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FLOOD CONTROL ACT AMENDMENTS

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HEARINGS

BEFORE THE

COMMITTEE ON WATER RESOURCES

OF THE

COMMITTEE ON

WORKS AND TRANSPORTATION

HOUSE OF REPRESENTATIVES

NINETY-FIFTH CONGRESS

FIRST SESSION

ON

H.R. 8061

TO AMEND THE FLOOD CONTROL ACT OF 1970 TO PROVIDE THAT, IN DETERMINING THE NEED FOR A LOCAL FLOOD PROTECTION PROJECT, THE SECRETARY OF THE ARMY SHALL CONSIDER THE IMPACT ON THE ECONOMY AND SOCIAL WELL-BEING OF THE LOCAL AREA AND CERTAIN SURROUNDING AREAS IF FLOOD PROTECTION IS NOT PROVIDED, TO SPECIFY THE FACTORS TO BE EVALUATED IN CONSIDERING SUCH IMPACT, AND FOR OTHER PURPOSES

NOVEMBER 16, 1977, AT HARRISBURG, PA.

NOVEMBER 17, 1977, AT SUNBURY, PA.

Printed for the use of the Committee on Public Works
and Transportation



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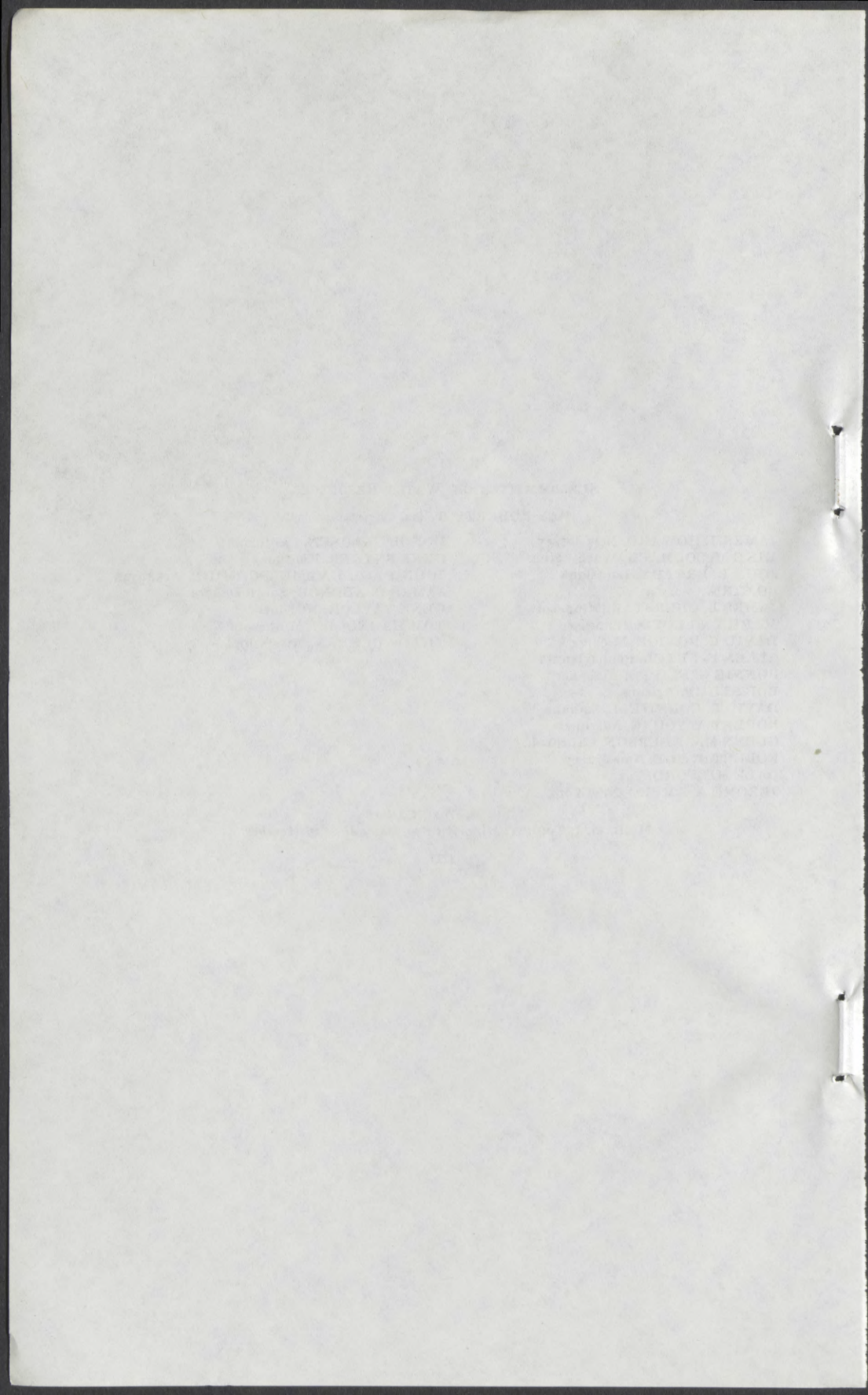
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H. R. 8061

IN THE HOUSE OF REPRESENTATIVES

JUNE 28, 1977

Mr. ERTEL (for himself, Mr. ROBERTS, Mr. FLOOD, and Mr. BEILENSEN) introduced the following bill; which was referred to the Committee on Public Works and Transportation

A BILL

To amend the Flood Control Act of 1970 to provide that, in determining the need for a local flood protection project, the Secretary of the Army shall consider the impact on the economy and social well-being of the local area and certain surrounding areas if flood protection is not provided, to specify the factors to be evaluated in considering such impact, and for other purposes.

- 1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That (a) section 209 of the Flood Control Act of 1970
4 (84 Stat. 1829) is amended—
5 (1) by inserting “(a)” after “SEC. 209.”;
6 (2) by inserting “local and” after “objectives of
7 enhancing”; and

1 (3) by adding at the end thereof the following new
2 subsections:

3 “(b) (1) Whenever the Secretary of the Army, acting
4 through the Chief of Engineers (hereinafter in this sub-
5 section referred to as the ‘Secretary of the Army’), is
6 authorized by the Congress to conduct a study to determine
7 the need in a local area for a flood protection project, the
8 Secretary of the Army shall evaluate the economic impact
9 on the local economic impact area, as described in paragraph
10 (2), if flood protection is not provided to such local area.

11 “(2) For purposes of making an evaluation pursuant
12 to paragraph (1), the Secretary of the Army shall identify
13 the local economic impact area which shall consist of (A)
14 the geographic area specifically under consideration for
15 flood protection and (B) (i) any surrounding area in which
16 a significant number of the labor force reside who are
17 employed by businesses and industries located in such
18 geographic area and (ii) in which direct suppliers of such
19 businesses or industries are located, and in which the em-
20 ployees of such suppliers reside, who would be adversely
21 affected to a measurable extent if such businesses or
22 industries were harmed by flooding.

23 “(3) In evaluating the economic impact on a local
24 economic impact area if flood protection is not provided, the
25 Secretary of the Army shall consider the potential economic

1 losses if flooding does occur. Such evaluation shall include
2 consideration of—

3 “(A) loss of income in such area,

4 “(B) loss of jobs in such area,

5 “(C) erosion of the tax base of local communities
6 in such area,

7 “(D) lowered property values in such area,

8 “(E) loss of business in such area, including market
9 loss to suppliers of local businesses and industry,

10 “(F) injurious displacement of homes and farms,

11 “(G) loss of borrowing capacity in such area, and

12 “(H) any Federal investment projected or previ-
13 ously committed to such area.

14 “(4) The Secretary of the Army, in evaluating the
15 need for local flood protection, shall also consider the impact
16 on the social well-being of the people in the local economic
17 impact area if local flood protection is not provided,
18 including—

19 “(A) any negative impact on income distribution,

20 “(B) any negative impact on educational, cultural,
21 or recreational opportunities,

22 “(C) any negative effect on emergency prepared-
23 ness,

24 “(D) disruption of desirable community and re-
25 gional growth, and

1 “(E) any negative psychological impact.

2 “(5) In the evaluation of the need for flood protection
3 in a local area, the maintenance or enhancement of local
4 economic activity that would result from such flood protec-
5 tion should be considered in conjunction with regional and
6 national economic development which, as included in sub-
7 section (a), are objectives to be included in such evaluation.

8 “(c) The Water Resources Council shall conduct a
9 study and make any recommendations to Congress, within
10 one year after the date of the enactment of this subsection,
11 with respect to additional specific quantifying factors that
12 should be considered in analyzing regional economic develop-
13 ment which, as intended in subsection (a), is an objective
14 to be included in federally financed water resource projects.”.

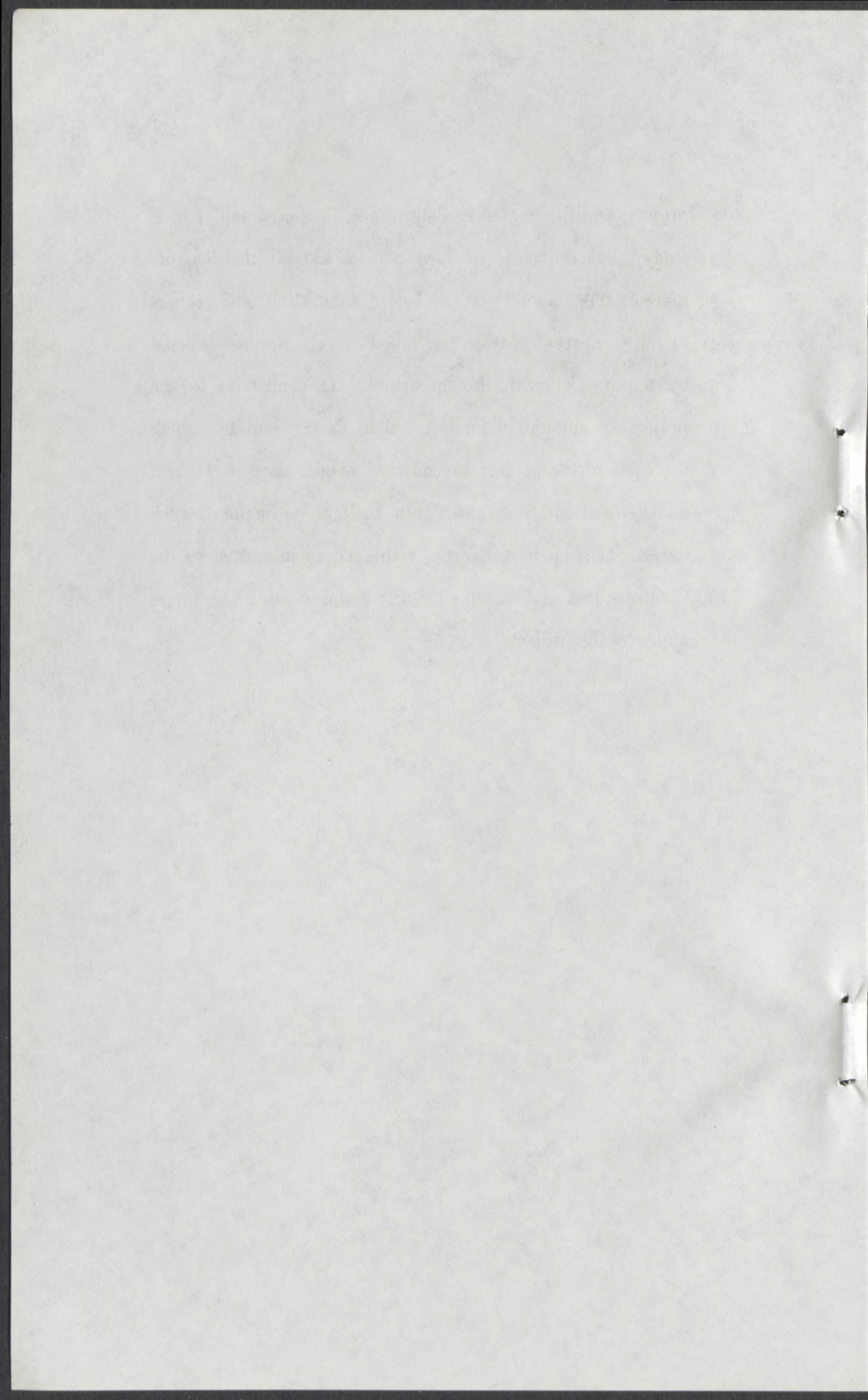
15 SEC. 2. Section 5 of the Act entitled “An Act au-
16 thorizing the construction of certain public works on rivers
17 and harbors for flood control, and for other purposes”,
18 approved June 22, 1936, is amended—

19 (1) by inserting “(a)” after “SEC. 5.”; and

20 (2) by adding at the end thereof the following new
21 subsection:

22 “(b) Whenever the Congress authorizes the Secretary
23 of the Army, acting through the Chief of Engineers, to
24 study and report to the Congress with respect to the feasi-
25 bility or advisability of carrying out any flood control

1 project, and the Secretary determines, in the course of such
2 study, that the costs of such project exceed the benefits
3 thereof, the Secretary shall, before submitting such report
4 to the Congress, provide the non-Federal interests affected
5 by the project with the opportunity to contribute to the
6 project an amount of funds equal to the amount by which
7 the costs of the project exceed the benefits thereof. If such
8 non-Federal interests enter into such an agreement, such
9 agreement shall be set forth in the report submitted to the
10 Congress, and shall become binding if and when the Congress
11 approves the project.”.



FLOOD CONTROL ACT AMENDMENTS

WEDNESDAY, NOVEMBER 16, 1977

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON WATER RESOURCES,
OF THE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION,
Harrisburg, Pa.

The subcommittee met, pursuant to notice, at 10:07 a.m. in courtroom No. 2, Federal Building, 228 Walnut Street, Harrisburg, Pa., Hon. Elliott H. Levitas (acting chairman) presiding.

Present: Representatives Levitas, Oberstar, and Ertel.

Mr. LEVITAS. The committee will be in order.

This is a meeting of the Water Resources Subcommittee of the U.S. House of Representatives' Public Works and Transportation Committee.

We are convened here today in Harrisburg, for the first of 2 days of hearings on legislation offered by Congressman Ertel and others, relating to an amendment to the Flood Control Act of 1970, and specifically dealing with determinations of cost-benefit studies, and the input and impact upon local areas in the ascertainment of which flood control projects should be authorized.

This meeting of this subcommittee is being held here, even though the problem is a national one, and not confined to just one area, in order to get the firsthand experiences, and the firsthand observations of people at the local level.

All too often in the past, decisions have been attempted to be made in Washington, without either the input of facts and flavor from persons throughout the country. This series of hearings are for the purpose of getting firsthand information from people who have had firsthand experiences, and who have had concerns.

My name is Elliott Levitas. I am a Representative from the State of Georgia, and with me today is my colleague from Minnesota, Mr. Oberstar, and of course, Congressman Ertel from this district.

We are pleased to be with you in Harrisburg, and in Pennsylvania today, and we are looking forward to a series of hearings and testimony which we believe will be beneficial to us in our consideration of this important piece of legislation that we have before us.

Mr. Oberstar?

Mr. OBERSTAR. Thank you very much, Mr. Chairman, and I am delighted to be here with you in Harrisburg to hear the testimony that I know is going to be very interesting on a subject that our committee considers to be of vital importance to the whole country, flood control protection, and to hear firsthand what concerns the people of this area have.

Now, we cannot learn effectively the problems of this country sitting in Washington. We have to come to the area where people experience difficulties, the ravages of nature, and this subcommittee and full committee have had, for many years, this responsibility of protecting the Nation against floods.

In fact, this was one of the oldest committees of the Congress, the Subcommittee on Flood Control, dating back to the very earliest days of the first Congress. So we have a long tradition, and deep interest in helping people help themselves, and I want to thank Congressman Ertel for inviting the subcommittee here.

I am delighted to work with you, and hope that we can be of some help with this very innovative and unique legislation that you have introduced, on which we will be receiving testimony today.

Mr. LEVITAS. Mr. Ertel?

Mr. ERTEL. Mr. Chairman, I would like to thank you and Congressman Oberstar for coming to the Commonwealth of Pennsylvania, and particularly to the 17th Congressional District.

I think this subcommittee, and the interested observers of the Water Resource Council and the Corps of Engineers will benefit from the testimony we will receive today and tomorrow in Sunbury.

Our primary purpose for these hearings will be to draw upon the personal experiences of the many residents of Pennsylvania and neighboring areas who have had to cope with the devastating effects of floods. Last week's storms and subsequent flooding in Middle Atlantic and Southeastern States demonstrate that no area of the country is safe from the threat of floods.

Earlier this summer, perhaps one of the driest summers in our history, Johnstown, Pa., the one city in the United States most identified with floods, was again hit with a devastating flood. In recent years, Pennsylvania has also had to endure major flooding as a result of Hurricanes Eloise and Agnes.

I think Harrisburg is an appropriate point to open these hearings. As the State capital, the city provides a focal point for problems throughout the Commonwealth. As a city on the Susquehanna River, Harrisburg shares the problems of the other cities in the basin, which bore the brunt of the damage caused by Eloise and Agnes.

As an individual community, Harrisburg's efforts to obtain Federal assistance for flood control highlight the inadequacies of the Federal Government's approach to flood control itself. Harrisburg's recent experiences with flooding are all the more regrettable when one realizes that flood control was first authorized for the city in 1936.

Mr. Chairman, I have introduced legislation which would bring about a major change in the formula for determining the desirability of Federal participation in flood control projects. Flood protection has proven to be a good economic investment.

In Pennsylvania, from 1967 to 1976, the Federal Government invested \$430 million in flood control projects. During that same time period, the estimate of damages prevented is \$2.9 billion. I believe we can and should provide a fair and accurate standard upon which to evaluate the economic benefits and costs of a proposed local flood protection project. Only then can we assess accurately the economic considerations against environmental and other social considerations.

Some of the testimony we will hear today and tomorrow will address this concern directly. Other testimony will familiarize the subcommittee with the flood problems of the State. In both cases, I believe much is to be gained and, again, I am pleased to have both you and Congressman Oberstar here in Harrisburg as part of the Subcommittee on Water Resources.

Welcome.

Mr. LEVITAS. Thank you, Allen.

We have a series of very impressive witnesses who will be testifying before this subcommittee today, and we will be looking forward to that testimony.

We will proceed by calling each witness to give their testimony, and then follow with questions to that particular witness.

The first witness we have on the agenda this morning is State Representative Adam Bittering. Is Mr. Bittering here?

Thank you, Mr. Bittering, and we are very pleased to have you. We have a copy of your statement. You may proceed as you so desire.

TESTIMONY OF HON. ADAM BITTINGER, PENNSYLVANIA STATE REPRESENTATIVE, ACCOMPANIED BY JAMES LOVETTE, STAFF MAJORITY LEADER, AND JAMES MANDERINO, PENNSYLVANIA HOUSE OF REPRESENTATIVES

Mr. BITTINGER. All right, sir, I would like to read the basic statement.

I would like to thank you for the opportunity to testify this morning. I will be talking from the context of the "Great Johnstown Area Flood of 1977," and if I stray a bit from the specific purpose of today's hearing I will ask your indulgence.

For purposes of identification, I am C. Adam Bittering, State representative from the 71st district, the city of Johnstown and six suburbs. I am also chairman of the house speaker's Special Ad-Hoc Committee on the Eight County Flood of July 19 and 20, 1977. Parenthetically, prior to entering the political arena nearly 2 years I spent 11 years as a broadcast newsman and commentator.

Seventeen weeks ago today, at this very hour, the devastation of the "Great Johnstown Area Flood of 1977" was an accomplished and mind-boggling fact—as the night of Tuesday, July 19, had worn into the wee hours of Wednesday, July 20, more than a score of thunderstorm cells collected over the Conemaugh Valley and the soaking rains that had already saturated the earth turned into an unprecedented downpour—as much as 11 inches of rain fell in 4 hours—seven dams of varying size broke—including one that swept through Tanneryville, and one that swept through Solomon Run, Walnut Grove, Dale Boro, and the Hornerstown sections of Johnstown—four other dams were breached—some 76 lives are known lost—several people are still missing—property damages in the eight counties affected are in the vicinity of \$300 million.

Outsiders, who were not there, reportedly are saying the flood control projects in Johnstown and Windber did not prevent the flood of 1977. That is true, as far as it goes, but there is a great deal more to it.

Let us go back to "Agnes" in 1972. A great deal of flooding occurred in Pennsylvania and elsewhere as that storm pounded, but the city of Johnstown escaped because of the 1936 flood control project—by the way, I was on the Franklin Street Bridge in 1972 in the dim morning light when the river waters crested at 61½ feet below flood stage—had we not had the flood project excavation and walling, downtown Johnstown would have had extensive flooding. Windber Boro similarly escaped.

In 1975, when "Eloise" inundated so many areas, our flood control projects in Johnstown and Windber again proved fully sufficient.

Let us understand something: in 1975, in 1972, back in 1936, and in 1889, the flood threat came from rising stream and river water wherein the natural and existing channels were inadequate for the resulting volumes of water and the channels overflowed.

In the flood of 4 months ago, most of the damage resulted before the water reached the flood control facilities. It has been termed a "400 year" flood; I understand possibly the worst ever recorded in the continental United States. We had serious flood damage on the hilltops and upper hillsides, high above cresting streams and rivers. Earthen dams gave way, and we had no warning save for the sight of a wall of water and debris—a mass some 15 to 20 feet high—moving like a brick wall on roller skates.

Some buildings escaped with washed out foundations and/or smashed-in walls—other buildings were pushed off their foundations and into adjacent structures—and still other buildings were swept downstream, smashed into little more than kindling wood—gone without a trace, leaving behind a plot of mud with even the foundation gone or filled in to the point of invisibility. All this, by the way, usually with the people still inside the buildings.

Had it not been for the flood control projects, the devastation would have been even worse. In my own home, for example, just a few blocks from the path of the ripping torrent, that had been—and has returned to be—Solomon Run, the water filled the basement and came up against the ceiling—soaking partially through the flooring and carpet of the first floor.

