resources, and where state and federal agencies quarrel over the types and amounts of assistance to be made available, only reinforce this public aversion to having a hazardous waste facility in their neighborhood. Assurance that funds are readily available to clean up and restore problem facilities and to pay all legitimate claims for property damage or personal injury, will reinforce public confidence which will also grow as a result of the strength and regulatory program created in RCRA.

Let me turn to our thoughts on how such a fund would work. In so doing, I shall respond to the questions posed by Committee staff.

We feel a national fund is necessary to ensure financial capacity to meet any problems from RCRA-permitted hazardous waste facilities. No mechanism exists today to permit responsible parties to manage the present and perpetual liabilities associated with such facilities. For operating facilities only limited insurance coverage is possible and, for closed sites, no insurance is available or likely to become available. Nevertheless,

should private insurance companies be able to develop an economical response to this problem, the fund administrator could be authorized to utilize fees paid into the fund to purchase a group policy on behalf of facility operators which would, on the one hand, share the risk broadly and, on the other hand, still protect the public because the fund would stand behind the insurance company. The post-closure liability fund which we envision would be fashioned, after all, very much like an insurance program. Participating companies would pay fees similar to insurance premiums to the fund and would, in return, call upon the fund to satisfy liabilities incurred by the facility. During facility operations, the operator would have a \$5 million "deductible" payable from his own pocket before the fund would kick in.

The present and proposed EPA regulations under Subtitle C of RCRA call for the facility operator to provide funding for the anticipated costs associated with facility closure, monitoring and maintenance for 30 years post-closure. We feel that the RCRA permitting agency, either the state or the federal EPA, should retain the regulatory authority to assure performance of closed facilities. But access to the fund should not be limited solely to government agencies with regulatory jurisdiction. All injured parties, be they local governments or private citizens, should be afforded direct access to the fund by means of petition to the fund administrator or by awards from the courts. Because we believe the fund administrator, we would suggest the Secretary of the Treasury, should have discretionary authority to settle claims out of court, we would also suggest that the Congress create an advisory committee composed of those who pay into the fund, to report independently to the Congress on the manner in which the Secretary discharges this responsibility. This is the approach taken in the Senate amendment which has been incorporated into the "Superfund" bill.

Upon completion of closure of the facility in accordance with the facility's permit, the fund should assume total responsibility for the financial obligations of a closed facility, outside of those previously already provided for by the facility operator by means of a site-specific trust fund for closure, monitoring and maintenance. Hazardous waste management facilities will have active lives of 10-20 years during which they will be closely monitored by regulatory officials. Portions of these sites will be closed for 5-15 years by the time the facility itself finally undergoes closure. At the time of final closure, in addition, there is a 6-month period during which intensive engineering is done at the facility to apply the final cover and contour and secure the site. It is not until this process is complete that the facility is properly closed. At this point, the facility operator must notify the administrator that the facility has been properly closed and have an independent professional engineer certify that closure was properly completed. The administrator should have a reasonable time to determine independently that the site has been closed properly. At the conclusion of this set period, the fund should automatically assume responsibility for claims made against the facility. This is the mechanism incorporated in the Senate bill.

In order for this mechanism to be at all effective, the fund must bear total responsibility for post-closure claims. (We are not asking for a transfer of liability, just the ability to buy insurance.) Should the facility operator be left a responsibility to pay a "deductible" amount of "first-dollar" damages, the result would be that the facility operator would necessarily provide for this by increasing the size of the trust fund which he would accumulate during facility operation so that funds sufficient for this exigency would be available. If you believe as we do that few if any

RCRA-permitted sites will result in damage to the public, this is clearly an uneconomic manner of accumulating reserves for this purpose. Alternatively, should the facility operator be held responsible for a fixed percentage of any possible awards from a closed facility, this requirement would bear differentially and unfairly on responsible facility operators. Conscientious facility operators would be required to tie up significant amounts of capital in reserve against these contingent liabilities while less responsible competitors would dissolve corporations upon facility closure. Clearly, it is in the national interest to encourage responsible companies to participate in this business, companies that will operate on a continuing basis, closing completed facilities and opening new ones as the need dictates. Only by making the fund fully responsible can the facility operator effectively manage the contingent liabilities which would otherwise continue to show up on his balance sheet and encumber his ability to attract and direct investment capital to the creation of additional capacity.