Had it not been for the ability of the 1936 flood control channel to carry off the pouring water, there is absolutely no question but that I would have had water well into the first floor with damages far more extensive than did occur. Many, many other homes were in the same situation.

How do we prevent flood disasters such as Johnstown from happening again? I am not sure we can, but we can help alleviate the situation—via special projects such as we have in Johnstown and Windber.

We are working, here in Pennsylvania, on what we can do: revamping our civil defense disaster-reaction capability, moving to require warning-sensors on earthen dams, upgrading our communications systems, trying to restore ravaged streambeds and jury-rig at least basic flood controls to survive whatever happens next spring.

Local government cannot afford to do a proper job, and neither, really, can any State government. I think the answer must come via—not only Federal funding—but a Federal rethinking of the approach to disasters.

By nature, I suspect, representative democracy is a government by crisis, reaction after the fact rather than preventive action before the fact, even though the former approach is far more costly—in lives, as well as dollars, not to mention misery and suffering.

I can understand that some sort of cost-versus-benefit justification is necessary before preventive action such as an expensive flood control project can be undertaken. I do not understand the formula used in calculating the cost-benefit ratio, but I fully support the efforts to relax the benefit requirements.

Perhaps I should not point out that each year billions of dollars in foreign aid is sent overseas with no real control on what happens to that money, even though investigations have shown that much of that money goes into private coffers, and/or is used against us by the enemies of freedom.

Yet in a disaster situation, we help stricken Americans—individuals I am talking now—by dribbling out aid, dollar by squeezed dollar. That is an area other than you are interested in today, so let me leave it, saying only that it is tough to justify the Federal attitude of “help them to the point of survival” when they hear “Agnes” survivors talk of being returned “to where they were the day before the flood”—the talk of a \$5,000 grant plus \$5,000 loan forgiveness.

Perhaps the proposed mandatory catastrophic property insurance is the best way for financial protection of private property.

I believe the best way of physically protecting against possible future flood devastation—as much as is possible—is to ease the benefit requirements for the cost-benefit ratio calculations. I realize there must still be a reasonable cost-factor control, and what I propose will still cost a great deal of money.

I suspect we could fund the work by having the guts to cut back on foreign aid to countries that continually take our money, laugh, and spit in our face. It is time we learn that we cannot buy friendship or loyalty in these instances—the money would be far better spent in helping Americans stricken by natural forces that are beyond their control—especially helping and protecting those who have worked and paid taxes all their lives—helping them get back on their feet, back to work, and paying taxes again.

In the State Legislature, the house speaker's ad hoc committee has introduced a dozen or more flood recovery bills, copies of which we have provided you. In addition, more than 200 other bills relating to disaster prevention/reaction/recovery have also been introduced this session, many the result of the conditions that developed last winter. We have also provided you with background information. (See page 52.)

My apologies to the committee for taking so much time, but when I get started on disaster activities, I tend to get warm under the collar, and build up a head of steam.

I have accompanying me Jim Lovette, top staff man with the speaker's ad hoc flood committee, and we will try to answer any questions you may have. I thank you.

Mr. LEVITAS. Thank you, Representative Bittinger.

Let me ask you, how long has the speaker's ad hoc flood committee which you referred to been in existence?

Mr. BITTINGER. It was named on August 8, just 2 weeks after the flood.

Mr. LEVITAS. Now, without going into the detail, or substance, you referred to bills which have been proposed by the ad hoc flood committee.

Could you just give the subcommittee a general idea of what type of approaches these proposed bills, or this legislation has taken?

Mr. BITTINGER. Well, a good portion of it is work that had already begun because of the winter situation we had last year. A major factor, though, is the revamping of our—what we call the civil defense system.

I suspect that with the needs they are developing, we should call it emergency preparedness, or something along that line.

We found in the city of Johnstown, to give you a little bit of an idea, I was in Harrisburg on the morning of July 20, and had my family down here, as a matter of fact, when I found out about the flood. I flew to Johnstown with General Carroll of the National Guard. I got downtown shortly after noon, got down in an Army deuce and a half that had trouble getting through the water that was in the streets even then. There was absolutely no civil defense activities in the city of Johnstown. There was no overall coordination of civil defense activities at the local level.

Our State civil defense director, Colonel Henderson, came in with his people, and we did get as much organization as was possible, but from the State level we are looking at strengthening that—what we now call civil defense operation at the local and county level, so that we do not have to wait for the State people to come in and get organized reaction underway.

We had people in all walks of life, in all types of work, performing heroic tasks, pulling people out of buildings, saving lives. The first 11 helicopters that were in operation that morning were private helicopters. They worked—in fact, I am not sure if they have been paid yet for the gasoline that they used.

The thing is, there was no coordinated approach to the flood recovery. This is the sort of thing that we are looking at, the communications system.

It was a week, a week and a half after the flood before we got a centralized communications command post into the area, because we had to build it. We had a local police department that could provide a large portion of that centralized communications, and we were fortunate in that. But the State communications network simply had no central tie-in. That is one of the things that we are working to expand now.

We are looking at the rehabilitation of the area. There is, in the State Senate right now, a \$30 million proposal. It is a matching program with Federal money for the redevelopment of the area.

We have put something in the order of \$163 million in unemployment compensation money, that much and more in welfare payments.

Jobs are a major factor, and we are trying to figure some way of doing it, getting jobs in. We have a project, something just over \$20 million, that we have introduced. I mentioned it in my testimony, about flood control projects that are basically jury-rigging operations.

We are trying to get prepared for the water that we know is going to flow next spring. We have introduced a \$20 million bill for several of those projects. I understand—I see there is a fellow here from DER, and I suspect that he will touch on that a bit more later on.

One of the points in particular that should be made, I have mentioned Solomon Run, and there was a dam that broke in that instance. The normally, placid Solomon Run tore out houses, as a matter of fact, undermined, and chewed off parts of two buildings of a Federal housing project that is in there. The end of a three-story building, the three end apartments simply collapsed and disappeared.

Fortunately, two of the apartments were empty at the time, and the third, the people were gotten out. But the Solomon Run project that we have on the books right now is for \$6.7 million.

Now, coming out of our State budget, this is going to be a squeeze. If the cost-benefit ratio, the benefit requirements were reduced, we could do this with Federal money.

Now, I do not know if any of you are familiar with Johnstown or not, but where this Solomon Run hit, it came down through a housing project, came down through a series of heavily populated neighborhoods, through Walnut Grove, through Dale Boro, down through the Hornerstown section. This is the one that came within four blocks of my own home. The only thing that saved my own home was because I was a little further down the hill than where it hit.

Solomon Run came through areas where people—a number of people had tried to get flood insurance, and their agents laughed at them, and said you will never have a flood here. I will not sell it to you.

As a result, they are literally out in the cold. We worked to get grant money for them, to get loan money, but how do you tell someone who is 60 years old, and thought that they had it made for the rest of their lives, that all they have got left is to borrow money that their kids are going to have to pay back?

Mr. LEVITAS. Let me ask you this, Mr. Bittinger.

One of the—there are two basic concepts, as I read Congressman Ertel's legislation, and one of them is—I do not view it as liberalizing or relaxing cost benefit, or the benefit factor, but making it more realistic, taking into account those factors which perhaps should have been taken into account, not giving somebody a break, just taking a look at what should have been.

But he focuses in on such things as the loss of income, loss of jobs, lower property values, and so forth. I am of the opinion that as your ad hoc committee proceeds with its work, and you can begin to quantify the actual economic losses which have occurred, in terms of both the direct and indirect consequences, the unemployment and welfare being one example, the loss of potential income being others, I am sure it would be very helpful for this subcommittee to receive that information, as I am sure you will be quantifying it.

But the second part of the proposed legislation, and I am oversimplifying it, but it is a very intriguing concept, it is a new idea. And what the bill proposes, as I read it, it says, look, if the cost-benefit determination comes up with a benefit ratio of less than one, even under the more realistic criteria, that is not an end to the project.

Based upon local, State considerations, the local and State areas impacted could make a contribution to this project, so that as far as the Federal funding is concerned, that portion of the total cost would be a one-to-one, even though the total cost benefit of the project would be less than one-to-one.

Now, that being the case, do you, as a member of the State legislature, you would have a responsibility for appropriating funds for State participation, do you think that you would be able to justify a State contribution to a project which by definition does not have a cost benefit in it?

Mr. BITTINGER. I personally could, yes. I do not know if you are aware of it or not, the legislature in Pennsylvania is at this moment still trying to settle the budget that should have been settled as of June 30. At this point we do not know what is going to happen. If the gods are kind, and there are enough votes on the board, we may settle it this week or next. I am not sure that is going to happen.

Personally, yes, I could justify it and we are willing to do so. I do not think—I cannot think of any of my colleagues who would not feel the same way I do. They may be looking at projects in their own areas that they feel would also be justifiable. That is normal in this arena. But I would have no problem justifying that at all.

Mr. LEVITAS. Thank you.

Mr. Oberstar.

Mr. OBERSTAR. I am very intrigued by your presentation. I do not think that it helps to resolve our flood control problems to cut down on foreign aid.

Mr. BITTINGER. I am just using that as a possibility.

Mr. OBERSTAR. Cooling humanitarian assistance this past year is somewhere under \$1 billion when you compare that to our whole Corps of Engineers program, half of what we are spending domestically on flood control operations maintenance programs.

I do not think the Congress can be faulted for its support of flood control programs, certainly not this committee. In the Ohio Valley alone, since the 1930's, this committee has authorized in excess of \$5 billion of flood control structures and annual operation and maintenance programs for flood control and prevention in the Ohio Valley which resulted in savings on the order of \$15 billion. So we come here as advocates of flood control.

I would like to know whether there is a soil and water conservation district or district in the watershed that descends upon your Harrisburg area?

Mr. BITTINGER. Yes; there is. Now, I am from the western part of the State so I am not that familiar with the Harrisburg area, but I am presuming there is. And I know we have in the Johnstown area.

OBERSTAR. This is not principally the inquiry or the purpose of our inquiry today, to determine the specifics of structural and nonstructural approaches to flood control. We are here mainly to look at your input on cost-benefit formula.

But I do want to call your attention to the trend in legislation in recent years to—principally promoted by environmental groups to prevent development in flood-plain areas. The thrust of our Federal flood-plain insurance program is not to insure but rather to prevent development against which insurance is issued, and also to emphasize nonstructural approaches to flood control so that you do not have the water coming down in the first place. It has been estimated in other parts of the country in other hearings that we have had that the Corps of Engineers cannot build flood control structures fast enough to keep up with the channelization of the Soil and Water Conservation Service who are channelizing water to shut it downstream fast enough.

What we are really intrigued about is the question of whether or not the Federal Government should commit funds to a project that does not have a favorable cost-benefit ratio, even though the local citizens are willing to make up that difference.

Should the Congress commit taxpayer dollars to a project that is not going to pay for itself and not going to provide benefits even though the local citizens are willing to make up that difference in cost?

Mr. BITTINGER. My personal attitude is yes. Now, I appreciate the correction on the foreign aid. The main reason I mentioned that was a possibility for funding, and I realize that you people are advocates of the flood protection. I might note we have included copies of House bill, 1709 and 1710 in your packets. There are perhaps a couple of others that we could also include referring to flood-plain management.

As I am sure you are well aware, the question of flood-plain management is an extremely hot potato politically, particularly in the northeastern part of the country.

I attended a—what was called a Cross Belt-Sun Belt Seminar a couple of weeks ago in Harrisburg, and it was noted in this area, the northeastern part of the country, which was the first developed, that developments were down along the streams because we did not have the transportation to get away, streams provided a major source of transportation, and roadways were basically in the stream areas. You get into the South and into the West, the development there came after the transportation capabilities so we could get out of the flood plain with the developments.

Here in the Northeast, for example, Bethlehem Steel has 12 miles of steel mills right in the middle of the flood plain. The city of Johnstown, central business district, right in the middle of the flood plain. The city of Johnstown, by the way, has 19 suburban municipalities within literally a stone's throw of city hall. We are in the interesting position of having some 38,000 to 40,000 residents prior to the flood in the city; and within a 10-mile radius, 185,000 people. The city of Johnstown has no room on a practical basis to expand. If we abandon the flood plain, the city of Johnstown becomes a ghost town, as do many other cities and smaller communities in the Northeast.

The city of Johnstown perhaps is not the best example for your committee to consider because of the Bethlehem Steel situation, which was a catastrophe on top of catastrophe. The last figures that I have seen indicate that, including cutbacks of Bethlehem Steel, coupled with the effects of the flood, we could be facing job loss as high as 21,000 in the Greater Johnstown area. We are talking some \$235 million. That is in lost income alone. I think I have noted that \$163 million in unemployment. The Federal Government has already pumped something approaching half a billion dollars into the area.

You said you were not sure it would be considered liberalizing the benefit requirements, making it more realistic. Someone said it depends on which side of the aisle you are standing, which way you look at it. And I am not sure that it makes a whole lot of difference. It is the final outcome that counts.

I think we do have to make it a bit more realistic. The levels of survival, survival in quotes, that the Federal Government puts may be fine for someone who is on unemployment or welfare. But, as I mentioned, the level of survival for a person who has spent their life on

welfare or the better part of their life is at one level. On a practical basis, the level of psychological survival, at least for someone who has worked in the mills for 40 years—one of the most recent cases I can just think of, a fellow who literally lost everything, had just a few weeks before the flood bought a \$3,000 living-room suite. He worked all his life. He has got to the point where he thought, well, I can relax and enjoy life a little bit before I kick the bucket. His \$3,000 living-room suite, which he could prove the purchase of, was disallowed because that was a luxury item. Now, he can survive without that \$3,000 living-room suite.

Mr. OBERSTAR. Are you saying that is an item that ought to be considered in measuring cost and benefits of flood control structures?

Mr. BITTINGER. I think that—

Mr. OBERSTAR. What I am trying to get at, what new criteria should we be using in our evaluation of flood control structures to make this formula more realistic, where, as Congressman Ertel says, more up to date, more modern? And I am looking for something, for some critique of the existing benefit-cost ratio in the present Corps of Engineers evaluation of projects that would differ from the standard practice, and I am looking for you to give us some guidance in this committee.

Congressman Ertel has said that we ought to be looking at negative impacts on income, on education, on culture, on emergency preparedness, on community and regional growth, and even psychological impacts. Being a good prosecuting attorney, I am sure that he is looking at all the damages that, in his former existence, he was able to so successfully pursue. For these are the kinds of things that we have to look at if we are going to change the formula.

Mr. BITTINGER. Well, Congressman Ertel and I have not had the opportunity to sit down and discuss the bill.

As I read it here, I agree with him that that sort of thing does have to be taken into account, and it may be that—I do not know, maybe a team of accountants would be the sort of approach. We are looking at—for example, one of the colleges in the area, St. Francis College of Loretta, would, so far as I know, had absolutely no flood damage at all, they lost at least 40 students because of the flood. Not that the students died, but that, all of a sudden, their family income disappeared. They simply did not have the money to go to school.

The effects like this—

Mr. OBERSTAR. And those kinds of things, you are saying, should be cranked in as benefits to be realized from flood control structures?

Mr. BITTINGER. Yes.

Mr. OBERSTAR. One last question, Mr. Chairman.

Does the State of Pennsylvania provide funds to support local—supplement local participation money of flood control projects?

Mr. BITTINGER. We have on a limited basis through our Department of Community Affairs, we have some legislation to work around this sort of thing.

Among other things, we have some legislation in for properties that have been either destroyed or damaged, and the tax base has been eroded, to help pick up on that.

Mr. OBERSTAR. If the Congress were to modify the cost-sharing formula to allow States to participate by just providing that the non-Federal share may come from whatever source, would the State of

Pennsylvania be willing to participate under the existing cost-benefit formula in projects that would not otherwise qualify for Federal aid?

Mr. BITTINGER. I cannot speak for the legislature or the Governor, but as far as I am concerned, if that is the only alternative and we cannot change the formula, I would say yes, and I would be willing to bust a few heads to get it done.

Mr. OBERSTAR. Thank you, Mr. Chairman.

No further questions.

Mr. LEVITAS. Congressman Ertel.

Mr. ERTEL. Thank you, Mr. Levitas.

I just want to bring out a couple of points that you mentioned. You indicated that there were Federal projects which were flooded in Johnstown as a result of the recent flood; is that correct?

Mr. BITTINGER. No—well, yes, I am sorry. The housing project at Solomon Run is a Federal housing project operated by the local staff.

Mr. ERTEL. Is that still actually on the flood plain in Johnstown?

Mr. BITTINGER. No, sir. It is 175 feet above the 100-year flood plan.

Mr. ERTEL. So then even if we had flood control projects, that particular housing project would not have been protected because of the extremely unusual circumstances in this situation?

Mr. BITTINGER. Right. The problem was an earthen dam that gave way without warning.

Mr. ERTEL. I guess we ought to set the record straight just in case that is a Federal project.

Who built that earthen dam and who is in charge of maintenance of that?

Mr. BITTINGER. I think there is already a potential lawsuit involving that, at least involving a couple of them. I am not sure who built it. I will have to find out.

Mr. ERTEL. But it was not the Corps of Engineers, I understand?

Mr. BITTINGER. No, sir. This was one that was built back, if I recall, Doc Goddard said in the early 1900's. By the way, it is the one that survived the flood of 1936, 1972, and 1975.

Mr. ERTEL. Was that a flood control project, that particular dam? Was it built for flood control purposes?

Mr. BITTINGER. As far as I know, it was a reservoir.

Mr. ERTEL. And not for flood control purposes?

Mr. BITTINGER. Not really. It may have been a secondary thing. Jim may have some additional information.

Mr. LOVETTE. No.

Mr. BITTINGER. No? OK.

Mr. ERTEL. The other question I wanted to ask. You indicated there is a bill in the State legislature to provide \$6.7 million for some sort of flood protection in the Solomon Run area in Johnstown, is that correct?

Mr. BITTINGER. That is—Jim can give you the breakdown. That is part of a \$20 million package. The Solomon Run would be a channelization.

Mr. ERTEL. Which would be flood control motivation?

Mr. BITTINGER. Yes.

Mr. ERTEL. So, in other words, the State has already—at least, the bill has not passed, I assume?

Mr. BITTINGER. Right.

Mr. ERTEL. Has it been reported out of the committee at all?

Mr. BITTINGER. It was just introduced within the last 2 weeks.

Mr. ERTEL. But that is at least an indication that the State would be interested in flood control projects, at least on updating the cost-benefit ratio, or would that be an incorrect assumption?

Mr. BITTINGER. Well, a bit of explanation, and Jim can add to it.

Solomon Run was simply—simply soft ground as the banks now. One of the things that the Solomon Run did when it went on the rampage was to eat out the hillside along the Route 56, four-lane expressway. It was opened some 8 years ago, 7 or 8 years ago. The out-bound two lanes simply disappeared. The stream cut away about a 70-foot bank, and a \$6 million rebuilding job was required because of that to replace those lanes the water has washed out. You can simply look under the two lanes that were left and see through to the other side.

If something is not done and done now to make those banks more solid, next spring, if we have any more than an inch or an inch and a half of snow in the mountains above us, we can count on that bank simply washing out again. So that we do not have much choice in that. That has to be done as far as I am concerned, as far as the people who are living along that stream are concerned.

Jim.

Mr. LOVETTE. Congressman Ertel, currently in Johnstown there is an urban renewal project going on, I think it is \$13 million, as far as we have shared in community development funds which we have shifted for many programs to supervise the rebuilding of Johnstown.

That we have attempted to do in our legislation, House bill 1802 provides for \$20,025,968 in flood control and protection projects. What we are trying to do is restore the existing or the prior facilities that were there prior to the flood to its prior flood level or structural level. We have also provided to you a breakdown of the bond issue that the State of Pennsylvania floated in 1972, amounting to \$154 million, showing you what the State of Pennsylvania did in order to attract Federal funds after Agnes. We are—of this \$20 million for flood protection projects reimbursable to the Federal Government amounts to \$898,000. So we will not be getting very much money back from the State of Pennsylvania.

So I am sure from the tone of the legislature that if the project is well won that the State of Pennsylvania would probably be able to come up with the money.

Now, if you are talking about a Keating Dam project in the tune of \$700 million, and asking us to come up with 10 percent, we might have a problem with that. But if you are asking us to come up with \$150,000 for a \$1.5 billion project, it depends on the amount that the State of Pennsylvania or the local municipalities will have to come up with. If you happen to be building a \$1 billion structure in the State of Pennsylvania, it might be restricted.

Mr. ERTEL. You are going to have to be pretty small.

Mr. LOVETTE. Right.

Mr. ERTEL. You just think Pennsylvania does not have the money?

Mr. LOVETTE. Our total budget, including our Federal augmentation, is only \$8.6 billion.

Mr. ERTEL. Just one other question.

The type of projects that have been built in the Johnstown area, can you give us some idea of what was there previous to this recent flood?

What was built by the corps?

Mr. BITTINGER. Well, the primary flood control project in Johnstown was really a double project on the Stoney Creek and the Little Conemaugh Rivers, and this was an excavation of the—this was done, by the way, before my time, but it was an excavation of the existing riverbeds and simply a walling of the riverbanks. You have the bed now at 25 feet. The river has to come up 25 feet before it hits flood stage, and it had been a great deal shallower than that, I understand. They dropped it, what, 5 feet, and widened the riverbed.

Mr. ERTEL. Can you give us an estimate of the cost of that project and can you also estimate the possible savings which have resulted as a result of that project over the years? Is there any way to do that?

Mr. LOVETTE. The savings, Johnstown was not affected by the 1972 flood. If Bethlehem Steel had to go through Agnes, Johnstown might not have been there today.

Mr. BITTINGER. Bethlehem Steel, in this past flood, just for cleanup, was \$35 million.

Mr. ERTEL. That was not the cost of the project that probably saved Johnstown in the Agnes flood.

Mr. LOVETTE. Congressman, we have also given you, also in our packet, the breakdown of the Department of Commerce. We are having a hard time getting figures, concrete figures, from anybody. We get them from FDAA, that is one group, and we have information from Senator Heinz' office. We have included in our packet a news release, a GP growth, which says that the utility, one utility alone, suffered \$25 million in damages of replacement of earth facilities. The coal industry is still trying to pump out. We have coal mines that are still pumping water and they project for another 240 days they will still be pumping the water out of their mines.

United States Steel and Bethlehem Steel are still affected by mine 20. At the Stewart powerplant we had 80,380,000 tons of coal washed away in the flood that has to be replaced. ConRail lost 4.3 billion or 10,000 carloads of coal as a result of this, and the figures—we are still getting updated figures from transportation systems as well as all facets of the economy out there, and it will be quite some time before we get a complete packet together.

Mr. BITTINGER. Let me follow up just a moment on the coal situation, particularly in view of the energy situation that we have in the Nation today.

ConRail sustained some \$20 million in track damage. A great deal of that was spur lines serving coal mines.

We have, as Jim said, we are still trying to put together figures. But we do know, for example, one coal mine that had shipped its coal by rail now has to ship it 63 miles by truck. The cost for a ton of coal in the rail car at the mine mouth had been—it was \$8.50 a ton. Now it is \$15 a ton, and we have no idea how long that is going to last. That is about a 90-percent increase. Better than 90 percent, if I recall.

We have one company that is losing \$330,000 a week because it has to ship by truck now instead of by rail. That runs out to somewhere around \$1 million every 3 weeks. These are some of the kinds of problems that normally you might not take into account when you are putting together a cost-benefit ratio. But a great deal of that coal is going to the generating stations.

Now, as a matter of fact, the legislature was asked earlier this week to investigate one gas company where the bill for October, the gas bill itself was something like \$17, the fuel cost adjustment cost was \$22. This is the kind of thing that we are—that we are liable to run into as an unforeseen aspect of flood damage because the cost to that coal, not meaning to offend any coal companies or any utility companies, but you know the coal company is not going to eat that cost and you know the utility company is not going to eat that cost. There is going to be only one person eating it, and that is something that I have not seen included in the material.

Mr. OBERSTAR. Will the gentleman yield?

Mr. ERTEL. Certainly, I yield.

Mr. OBERSTAR. Has a Corps of Engineers study been undertaken on the Johnstown area that we are discussing, and has flood control structure been proposed and any of these damage figures been taken under account and accepted or rejected by the corps?

Mr. BITTINGER. Not to my knowledge.

Mr. LOVETTE. The House Appropriations Committee is approaching Congressman John Murtha to look at these projects. We are trying to get all the figures together and all the background information for his office. The corps was in Johnstown for flood recovery and they were in there until September 14, when it was—the paper down date was, and they pulled out that date and proceeded on to the next disaster.

Mr. OBERSTAR. We have a Corps of Engineers witness following, and I will reserve my questions.

M. BITTINGER. Jack can bring you up to date on the latest figures.

Mr. LEVITAS. Mr. Ashworth is the Assistant Minority Counsel.

Mr. ASHWORTH. Mr. Bittinger, I notice in your testimony you discussed the failure of seven dams in one place and the failure of four dams in another place. We recently had the problem of a dam failing—and the question of Federal dam safety legislation was raised.

Are you saying to us that there was a question of dam safety here?

Mr. BITTINGER. Yes, sir, very definitely.

Mr. ASHWORTH. Let me ask you this.

Are you aware who built these 11 dams that were involved?

Mr. BITTINGER. The one dam in particular was built, if I recall, by the—I am not sure if it was Johnstown Water Authority or Laurel Water System. There are two legal suits pending right now concerning that dam. That is the dam, Laurel Run Dam, that broke above the Tannersville section where the heaviest loss of life was. We had the worst case that I know of, a man that was swept away along with his home. His body was found 7 miles downstream. And again there were no warning devices.

I have a list, and I am presuming that you have it also, of dams that are listed as dangerous. But as with the—with the corps, the cost/benefit ratio factor, where do you get the money?

Mr. ASHWORTH. My question is, sir, Can you tell us when or by whom any of these dams had been inspected?

Mr. BITTINGER. As far as I know, DER did the primary inspections. And again you have the gentleman here from DER who could probably give you better information.

Mr. ASHWORTH. Is there a Pennsylvania statute requiring State inspections?

Mr. BITTINGER. I am not aware of any specific statute.

Mr. ASHWORTH. In looking over the bills you provided, I noticed that there is no damage inspection legislation.

Mr. LOVETTE. There is legislation introduced in the other House. There are currently 211 bills pertaining to disaster. There are the bills that are a direct result of our committee which we are better qualified to testify on.

Mr. ERTEL. If the gentleman will yield.

Gentlemen, State Senator Kury will testify tomorrow, and he will indicate whether there are bills.

Mr. ASHWORTH. Are you concerned whether this is a question of Federal jurisdiction?

Mr. BITTINGER. I am not really concerned about that. I suspect, to do the proper job of strengthening the dams, it may take a cooperative effort. I am not that familiar with dam construction cost figures. We have legislation introduced.

Do we have a copy of that in the packet? The warning sensors?

Mr. LOVETTE. No.

Mr. BITTINGER. There is legislation from outside our committee to require DER to require warning sensors on earthen dams, to give some sort of warning if problems develop right now, and I probably should not phrase it that way, but economically that is the only thing we can do.

Mr. ASHWORTH. Are you familiar with the Susquehanna Basin report of 1975?

Mr. BITTINGER. I have seen it and I have it.

Mr. ASHWORTH. Those reports, dated in October of 1975, point out the deficiencies in the warning system at that time and said there had been some improvements made.

Have there not been improvements made since that time?

Mr. BITTINGER. There had not been in the Johnstown area. There were no warning sensors at all, to my knowledge. At least none of the dams that broke.

Mr. ASHWORTH. In your testimony you mentioned the breaching that occurred in Johnstown, and I believe you clarified that Johnstown was at a 400-year level rather than the 100-year level determination, is that correct?

Mr. BITTINGER. I am not sure if it was the corps or the Weather Service that termed it a 400-year flood, the one that just occurred.

Mr. ASHWORTH. And the other level that you mentioned was the one used by the Federal Insurance Administration—

Mr. BITTINGER. Yes, sir. Yes, sir, it was above what was considered flood plain. In fact, basically, they look at the 400-year flood plain, which is the plight of the city, and then the rest of the city rises at a pretty quick rate.

Mr. ASHWORTH. You raised the question of Federal flood insurance.

Are you aware that, on October 31, the Federal Register carried a listing of several thousand communities around the country which had failed to qualify for flood insurance program, including 30 in Pennsylvania?

Mr. BITTINGER. Yes, sir.

Mr. ASHWORTH. In fact, one in Union——

Mr. BITTINGER. Well, beyond that, West Taylor Township, which is where Tannersville was located, did not participate in the flood insurance program, even though we had done just about everything possible to force the township supervisors into participation. Remember, that is a voluntary local government participation and something that should be changed. I did not go into that because that was part of your——

Mr. ASHWORTH. I notice House bill 1709, which is included in your packet, would mandate local community participation.

Mr. BITTINGER. Yes, sir.

Mr. ASHWORTH. How can you square a Federal voluntary program as a local mandated one?

Mr. BITTINGER. I think the Federal program should be changed because when a disaster hits, the Government is looked to for help, whether it be the local, State, or Federal Government. One of the proposals—and I am not sure of the official title of it—but the catastrophic property insurance proposal might be the way to go. And I did mention that in my testimony.

But I think that there has got to be something done along this line.

As I say, Tannersville, West Taylor Township, the supervisors did not participate—and, by the way, they were very careful where they appeared in the days immediately after the flood, and I am not sure I blame them. We had, in Bedford County, right along the branch of the Juniata River, Snake Spring Township, it took a great deal of pressure before they finally came into the flood insurance program. It is out of my district but I happen to be familiar with that as I have some people who live over there.

Mr. ASHWORTH. Mr. Bittinger, have you attended any of the hearings held by the Federal Insurance Administration?

Mr. BITTINGER. No; I have not.

Mr. ASHWORTH. I was wondering whether or not you were aware of how the local communities responded to the proposed determination of flood levels?

Mr. BITTINGER. No; I am not at this point.

Mr. ASHWORTH. There seems to be a problem with that, a lack of response to the determination.

A couple of other questions on the questions that you raised about insurance.

You mentioned that there were problems on lack of sales. It has been said that there must be a change in the way the flood insurance is sold in order to get more people to benefit from it, such as commissions to expand the sales by private insurance agencies.

Do you think that is necessary?

Mr. BITTINGER. Well, I am not an insurance agent and I am not that familiar with how they operate. I do know that—or I understand, at least, that the Commission is negligible on sale of flood insurance.

Mr. ASHWORTH. Are you saying there should be a public relations campaign to promote the sale of flood insurance in flood areas?

Mr. BITTINGER. That is a possibility. Here in Pennsylvania in the spring, I was part of an energy weather crisis task force that was appointed by the House, and in public hearings that we held throughout the State, as a matter of fact, we pressured as much as possible and publicized the possibility of flooding, and urged the inclusion of every community in it.

If I recall, Cambria County, at the time of the July flood, had 86-percent participation, which was one of the highest, I understand, in the State and possibly in the Nation in participation.

The problem that you referred to about the slow sales, Johnstown had, of course, received the abolition of flood-free city after having Agnes in 1972 and redoubled that after Eloise in 1975, and there were a lot of people who simply believed there would never be another flood in Johnstown. This was one of the problems. We got up into the higher elevations, in Dale Borough and Warner Grove, Solomon Run, and I have lost track of the number of people who tell me that they tried to buy flood insurance because they lived along the stream, Solomon Run, and their insurance agents simply laughed at them and said why do you want to do that for, you do not need flood insurance as high as you are? And in a friendly manner but, nonetheless, refusal, they would not or did not sell them flood insurance.

Mr. ASHWORTH. No further questions.

Mr. LEVITAS. Thank you, Mr. Ashworth.

Representative Bittinger, we appreciate your very helpful testimony.

Mr. BITTINGER. Thank you again. I apologize for taking so long.
[Mr. Bittinger's submissions for the record follow:]



HOUSE OF REPRESENTATIVES
COMMONWEALTH OF PENNSYLVANIA

MEMO

November 2, 1977

SUBJECT: Proposed Legislative Summary

TO: Honorable C. Adam Bittinger, Chairman
Speaker's Special Ad Hoc Committee on the July 19-20, 1977, Flood

FROM: James S. Lovette
House Staff

Present Federal regulations of the Department of Housing and Urban Development provides that eligibility for Federal funds in certain circumstances regarding repairs and reconstruction work in a major disaster situation depends upon the inclusion of the organization, firm or individual performing the work on a list selected by a regional director.

This provision precludes an individual, not on the list, who performs work on his own property in this situation from eligibility for such Federal funds.

This aspect of the result of the regulation is manifestly unfair to an individual who chooses to do repair or reconstruction work on his own property in lieu of engaging a listed organization, firm or individual.

This Resolution memorialize the Congress of the United States to direct the Department of Housing and Urban Development to take steps to rectify this injustice.

In the House of Representatives,

1 Current Federal regulation of the Department of Housing and
2 Urban Development provides that eligibility for Federal funds in
3 certain circumstances regarding repair and reconstruction work
4 in a major disaster situation depends upon the inclusion of the
5 organization, firm or individual performing the work on a list
6 selected by a regional director; and

7 This provision precludes an individual, not on this list, who
8 performs work on his own property in this situation from
9 eligibility for such Federal funds; and

10 This aspect of the result of the regulation is manifestly
11 unfair to an individual who chooses to do repair or
12 reconstruction work on his own property in lieu of engaging a
13 listed organization, firm or individual; therefore be it

14 RESOLVED, That the House of Representatives of the
15 Commonwealth of Pennsylvania memorialize the Congress of the
16 United States to direct the Department of Housing and Urban
17 Development to take steps to rectify this injustice; and be it

1 further

2 RESOLVED, That copies of this resolution be transmitted to
3 the presiding officers of each House of the Congress of the
4 United States and to each Senator and Representative from
5 Pennsylvania in the Congress of the United States.



HOUSE OF REPRESENTATIVES
COMMONWEALTH OF PENNSYLVANIA

MEMO

October 17, 1977

SUBJECT: Proposed Legislation Summary

TO: Honorable C. Adam Bittinger, Chairman
Speaker's Special Ad Hoc Committee on the July 19-20, 1977 Flood

FROM: James S. Lovette
House Staff

This Resolution would require each department or agency to appoint or designate a person who is responsible for the activities of that agency during a disaster.

Those individuals so designated shall work under the direction of the State Director of Civil Defense or his designee during the emergency situation.

Those individuals so designated should be trained by the State Director of Civil Defense or his designee on the proper methods of handling emergency situations.

Each department shall be responsible for developing an emergency preparedness plan that would be put into use during an emergency situation. This plan would have to meet the approval of the State Director of Civil Defense.

All agencies having programs mandated by law that could be enforced by two or more agencies during the time of emergency should be required to cooperate with each other so that the interests of all affected by the emergency are protected.

Each State agency should also have available to them the Federal agencies plan of action so that each State agency would know exactly who to go for Federal assistance.

In the House of Representatives,

1 The Johnstown Flood of 1977 revealed various problems in
2 coordinating the work of governmental agencies in the most
3 efficient manner; therefore be it

4 RESOLVED, That the House of Representatives suggests that the
5 Governor implement the following proposals:

6 (1) Each State department or agency appoint or designate a
7 person who is responsible for the activities of that agency
8 during the time of a disaster.

9 (2) People who are designated by their department or agency
10 would work under the direction of the State Director of Civil
11 Defense or his designee during the emergency situation.

12 (3) These people should be trained by the State Director of
13 Civil Defense or his designee on the proper methods of handling
14 emergency situations.

15 (4) Each department should be held responsible for
16 developing an emergency preparedness plan that would be put into
17 use during an emergency situation. This plan would have to meet

1 the approval of the State Director of Civil Defense.

2 (5) All agencies having programs mandated by law that could
3 be enforced by two or more agencies during the time of emergency
4 should be required to cooperate with each other so that the
5 interests of all affected by the emergency are protected; these
6 particular departments should have an agreement as to which will
7 take charge or care of certain responsibilities during the
8 emergency period.

9 (6) Each State agency should also have available to them the
10 Federal agencies plan of action so that each State agency would
11 know exactly who to go to for Federal assistance; and be it
12 further

13 RESOLVED, That a copy of this resolution be delivered to the
14 Honorable Milton J. Shapp, Governor of the Commonwealth of
15 Pennsylvania.



HOUSE OF REPRESENTATIVES
COMMONWEALTH OF PENNSYLVANIA

MEMO

November 2, 1977

SUBJECT: Proposed Legislation Summary

TO: Honorable C. Adam Bitteringer, Chairman
Speaker's Special Ad Hoc Committee on the July 19-20, 1977 Flood

FROM: James S. Lovette
House Staff

This Resolution would memorialize the Congress of the United States to require all Federal agencies to first employ available persons residing or regularly work in disaster areas before other persons are employed.

In the House of Representatives,

1 During disasters, when many people in the affected area are
2 unemployed but available for work, the Federal agencies bring in
3 workers from other places. This practice invariably causes
4 resentment among those who already have enough problems;
5 therefore be it

6 RESOLVED (the Senate concurring), That the General Assembly
7 memorializes the Congress of the United States to require all
8 Federal agencies to first employ available persons residing or
9 regularly work in disaster areas before other persons are
10 employed; and be it further

11 RESOLVED, That copies of this resolution be sent to the
12 presiding officer of both Houses of the Congress of the United
13 States and to each Senator and Representative from Pennsylvania
14 in the Congress of the United States.



HOUSE OF REPRESENTATIVES
COMMONWEALTH OF PENNSYLVANIA

MEMO

October 17, 1977

SUBJECT: Proposed Legislation Summary

TO: Honorable C. Adam Bittinger, Chairman
Speaker's Special Ad Hoc Committee on the July 19-20, 1977 Flood

FROM: James S. Lovette
House Staff

This act would amend Act 57 of 1977, (P.L. 515), to authorize the reimbursement of municipalities for costs incurred as a result of making repairs to public facilities that were damaged as result of a disaster.

Act 57 authorize reimbursement to municipalities only for the purpose of cleaning roads and repairing water systems.

This amendment would extend the Governor's authority to reimburse municipalities for repair of municipally-owned facilities which damage not otherwise be covered by Federal grant or insurance.

AN ACT

1 Amending the act of July 6, 1961 (P.L.515, No.265), entitled, as
2 amended, "An act authorizing the Governor to provide for
3 disaster and emergency relief under certain circumstances;
4 authorizing him to transfer certain funds in the General Fund
5 for these purposes, and making an appropriation," providing
6 for assistance for community development programs in
7 political subdivisions affected by natural disasters.

8 The General Assembly of the Commonwealth of Pennsylvania
9 hereby enacts as follows:

10 Section 1. The act of July 6, 1961 (P.L.515, No.265),
11 entitled, as amended, "An act authorizing the Governor to
12 provide for disaster and emergency relief under certain
13 circumstances; authorizing him to transfer certain funds in the
14 General Fund for these purposes, and making an appropriation,"
15 reenacted and amended August 18, 1977 (No.57), is amended by
16 adding a section to read:

17 Section 4.1. (a) Whenever the Governor shall have
18 proclaimed that conditions of extreme emergency exist throughout
19 the State or in one or more political subdivisions thereof
20 pursuant to section 4, he may authorize the expenditure of funds

1 from any appropriation for the purposes of this section to make
2 grants for community development programs to one or more
3 political subdivisions affected by a natural disaster.

4 (b) No more than ten million dollars (\$10,000,000) shall be
5 expended in any one year for the purposes of this section unless
6 a greater amount is specifically appropriated by the General
7 Assembly.

8 (c) For the purposes of this section, community development
9 programs shall comply with the definition and requirements of
10 the act of December 10, 1974 (P.L.865, No.292), entitled "An act
11 authorizing municipalities to expend Federal general revenue
12 sharing or general funds for social service programs for the
13 poor, the disabled and the aging, and to jointly cooperate in
14 the sponsorship, establishment, administration, maintenance and
15 operation of such programs."

16 (d) The Secretary of the Department of Community Affairs
17 shall promulgate rules and regulations for the administration of
18 this section.

19 Section 2. This act shall take effect immediately.



HOUSE OF REPRESENTATIVES
COMMONWEALTH OF PENNSYLVANIA

MEMO

October 17, 1977

SUBJECT: Proposed Legislation Summary

TO: Honorable C. Adam Bittinger, Chairman
Speaker's Special Ad Hoc Committee on the July 19-20, 1977 Flood

FROM: James S. Lovette
House Staff

This act would amend Act 57 of 1977, (P.L. 515), to authorize the Governor to transfer up to \$10,000,000.00 annually from the General Fund for making grants for disaster-related community development programs.

This program would be administered by the Department of Community Affairs.

Attached for reference is a copy of Act 1414 of 1974 which is referenced in this proposed legislation, i.e., Section 4.1 (c).

AN ACT

1 Amending the act of July 6, 1961 (P.L.515, No.265), entitled, as
2 amended, "An act authorizing the Governor to provide for
3 disaster and emergency relief under certain circumstances;
4 authorizing him to transfer certain funds in the General Fund
5 for these purposes, and making an appropriation," providing
6 for reimbursement to political subdivisions and authorities
7 for repair or replacement of public facilities damaged,
8 destroyed or made inoperable due to a natural disaster.

9 The General Assembly of the Commonwealth of Pennsylvania
10 hereby enacts as follows:

11 Section 1. Section 4, act of July 6, 1961 (P.L.515, No.265),
12 entitled, as amended, "An act authorizing the Governor to
13 provide for disaster and emergency relief under certain
14 circumstances; authorizing him to transfer certain funds in the
15 General Fund for these purposes, and making an appropriation,"
16 reenacted and amended August 18, 1977 (No.57), is amended to
17 read:

18 Section 4. (a) Whenever the Governor shall have proclaimed
19 that conditions of extreme emergency exist throughout the State
20 or in one or more political subdivisions thereof due to a
21 natural disaster including but not limited to floods, heavy

1 snows, or prolonged periods of subfreezing weather, officials of
2 any political subdivision affected by such conditions of extreme
3 emergency shall have the authority to clear such roadways as are
4 necessary for the health, safety and welfare of residents, even
5 though such roadways are not officially the responsibility of
6 such political subdivision. The political subdivision may be
7 reimbursed for the cost of such clearing as provided in
8 subsection (c).

9 (b) Whenever the Governor shall have proclaimed that
10 conditions of extreme emergency exist throughout the State or in
11 one or more political subdivisions thereof due to a natural
12 disaster including but not limited to floods, heavy snows, or
13 prolonged periods of subfreezing weather and in the event that a
14 public facility, including a roadway, owned by a political
15 subdivision, or a water or sewer system owned or operated by a
16 political subdivision or municipal authority is damaged,
17 destroyed, or made inoperable as a direct result of such
18 conditions of extreme emergency, the political subdivision or
19 municipal authority shall have the authority to lease or hire
20 such personnel and equipment and to purchase such materials and
21 supplies as may be needed to effect restoration of such public
22 facility, roadway, or water or sewer system. The political
23 subdivision or municipal authority may be reimbursed for the
24 cost of such restoration as provided in subsection (c).

25 (c) Whenever the Governor shall have proclaimed that
26 conditions of extreme emergency exist throughout the State or in
27 one or more political subdivisions thereof, he shall have power
28 to transfer any unused funds which may have been appropriated
29 for the ordinary expenses of government in the General Fund to
30 such State agencies as he may direct to be expended for

1 reimbursements as provided in subsections (a) and (b). Such
2 reimbursements shall be made in accordance with and to the
3 extent permitted by regulations issued by such agency or
4 agencies as the Governor may designate to administer the
5 reimbursement programs established by subsections (a) and (b).
6 The total of such transfers shall never exceed one million
7 dollars (\$1,000,000) in any one year except by action of the
8 General Assembly.