Early in the consideration of this concept questions were raised whether having such a fund pay all post-closure damages would lessen the incentive of operators to exercise due care in the way they manage the wastes. This is a most legitimate question. Two facts suggest that this poses no problem. First, these facilities will be designed and constructed in an atmosphere of intense public scrutiny and subject to exhaustive regulatory reviews. During facility operations, these facilities will be inspected frequently -- New Jersey, for example, provides weekly inspections. Other states are considering stationing an inspector on-site full-time. Each facility, in addition, will be required to complete an extensive engineering plan for final closure of the site. Thus the regulatory program itself will assure a high standard of care. And, second, access to the fund is available

only to operators with RCRA Subtitle C permits or operators who have completed proper closure of such facilities. Others remain fully liable for their facilities -- and even operators of active permitted sites retain their liability for the first \$5 million until the site is properly closed. Rather than a disincentive to proper operation, the fund mechanism offers an additional "carrot" to supplement the regulatory "stick" to promote proper operation. Only those who operate correctly will be eligible for the protection offered by the fund.

No one really knows how large a fund will be required. We believe that the likelihood of releases from RCRA-permitted facilities will be much, much lower than has been our experience in the past with facilities which have not been held to high regulatory standards. But, no one can issue an ironclad guarantee that regulated facilities will be without problem. If we could, insurance companies would be more than happy to insure these risks and we probably would not be having this hearing today. Our initial proposal called for a \$200 million fund which would be replenished by upward adjustments of the fee schedule, if necessary, so that funds would always be available to satisfy judgments. The size of the fund should match estimated claims; it should not become a mechanism for having tomorrow's facility operators pay claims against today's facilities. The \$200 million level was approved by the Senate committee with a proviso that EPA conduct a 3-year study on the adequacy of this amount so that the Congress might reexamine this question in several years. This is entirely reasonable. It is unlikely that this fund will be required for many years. RCRA permits may take several years to grant. Because of the huge investments in securing a RCRA-permitted facility, including taking on liability for a 30-year post-closure responsibility, a facility would probably operate for a number of years

before closure. Then there would be the period of closure and any additional period which would be established before the transfer would actually occur. Thus, there is no immediate need to be exact in determining the amount of the fund. What is needed immediately is assurance that the fund will be created and to begin accumulating its reserves. \$200 million would be an appropriate initial target.

The fund should be created by assessing fees on all Subtitle C permit holders based on the quantity and the degree of hazard of the wastes which they receive. EPA should be directed to develop this fee mechanism along the lines of the degree of hazard system incorporated in the regulations to implement Michigan's Act 64, its comprehensive hazardous waste law.

We feel it would be equitable for all "interim status" facilities to pay into the fund inasmuch as this would provide an incentive for them to seek approval of their final RCRA permit. We would favor a provision that would assure that "interim status" facilities could request priority inspections to determine their qualifications for a final RCRA permit before closure.

The fund should pay all costs for site restoration, property damage and personal injury caused by the facility which are not the owner's responsibility (\$5 million during site operation) or covered by the site-specific trust fund established for closure, monitoring and maintenance for the 30-year post-closure period. Like insurance, the fund should pay for all liabilities incurred by the facility. If such coverage were to be limited, it is conceivable that states or even municipalities might wish to create their own funds for any occurrences which would be outside the scope of the national fund. This would clearly be an uneconomic response to providing such coverage. We feel that the fund should pay all legitimate claims and court awards.