9 (d) Reimbursements pursuant to subsection (c) shall not be
10 made to the extent that the Commonwealth, a political
11 subdivision or a municipal authority may be eligible for
12 assistance from the Federal Government or for the receipt of
13 proceeds from any insurance policy.

14 Section 2. This act shall take effect immediately.

Official Advance Copy of Statute Enacted at 1975 Session

No. 141

AN ACT

HB 1710

Amending the act of December 10, 1974 (P.L.865, No.292), entitled "An act authorizing municipalities to expend Federal general revenue sharing or general funds for social service programs for the poor, the disabled and the aging, and to jointly cooperate in the sponsorship, establishment, administration, maintenance and operation of such programs," providing for expenditures for established historical, architectural or esthetic value.

The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

Section 1. Sections 1, 2, 3 and 4, act of December 10, 1974 (P.L.865, No.292), entitled "An act authorizing municipalities to expend Federal general revenue sharing or general funds for social service programs for the poor, the disabled and the aging, and to jointly cooperate in the sponsorship, establishment, administration, maintenance and operation of such programs," are amended and the act is amended by adding sections to read:

Section 1. Every municipality may, by passage of an ordinance by its governing body, in any year expend all or part of any moneys received as payment to local governments pursuant to Title I of Public Law 92-512, the "State and Local Fiscal Assistance Act of 1972," or its general municipal funds for social service programs for the poor, the disabled and the aging, *and for sites of established historical, architectural or esthetical value*, provided such programs do not duplicate although they may expand programs of the Commonwealth or of the United States Government. Nothing contained herein shall prohibit the use of the funds in the matching of local funds with State or Federal funds in so far as permitted by law or regulation. Unless contrary to Federal statutes and regulations, no person shall be denied participation in, or the benefits of social service programs so funded because said person is not a public assistance recipient.

Section 1.1. Every municipality may by passage of an ordinance by its governing body, in any year expend, including by making an appropriation to a nonprofit corporation organized for the community development purposes, all or part of any moneys received as payment to local governments pursuant to Title I of Public Law 93-383, the "Housing and Community Development Act of 1974," or its general municipal funds for community development programs provided such programs do not duplicate although they may expand programs of the Commonwealth or of the United States Government. Nothing contained herein shall prohibit the use of the funds in the matching of

local funds with State or Federal funds in so far as permitted by law or regulation.

Section 2. Two or more municipalities may jointly cooperate, or any municipality may jointly cooperate with any municipality located in any other state, in the sponsorship, establishment, administration, maintenance and operation of social service programs for the poor, the disabled and the aging *and for sites of established historical, architectural or esthetical value* pursuant to the act of July 12, 1972 (P.L.762, No.180), entitled "An act relating to intergovernmental cooperation."

Section 2.1. Two or more municipalities may jointly cooperate, or any municipality may jointly cooperate with any municipality located in any other state, in the sponsorship, establishment, administration, maintenance and operation of community development programs pursuant to the act of July 12, 1972 (P.L.762, No.180), entitled "An act relating to intergovernmental cooperation."

Section 3. Municipalities which provide or jointly cooperate in the sponsorship, establishment, administration, maintenance and operation of social service programs to the poor, the disabled and the aging *and for sites of established historical, or esthetical value* pursuant to the act of July 12, 1972 (P.L.762, No.180), entitled "An act relating to intergovernmental cooperation," may expend or use all or part of any moneys received as payment to local governments pursuant to Title I of Public Law 92-512, the "State and Local Fiscal Assistance Act of 1972," for such purposes.

Section 3.1. Municipalities which provide or jointly cooperate in the sponsorship, establishment, administration, maintenance and operation of community development programs pursuant to the act of July 12, 1972 (P.L.762, No.180), entitled "An act relating to intergovernmental cooperation," may expend or use, including by making an appropriation to a nonprofit corporation organized for community development purposes, all or part of any moneys received as payment to local governments pursuant to Title I of Public Law 93-383, the "Housing and Community Development Act of 1974," for such purposes.

Section 4. As used in this act:

"Community development programs" means any service provided on either a single or multi-single or multi-municipal level which would address the following recognized social, economic and environmental needs of cities, towns and smaller urban communities; the elimination of slums and blight; the elimination of conditions which are detrimental to health, safety and public welfare; the conservation and expansion of housing; the expansion and improvement of the quantity and quality of community services; a more rational utilization of land and other natural resources and the better arrangement of residential,

commercial, industrial, recreational, and other needed activity centers; the reduction of the isolation of income groups within communities and geographical areas and the promotion of an increase in the diversity and vitality of neighborhoods through the spatial deconcentration of housing opportunities for persons of lower income and the revitalization of deteriorating or deteriorated neighborhoods to attract persons of higher income; and the restoration and preservation of properties of special value for historic, architectural, or esthetic reasons. Home Rule municipalities may define the term "community development programs" within their powers under a Home Rule Charter.

"Municipality" means a county, city, borough, incorporated town, township or any other similar general purpose unit of government which shall hereafter be created by the General Assembly, except that section 2 of this act shall not apply to a city of the first class.

"Social service programs" means any service provided on either a single or multi-municipal level which would address the following recognized needs of the poor, disabled or the aged: children's services, including day care; health services, including alcohol and drug addiction; housing and homemaker services; senior opportunities and services; consumer services; migrant services; youth services; sheltered workshops for the handicapped; hot meals for older adults; rehabilitation of low to middle income housing; family planning. Home Rule municipalities may define the term "social service programs" within their powers under a Home Rule Charter.

"Sites of established historical, architectural or esthetic value" means a site registered on the List of Historical Sites by the Pennsylvania Historical and Museum Commission, Office of Historical Preservation and maintained either by governmental, municipal or private nonprofit organizations.

APPROVED The 3rd day of December, A. D. 1975.

MILTON J. SHAPP,



HOUSE OF REPRESENTATIVES

Bill Analysis

Chief Sponsor Petrarca, et al

House Bill 304

Printer's Number 324

Senate Bill

Printer's Number

ANALYSIS OF AMENDMENTS INSERTED IN BILL BY COMMITTEE ON MARCH 22, 1977

The prior printer's number is amended to provide a permanent disaster amendment to the Constitution. The Governor will have the power to proclaim that a major disaster has occurred. This amendment eliminates the necessity of amending the Constitution each time a new disaster occurs.

The schedule in this amendment provides for these provisions to take effect after approved by the electorate to be retroactive to July 1976. The provisions of this amendment shall only apply during the designated disaster period.

Prepared by:

Committee State Government

Name John J. Connelly, Jr.

Date March 23, 1977

SENATE AMENDED

PRIOR PRINTER'S NOS. 324, 799, 808,
1839

Printer's No. 1861

THE GENERAL ASSEMBLY OF PENNSYLVANIA

HOUSE BILL

No. 304

Session of
1977INTRODUCED BY MESSRS. PETRARCA, STEWART, A. K. HUTCHINSON,
LAUDADIO, LIVENGOD AND REED, FEBRUARY 9, 1977

AS AMENDED ON THIRD CONSIDERATION, JULY 27, 1977

A JOINT RESOLUTION

1 Proposing an emergency Constitutional amendment to the
 2 Constitution of the Commonwealth of Pennsylvania ~~granting the~~ <--
 3 ~~General Assembly the power to enact special laws to aid~~
 4 ~~certain individuals, corporations, associations, institutions~~
 5 ~~or nonpublic schools adversely affected by conditions caused~~
 6 ~~by certain storms or floods.~~ PROVIDING THAT SPECIAL EMERGENCY <--
 7 LEGISLATION MAY BE ENACTED WHEN FEDERAL EMERGENCY OR DISASTER
 8 ASSISTANCE IS AVAILABLE.

9 The General Assembly of the Commonwealth of Pennsylvania
 10 hereby resolves as follows:

11 Section 1. Many Pennsylvanians have suffered greatly from
 12 the ravages of great storms and floods in recent years. The
 13 great storms or floods of 1974, 1975, and ~~1976~~ 1976 AND 1977 <--
 14 were additional major disasters causing loss of life and great
 15 damage and destruction to property of individuals, industrial
 16 and commercial establishments and public facilities.

17 ~~Further, due to an extreme winter with especially heavy~~ <--
 18 ~~snowfall throughout much of the Commonwealth the probability of~~
 19 ~~flooding this spring threatens~~

20 It is imperative that the victims of these disasters receive

1 the fullest possible aid from both the Federal Government and
 2 the Commonwealth in order to accomplish a speedy recovery.

3 ~~The General Assembly desires to alleviate such storm or~~ <--
 4 ~~economic deprivation caused by the floods in past years and~~

5 THE CONGRESS OF THE UNITED STATES, THROUGH ENACTMENT OF THE <--
 6 DISASTER RELIEF ACT OF 1974, PUBLIC LAW 93-288, HAS AUTHORIZED
 7 THE MAKING OF CERTAIN DISASTER RELIEF GRANTS. THE GENERAL
 8 ASSEMBLY WISHES TO MAKE SUCH FEDERAL DISASTER RELIEF GRANTS, OR
 9 OTHER GRANTS MADE AVAILABLE FROM FEDERAL PROGRAMS HEREAFTER
 10 ENACTED, AVAILABLE TO ELIGIBLE INDIVIDUALS AND FAMILIES IN ORDER
 11 TO ALLEVIATE THE DEPRIVATION CAUSED BY STORMS OR FLOODS WHICH
 12 HAVE OCCURRED IN THE PAST AND seeks to address those emergencies
 13 of future years. However, the General Assembly is limited by
 14 rigid restrictions in the Constitution of the Commonwealth of
 15 Pennsylvania. The safety and welfare of the Commonwealth
 16 requires the prompt amendment to the Constitution to aid those
 17 already inflicted by the great ~~storm~~ STORMS of 1976 OR 1977 and <--
 18 any future emergency that may strike Commonwealth citizens.

19 Therefore, the following amendment to the Constitution of the
 20 Commonwealth of Pennsylvania is proposed in accordance with the
 21 emergency provisions of Article XI thereof:

22 That section 17 of Article VIII be amended to read:

23 ARTICLE VIII

24 TAXATION AND FINANCE

25 § 17. Special Emergency Legislation.

26 (A) Notwithstanding any provisions of this Constitution to <--
 27 the contrary, the General Assembly shall have the authority to
 28 enact laws providing for tax rebates, credits, exemptions,
 29 grants-in-aid, State supplementations, or otherwise provide
 30 special provisions for individuals, corporations, associations

1 or nonprofit institutions, including nonpublic schools (whether
 2 sectarian or nonsectarian) in order to alleviate the danger,
 3 damage, suffering or hardship faced by such individuals,
 4 corporations, associations, institutions or nonpublic schools as
 5 a result of Great Storms or Floods of September 1971, of June
 6 1972, or of 1974, or of 1975 ~~or of 1976, or of 1977, or the~~ <--
 7 ~~emergencies occurring as a result of the energy crisis of~~
 8 ~~1976-1977, OR OF 1976.~~ <--

9 (B) ~~NOTWITHSTANDING ANY PROVISION OF THIS CONSTITUTION TO~~ <--
 10 ~~THE CONTRARY, THE PROVISIONS OF ARTICLE III, SECTION 29~~
 11 ~~SUBSEQUENT TO A PRESIDENTIAL DECLARATION OF AN EMERGENCY OR OF A~~
 12 ~~MAJOR DISASTER IN ANY PART OF THIS COMMONWEALTH, THE GENERAL~~
 13 ~~ASSEMBLY SHALL HAVE THE AUTHORITY BY A VOTE OF TWO-THIRDS OF ALL~~ <--
 14 ~~MEMBERS ELECTED TO EACH HOUSE TO MAKE APPROPRIATIONS LIMITED TO~~
 15 ~~MONEYS REQUIRED FOR FEDERAL EMERGENCY OR MAJOR DISASTER RELIEF.~~
 16 ~~THIS SUBSECTION MAY APPLY RETROACTIVELY TO THE GREAT STORMS OR~~ <--
 17 ~~FLOODS OF ANY PRESIDENTIAL DECLARATION OF AN EMERGENCY OR OF A~~
 18 ~~MAJOR DISASTER IN 1976 OR 1977.~~

19 Section 2. This proposed amendment shall be submitted by the
 20 Secretary of the Commonwealth to the qualified electors of the
 21 State, at the primary election or election next held after the
 22 advertising requirements of Article XI, section 1(a) of the
 23 Constitution of the Commonwealth of Pennsylvania has been
 24 satisfied.



HOUSE OF REPRESENTATIVES

Bill Analysis

PRELIMINARY

House Bill 450.....

Printer's Number 489.....

Senate Bill

Printer's Number

Prime Sponsor C. George

This bill proposes to re-enact and amend the act of July 6, 1961 (P. L. 515, No. 265) by providing for the reimbursement of the actual costs to municipalities incurred in the clearing of roadways not owned by them and the restoration of their water systmes. The Governor is authorized to use Civil Defense and National Guard units to carry out the provisions of this act. Up to \$3 million could be used for these purposes stated in the act in any one year.

This act would take effect immediately.

Prepared by:

Committee House Appropriations

Name Al Ferguson, Analyst

March 14, 1977

SENATE AMENDED

PRIOR PRINTER'S NOS. 489, 1838, 1860,
1871

Printer's No. 1889

THE GENERAL ASSEMBLY OF PENNSYLVANIA

HOUSE BILL

No. 450

Session of
1977

INTRODUCED BY MESSRS. GEORGE, A. K. HUTCHINSON, DeMEDIO, RENWICK, LAUDADIO, D. R. WRIGHT, BITTINGER, LIVENGOD, YAHNER, PETRARCA, STEWART, McLANE, WARGO, ZITTERMAN, WANSACZ, McCALL, MANDERINO, ENGLEHART, IRVIS, LETTERMAN, GREENFIELD, DIETZ, HALVERSON, WASS, PIEVSKY, OLIVER, JOHNSON, DOMBROWSKI, DOYLE, FEE, MRS. GILLETTE, MESSRS. GOODMAN, ITKIN, KOLTER, M. P. MULLEN, MUSTO, PRENDERGAST, RAPPAPORT, SHUPNIK, SELTZER, BITTLE, GALLEN, HAMILTON, HASKELL, NEBUS, O'CONNELL, PARKER, L. E. SMITH, WILSON, J. L. WRIGHT, STUBAN, D. M. O'BRIEN, SCHMITT, COLE, SHUMAN, GALLAGHER, MADIGAN, GRIECO, BROWN, PICCOLA, CIMINI, MANMILLER, BUTERA, MRS. HARPER, MESSRS. D. S. HAYES, BURD, SALVATORE, CIANCIULLI, FLAHERTY, GARZIA, HELPRICK, GIAMMARCO, LINCOLN, WILLIAMS, BERLIN, POTT, MRKONIC, HOPKINS, DUFFY, CESSAR, REED, PRATT, MILLIRON, CASSIDY, LYNCH, MRS. KELLY, MESSRS. COHEN, CALTAGIRONE, D. M. FISHER, M. M. MULLEN, RHODES, MISCEVICH, ABRAHAM, TRELO, B. F. O'BRIEN, LOGUE AND RAVENSTAHL, MARCH 2, 1977

AS AMENDED ON THIRD CONSIDERATION, IN SENATE, JULY 29, 1977

AN ACT

1 Reenacting and amending the act of July 6, 1961 (P.L.515,
2 No.265), entitled, as amended, "An act authorizing the
3 Governor to provide for disaster and emergency relief under
4 certain circumstances; authorizing him to transfer certain
5 funds in the General Fund for these purposes, and making an
6 appropriation," ~~adding reasons for and~~ changing the amount
7 that may be transferred for disaster and emergency purposes
8 and providing for disposition of Federal funds for disaster
9 assistance or relief. <--

10 The General Assembly of the Commonwealth of Pennsylvania
11 hereby enacts as follows:
12 Section 1. The act of July 6, 1961 (P.L.515, No.265),
13 entitled, as amended, "An act authorizing the Governor to

1 provide for disaster and emergency relief under certain
2 circumstances; authorizing him to transfer certain funds in the
3 General Fund for these purposes, and making an appropriation,"
4 amended August 8, 1969 (P.L.228, No.92), is reenacted and
5 amended to read:

6 Section 1. Whenever the Governor finds as a fact that a
7 natural disaster or civil disorder threatens or has occurred and
8 that conditions of extreme emergency exist in all or a part or
9 parts of Pennsylvania, he shall have power to transfer any
10 unused funds which may have been appropriated for the ordinary
11 expenses of the government in the General Fund to such State
12 agencies as he may direct to be expended for relief of disaster
13 or civil disorder in such manner as the Governor shall approve,
14 and such funds are hereby appropriated to the Governor for such
15 purposes. The total of such transfers shall never exceed [one
16 million dollars (\$1,000,000)] five million dollars (\$5,000,000)
17 in any one year except by action of the General Assembly.

18 Section 2. As used in this act, conditions of extreme
19 emergency shall mean those conditions which may by investigation
20 made, be found, actually or likely, to (i) affect seriously the
21 safety, health or welfare of a substantial number of citizens of
22 the Commonwealth or preclude the operation or use of essential
23 public facilities; (ii) be of such magnitude or severity as to
24 render essential State supplementation of county and local
25 efforts or resources exerted or utilized in alleviating the
26 danger, damage, suffering or hardship faced; and (iii) have been
27 caused by forces beyond the control of man, by reason of civil
28 disorder, riot or disturbance, or by factors not foreseen and
29 not known to exist when appropriation bills were enacted.

30 Section 3. No funds shall be transferred or expended under

1 authority contained in this act unless the Governor, based on
 2 investigation made, shall officially have proclaimed that
 3 conditions of extreme emergency exist throughout the State or in
 4 one or more political subdivisions thereof. Such conditions
 5 shall be deemed to continue to exist until such time as the
 6 Governor shall officially have proclaimed that they have ceased
 7 to exist.

8 ~~Section 4. In the event the Governor of the Commonwealth~~ <--
 9 ~~declares a State of emergency because of natural disasters such~~
 10 ~~as heavy snows, prolonged periods of sub-freezing weather or~~
 11 ~~floods, officials of any municipality shall have the authority~~
 12 ~~to clear such roadways as are necessary for the health, safety~~
 13 ~~and welfare of residents, even though such roadways are not~~
 14 ~~officially the responsibility of the borough or township. The~~
 15 ~~Governor shall allocate a sufficient amount from the fund to the~~
 16 ~~Department of Transportation to administer the reimbursement of~~
 17 ~~the actual costs of such clearing.~~

18 ~~Section 5. In the event the water system of a municipality~~
 19 ~~or authority is damaged, destroyed, interrupted, or made~~
 20 ~~inoperable as a direct cause of a natural disaster such as~~
 21 ~~freezing or floods, said municipalities or authorities shall~~
 22 ~~have the authority to lease or hire such personnel and equipment~~
 23 ~~that are needed to effect restoration of the water system. The~~
 24 ~~Governor shall allocate a sufficient amount from the fund to the~~
 25 ~~Department of Community Affairs to administer the reimbursement~~
 26 ~~for such services.~~

27 ~~SECTION 4. (A) WHENEVER THE GOVERNOR SHALL HAVE PROCLAIMED~~ <--
 28 ~~THAT CONDITIONS OF EXTREME EMERGENCY EXIST THROUGHOUT THE STATE~~
 29 ~~OR IN ONE OR MORE POLITICAL SUBDIVISIONS THEREOF DUE TO A~~
 30 ~~NATURAL DISASTER INCLUDING BUT NOT LIMITED TO FLOODS, HEAVY~~

1 SNOWS, OR PROLONGED PERIODS OF SUBFREEZING WEATHER, OFFICIALS OF
2 ANY POLITICAL SUBDIVISION AFFECTED BY SUCH CONDITIONS OF EXTREME
3 EMERGENCY SHALL HAVE THE AUTHORITY TO CLEAR SUCH ROADWAYS AS ARE
4 NECESSARY FOR THE HEALTH, SAFETY AND WELFARE OF RESIDENTS, EVEN
5 THOUGH SUCH ROADWAYS ARE NOT OFFICIALLY THE RESPONSIBILITY OF
6 SUCH POLITICAL SUBDIVISION. THE POLITICAL SUBDIVISION MAY BE
7 REIMBURSED FOR THE COST OF SUCH CLEARING AS PROVIDED IN
8 SUBSECTION (C).

9 (B) WHENEVER THE GOVERNOR SHALL HAVE PROCLAIMED THAT
10 CONDITIONS OF EXTREME EMERGENCY EXIST THROUGHOUT THE STATE OR IN
11 ONE OR MORE POLITICAL SUBDIVISIONS THEREOF DUE TO A NATURAL
12 DISASTER INCLUDING BUT NOT LIMITED TO FLOODS, HEAVY SNOWS, OR
13 PROLONGED PERIODS OF SUBFREEZING WEATHER AND IN THE EVENT THAT A
14 WATER SYSTEM OWNED OR OPERATED BY A POLITICAL SUBDIVISION OR
15 MUNICIPAL AUTHORITY IS DAMAGED, DESTROYED, OR MADE INOPERABLE AS
16 A DIRECT RESULT OF SUCH CONDITIONS OF EXTREME EMERGENCY, THE
17 POLITICAL SUBDIVISION OR MUNICIPAL AUTHORITY SHALL HAVE THE
18 AUTHORITY TO LEASE OR HIRE SUCH PERSONNEL AND EQUIPMENT AS MAY
19 BE NEEDED TO EFFECT RESTORATION OF SUCH WATER SYSTEM. THE
20 POLITICAL SUBDIVISION OR MUNICIPAL AUTHORITY MAY BE REIMBURSED
21 FOR THE COST OF SUCH RESTORATION AS PROVIDED IN SUBSECTION (C).

22 (C) WHENEVER THE GOVERNOR SHALL HAVE PROCLAIMED THAT
23 CONDITIONS OF EXTREME EMERGENCY EXIST THROUGHOUT THE STATE OR IN
24 ONE OR MORE POLITICAL SUBDIVISIONS THEREOF, HE SHALL HAVE POWER
25 TO TRANSFER ANY UNUSED FUNDS WHICH MAY HAVE BEEN APPROPRIATED
26 FOR THE ORDINARY EXPENSES OF GOVERNMENT IN THE GENERAL FUND TO
27 SUCH STATE AGENCIES AS HE MAY DIRECT TO BE EXPENDED FOR
28 REIMBURSEMENTS AS PROVIDED IN SUBSECTIONS (A) AND (B). SUCH
29 REIMBURSEMENTS SHALL BE MADE IN ACCORDANCE WITH AND TO THE
30 EXTENT PERMITTED BY REGULATIONS ISSUED BY SUCH AGENCY OR

1 AGENCIES AS THE GOVERNOR MAY DESIGNATE TO ADMINISTER THE
 2 REIMBURSEMENT PROGRAMS ESTABLISHED BY SUBSECTIONS (A) AND (B).
 3 THE TOTAL OF SUCH TRANSFERS SHALL NEVER EXCEED ONE MILLION
 4 DOLLARS. (\$1,000,000) IN ANY ONE YEAR EXCEPT BY ACTION OF THE
 5 GENERAL ASSEMBLY.

6 (D) REIMBURSEMENTS PURSUANT TO SUBSECTION (C) SHALL NOT BE
 7 MADE TO THE EXTENT THAT THE COMMONWEALTH, A POLITICAL
 8 SUBDIVISION OR A MUNICIPAL AUTHORITY MAY BE ELIGIBLE FOR
 9 ASSISTANCE FROM THE FEDERAL GOVERNMENT.

10 SECTION 5. THE PROVISIONS OF THIS ACT SHALL BE IN ADDITION
 11 TO AND NOT A LIMITATION ON AUTHORITY OTHERWISE VESTED IN THE
 12 GOVERNOR, THE EXECUTIVE DEPARTMENT, POLITICAL SUBDIVISIONS OR
 13 MUNICIPAL AUTHORITIES.

14 Section 6-4 6. In addition to the other provisions of this <--
 15 act, the Governor is hereby authorized to use any civil defense
 16 unit or units and the Pennsylvania National Guard to accomplish <--
 17 the purposes of this act. PROVIDE ASSISTANCE DURING A NATURAL <--
 18 DISASTER, CONDITION OF EXTREME EMERGENCY OR CIVIL DISORDER.

19 Section 7-5 7. All moneys received from the Federal <--
 20 Government for the purpose of disaster assistance or relief
 21 shall be paid into the General Fund and are hereby appropriated
 22 out of the General Fund to the departments, boards, commissions
 23 or agencies designated by the Governor.

24 Section 2. This act shall take effect immediately AND SHALL <--
 25 BE RETROACTIVE TO JULY 1, 1977.



HOUSE OF REPRESENTATIVES

Bill Analysis

House Bill 1650

Printer's Number 1970

Senate Bill

Printer's Number

CHIEF SPONSOR: Representative Bittinger

This bill proposes to make an appropriation of \$2,000,000 to the Governor to be allocated by him for disaster relief and assistance to victims of the Great Flood of July 1977. The funds will be used to reimburse the Federal government for each assistance it gave to individuals and families; Federal law requires that 25% of the costs be paid by the State. Funds for this appropriation will come from lapsing \$2,000,000 from the \$10,000,000 item in this year's General Appropriation Bill. Any funds not used for individual and family assistance would be available for general disaster relief and assistance.

This act will become effective when and if a constitutional amendment now on the ballot for November 1977 is approved by the voters. It is necessary to reappropriate this \$2,000,000 as a separate bill because the constitutional amendment which is going on November's ballot contains a provision which requires a two-thirds majority vote of the General Assembly to approve disaster relief to families and individuals.

Prepared by:

Committee House Appropriations

Name Al Ferguson

Date September 26, 1977

THE GENERAL ASSEMBLY OF PENNSYLVANIA

HOUSE BILL

No. 1650

Session of
1977

INTRODUCED BY MESSRS. BITTINGER, ENGLEHART, STEWART, LIVENGOD, GEORGE, CASSIDY,
PETRARCA, YAHNER, PIEVSKY AND LINCOLN, SEPTEMBER 26, 1977

REFERRED TO COMMITTEE ON APPROPRIATIONS, SEPTEMBER 26, 1977

AN ACT

1 Making an appropriation to the Governor for disaster relief and
2 assistance for the Great Flood of July 1977.

3 The General Assembly of the Commonwealth of Pennsylvania
4 hereby enacts as follows:

5 Section 1. The sum of \$2,000,000, or as much thereof as may
6 be necessary is hereby appropriated to the Governor for
7 allocation by the Governor to provide disaster relief and
8 assistance for victims of the Great Flood of July, 1977.

9 Section 2. All funds appropriated herein which remain
10 unexpended, uncommitted or unencumbered as of June 30, 1978
11 shall automatically lapse as of that date.

12 Section 3. This act shall take effect upon ratification by
13 the electors of an amendment to Article VIII, section 17 of the
14 Constitution of Pennsylvania authorizing appropriations for
15 these purposes.



HOUSE OF REPRESENTATIVES
COMMONWEALTH OF PENNSYLVANIA

MEMO

October 17, 1977

SUBJECT: Proposed Legislation Summary
House Bill-1709, Printer's Number 2069

TO: Honorable C. Adam Bittinger, Chairman
Speaker's Special Ad Hoc Committee on the July 19-20, 1977 Flood

FROM: James S. Lovette
House Staff

The attached proposed legislation "Pennsylvania Flood Plain Management," attempts to encourage sound flood plain management by requiring municipal participation in the National Flood Insurance Program. In addition, the Act would authorize the Department of Community Affairs to coordinate municipal flood plain management regulations and to assure their uniform enforcement. The Act would also allow direct State involvement in the regulation of limited types of hazards and obstructions in the flood plain.

Article I-includes legislative findings, a statement of policy and purposes, and a definitions section.

Article II-sets forth the various provisions related to municipal participation in the National Flood Insurance Program. All municipalities which are identified by the United States Department of Housing and Urban Development as having an area or areas which are subject to flooding are required to participate in the National Flood Insurance Program. Municipalities are permitted to adopt flood plain management regulations for the flood plain without regulating other areas within their boundaries. The Department of Community Affairs is authorized to review and approve municipal flood plain management regulations for the purpose of assuring that the regulations are in accord with the National Flood Insurance Program and are coordinated and uniformly enforced. The Department would adopt regulations after public hearings to govern its review and approval.

Article III-provides for the regulation of particular obstructions. They include special hazards, which are prohibited unless a special exception is issued by the municipality; the Department of Community Affairs is authorized to disapprove a special exception approved by the municipality. Also, the Department of Environmental Resources is authorized to regulate certain obstructions in flood plains which municipalities cannot regulate.

Article IV- includes powers and duties for the Department of Community Affairs, the Department of Environmental Resources, and municipalities.

Article V-provides for enforcement and appeals. Enforcement of the requirements of Article II, concerning municipal participation in the National Flood Insurance Program, would be in several phases. First, the Department of Community Affairs would notify a municipality of a violation. If the municipality continued in violation after notification, the Department would issue an order to the municipality directing compliance. If the municipality still failed to comply, and there was no pending appeal or supersedeas, the Department could seek to have the municipality adjudged in contempt by a court. In addition, a court could direct compliance with the Department's order. As a last resort, the court could empower the Department to adopt flood plain management regulations for the municipality. Enforcement of Article III, which concerns the regulation of particular obstructions, would be by a civil remedies.

Article VI- has miscellaneous provisions, and appropriations for the Department of Community Affairs and the Department of Environmental Resources.

THE GENERAL ASSEMBLY OF PENNSYLVANIA

HOUSE BILL

No. 1709

Session of
1977

INTRODUCED BY MESSRS. BITTINGER, MUSTO AND REED, OCTOBER 3, 1977

REFERRED TO COMMITTEE ON CONSERVATION, OCTOBER 3, 1977

AN ACT

1 Providing for the regulation of land and water use for flood
2 control purposes, imposing duties and conferring powers on
3 the Department of Community Affairs, the Department of
4 Environmental Resources, and municipalities, providing for
5 penalties and enforcement and making appropriations.

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13 Program14 Section 201. Required participation in National Flood
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16 Section 202. Adoption of flood plain management regulations.

17 Section 203. Relationship of flood plain management
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- 1 legislation.
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- 3 Program deemed minimum standards.
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- 7 department regulations.
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- 14 Section 401. Powers and duties of the Department of
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- 17 Section 402. Additional powers and duties of the Department
- 18 of Community Affairs, Department of Environ-
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- 20 Section 403. Inspections.
- 21 Chapter 5. Enforcement; Appeals
- 22 Section 501. Enforcement of Chapter 2.
- 23 Section 502. Civil remedies.
- 24 Section 503. Appeals.
- 25 Chapter 6. Miscellaneous; Appropriations
- 26 Section 601. Preservation of existing rights and remedies.
- 27 Section 602. Appropriations.
- 28 Section 603. Repealer and savings clause.
- 29 Section 604. Effective date.
- 30 The General Assembly of the Commonwealth of Pennsylvania

1 hereby enacts as follows:

2 CHAPTER 1

3 PRELIMINARY PROVISIONS

4 Section 101. Short title.

5 This act shall be known and may be cited as the "Flood Plain
6 Management Act."

7 Section 102. Statement of legislative findings.

8 (a) Flooding of large areas of land within the Commonwealth
9 causes unnecessary loss of life, destroys private and public
10 property, damages means of livelihood and economic resources;
11 disrupts commerce, communication, utility and governmental
12 services; causes pollution and unsanitary conditions; carries
13 solid waste, sewage and other materials injurious to health and
14 property; all of which is detrimental to the health, safety and
15 welfare of the people of the Commonwealth.

16 (b) Extensive expenditures of public funds have been
17 allocated to costly flood control projects, repair and
18 maintenance of public facilities and property, and relief and
19 rescue efforts, to reduce the disastrous effects of recurrent
20 flooding.

21 (c) The exclusive use of flood control measures, such as
22 engineering projects, has failed to significantly reduce the
23 human suffering and economic losses caused by recurrent
24 flooding.

25 (d) A comprehensive and coordinated program of flood plain
26 management, based upon the National Flood Insurance Program, is
27 fundamental to the health, safety, welfare and protection of the
28 people of the Commonwealth.

29 Section 103. Statement of policy and purposes.

30 The policy and purpose of this act is to:

1 (1) Encourage planning and development in flood plains
2 which are consistent with sound land use practices.

3 (2) Protect people and property in flood plains from the
4 dangers and damage of floodwaters and from materials carried
5 by such floodwaters.

6 (3) Prevent and eliminate urban and rural blight which
7 results from the damages of flooding.

8 (4) Authorize a comprehensive and coordinated program of
9 flood plain management, based upon the National Flood
10 Insurance Program, designed to preserve and restore the
11 efficiency and carrying capacity of the streams and flood
12 plains of the Commonwealth.

13 (5) Assist municipalities in qualifying for the National
14 Flood Insurance Program.

15 (6) Provide for and encourage local administration and
16 management of flood plains.

17 (7) Minimize the expenditure of public and private funds
18 for flood control projects and for relief, rescue and
19 recovery efforts.

20 Section 104. Definitions.

21 The following words and phrases when used in this act shall
22 have, unless the context clearly indicates otherwise, the
23 meanings given to them in this section:

24 "Department." The Department of Community Affairs of the
25 Commonwealth of Pennsylvania.

26 "Flood." A general but temporary condition of partial or
27 complete inundation of normally dry land areas from the overflow
28 of streams, rivers or other waters of the Commonwealth.

29 "Flood plain management regulations." Zoning ordinances,
30 subdivision regulations, building codes, health regulations,

1 special purpose ordinances and other applications of police
2 power. The term describes such State or local regulations, in
3 any combination thereof, which provide standards for the purpose
4 of flood damage, prevention and reduction.

5 "Floodproofing." Structural or other changes or adjustments
6 to properties or obstructions for the reduction or elimination
7 of flood damages to such properties and obstructions or to the
8 contents of any structure.

9 "Municipality." A city, borough, town or township or any
10 similar general purpose unit of government, or county or other
11 governmental unit when acting as an agent thereof, or any
12 combination thereof acting jointly.

13 "Obstruction." Any structure or assembly of materials above
14 or below the surface of land or water, and an activity which
15 might impede, retard or change flood flows. The planting,
16 cultivation and harvesting of field and orchard crops or the
17 grazing of livestock, including the maintenance of necessary
18 appurtenant agricultural fencing, shall not be considered an
19 "obstruction" under this definition and shall not be subject to
20 regulation under this act.

21 "One hundred-year flood." The highest level of flooding
22 that, on the average, is likely to occur every 100 years, that
23 is, that has a 1% chance of occurring each year.

24 "One hundred-year flood plain" or "flood plain." The
25 100-year floodway and that maximum area of land that is likely
26 to be flooded by a 100-year flood shown on flood plain maps
27 approved or promulgated by the United States Department of
28 Housing and Urban Development.

29 "Person." An individual, partnership, public or private
30 association or corporation, firm, trust, estate, municipality,

1 governmental unit, public utility or any other legal entity
 2 whatsoever which is recognized by law as the subject of rights
 3 and duties.

4 "Public utility service." The rendering of the following
 5 services for the public:

6 (1) gas, electricity or steam production, generation,
 7 transmission or distribution;

8 (2) water diversion, pumping, impoundment or
 9 distribution;

10 (3) railroad transportation of passengers or property;

11 (4) operation of a canal, turnpike, tunnel, bridge,
 12 wharf or similar structure;

13 (5) transportation of natural or artificial gas, crude
 14 oil, gasoline or petroleum products, materials for
 15 refrigeration or other fluid substances by pipeline or
 16 conduit;

17 (6) telephone or telegraph communications; and

18 (7) sewage collection, treatment or disposal.

19 "Watershed." The entire region or area drained by a river or
 20 other body of water, whether natural or artificial.

21 CHAPTER 2

22 MUNICIPAL PARTICIPATION IN NATIONAL FLOOD INSURANCE PROGRAM

23 Section 201. Required participation in National Flood Insurance
 24 Program.

25 (a) Each municipality which has been notified by the United
 26 States Department of Housing and Urban Development that it has
 27 been identified as having an area or areas which are subject to
 28 flooding shall participate in the National Flood Insurance
 29 Program.

30 (b) If a municipality is not participating in the National

1 Flood Insurance Program at the time this act becomes effective,
2 such municipality shall apply for eligibility and fully comply
3 with the requirements for participation within six months of the
4 effective date of this act, or six months from the date of
5 notification by the United States Department of Housing and
6 Urban Development that it has been identified as having an area
7 or areas subject to flooding, whichever is first.

8 (c) If a municipality, for whatever reason, is suspended
9 from the National Flood Insurance Program, once having gained
10 eligibility, such municipality shall regain eligibility within
11 90 days of the date of receipt of its notice of suspension.

12 Section 202. Adoption of flood plain management regulations.

13 Each municipality shall adopt such flood plain management
14 regulations, and amendments thereto, as are necessary to comply
15 with the requirements of the National Flood Insurance Program
16 within six months after a flood plain map is approved or
17 promulgated for the municipality by the United States Department
18 of Housing and Urban Development.

19 Section 203. Relationship of flood plain management regulations
20 to the Pennsylvania Municipalities Planning Code
21 and other applicable enabling legislation.

22 The adoption and administration by municipalities of flood
23 plain management regulations, or amendments thereto, which are
24 necessary to comply with the requirements of the National Flood
25 Insurance Program shall be governed by the provisions of the act
26 of July 31, 1968 (P.L.805, No.247), known as the "Pennsylvania
27 Municipalities Planning Code," or other applicable enabling
28 legislation; provided, that a municipality may adopt flood plain
29 management regulations for the flood plain without adopting
30 ordinances, codes or regulations for any other area of the

1 municipality, notwithstanding any provision of the
2 Municipalities Planning Code or other applicable enabling
3 legislation.

4 Section 204. Requirements of the National Flood Insurance
5 Program deemed minimum standards.

6 The flood plain management regulations adopted by a
7 municipality in order to comply with the requirements of the
8 National Flood Insurance Program shall be deemed minimum
9 standards for the management of the flood plains, and no
10 provision of this act shall be construed as in any way limiting
11 the power of any municipality to adopt more restrictive
12 ordinances, codes or regulations for the management of flood
13 plains.

14 Section 205. Department review and approval of municipal flood
15 plain management regulations.

16 (a) The department shall, in consultation with the
17 Department of Environmental Resources, review and approve all
18 municipal flood plain management regulations, and amendments
19 thereto, for the purpose of assuring that such regulations
20 comply with the requirements of the National Flood Insurance
21 Program and that such regulations are coordinated and uniformly
22 enforced throughout each watershed.

23 (b) The department, in consultation with the Department of
24 Environmental Resources, shall adopt, and periodically review
25 and amend, regulations including but not limited to:

26 (1) Criteria and standards for the coordination and
27 uniform enforcement of municipal flood plain management
28 regulations under the National Flood Insurance Program.

29 (2) Procedures, requirements and standards for
30 submission, review and approval of municipal flood plain

1 management regulations pursuant to this section.

2 (c) Prior to adoption of department regulations pursuant to
3 this section, the department shall hold at least one public
4 hearing, after public notice, in each major river basin of the
5 Commonwealth. Prior to any amendment of department regulations,
6 the department shall hold at least one public hearing after
7 public notice.

8 Section 206. Municipalities required to comply with department
9 regulations.

10 Each municipality participating in the National Flood
11 Insurance Program shall comply with any regulations adopted by
12 the department pursuant to this chapter within six months of the
13 effective date of such regulations. A municipality shall be
14 deemed to have complied with department regulations if it has
15 received department approval as provided for in this chapter.

16 CHAPTER 3

17 REGULATION OF PARTICULAR OBSTRUCTIONS

18 Section 301. Obstructions posing special hazards in flood
19 plains.

20 (a) The department shall by regulation publish a list of
21 obstructions which it determines present a special hazard to the
22 health and safety of the public or occupants or may result in
23 significant pollution, increased flood levels or flows or debris
24 endangering life and property, if such obstructions are located
25 in all or a designated portion of the flood plain. These
26 obstructions include, but are not limited to: hospitals, nursing
27 homes, jails, facilities for the production or storage of
28 hazardous materials and facilities necessary for emergency
29 response.

30 (b) Construction of any structure or commencement of any

1 activity listed as a special hazard by department regulations in
2 a flood plain or such portion of the flood plain designated by
3 the regulations shall be prohibited except in accordance with a
4 special exception issued pursuant to this section.

5 (c) A municipality administering flood plain management
6 regulations may issue a special exception if the applicant
7 demonstrates and the municipality determines that the structure
8 or activity will be located, constructed and maintained in a
9 manner which:

10 (1) will fully protect the health and safety of the
11 public or occupants;

12 (2) will prevent any significant possibility of
13 pollution, increased flood levels or flows, or debris
14 endangering life and property; and

15 (3) will comply with the requirements of the National
16 Flood Insurance Program.

17 Approval of any special exception shall be conditioned upon
18 compliance with all feasible floodproofing and other
19 requirements necessary to minimize damage, and the hindrance of
20 flood flows and to minimize potential danger to life and
21 property.

22 (d) Written notice of municipal approval of a special
23 exception shall be filed with the department. The special
24 exception shall become effective 30 days following the receipt
25 of notice by the department unless the special exception is
26 disapproved by the department. If the department disapproves a
27 special exception, it shall notify the municipality and
28 applicant of the reasons for disapproval.

29 Section 302. Exclusive State jurisdiction over certain
30 obstructions in flood plains.

1 (a) Except as otherwise provided in this section, the
2 Department of Environmental Resources shall have exclusive
3 jurisdiction under this act to regulate:

4 (1) any obstruction otherwise regulated under the Water
5 Obstructions Act;

6 (2) any flood control project constructed, owned or
7 maintained by a governmental unit;

8 (3) any highway or other obstruction, constructed, owned
9 or maintained by the Commonwealth; and

10 (4) any obstruction owned or maintained by a person
11 engaged in the rendering of a public utility service.

12 (b) No person shall construct, modify, remove, abandon or
13 destroy any structure or engage in any activity specified in
14 subsection (a) in the 100-year flood plain unless such person
15 has first applied for and obtained a permit from the Department
16 of Environmental Resources. The department may impose such
17 permit terms and conditions as it deems necessary to carry out
18 the purposes of this act.

19 (c) The Environmental Quality Board shall adopt such
20 regulations and standards as are necessary to carry out this
21 section in accordance with the purposes of this act, including
22 provisions for the payment of reasonable nonrefundable filing
23 fees.

24 (d) The Department of Environmental Resources may, in
25 accordance with regulations adopted by the Environmental Quality
26 Board, delegate its authority under this act and the Storm Water
27 Management Act to regulate and permit obstructions having only
28 local significance, other than those prescribed in subsection
29 (a) (2), (3) and (4), to a municipality administering flood plain
30 management regulations.

1 (e) The Department of Environmental Resources shall regulate
2 those obstructions subject to exclusive State jurisdiction in a
3 manner consistent to the maximum extent possible with the
4 standards and criteria established in municipal flood plain
5 management regulations.

6 (f) The Department of Environmental Resources may modify,
7 suspend or revoke any permit issued under this act if it finds
8 that the permittee has violated the permit terms and conditions
9 or the provisions of this act and regulations adopted hereunder,
10 or that any change has occurred in the physical condition of the
11 site which will materially affect safe construction and
12 maintenance of the structure or activity.