We share the hope expressed in Congressional intent in enacting RCRA that the states will assume the role of the permitting agency for the hazardous waste program. We would oppose requirements that states be required to cost-share for any funds drawn to pay damages in their jurisdictions because we feel this would discourage them from seeking this authority. The national fund should pay all damages. Thus, there would be no need for a state government to duplicate the national fund and assess facility operators within its jurisdiction a supplemental fee. Such fees would be an uneconomic means of accumulating reserves against such claims and might tend to distort the flow of interstate commerce in hazardous wastes. Thus, we feel that the national fund should preempt state funds for the satisfaction of these claims. States should have no need of duplicative funds because the federal fund would pay, without limit, for costs which the states would incur or to satisfy judgment for injuries or damages to their citizens. We would emphasize, however, that in creating this fund, the Congress should not interfere in any way with the existing tort system of state or common law governing standards of liability and recovery.

We believe that creation of a post-closure liability fund would have two highly desirable beneficial impacts on siting of the additional facilities necessary to meet this nation's hazardous waste management needs. First, the local public would be assured that in addition to strict regulatory standards and enforcement, there would exist a "deep pocket" with assets ready to tap should any problems occur. Second, creation of a post-closure liability fund such as outlined above would enable private companies to manage their liabilities and attract the tens of millions of dollars in investment capital which will be necessary to build the next generation of modern hazardous waste management facilities. Without such a fund, we fear that responsible companies will seek more manageable risks and pressure will build on municipal, state and even the federal government to shoulder the unwanted burden of providing these additional facilities.

The waste management industry wants to be part of the solution to this nation's hazardous waste management need. We are ready, willing and, with your help, will be able to address this need. We urge this Committee to develop legislation creating a post-closure liability fund as outlined above or, accept the Senate proposal to create such a fund which is incorporated in its version of "Superfund."

We are grateful for this opportunity to appear before you today and I would be pleased to try to respond to any questions which you may have.

Mr. FLORIO. Thank you very much.

I understood you to say that you advocate the fund be based upon moneys raised, and one of the considerations would be the degree of hazard of the materials to be deposited.

EPA has been in to see us on a number of occasions, particularly in the context of the Superfund when that was suggested as a means of assessing industry, and has pointed out the difficulties, the years of litigation that would be required. Why would it be any different with regard to this fund?

If we start to come up with a system it will require assessments in accordance with degree of hazard. With the approach that we have taken in Superfund, there is a certain minimum degree of hazard, such that anything that goes above that is a hazardous material, and all hazardous materials should be assessed equally.

Dr. JOHNSON. A number of States have wrestled with this problem, and several have indeed proposed degree-of-hazard schemes for classifying hazardous wastes.

Mr. FLORIO. Is Michigan one of those States?

Dr. JOHNSON. I believe it is. I have several State drafts and final regulations which describe degree-of-hazard schemes. Kentucky is another one. Yes; Michigan definitely is one.

I can get you those. EPA, I believe, has those, so I think it is possible. However, even without a degree of hazardous scheme, per se, there are means which one can devise to effectively create the same sort of an arrangement.

One proposed system has been to have basically a volumetric schedule which decreases the contribution to the fund at higher levels of volume of waste received which in effect would provide a lower rate at extremely high volumes.

Mr. FLORIO. Why would you want to do that?

Dr. JOHNSON. This would accommodate the problems the previous witness from ASARCO has discussed concerning very, very high volumes of low-hazard waste which his firm generates.

Mr. FLORIO. Can you make an equally impressive argument to provide incentives for people to reduce wastes; we should have a sliding scale the other way.

Mr. BRASHARES. Not a volume discount.

Dr. JOHNSON. I do believe you can devise a scheme that can accommodate those concerns.

Mr. FLORIO. I thought I heard you say something about funds only coming from interred waste sites. That, of course, meaning you could be charging funds or deriving most of the revenue from the least-preferred ways of disposing of materials on down the line if public policy encourages eliminating those types of facilities who have no source of income.

Mr. BRASHARES. Several different ways; one way is if there is a general preference for nonperpetual facilities, in other words, for destruction of this waste as opposed to putting it into the ground, you could argue by taxing only the long-term facilities, you are increasing the cost of that method, therefore, you will phase it out faster.

You also do have a problem with your restricting base, which tax base to pay. You have to separate the notion of postclosure cover-

age from the notion of any kind of coverage during operations. If you are going to provide some Federal assistance because of the lack of private insurance in the operational phase, there is no reason to distinguish between an incinerator or landfill; they all have risks.

In connection with postclosure, however, you have a decision. It doesn't seem to make sense for the Senate amendment to charge a processing facility like the one in Newark for possible risk after it closes because there will be no wastes there, no problem of waste contained in the land.

Mr. FLORIO. Isn't it a fact of economic life in this industry that there are few resource recovery facilities that do not entail some amount of storage? At Rollins, in south Jersey, the big controversy is PCB's, but there is a need for a storage lagoon, so you cannot say too frequently that there is never a storage problem associated with the high technology.

Mr. BRASHARES. There is, and that does represent a risk. It would not be covered as postclosure under the Senate amendment. Postclosure anticipates the act of ceasing all activities, eliminating any kind of impoundment or storage of any kind enclosing a facility. There is a risk.

Mr. FLORIO. If you close Rollins, their incineration could be cut down and they would be clean, if you got that lagoon.

Mr. BRASHARES. If the risk remains——

Mr. FLORIO. There would be a lesser risk which may dictate on the side of one of the suggestions we heard here today, being a two-tier approach, tonnage and then facility-type assessment.

Mr. BRASHARES. Yes.

Dr. JOHNSON. I think that would be particularly appropriate if the coverage were to be as described in our original S. 1325, where there is coverage during the operating life.

Mr. FLORIO. Why would you want coverage then?

Dr. JOHNSON. Over and above the mandatory insurance requirements, \$10 million per year. Suppose we had an incident that cost \$20 million to repair. The insurance that is required would cover \$10 million of that, so there would be an excess exposure not covered by the required insurance.

Mr. FLORIO. It may well be that the EPA insurance requirements are not adequate. Maybe that is the way we should deal with the problem directly.

Dr. JOHNSON. I think our suggestion is historically they appear to be adequate for the types of things which they would expect to have occur. You can write a scenario where the claim would be much larger.

Mr. FLORIO. Let me give you a potential one, the Hempstead facility. There are all kinds of talk about dioxins coming out of there. That is a scenario for large claims, so perhaps you are right.

One of the other comments I thought you made was that in the sense of a transfer of liability from the owner to a public body or the fund, that would only take place after there was certification by the State or EPA. We have had comments from both that they are not prepared to sign off anywhere that a facility is safe.

You indicate certification with regard to safety or that all the procedures have been followed?

Mr. BRASHARES. The latter. EPA was candid in telling us: You will never get a Government agency to sign off that there is no probability of some environmental harm down the road. So we have to make an objective test based upon the precise regulations and requirements of the permit and closure requirements. Otherwise, it is meaningless, and there will never be a closure.

Mr. FLORIO. I assume what your bill advocates is by law rather than by certification a transfer of liability from the owner upon that certification to a public body. Is that the case or not the case?

Mr. BRASHARES. That is right.

Mr. SIMONSEN. A clarification. This is a very difficult item to discuss because from the inspector's interest it would be to make it easy; from the EPA standpoint to make it as difficult as possible to make that transition. I think the concurrence we have come to is it ought to be a factual statement made by there owner-operator under a licensed engineer or outside consultant to state that the requirements as dictated by the permitting agency have been completed and that upon that certification the transfer occurred.

With the exception that if a knowing or willful violation of the permit during operation or knowing and willful of the permit closure conditions has occurred, that transfer would be null and void and they would be perpetually liable for those incidents.