13 CHAPTER 4

14 POWERS AND DUTIES

15 Section 401. Powers and duties of the Department of Community
16 Affairs and the Department of Environmental
17 Resources.

18 (a) The Department of Community Affairs shall have the power
19 and its duty shall be to:

20 (1) Coordinate the administration of municipal flood
21 plain management regulations in the Commonwealth.

22 (2) Require the submission of municipal flood plain
23 management regulations and municipal records and reports, as
24 necessary to carry out the purposes of this act.

25 (3) Provide technical assistance for the purpose of
26 assisting municipalities in complying with the provisions of
27 this act.

28 (4) Draft, publish and approve, for use by
29 municipalities, model flood plain ordinances, codes and
30 regulations which comply with the requirements of the

1 National Flood Insurance Program and the regulations adopted
2 pursuant to this act.

3 (b) The Department of Community Affairs and the Department
4 of Environmental Resources shall exercise the joint powers and
5 their duties shall be to:

6 (1) Cooperate with appropriate agencies of the United
7 States or of other states or any interstate agencies with
8 respect to the planning and management of flood plains.

9 (2) Serve as the agencies of the Commonwealth for the
10 receipt of moneys from the Federal Government or other public
11 or private agencies or persons and expend such moneys for
12 studies and research with respect to the planning and
13 management of flood plains.

14 Section 402. Additional powers and duties of the Department of
15 Community Affairs, Department of Environmental
16 Resources and municipalities.

17 In conjunction with their responsibilities otherwise provided
18 under this act, the Department of Community Affairs, the
19 Department of Environmental Resources and every municipality
20 administering flood plain management regulations shall have the
21 additional power and its duty shall be to:

22 (1) Investigate complaints and conduct surveys of flood
23 plains and obstructions.

24 (2) Institute prosecutions and civil proceedings to
25 enforce the provisions of this act.

26 (3) Conduct educational programs with respect to flood
27 plain management.

28 (4) Establish reasonable fees for permit processing for
29 the program that the agency or municipality administers.

30 (5) Do any other acts not inconsistent with this act

1 which are necessary or proper for its effective
2 implementation.

3 Section 403. Inspections.

4 (a) An agent or employee of the Department of Community
5 Affairs, the Department of Environmental Resources, or of a
6 municipality administering flood plain management regulations
7 shall have the power and duty to, upon presentation of proper
8 credentials:

9 (1) Enter any land for the purpose of surveying flood
10 plains.

11 (2) Enter any land in a flood plain for the purpose of
12 ascertaining the location and condition of obstructions.

13 (3) Enter land or, while under construction, any
14 structure located in a flood plain for the purpose of
15 ascertaining the compliance or noncompliance with the flood
16 plain management regulations adopted pursuant to this act.

17 (b) Whenever an agent or employee of the Department of
18 Community Affairs, the Department of Environmental Resources, or
19 municipality charged with the enforcement of the provisions of
20 this act has been refused access to property for the purposes of
21 conducting a survey or inspection as authorized by this section
22 or reasonably requires access to such property without prior
23 notice to the owner, such agent or employee may apply for an
24 inspection warrant to any Commonwealth official authorized by
25 law to issue a search or inspection warrant to enable him or her
26 to have access and inspect such property. It shall be sufficient
27 probable cause to issue an inspection warrant that the
28 inspection is necessary to properly enforce the provisions of
29 this act.

30 CHAPTER 5

ENFORCEMENT: APPEALS

1
2 Section 501. Enforcement of Chapter 2.

3 (a) If the department finds that a municipality has failed
4 to comply with any requirement of Chapter 2, or any department
5 regulations adopted pursuant thereto, the department shall
6 provide a written notice of violation to the municipality.

7 (b) If within 60 days of receipt of the notice of violation,
8 the municipality has failed to comply with the requirement or
9 regulation, the department may issue an order to the
10 municipality and its officers requiring compliance with such
11 requirement or regulation. Any order issued under this
12 subsection shall take effect upon receipt of notice, unless the
13 order specifies otherwise. Any appeal of an order issued under
14 this subsection shall be in accordance with section 503.

15 (c) Any municipality or person failing to comply with an
16 order issued pursuant to this section from which no appeal has
17 been taken, which has been sustained on appeal, or for which no
18 supersedeas has been granted, shall be deemed in contempt of
19 such order. Upon petition and certification of the order by the
20 department, the Commonwealth Court or the court of common pleas
21 of the county in which the municipality is located shall, if it
22 finds that the municipality and its officers are not in
23 compliance with the order, adjudge the same in contempt and
24 shall assess civil penalties of an amount not less than \$100 nor
25 greater than \$10,000 per violation plus \$500 for each continuing
26 day of violation.

27 (d) Where the municipality or its offices have not as of the
28 date of hearing before the court complied with the department's
29 order, the court shall specifically order full compliance with
30 the department's order by a date set by the court and may issue

1 any further order as may be appropriate.

2 (e) Upon petition by the department, if the court finds
3 after hearing that the municipality or its officers have failed
4 to comply with any order issued pursuant to subsection (d) by
5 the date set by the court, the court may, as a last resort,
6 issue an order empowering the department to adopt and administer
7 flood plain management regulations for the municipality.

8 (f) Whenever pursuant to subsection (e) the department
9 adopts and administers flood plain management regulations for a
10 municipality, such regulations shall apply notwithstanding any
11 municipal flood plain management regulation; provided, that any
12 zoning or other ordinance adopted by a municipality shall remain
13 effective to the extent such ordinance is more restrictive than
14 the flood plain management regulation adopted by the department.

15 (g) Upon a determination by the department that the
16 municipality has adopted and is able to administer flood plain
17 management regulations which comply with the requirements of
18 Chapter 2 and any department regulations adopted pursuant
19 thereto, the department or the municipality may petition the
20 court requesting that the court terminate its order empowering
21 the department to adopt and administer flood plain management
22 regulations for the municipality.

23 Section 502. Civil remedies.

24 (a) Any obstruction or conduct in violation of this act or
25 of any flood plain management regulations is hereby declared a
26 public nuisance.

27 (b) Suits to restrain, prevent or abate violation of this
28 act or of any flood plain management regulations may be
29 instituted in equity or at law by the department, the Department
30 of Environmental Resources, any affected county or municipality,

1 or any person. Such proceedings may be prosecuted in the
2 Commonwealth Court, or in the court of common pleas of the
3 county where the obstruction exists, conduct occurs, or the
4 public affected, and to that end jurisdiction is hereby
5 conferred in law and equity upon such courts. Except in cases of
6 emergency where, in the opinion of the court, the circumstances
7 of the case require immediate abatement of the unlawful
8 obstruction or conduct, the court may, in its decree, fix a
9 reasonable time during which the person responsible for the
10 unlawful obstruction or conduct shall correct or abate the same.
11 The expense of such proceedings shall be recoverable from the
12 violator in such manner as may now or hereafter be provided by
13 law.

14 Section 503. Appeals.

15 (a) Any person aggrieved by any action of the Department of
16 Community Affairs shall have the right within 30 days of receipt
17 of notice of such action to appeal such action and request a
18 hearing in accordance with the act of June 4, 1945 (P.L.1388,
19 No.442), known as the "Administrative Agency Law."

20 (b) Any person aggrieved by an action of the Department of
21 Environmental Resources in granting, modifying, suspending or
22 revoking a permit or in issuing an order shall have the right
23 within 30 days of receipt of notice of such action to appeal
24 such action to the Environmental Hearing Board, pursuant to
25 section 1921-A of the act of April 9, 1929 (P.L.177, No.175),
26 known as "The Administrative Code of 1929," and the
27 "Administrative Agency Law."

28 (c) An appeal of any action under this act shall not act as
29 a supersedeas. A supersedeas may be granted by the agency
30 hearing the appeal upon a showing by the petitioner:

1 (1) that irreparable harm to the petitioner or other
2 interested parties will result if supersedeas is denied;

3 (2) that there is a likelihood of the petitioner's
4 success on the merits; and

5 (3) that the grant of a supersedeas will not result in
6 irreparable harm to the Commonwealth.

7 The agency hearing the appeal may grant such a supersedeas
8 subject to such security as it may deem proper.

9 CHAPTER 6

10 MISCELLANEOUS; APPROPRIATIONS

11 Section 601. Preservation of existing rights and remedies.

12 (a) No provision of this act shall be construed to permit an
13 activity or condition otherwise prohibited by law, or to affect
14 the rights of the Commonwealth, persons, counties or
15 municipalities to proceed in courts of law or equity to suppress
16 nuisances or to enforce common law or statutory rights.

17 (b) It is hereby declared to be the purpose of this act to
18 provide additional and cumulative remedies to abate nuisances.

19 Section 602. Appropriations.

20 (a) The sum of \$750,000, or as much thereof as may be
21 necessary, is hereby appropriated for the fiscal period
22 beginning July 1, 1977, and ending June 30, 1978, to the
23 Department of Community Affairs for the purposes of
24 administrative and general expenses in implementing the
25 provisions of this act.

26 (b) The sum of \$250,000, or as much thereof as may be
27 necessary, is hereby appropriated for the fiscal period
28 beginning July 1, 1977, and ending June 30, 1978, to the
29 Department of Environmental Resources for the purposes of this
30 act.

1 Section 603. Repealer and savings clause.

2 (a) All acts or parts of acts inconsistent herewith are
3 hereby repealed to the extent of such inconsistency.

4 (b) The provisions of this act shall not affect any suit or
5 prosecution pending or to be instituted to enforce any right or
6 penalty or punish any offense under the authority of any act of
7 Assembly or part thereof repealed by this act.

8 Section 604. Effective date.

9 This act shall take effect immediately.



HOUSE OF REPRESENTATIVES
COMMONWEALTH OF PENNSYLVANIA

MEMO

October 17, 1977

SUBJECT: Proposed Legislation Summary
House Bill 1710, Printer's Number 2070

TO: Honorable C. Adam Bittinger, Chairman
Speaker's Special Ad Hoc Committee on the July 19-20, 1977 Flood

FROM: James S. Lovette
House Staff

Purpose-- Inadequate planning and management of accelerated storm water runoff from development damages public and private property, increases flooding, contributes to erosion, overtaxes the capacity of streams and storm sewers, undermines flood plain management efforts in downstream communities, and greatly increases the costs of public facilities to control drainage and flood water. The proposed "Pennsylvania Storm Water Management Act," would establish an orderly system for watershed planning and reasonable regulation of development to manage storm water and protect public health and safety.

Watershed Storm Water Plans-- Storm water problems affect communities throughout each watershed, and cannot be solved by each municipality acting alone. Thus, the core of the act relates to development and implementation of watershed storm water management plans.

Within two years, the act requires each county to prepare and adopt a watershed storm water management plan for each watershed designated by the Department of Environmental Resources. The plan would be adopted in consultation with an advisory committee made up of municipal officials and others from communities in the watershed. Each plan would include:

- (1) an assessment of runoff characteristics in small and large storms;
- (2) an analysis of potential impacts of projected development;
- (3) a survey of drainage problems and solutions;
- (4) a review of existing and proposed storm sewer systems;
- (5) an assessment of alternate runoff control techniques;

- (6) standards for control of storm water runoff from existing and new development necessary to minimize to life and property.

Where watersheds cross county lines, The Department of Environmental Resources could require preparation of joint plans or other actions which assure coordinated planning. The Department of Environmental Resources is given limited power to plan in consultation with the Department of Community Affairs, in order to assure consistency with municipal flood plain management plans and state and federal control and obstructive programs, and compatibility with other watershed plans in the same river basin. If a county fails to adopt a plan, the Department of Environmental Resources may institute a mandamus action in court.

Effect of Plans; Municipal Regulation of Development- After adoption of a watershed storm water plan, the development of subdivisions and other major land water uses, storm sewers, flood control projects, highways, utility facilities must be conducted in a manner consistent with the county-adopted plan.

Within six months following plan adoption, municipalities in the watershed must adopt or amend their zoning, subdivision, building code, erosion or other ordinances as necessary to regulate development in a manner consistent with the plan. If a municipality fails to adopt or enforce implementing ordinances, the Department of Environmental Resources may issue a notice of violation, followed by an order to comply with the act and watershed plan. Continued refusal by a municipality to comply may result in court sanctions.

Duties of Developers- The act imposes a clear duty on landowners and developers who alter runoff characteristics to implement such measures consistent with the watershed storm water plan as are reasonably necessary to protect other properties. Such measures include limiting the maximum rate of runoff ("peak" flow) after development to the runoff rate prior to development. Any person injured by conduct which violates this duty may recover damages from the landowners or the responsible party.

Department of Environmental Resources Responsibilities- The Department of Environmental Resources is given the additional duties of providing technical assistance to counties and municipalities, publishing storm water management guidelines and model ordinances, and conducting research and educational programs.

Enforcement- The act provides for civil actions by counties, municipalities, the Department of Environmental Resources, and other persons to enjoin violations of the act, or of watershed storm water plans and municipal ordinances adopted under the act. In addition, summary and misdemeanor criminal penalties are established for violations of the act, watershed storm water plans, and ordinances.

THE GENERAL ASSEMBLY OF PENNSYLVANIA

HOUSE BILL**No. 1710**Session of
1977

INTRODUCED BY MESSRS. BITTINGER, MUSTO AND REED, OCTOBER 3, 1977

REFERRED TO COMMITTEE ON CONSERVATION, OCTOBER 3, 1977

AN ACT

1 Providing for the regulation of land and water use for flood
2 control and storm water management purposes, imposing duties
3 and conferring powers on the Department of Environmental
4 Resources, municipalities and counties, providing for
5 enforcement and penalties, and making appropriations.

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The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

Section 1. Short title.

This act shall be known and may be cited as the "Storm Water Management Act."

Section 2. Statement of legislative findings.

The General Assembly finds that:

(1) Inadequate management of accelerated runoff of storm water resulting from development throughout a watershed increases flood flows and velocities, contributes to erosion and sedimentation, overtakes and carrying capacity of streams and storm sewers, greatly increases the cost of public facilities to carry and control storm water, undermines flood plain management and flood control efforts in downstream communities, reduces ground-water recharge, and threatens public health and safety.

(2) A comprehensive program of storm water management, including reasonable regulation of development and activities causing accelerated runoff, is fundamental to the public

1 health, safety and welfare and the protection of the people
2 of the Commonwealth, their resources and the environment.

3 Section 3. Purpose and policy.

4 The policy and purpose of this act is to:

5 (1) Encourage planning and management of storm water
6 runoff in each watershed which is consistent with sound water
7 and land use practices.

8 (2) Authorize a comprehensive program of storm water
9 management designated to preserve and restore the flood
10 carrying capacity of Commonwealth streams; to preserve to the
11 maximum extent practicable natural storm water runoff regimes
12 and natural course, current and cross-section of water of the
13 Commonwealth; and to protect and conserve ground waters and
14 ground-water recharge areas.

15 (3) Encourage local administration and management of
16 storm water consistent with the Commonwealth's duty as
17 trustee of natural resources and the people's constitutional
18 right to the preservation of natural, economic, scenic,
19 aesthetic, recreational and historic values of the
20 environment.

21 Section 4. Definitions.

22 The following words and phrases when used in this act shall
23 have, unless the context clearly indicates otherwise, the
24 meanings given to them in this section:

25 "Department." The Department of Environmental Resources of
26 the Commonwealth of Pennsylvania.

27 "Governmental unit." Any county, municipality, political
28 subdivision or the Commonwealth, and any department, authority,
29 agency or board thereof or any agent of the foregoing.

30 "Municipality." A city, borough, town or township, or any

1 county or other governmental unit when acting as an agent
2 thereof, or any combination thereof acting jointly.

3 "Pennsylvania Municipalities Planning Code." The act of July
4 31, 1968 (P.L.805, No.247), as amended.

5 "Person." An individual, partnership, public or private
6 association or corporation, firm, trust, estate, municipality,
7 governmental unit, public utility or any other legal entity
8 whatsoever which is recognized by law as the subject of rights
9 and duties. Whenever used in any section prescribing or imposing
10 a penalty, the term "person" shall include the members of a
11 partnership, the officers, members, servants and agents of an
12 association, the shareholders, officers, agents and servants of
13 a corporation, and the officers of a municipality or county, but
14 shall exclude any department, board, bureau or agency of the
15 Commonwealth.

16 "Public utility service." The rendering of the following
17 services for the public:

18 (1) gas, electricity or steam production, generation,
19 transmission or distribution;

20 (2) water diversion, pumping, impoundment, or
21 distribution;

22 (3) railroad transportation of passengers or property;

23 (4) operation of a canal, turnpike, tunnel, bridge,
24 wharf or similar structure;

25 (5) transportation of natural or artificial gas, crude
26 oil, gasoline or petroleum products, materials for
27 refrigeration or other fluid substances by pipeline or
28 conduit;

29 (6) telephone or telegraph communications; and

30 (7) sewage collection, treatment or disposal.

1 "Storm water." Drainage runoff from the surface of the land
2 resulting from precipitation or snow or ice melt.

3 "Watershed" The entire region or area drained by a river or
4 other body of water, whether natural or artificial.

5 "Watershed storm water plan." A plan for storm water
6 management adopted by a county in accordance with section 5.
7 Section 5. Watershed storm water plans and contents.

8 (a) Within two years following the effective date of this
9 act, each county shall prepare and adopt a watershed storm water
10 management plan for each watershed located in the county as
11 designated by the department, in consultation with the
12 municipalities located within each watershed, and shall
13 periodically review and revise such plan at least every five
14 years.

15 (b) Each watershed storm water plan shall include, but is
16 not limited to:

17 (1) a survey of existing runoff characteristics in small
18 as well as large storms, including the impact of soils,
19 slopes, vegetation and existing development;

20 (2) a survey of existing significant obstructions and
21 their capacities;

22 (3) An assessment of projected and alternative land
23 development patterns in the watershed, and the potential
24 impact of runoff quantity, velocity and quality;

25 (4) an analysis of present and projected development in
26 flood hazard areas, and its sensitivity to damages from
27 future flooding or increased runoff;

28 (5) a survey of existing drainage problems and proposed
29 solutions;

30 (6) a review of existing and proposed storm water

1 collection systems and their impacts;

2 (7) an assessment of alternative runoff control
3 techniques and their efficacy in the particular watershed;

4 (8) an identification of existing and proposed State,
5 Federal and local flood control projects located in the
6 watershed and their design capacities;

7 (9) a designation of those areas to be served by storm
8 water collection and control facilities within a ten-year
9 period, an estimate of the design capacity and costs of such
10 facilities, a schedule and proposed methods of financing the
11 development, construction and operation of such facilities,
12 and an identification of the existing or proposed
13 institutional arrangements to implement and operate the
14 facilities;

15 (10) an identification of flood plains within the
16 watershed;

17 (11) criteria and standards for the control of storm
18 water runoff from existing and new development which are
19 necessary to minimize dangers to property and life and carry
20 out the purposes of this act; and

21 (12) provisions for periodically reviewing, revising and
22 updating the plan.

23 (c) Each watershed storm water plan shall:

24 (1) contain such provisions as are reasonably necessary
25 to manage storm water such that development or activities in
26 each municipality within the watershed do not adversely
27 affect health, safety and property in other municipalities
28 within the watershed and in basins to which the watershed is
29 tributary; and

30 (2) consider and be consistent with other existing

1 municipal, county, regional and State environmental and land
2 use plans.

3 Section 6. Municipal and public participation in watershed
4 planning.

5 (a) The county shall establish, in conjunction with each
6 watershed storm water planning program, a watershed plan
7 advisory committee composed of at least one representative from
8 each municipality within the watershed and such other agencies
9 or groups as are necessary and proper to carry out the purposes
10 of the committee.

11 (b) Each committee shall be responsible for advising the
12 county throughout the planning process, evaluating policy and
13 project alternatives, coordinating the watershed storm water
14 plans with other municipal plans and programs, and reviewing the
15 plan prior to adoption.

16 (c) Prior to adoption, each plan shall be reviewed by the
17 official planning agency and governing body of each
18 municipality, the county planning commission and regional
19 planning agencies for consistency with other plans and programs
20 affecting the watershed. All such reviews shall be submitted to
21 the department with the proposed plan.

22 Section 7. Joint plans and coordination of planning.

23 Where a watershed includes land in more than one county, the
24 department may require that the affected counties:

25 (1) prepare, adopt and submit a joint plan for the
26 entire watershed; or

27 (2) take such other actions as may be necessary and
28 appropriate to coordinate storm water planning for the entire
29 watershed.

30 Section 8. Adoption and amendment.

1 (a) Prior to adoption or amendment of a watershed storm
2 water plan, the county shall hold a public hearing pursuant to
3 public notice of not less than two weeks. The notice shall
4 contain a brief summary of the principal provisions of the plan,
5 and a reference to the places within each affected municipality
6 where copies may be examined or purchased at cost.

7 (b) Adoption or amendment of the plan shall be by resolution
8 carried by an affirmative vote of at least a majority of the
9 members of the county governing body. The resolution shall refer
10 expressly to the maps, charts, textural matter and other
11 materials intended to form the whole or part of the official
12 plan, or amendment thereto, and the action shall be recorded on
13 the adopted plan, part or amendment.

14 Section 9. Review and approval by the department.

15 (a) The department shall, in consultation with the
16 Department of Community Affairs, review all watershed storm
17 water plans and revisions or amendments thereto. It shall
18 approve the plan if it determines:

19 (1) that the plan is consistent with municipal flood
20 plain management plans, State programs which regulate dams,
21 encroachments, and water obstructions, and State and Federal
22 flood control programs; and

23 (2) that the plan is compatible with other watershed
24 storm water plans for the basin in which the watershed is
25 located, and is consistent with the policies and purposes of
26 this act.

27 (b) Any person aggrieved by a final decision of the
28 department approving or disapproving a watershed plan or
29 amendment thereto, may appeal the decision to the Environmental
30 Hearing Board in accordance with the provisions of section

1 1921-A of the act of April 9, 1929 (P.L.177, No.175), known as
2 "The Administrative Code of 1929," and the act of June 4, 1945
3 (P.L.1388, No.442), known as the "Administrative Agency Law."