Mr. FLORIO. I would think most people would agree with that. I have spoken with Mr. Beck about it. The state of the art is such you can comply with everything that is required, do everything that is required and still have a potential for problems. And the major point of debate of this whole discussion, I think, in terms of the legislation is: Do you want the private body out from under such that the public body is potentially stuck with a rather stiff amount of liability.

Mr. BRASHARES. Bear in mind that on the risk that is retained by the operator, the changes in the state of the art will be reflected in changing regulations which will affect an ongoing operation. The EPA is free to change the conditions and requirements of closure at any time prior to the closure of that site. So the operator is continuing to have the risk that, as time goes on and as the state of the art may evolve, he will have escalating conditions of closure he will have to meet. So the risk is very much continued by the operator. He will have to meet stronger requirements to achieve the benefits of this legislation.

Mr. FLORIO. Do you read that as also requiring the owner to comply with monitoring procedures that may change in terms of the state of the art immediately after the closure period?

Mr. BRASHARES. I would think so, yes.

Mr. SIMONSEN. Further, it needs to be brought out the owner-operator is in good faith under charter in that permit to comply with all requirements and his incentive is to comply with those. To ask him to comply with something more which is ill-defined and at that point by the agency deemed unnecessary in order to avoid some unknown liability after closure, I don't think can cause any different action on the operator during the operation. The threat of that, if anything, would dissuade him from entering into the agreement.

Mr. FLORIO. Gentlemen, your comments are very helpful, and I look forward to staying in touch with you.

The committee stands adjourned.

[The following statement was received for the record:]

MEMORANDUM

re

Variable Fee Structure
for
Post-Closure Liability Fund
To Encourage
Environmentally Sound
Solid Waste Management Practices

Submitted on behalf of
IU Conversion Systems*

The fee system for a post-closure liability fund should allocate costs fairly and deter production of the most hazardous wastes, by applying higher fees where greater hazards are presented. This fee system would contain a "degree of hazard" variable depending on the hazardousness of substances in the solid waste being disposed of, and it should ideally take into account the difference between facilities that simply store hazardous waste and those that also treat them or transform them into stabilized substances. This memorandum outlines a fee system to serve these purposes which should be relatively easy to apply and fair in administration.

1. Fees variable with degree of hazard

We begin by accepting EPA's "criteria for listing hazardous waste," set forth in its RCRA regulations, 40 C.F.R. § 261.11(a)(1) and (2), 45 Fed. Reg. 33121 (May 19, 1980). These are principally numerical criteria. For example, a concentration of 5 mg. per

*/ A subsidiary of IU International, IU Conversion Systems is a pioneer in responsible waste management and stabilization systems.

liter or more of arsenic in the leachate of a solid waste subjected to a prescribed extraction procedure will mean that this waste is hazardous. Alternatively, a solid waste will be hazardous if it has an oral LD50 toxicity (rat test) of less than 50 mg. per kilogram, an inhalation LC50 toxicity (rat test) of less than 2 mg. per liter, or a dermal LD50 toxicity (rabbit test) of less than 200 mg. per kilogram. */

Beginning with these numerical criteria for hazardous wastes, we can suggest a classification system for ranking those wastes which meet or exceed EPA's criteria. This classification will be arbitrary -- but only in the same sense the government's designations of "hazards" was arbitrary. The listing at 40 C.F.R. § 261.24 (45 Fed. Reg. at 331) is based on the judgment that 100 times the drinking-water standard for a given pollutant defines the point at which "hazard" begins. We neither fault nor endorse that judgement, but we suggest that, if this 100X factor shall determine the first level of hazard, then a 1000X factor could well determine a second level and a 2000X factor could well determine a third level. Where LD50s and LC50s are the standard, we suggest other judgmental, i.e., arbitrary, distinctions. Thus, we propose a classification of hazardous wastes as follows -- for any waste that meets the standard of any of columns a, b, c, or d:

*/ LD50s and LC50s are those doses (LDs) or concentrations (LCs) which are lethal to 50 percent of a group of test animals in a 14 day observation period. The LD50s and LC50s for many contaminants have been listed by FDA and NIOSH.

CLASS	a. EPTCs where LEPTC = EP Toxicity Concentration as shown in Table 1, 40 C.F.R. § 261.24	b.	c.	d.
		Oral LD50	Inhalation LC50	Dermal LD50
I	1EPTC - 100 EPTC	50>mg/k $\geq$ 25	2>ml/l $\geq$ 1	200>mg/k $\geq$ 100
II	+100 EPTC - 200 EPTC	25>mg/k $\geq$ 10	1>ml/l $\geq$.5	100>mg/k $\geq$ 50
III	+200 EPTC - . . .	10>mg/k	.5>ml/l	50>mg/k

We would suggest that the classification be based on the highest concentration of the dominant pollutant. Thus, in most cases, given a knowledge of the waste, it would be necessary to test for only one contaminant.

The next step would be to establish a "base fee" ("BF") for wastes in class I, the class of relatively lowest hazard, and multiples for wastes in classes II (BFY) and III (BFZ). Then an annual fee schedule would be structured as follows:

<u>Class</u>	<u>Quantity</u>	<u>Times</u>	<u>Fee</u>	<u>Projected Payment to Liability Fund</u>
I	X	x	BF =	
II	Y	x	BFY =	
III	Z	x	BFZ =	
				<u>\$ Total</u>

Congress would determine the total dollars to be paid into the fund each year and the multiples (y and z) of the class I base fee (BF) that should apply to classes II and III. From these policy determinations EPA can proceed to estimate the quantities of waste to be generated in each class for the coming year and mathematically compute the base fee (BF). This administrative task EPA can perform annually, improving its quantity estimates in the light of experience.

2. Treatment and stabilization incentive

Left open in the above discussion is the question: at what point should the fee be applied? In other words, at what point should the degree of hazard of a solid waste be assessed, and at

what point should the quantity be measured? Should these steps be taken as the waste is received by the disposer from the producer, or as the waste is committed for disposal into the disposal facility?

We believe that the public policy issue at stake here involves creation of an incentive to treat or stabilize the wastes before disposal. If hazard assessment and quantity measurement are done to take account of the state of the waste after opportunity for treatment and stabilization, the fee system could create significant economic incentives to reduce the hazards.

We perceive two practical alternatives. First, hazard assessment and quantity measurement could be done at both the point where the disposer receives the waste and where the disposer commits it to a disposal facility. The fee would then be assessed at both points, and the disposer would thereby be encouraged to reduce the waste hazard from, say, class II to class I or even from class I, II, or III to a non-hazardous level (thereby eliminating the fee at the second step).

The second alternative would be to assess the hazard and measure the quantity of wastes only as the disposer committed the wastes to a disposal facility.

A third alternative was suggested by the statement submitted jointly by the Environmental Defense Fund and the Sierra Club at the July 25, 1980 hearing. This was for a rebate upon closure of a facility, depending on an EPA assessment of the facility at that time. This suggestion is conceptually compatible with the first two, but we believe less effective as an incentive because any

given facility may operate for ten or twenty years or more before closure and corporate planning will not likely give serious account to a possible rebate so remote in time, especially since it could be perceived as vulnerable to a change in the mood of Congress in the interim.

We are not unmindful of the complexity our proposal necessarily brings with it, particularly in the areas of measurement, monitoring, and enforcement. For the most part, however, we believe existing mechanisms provide a basis for dealing with these complexities, and we believe that the lack of perfect knowledge on significant possible points of issue cannot justify failure to establish a variable fee system serving valid public interests. We would be glad to work with the staff to try to resolve any questions.

[Whereupon, at 1:40 p.m., the hearing was adjourned.]

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