4 Section 10. Failure to submit plan; mandamus.

5 The department may institute an action in mandamus in the
6 Commonwealth Court or the court of common pleas of the county or
7 counties in which the watershed is located, to compel counties
8 to adopt and submit plans in accordance with this act.

9 Section 11. Effect of watershed storm water plans.

10 (a) After adoption and approval of a watershed storm water
11 plan in accordance with this act, the location, design and
12 construction within the watershed of storm water management
13 systems, obstructions, flood control projects, subdivisions and
14 major land developments, highways and transportation facilities,
15 facilities for the provision of public utility services and
16 facilities owned or financed in whole or in part by funds from
17 the Commonwealth shall be conducted in a manner consistent with
18 the watershed storm water plan.

19 (b) Within six months following adoption and approval of the
20 watershed storm water plan, each municipality shall adopt or
21 amend, and shall implement such ordinances and regulations,
22 including zoning, subdivision and development, building code,
23 and erosion and sedimentation ordinances, as are necessary to
24 regulate development within the municipality in a manner
25 consistent with the applicable watershed storm water plan and
26 the provisions of this act.

27 Section 12. Failure of municipalities to adopt implementing
28 ordinances.

29 (a) If the department finds that a municipality has failed
30 to adopt or amend, and implement such ordinances and regulations

1 as required by section 11, the department shall provide written
2 notice of violation to the municipality.

3 (b) If, within 60 days of receipt of a notice of violation,
4 the municipality has not fully complied with the requirements of
5 section 11, the department may issue an order to the
6 municipality and its officers requiring compliance with such
7 terms and conditions as are necessary to carry out this act. Any
8 order issued under this section shall take effect upon receipt
9 of notice, unless the order specifies otherwise. Any person
10 aggrieved by an action of the department in issuing an order
11 shall have the right within 30 days of receipt of notice of such
12 action to appeal such action to the Environmental Hearing Board,
13 pursuant to section 1921-A of "The Administrative Code of 1929,"
14 and the "Administrative Agency Law."

15 (c) Any municipality or person failing to comply with an
16 order issued pursuant to this section from which no appeal has
17 been taken, which has been sustained on appeal, or for which no
18 supersedeas has been granted, shall be deemed in contempt of
19 such order. Upon petition and certification of the order by the
20 department, the Commonwealth Court or the court of common pleas
21 of the county in which the municipality is located, shall, if it
22 finds that the municipality and its officers are not in
23 compliance with the order, adjudge the same in contempt and
24 shall assess civil penalties of an amount not less than \$100 nor
25 greater than \$10,000 per violation plus \$500 for each continuing
26 day of violation.

27 (d) Where the municipality or its officers have not as of
28 the date of hearing before the court complied with the
29 department's order, the court shall specifically order full
30 compliance with the department's order by a date set by the

1 court, and may issue any further order as may be appropriate.

2 Section 13. Duty of persons engaged in the development of land.

3 Any landowner and any person engaged in the alteration or
4 development of land which may affect storm water runoff
5 characteristics shall implement such measures consistent with
6 the provisions of the applicable watershed storm water plan as
7 are reasonably necessary to prevent injury to health, safety or
8 other property. Such measures shall include such actions as are
9 required:

10 (1) to assure that the maximum rate of storm water
11 runoff is no greater after development than prior to
12 development activities; or

13 (2) to manage the quantity, velocity and direction of
14 resulting storm water runoff in a manner which otherwise
15 adequately protects health and property from possible injury.

16 Section 14. Powers and duties of the Department of
17 Environmental Resources.

18 The Department of Environmental Resources shall have the
19 power and its duty shall be to:

20 (1) Coordinate the management of storm water in the
21 Commonwealth.

22 (2) Provide in cooperation with the Department of
23 Community Affairs technical assistance to counties and
24 municipalities in implementing this act.

25 (3) Publish guidelines for storm water management, and
26 model storm water ordinances for use by counties and
27 municipalities.

28 (4) Review, in cooperation with the Department of
29 Community Affairs, and approve all watershed plans and
30 revisions thereto.

1 (5) Cooperate with appropriate agencies of the United
2 States or of other states or any interstate agencies with
3 respect to the planning and management of storm water.

4 (6) Serve as the agency of the Commonwealth for the
5 receipt of moneys from the Federal Government or other public
6 or private agencies or persons and expend such moneys for
7 studies and research with respect to planning and management
8 of storm water.

9 (7) Conduct studies and research regarding the causes,
10 effects and hazards of storm water and methods for storm
11 water management.

12 (8) Conduct and supervise educational programs with
13 respect to storm water management.

14 (9) Require the submission of records and periodic
15 reports by county and municipal agencies as necessary to
16 carry out the purposes of this act.

17 (10) Do any other acts not inconsistent with this act
18 necessary to carry out the purposes and policies of this act.

19 Section 15. Civil remedies.

20 (a) Any activity conducted in violation of the provisions of
21 this act or of any watershed storm water plan, regulations or
22 ordinances adopted hereunder, is hereby declared a public
23 nuisance.

24 (b) Suits to restrain, prevent or abate violation of this
25 act or of any watershed storm water plan, regulations or
26 ordinances adopted hereunder, may be instituted in equity or at
27 law by the department, any affected county or municipality, or
28 any person. Such proceedings may be prosecuted in the
29 Commonwealth Court, or in the court of common pleas of the
30 county where the activity has taken place, the condition exists,

1 or the public affected, and to that end jurisdiction is hereby
2 conferred in law and equity upon such courts. Except in cases of
3 emergency where, in the opinion of the court, the circumstances
4 of the case require immediate abatement of the unlawful conduct,
5 the court may, in its decree, fix a reasonable time during which
6 the person responsible for the unlawful conduct shall correct or
7 abate the same. The expense of such proceedings shall be
8 recoverable from the violator in such manner as may now or
9 hereafter be provided by law.

10 (c) Any person injured by conduct which violates the
11 provisions of section 13 may, in addition to any other remedy
12 provided under this act, recover damages caused by such
13 violation from the landowner or other responsible person.
14 Section 16. Criminal penalties.

15 (a) Any person who violates the provisions of this act or of
16 a watershed storm water plan, regulation or ordinance adopted
17 hereunder, is guilty of a summary offense and, upon conviction,
18 shall be sentenced to pay a fine of not less than \$100 nor more
19 than \$1,000 for each separate offense, and, in default of the
20 payment of such fine, to imprisonment for a period of not more
21 than 60 days.

22 (b) Any person who, within two years after a conviction in a
23 summary proceeding as provided in subsection (a), violates the
24 provisions of this act or of a watershed storm water plan,
25 regulations or ordinances adopted hereunder, is guilty of a
26 misdemeanor and, upon conviction, shall be sentenced to pay a
27 fine of not less than \$500 nor more than \$5,000 for each
28 separate offense or to imprisonment for a period of not more
29 than one year, or both.

30 (c) Each day of continued violation shall constitute a

1 separate offense under subsections (a) and (b). Any criminal
2 penalty collected under this act shall be paid to the
3 municipality or municipalities in which the violation occurred
4 to be used by said municipality or municipalities in achieving
5 the purposes of this act.

6 Section 17. Preservation of existing rights and remedies.

7 (a) The collection of any penalty under the provisions of
8 this act shall not be construed as estopping the Commonwealth,
9 any county, municipality or person from proceeding in courts of
10 law or equity to abate nuisances under existing law or to
11 restrain, at law or in equity, violation of this act.

12 (b) It is hereby declared to be the purpose of this act to
13 provide additional and cumulative remedies to abate nuisances.

14 Section 18. Appropriations.

15 The sum of \$500,000 or as much thereof as may be necessary,
16 is hereby appropriated for the fiscal period beginning July 1,
17 1977, and ending June 30, 1978, to the Department of
18 Environmental Resources for the purposes of administrative and
19 general expenses in implementing the provisions of this act.

20 Section 19. Repealer and savings clause.

21 (a) All acts or parts of acts inconsistent herewith are
22 hereby repealed to the extent of such inconsistency.

23 (b) The provisions of this act shall not effect any suit or
24 prosecution pending or to be instituted to enforce any right or
25 penalty or punish any offense under the authority of any act of
26 Assembly or part thereof repealed by this act.

27 Section 20. Effective date.

28 This act shall take effect immediately.



HOUSE OF REPRESENTATIVES
COMMONWEALTH OF PENNSYLVANIA

MEMO

October 17, 1977

SUBJECT: Proposed Legislation Summary

TO: Honorable C. Adam Bitteringer, Chairman
Speaker's Special Ad Hoc Committee on the July 19-20, 1977 Flood

FROM: James S. Lovette
House Staff

This act would amend Act 4 of 1951, (P.L.28), to provide for emergency authority to bypass the time consuming requirement of public advertising for materials and supplies during emergency situations.

This act provides for coordination of Federal Emergency Highway assistance grants for both Federally aided highways and nonfederally aided highways and permitting State agencies to purchase materials and supplies during emergencies without bids.

AN ACT

1 Amending the act of March 19, 1951 (P.L.28, No.4), entitled "An
2 act relating to the civil defense of this State and its
3 coordination with national defense; providing for the
4 establishment of a State Council of Civil Defense, local and
5 district councils of civil defense, Mobile Support Units;
6 prescribing the powers, duties and immunities thereof and of
7 their personnel; authorizing mutual aid compacts, and
8 providing penalties," providing for coordination of Federal
9 emergency highway assistance grants for both Federally aided
10 highways and nonfederally aided highways and permitting State
11 agencies to purchase materials and supplies during
12 emergencies without bids.

13 The General Assembly of the Commonwealth of Pennsylvania

14 hereby enacts as follows:

15 Section 1. Section 4, act of March 19, 1951 (P.L.28, No.4),
16 known as the "State Council of Civil Defense Act of 1951," is
17 amended by adding a subsection to read:

18 Section 4. Powers and Duties.--The Council shall have the
19 following powers and duties:

20 * * *

21 (p) To coordinate the receipt and allocation of Federal
22 emergency assistance for both Federally aided and nonfederally
23 aided highway systems.

1 Section 2. The act is amended by adding a section to read:

2 Section 7.1. Emergency Purchases by Commonwealth

3 Agencies.--A State agency may, during an emergency declared by

4 the Governor, incur obligations for or purchase such materials

5 and supplies as may be necessary to combat a disaster, protect

6 the health and safety of persons and property and provide

7 emergency assistance to victims of a disaster without complying

8 with formal bidding or other time consuming contract procedures.

9 Section 3. This act shall take effect in 60 days.



HOUSE OF REPRESENTATIVES
COMMONWEALTH OF PENNSYLVANIA

October 25, 1977

MEMO

SUBJECT: Proposed Legislation Summary
House Bill-1802, Printer's Number 2196

TO: Honorable C. Adam, Chairman
Speaker's Special Ad Hoc Committee on the July 19-20, 1977 Flood

FROM: James S. Lovette
House Staff

This act would amend the act of July 20, 1968 (P.L. 652, No. 220), to reduce the amount of unallocated funds available for allocation by the Board of the General State Authority to certain projects for cost-overrun, and to provide for additional projects necessitated by the Great Flood of July 1977.

This act would authorize additional funds to be allocated by the Board of the General State Authority to such of the public improvement projects specifically itemized in a capitol budget for construction by the General State Authority.

This act specifies that thirteen (13) different projects are to be constructed by the Department of Environmental Resources for additional Flood Control Projects arising from the Great Flood of 1977.

These thirteen (13) additional projects have a total allocation of \$20,025,968.00.

In order to expedite these projects, the Department of General Services shall assign the professional agreements for design and the construction supervision to the Department of Environmental Resources.

<u>Project Location</u>	<u>Description and Justification</u>	<u>Base Construction Cost</u>
Nanty Glo, Black Lick Creek Flood Protection Project, Cambria County	Flood damage in Nanty Glo consisted of minor structural damage for an unnamed tributary to Black Lick Creek and from inundation of low lying portions of the Borough from Black Lick Creek itself. Flood depths were in the vicinity of 4 or 5 feet. The project envisioned to prevent flood damages is a concrete channel liner for the tributary and slope paving and channel improvement along Black Lick Creek.	\$1,200,000
South Fork and Otto Run Flood Protection Project, Croyle Township (Sidman), Cambria County	The Borough of Sidman is at the confluence of the South Fork of the Little Conemaugh River and Otto Run. Flood damage consisted of the destruction of three or four private homes and severe damage to a few light industries. Because of the many bridge structures and lack of space for levees it would be necessary to provide for improved channel capacity for a distance of approximately one mile along the South Fork and Otto Run.	\$ 900,000
Borough of Vintondale, South Branch of Black Lick Creek Flood Protection Project, Cambria and Indiana Counties	Flood damage occurred to the east of the Township Road Bridge over the South Branch and to approximately 24 houses between the South Branch Bridge and the bridge across the North Branch. Maximum inundation was approximately 5 feet in this latter reach. Future relief from flood damage for this type of flooding can be achieved by approximately 3,000 feet of earth levee and 5,000 feet of channel excavation along the South Branch Black Lick Creek.	\$ 300,000
Borough of Clymer, Flood Protection on Two Lick Creek and Dickson Run, Indiana County	Approximately 4-foot deep inundation occurred along the flood plain on both sides of Two Lick Creek in the Borough of Clymer. A flood protection project is complicated by the fact that Dixon Run enters along the right bank flood plain as well as a railroad track and two highway bridges. Flood protection project for Clymer therefore would consist of a major channel excavation along Two Lick Creek for a distance of approximately one mile.	\$1,700,000

September 22, 1977

Project Location	Description and Justification	Base Constructi Cost
Bens Creek Flood Protection Project, City of Johnstown, Cambria County	This project would protect the shopping center and a church/school complex from backwater flooding from Stony Creek. The project will consist of approximately 4,000 feet of flood wall along both banks of the stream.	\$ 550,00
Sams Run Flood Protection Project, City of Johnstown, Lorraine Borough, Cambria County	The existing culvert beginning at Coleman Avenue is not adequate to carry the 100- year design flow of Sams Run. The project as envisioned would be the replacement of the inadequate culvert with one of sufficient capacity. Beginning at Coleman Avenue a new culvert would be constructed which would extend to the parking lot at the U.S. Steel Company plant and hence by open concrete channel to Stony Creek. The total project length would be approximately 1500 feet.	\$ 900,00
Solomon's Run Flood Protection Project, Stoney Creek Township, City of Johnstown, Cambria County	With the exception of the damage along Laurel Run, the stream side destruction along Solomon Run was the most severe of all the Johnstown flood damage centers. Severe damage occurred to apartment houses in Walnut Grove as well as to many private residents in Walnut Grove, Dale and the Hornerstown area of Johnstown. Many homes along this reach were completely destroyed with wreckage interfering with the flow of the stream along its water course. Diversion of flow occurred down Messenger Street and McMillen Street causing flood inundation damages remote from the run itself. The project required for this damage center would be a concrete channel liner beginning approximately 3,500 feet upstream of the bridge to the Walnut Grove Apartments and extending through Dale and Hornerstown to Stony Creek. The total length of concrete channel required is approximately two miles.	\$5,500,000
East Conemaugh Flood Protection Project, Little Conemaugh River, Borough of East Conemaugh, Cambria County	Flooding of the lower portion of the East Conemaugh was caused by the blockage of a culvert under the main line of the Pennsylv- vania Railroad caused by a tremendous amount of bedload transported by a small tributary along the western border of the Borough. Remedial measures would consist of providing an adequate culvert, channel improvement and a short section of flood	\$ 450,000

<u>Project Location</u>	<u>Description and Justification</u>	<u>Base Construction Cost</u>
Borough of Homer City, Flood Protection Project on Yellow Creek and Two Lick Creek	Homer City lays at the confluence of Yellow Creek and Two Lick Creek. Stream side destruction of commercial facilities occurred at the Route 56 Bridge crossing Yellow Creek. Inundation of homes and heavy industry occurred along the left bank of Two Lick Creek downstream of the confluence. Additional flooding occurred upstream of the confluence along both banks of Two Lick Creek. Flooding depths were up to approximately 7 feet. Because of the nature of highway bridges and rail- road bridges and lack of space, it will be necessary to provide a comprehensive flood protection project consisting of approxi- mately 2,000 feet of slope paving both sides, 2,600 feet of slope paving one side with excavation, 1,600 feet of levee with riprap, and 3,600 feet levee.	\$2,500,000
Paint Township, Flood Protection Project on Paint Creek, Somerset County	Damage occurred to buildings on both sides of Paint Creek. Where Route 601 crosses Paint Creek, the Route 601 Bridge was not adequate to pass the tremendous flood flow generated on Paint Creek. The diversion which occurred at this location caused considerable damage to Route 56 where it crosses the ravine formed by Paint Creek. Work which may be required for this area would be the extension of the Windber flood protection project along Paint Creek and the replacement of the Route 601 Bridge.	\$ 300,000
Borough of Windber, Improvements to Existing Flood Protection Project, Paint Creek, Somerset County	The Department's flood protection project in the Borough of Windber was surcharged. Extensive erosion occurred in the vicinity of the inlet and stilling basin with the loss of a house along the right bank of the stilling basin. Improvement would consist of additional capacity for storm water drainage in the vicinity of the stilling basin and slope protection upstream of the basin.	\$ 600,000

<u>Project Location</u>	<u>Description and Justification</u>	<u>Base Construction Cost</u>
Borough of Cherry Tree, Improvements to Existing Flood Protection Project along West Branch of Susquehanna River, Indiana, Clearfield, and Cambria Counties	Project as proposed for Cherry Tree includes raising of the existing Departmental levees along the right bank and the provision of a new levee along the left bank of the West Branch of the Susquehanna River to provide a higher degree of pro- tection for the Borough.	\$ 700,000

THE GENERAL ASSEMBLY OF PENNSYLVANIA

HOUSE BILL

No. 1802

Session of
1977

INTRODUCED BY MESSRS. STEWART, BITTINGER, ENGLEHART, GOODMAN, REED, WASS,
SHUPNIK, GEORGE, O'CONNELL, B. F. O'BRIEN, HALVERSON, A. K. HUTCHINSON,
PIEVSKY, MILLIRON, CASSIDY AND STAIRS, OCTOBER 26, 1977

REFERRED TO COMMITTEE ON APPROPRIATIONS, OCTOBER 26, 1977

AN ACT

1 Amending the act of July 20, 1968 (P.L.652, No.220), entitled,
2 "An act amending the act of March 31, 1949 (P.L.372, No.34),
3 entitled 'An act to promote the welfare of the people of the
4 Commonwealth; creating The General State Authority as a body
5 corporate and politic with power to construct, improve,
6 equip, furnish, and operate projects, and to lease the same,
7 and to fix fees, rentals, and charges for the use thereof;
8 authorizing and regulating the issuance of bonds for said
9 Authority, and providing for the payment of such bonds, and
10 the rights of the holders thereof; and to enter into
11 agreements with the Government of the United States or any
12 Federal agency; and authorizing the Department of Property
13 and Supplies to grant, assign, convey, or lease to the
14 Authority lands of the Commonwealth and interests therein,
15 and to acquire lands therefor; granting the right of eminent
16 domain; empowering The General State Authority to sell and
17 convey projects and property to the Commonwealth; and
18 providing that no debt of the Commonwealth shall be incurred
19 in the exercise of any of the powers granted by this act,'
20 empowering the Authority to construct and acquire projects
21 for certain State-related universities, providing for the
22 disposition of unused borrowing capacity which may become
23 available through the operation of the Higher Education
24 Facilities Act of 1963 or other Federal grants; harmonizing
25 the language of certain existing amendments; allocating
26 unused funds; providing for the interpretation of certain
27 amendments to the act; further defining the powers and
28 procedures of the board; regulating the leasing of projects
29 constructed for State-aided institutions; amending the
30 eminent domain powers and procedures of the Authority;
31 specifically itemizing projects for capital budget purposes,"
32 to reduce the amount of unallocated funds available for
33 allocation by the board to certain projects for cost-overrun,
34 and to provide for additional projects necessitated by the

1 Great Flood of July 1977.

2 The General Assembly of the Commonwealth of Pennsylvania
3 hereby enacts as follows:

4 Section 1. Clause XXVIII of section 7, act of July 20, 1968
5 (P.L.652, No.220), entitled "An act amending the act of March
6 31, 1949 (P.L.372, No.34), entitled 'An act to promote the
7 welfare of the people of the Commonwealth; creating The General
8 State Authority as a body corporate and politic with power to
9 construct, improve, equip, furnish, and operate projects, and to
10 lease the same, and to fix fees, rentals, and charges for the
11 use thereof; authorizing and regulating the issuance of bonds
12 for said Authority, and providing for the payment of such bonds,
13 and the rights of the holders thereof; and to enter into
14 agreements with the Government of the United States or any
15 Federal agency; and authorizing the Department of Property and
16 Supplies to grant, assign, convey, or lease to the Authority
17 lands of the Commonwealth and interests therein, and to acquire
18 lands therefor; granting the right of eminent domain; empowering
19 The General State Authority to sell and convey projects and
20 property to the Commonwealth; and providing that no debt of the
21 Commonwealth shall be incurred in the exercise of any of the
22 powers granted by this act,' empowering the Authority to
23 construct and acquire projects for certain State-related
24 universities, providing for the disposition of unused borrowing
25 capacity which may become available through the operation of the
26 Higher Education Facilities Act of 1963 or other Federal grants;
27 harmonizing the language of certain existing amendments;
28 allocating unused funds; providing for the interpretation of
29 certain amendments to the act; further defining the powers and
30 procedures of the board; regulating the leasing of projects

1 constructed for State-aided institutions; amending the eminent
 2 domain powers and procedures of the Authority; specifically
 3 itemizing projects for capital budget purposes," is amended and
 4 the section is amended by adding a clause to read:

5 Section 7. For capital budget purposes the following public
 6 improvement projects to be financed by the issuing of debt and
 7 to be constructed by The General State Authority, its successors
 8 or assigns, and which are in addition to those projects itemized
 9 in the "Capital Budget Act for the 1968-1969 Fiscal Year" are
 10 hereby specifically itemized, together with their respective
 11 estimated financial costs, as follows:

12 * * *

13 XXVIII. Additional funds to be allocated by the board
 14 of the authority to such of the public improve-
 15 ment projects specifically itemized in a capital
 16 budget for constructions by the General State
 17 Authority as are not bid within the estimated
 18 financial costs specified in such capital budget
 19 but this amount shall not otherwise constitute
 20 unallocated funds of the General State Author-
 21 ity for any other purpose..... [46,899,342]

22 26,873,374

23 XXIX. Department of Environmental Resources.. 20,025,968

24 Additional Flood Control Projects
 25 arising from the Great Flood of July 1977
 26 are as follows:

27 PROJECT LOCATION

28 (1) Ben's Creek Flood Protection..... 703,100

29 City of Johnstown, Cambria County

30 (Base Construction Cost \$550,000)

1	(2) Sam's Run Flood Protection.....	1,124,865
2	City of Johnstown, Lorraine Borough,	
3	Cambria County	
4	(Base Construction Cost \$900,000)	
5	(3) Elk Run Debris Dam - City of Johnstown,	
6	Lower Yoder Township, Cambria County...	300,000
7	(Base Construction Cost \$216,000)	
8	(4) Solomon's Run Flood Protection.....	6,751,829
9	Stoney Creek Township, City of Johnstown,	
10	Cambria County	
11	(Base Construction Cost, \$5,500,000)	
12	(5) Little Conemaugh River, East Conemaugh	
13	Flood Protection.....	579,513
14	Borough of East Conemaugh,	
15	Cambria County	
16	(Base Construction Cost \$450,000)	
17	(6) Black Lick Creek Flood Protection.....	1,507,399
18	Nanty Glo	
19	Cambria County	
20	(Base Construction Cost \$1,200,000)	
21	(7) South Fork and Otto Run Flood Protection	1,133,265
22	Croyle Township (Sidman)	
23	Cambria County	
24	(Base Construction Cost \$900,000)	
25	(8) South Branch of Black Lick Creek	
26	Flood Protection.....	641,334
27	Borough of Vintondale	
28	Cambria and Indiana Counties	
29	(Base Construction Cost \$500,000)	
30	(9) Two Lick Creek and Dickson Run Flood	

1	<u>Protection.....</u>	<u>2,130,587</u>
2	<u>Borough of Clymer</u>	
3	<u>Indiana County</u>	
4	<u>(Base Construction Cost \$1,700,000)</u>	
5	<u>(10) Yellow Creek and Two Lick Creek Flood</u>	
6	<u>Protection.....</u>	<u>3,142,454</u>
7	<u>Borough of Homer City</u>	
8	<u>Indiana County</u>	
9	<u>(Base Construction Cost \$2,500,000)</u>	
10	<u>(11) Paint Creek Flood Protection.....</u>	<u>381,754</u>
11	<u>Paint Township</u>	
12	<u>Somerset County</u>	
13	<u>(Base Construction Cost \$300,000)</u>	
14	<u>(12) Paint Creek Improvements to Existing Flood</u>	
15	<u>Protection.....</u>	<u>752,252</u>
16	<u>Borough of Windber</u>	
17	<u>Somerset County</u>	
18	<u>(Base Construction Cost \$600,000)</u>	
19	<u>(13) West Branch of Susquehanna River</u>	
20	<u>Improvements to Existing Flood</u>	
21	<u>Protection.....</u>	<u>877,616</u>
22	<u>Borough of Cherry Tree</u>	
23	<u>Indiana, Clearfield and Cambria</u>	
24	<u>Counties</u>	
25	<u>(Base Construction Cost \$700,000)</u>	
26	<u>In order to expedite these projects, the Department of</u>	
27	<u>General Services shall assign the professional agreements for</u>	
28	<u>design and the construction supervision to the Department of</u>	
29	<u>Environmental Resources.</u>	
30	Section 2. This act shall take effect immediately.	

September 22, 1977

Amendments to Flood Assistance Bill

S.B. 1054 - P.H. 1238

Paul Muench~~Mr. Mike Keresneck~~

Executive Director

House Appropriations Committee

Senate

Charles P. McIntosh

Budget Secretary

Attached are amendments to Senate Bill Number 1054, which would lower the increase in flood assistance money from \$50,000,000 to \$30,000,000.

In addition, these amendments would limit the use of the money to the 1977 flood. These are amendments which were discussed in our meeting of September 20th.

CPM:bh

CC: Hon. William B. McLaughlin
Mr. Paul Muench
Mr. Earl Brown
Mr. William Clouser

Attachment

BCC: Hon. C. P. McIntosh
Hon. J. N. Wade
Skok

Prepared by: EJC:MLH:bh ✓

Signed 9/22/77

LEGISLATIVE REFERENCE BUREAU

AMENDMENTS TO SENATE BILL NO. 1054

Mr.

Printer's No. 1238

Amend Title, page 1, line 13 by striking out "increasing the amount that may be borrowed." and inserting

providing for the borrowing of an additional sum to rehabilitate areas affected by the Great Flood of July, 1977.

Amend Sec. 1, page 1, line 16 by striking out "Section 1," and inserting

The title,

Amend Sec. 1, page 2, line 5 by striking out "amended July 7, 1973 (P.L.88, No.38),"

Amend Bill, page 2, by inserting between lines 6 and 7

AN ACT

Implementing the provisions of clause (1) of subsection (a) of section 7 of Article VIII of the Constitution of the Commonwealth of Pennsylvania authorizing the incurring of debt for the rehabilitation of areas affected by the Great Storm and Floods of September, 1971 and June, 1972, and the Great Flood of July, 1977 through urban redevelopment assistance; imposing duties upon the Governor, the Auditor General and State Treasurer; prescribing the procedures for the issuance, sale and payment of general obligations bonds, the funding of debt and refunding of bonds; exempting said bonds from State and local taxation; creating certain funds; and making an appropriation.

Section 2. Section 1 of the act, amended July 7, 1973 (P.L.88, No.38), is amended to read:

A2343

Amend Sec. 1 (Sec. 1), page 2, line 12 by inserting after "aggregate"

(i)

Amend Sec. 1 (Sec. 1), page 2, line 12 by striking out the bracket before "one"

Amend Sec. 1 (Sec. 1), page 2, lines 13 and 14 by striking out "one hundred
ninety million dollars (\$190,000,000)"

Amend Sec. 1 (Sec. 1), page 2, line 16 by striking out the brackets before and after
"and"

Amend Sec. 1 (Sec. 1), page 2, line 16 by striking out "and July, 1977"

Amend Sec. 1 (Sec. 1), page 2, line 17 by removing the period after "assistance"
and inserting

, and (ii) the sum of thirty million dollars (\$30,000,000) as may be found
necessary to carry out the rehabilitation of areas affected by the Great
Flood of July, 1977 through urban redevelopment assistance.

Amend Sec. 2, page 2, line 18 by striking out "2" and inserting

3



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF COMMERCE
HARRISBURG

THE SECRETARY

September 16, 1977

Honorable Adam C. Bittinger, Chairman
Ad Hoc Flood Committee
House of Representatives
Harrisburg, Pennsylvania 17120

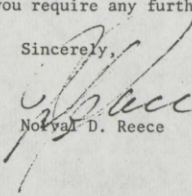
Dear Representative Bittinger:

The attached disaster operations information is provided in response to requests made at the Ad Hoc Flood Committee Hearing of September 13, 1977:

1. A list of Business Damage Estimates by County.
2. A report of the economic impact of the flood on the coal industry.
3. A copy of the Department of Commerce's Disaster Operations Plan. This plan implements the Department's responsibilities as assigned in the Commonwealth's Disaster Operations Plan, prepared by the State Council of Civil Defense. Copies of the statewide plan can be obtained from the Civil Defense Council and might be useful to your committee's research.
4. Report on current PIDA financial situation.

Thank you for your cordial hearing of my testimony at the committee meeting. Feel free to contact me if you require any further information.

Sincerely,


Norval D. Reece

NDR/cjb
Enclosures

1977 Johnstown Area Flood

Business Damage Estimates
by County

<u>County</u>	<u>Firms</u>	<u>Damage</u>
Jefferson	70	\$ 817,000
Westmoreland	55	10,534,000
Indiana	61	958,000
Clearfield	56	672,000
Bedford	29	348,000
Cambria	168	96,088,000
Somerset	145	11,935,000
TOTAL	584	\$121,352,000

ECONOMIC IMPACT OF 1977 JOHNSTOWN FLOOD ON COAL INDUSTRY

Source: Office of Deep Mine Safety, Department of Environmental Resources
 Subject: Deep Mining

Information attached.

Source: Ray Holst, Governor's Energy Council
 Subject: Effect of Rail Lines

In 1975 in the Johnstown area 4,238,000 tons of coal were mined of which 2,132,000 was shipped by rail. Companies which shipped by rail in 1975 were:

<u>Company</u>	<u>Shipped by Rail (million tons)</u>	<u>County</u>
Oneida	359	Indiana
Country Club Coal Co. #6	4	Somerset
Jandy - Urela Coal	84	Cambria
Country Club Coal Co. #6	1	Cambria
Solar Fuel #3	55	Somerset
Pitt Coal Co. (Consul Coal Co.)	102	Somerset
Bird Coal Co. #3	394	Somerset
Bird Coal Co. #3	428	Somerset
J. R. Sales Inc. #4	90	Somerset

Conrail is repairing the main line "South Fork". However, the Blacklick Line between Cresson and Blairsville is not operating. Two-thirds of the line is closed by bridge washouts which are essentially restorable, the other third by embankment washouts. If fully repaired the cost would be in excess of two million dollars, however repairing only part would cost considerably less.

The two mines on the Blacklick Line are Oneida owned by PP & L and Virginia 14 owned by North Cambria Fuel Company. Oneida has a tippler or breaker in the general area and ships about tentimes as much as Virginia 14. Virginia 14 doesn't care if the line is repaired as they are trucking to the C & I Line and built a new tippler in that area. Conrail is considering abandoning the line and constructing new facilities off South Fork. Persons from the Energy Council, Department of Transportation and the Governor's Office are working on this problem and trying to get Conrail to repair (should take 2 to 3 months) before there are labor disruptions in the coal industry. Potential use of Blacklick Line appears to be there - if only ten percent.

Persons working on the rail problem are: Martin Margolis, Jacob Kassab, Ray Peteritas, and William Polk.

According to the Keystone Bituminous Association there are 20 billion tons of reserved coal in place and 113 operating companies in the Johnstown five county area. Ray Holst feels the reserves figure might be high, as 60 billion tons is the figure for the entire State.

Source: Richard Sheeler - Pennsylvania Electric Company, Johnstown
Subject: Coal Washout at Seward Power Plant

8,338,000 tons of coal were washed away at Seward Power Plant.

Source: Mr. Barrick - Conrail Public Relations
Subject: Flood Loss at Conrail

10,000 carloads of coal - valued at \$4.3 million. Total flood damage - \$16 million.

Three branches damaged: South Fork - already repaired. Shade Creek - being restored. Blacklick - 15 miles at eastern end being restored. 11 miles at the western end will be restored at a cost of \$2.2 million (part of the \$16 million loss), first the banks must be relocated. The middle 17 miles will not be restored, but the 2 coal mines will have access from the ends being restored.

For further information contact Department of Commerce, Bureau of Statistics, Research and Planning.

9/15/77

DEPARTMENT OF ENVIRONMENTAL RESOURCES
OFFICE OF DEEP MINE SAFETY
EMERGENCY DIVISION

DISTRICT	COMPANY	UNDERGROUND MINES AFFECTED BY FLOOD OF JULY 20, 1977.				MEN WORKING NIPAB	ESTIMATED LOSS OF PRODUCTION	ESTIMATED DOWN TIME
		MINE	COUNTY	TOTAL MEN EMPLOYED	MEN OUT OF WORK			
16	North American Coal Corp.	Covenaugh No. 1	Indiana	198	148	50	160,000-480,000	80-240 Days
16	Florence Mining Company	Florence No. 2	Indiana	388	310	78	140,000-420,000	80-240 Days
16	Florence Mining Company	Dias No. 2	Indiana	140	125	15	4,000	8 Days
16	Florence Mining Company	Blacklick Portal	Indiana	345	300	45	18,000	8 Days
19	Barnes & Tucker Company	Lancashire No. 25	Cambria	306	---	---	600	4 Hours
20	Bethlehem Mines Corp.	77 Mine	Cambria	217	195	22	80,000-120,000	80-120 Days
20	Bethlehem Mines Corp.	31 Mine	Cambria	427	400	29	13,000	10 Days
21	Bethlehem Mines Corp.	73 Mine	Cambria	73	55	18	34,000-51,000	80-120 Days
21	Bethlehem Mines Corp.	38-D Mine	Cambria	256	226	30	10,000	10 Days
21	Bethlehem Mines Corp.	38-E Mine	Cambria	38	30	8	3,000	10 Days
21	Long Wall Mining Company	No. 1 Mine	Cambria	71	55	16	6,500-13,000	10-20 Days
21	Island Creek Coal Company	No. 2 Mine	Somerset	188	140	48		None
21	Island Creek Coal Company	No. 3 Mine	Somerset	188	140	48		None
22	Bethlehem Mines Corp.	No. 78 Mine	Somerset	147	115	32	15,000	10 Days
24	Barnes & Tucker Company	No. 20 Mine	Cambria	436	336	100	35,000	20 Days
22	J. & D. Mining Company	Miller Mine	Somerset	19	19	0	3,000	10 Days

News Release

Pennsylvania Electric Company
1001 Broad Street
Johnstown Pennsylvania 15907
814 536-6611



A Member Company of the
General Public Utilities System

Further information: J. A. Johnson
(814) 536-6611

For release: UPON RECEIPT

Date: August 12, 1977

Pennsylvania Electric Company said today that its losses will be in excess of \$25 million as a result of storms and severe flooding that occurred in Johnstown and surrounding areas.

Major damages were reported at the utility's Seward Generating Station, corporate headquarters in Johnstown and to the utility's transmission and distribution system.

In addition, Penelec estimates a loss of revenues of more than \$1.6 million due to residential, commercial and industrial customer damages with more than \$1 million in revenues lost as a result of the reductions in the levels of operations at the Johnstown Bethlehem Steel plants.

Penelec placed its revenue loss at \$140,000 from its residential customers and \$245,000 from commercial customers.

The utility also estimates that about \$5.4 million in replacement power will have to be purchased from power pools and other utilities to provide adequate power for its customers while repairs are being completed to its facilities.

Penelec is a member of the Pennsylvania - New Jersey - Maryland (PJM) Power Pool and can draw on reserve power from the pool to meet its energy requirements. In addition, Penelec is also interconnected with its General Public Utilities Corporation sister companies, Metropolitan Edison Company and Jersey Central Power & Light Company.

The utility's major casualty was its Seward Generating Station where the Conemaugh River breached the protective dike surrounding the plant. The flood waters crested nearly five feet higher than the level reached at the height of the 1936 flood, leaving behind wreckage and an enormous accumulation of debris and silt.

(More)

Damages to the plant were estimated at \$10.4 million. Early estimates by the utility indicated it would be five months before the plant was back in operation. However, Penelec is now shooting for an October target date to have the plant back in partial operation.

Penelec estimates the plant restoration will require expenditures of about \$3.4 million for capital improvements, \$5.6 million for operations and maintenance and \$1.4 million for lost coal.

Damage estimates to Penelec's transmission and distribution system are \$7.94 million with more than six miles of conductor line and 200 poles destroyed.

The Seward Substation suffered damages estimated at more than \$600,000.

Flooding at the utility's corporate headquarters on Broad Street caused damages in excess of \$500,000 for building damage, materials and equipment. Following 19 days of clean-up and restoration efforts the Johnstown headquarters returned to normal work schedules.

The utility also reported it lost a total of 83 vehicles due to flooding. Total loss related to the leased vehicle fleet has been placed at \$182,000.

###

FDA-537-DR-PENNSYLVANIAFEDERAL AGENCY COST ESTIMATES

September 7, 1977

1. Related to Individual Assistance

<u>FEDERAL AGENCY</u>	<u>COST</u>
<u>1/</u>	
<u>Small Business Administration (SBA)</u>	
Home/Personal	\$ 23,200,000
Business	55,400,000
<u>Department of Labor (DOL) 2/</u>	
Disaster Unemployment Assistance (DUA)	5,400,000
Comprehensive Employment Training Act (CETA)	1,400,000
<u>United States Department of Agriculture (USDA)</u>	
Food Stamps Food and Nutrition Service (FNS)	2,900,000
Farmers Home Administration (FmHA)	250,000
<u>Housing and Urban Development (HUD) 3/</u>	=
Phase I Housing	41,500,000
<u>Individual and Family Grants (IFG)</u>	6,225,000
(408)	
<u>National Institute for Mental Health (NIMH)</u>	192,000
<u>4/</u>	
<u>Internal Revenue Service (IRS)</u>	1,325,000
<u>Flood Insurance Claims</u>	25,000,000
	<u>\$ 162,792,000</u>

1/ Cost based upon average dollar request of application.2/ Program could reach \$12M if Bethlehem Steel workers are deemed eligible for DUA benefits after expiration of UI benefits.3/ Includes \$17.4M for purchase of mobile homes.4/ Does not include business returns.

2. Related to Public Assistance

<u>CATEGORY</u>	<u>COST</u>	<u>CATEGORY</u>	<u>COST</u>
A	\$ 7,150,000 ^{5/}	F	\$ 5,000,000
B	1,000,000	G	50,000
C	10,000,000	H	3,000,000
D	1,500,000	I	500,000
E	3,000,000		
		TOTAL ...	<u>\$ 31,200,000</u>

3. Federal Agency Independent Authority

<u>United States Department of Agriculture (USDA)</u>	
Soil Conservation Service (SCS) (Sec. 216)	\$ 9,700,000
Agricultural Stabilization Conservation Services (ASCS) Emergency Conservation Measures (ECM)	280,000
<u>Environmental Protection Agency (EPA) (PL 92-500)</u>	200,000
<u>Federal Highway Administration (FHWA) (Title 23)</u>	25,000,000
<u>Corps of Engineers (COE)</u>	
(PL 99)	2,300,000
Operations and Maintenance (O&M)	1,790,000
<u>Health, Education and Welfare (HEW)</u>	
Office of Education (OEd) (PL815, 874)	1,900,000
	<u>\$ 41,170,000</u>

4. Federal Coordinating Officer (FCO) Mission Assignment Costs

	\$ 200,000
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5. SUMMARY:

A. Related to Individual Assistance	\$ 162,792,000
B. Related to Public Assistance	31,200,000
C. Federal Agency Independent Authority	41,170,000
D. FCO Mission Assignment	200,000
	<u>\$ 235,362,000</u>

President's Fund Costs ...	\$(84,717,000)
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^{5/} Includes \$2,850,000 direct mission assignments for debris clearance.

^{6/} \$4.1M advanced from President's Fund; not included in President's Fund Costs.

SEP 9, 1977
11:53 A.M. ET

PROGRESS SUMMARY: INDIVIDUAL ASSISTANCE

FDA REGISTRATIONS:

FDA-537-DR REGION: 3
TYPE CODE - I STATE: PENNSYLVANIA

EXPECTED: 28,460
RECEIVED: 28,460
ANTICIPATED: 1

REPORT DATE: SEP 8, 1977

DATE DECLARED: JUL 21, 1977

***** TEMPORARY HOUSING *****

EXPECTED: 5,400

<u>APPLICATIONS</u>	<u>HOUSING PROVIDED</u>	<u>REMAINING RESOURCES IDENTIFIED</u>
ELIGIBLE: 5,219	GOVT OWNED/ASSISTED: 30	2
INELIGIBLE: 584	PRIVATE RENTALS: 256	38
WITHDRAWN: 472	MOBILE HOMES: 467	681
PENDING: 119	TRAVEL TRAILERS: 0	0
TOTAL	MINI REPAIR: 507	2,415
RECEIVED: 6,394	TOTALS: 1,260	3,136

FAMILIES IN
TRANSIENT HOUSING: 5

TOTAL MOBILE
HOMES REQUIRED: 1,500

DISASTER LOANS

	<u>LOANS EXPECTED</u>	<u>APPLICATIONS ISSUED</u>	<u>DISASTER UNEMPLOYMENT ASSISTANCE: APPLICATIONS</u>
SBA HOME/PERS:	3,000	4,982	EXPECTED: 23,000
SBA BUSINESS:	600	1,170	FILED: 22,489
FARMERS HOME:	25	229	APPROVED: 8,332

FOOD STAMP PROGRAM IMPLEMENTED

APPLICANTS INTERVIEWED: 24,052
APPLICATIONS APPROVED: 21,377

INDIVIDUALS COUNSELED

IRS: 9,725
LEGAL SERVICES: 1,139
OTHER: 15,469

***** INDIVIDUAL ASSISTANCE COMMENTS *****

SBA HAS APPROVED 764 HOME/PERSONAL LOANS TOTALING \$5,298,500 AND 71 BUSINESS LOANS TOTALING \$1,788,850. TOTAL AMOUNT OF DUA FUNDS DISBURSED TO DATE = \$1,789,503. INQUIRIES VIA TELEPHONE INFORMATION LINE TO DATE = 7048.

Mr. LEVITAS. The next witness is the Honorable Harold A. Swenson, mayor of the city of Harrisburg.

Mr. ERTEL. Mr. Chairman, while we are waiting for the next witness, I would like to ask that Congressman John Murtha's statement be made a part of the record.

Mr. LEVITAS. Without objection, so ordered.

[The following was received for the record:]

STATEMENT OF CONGRESSMAN JOHN P. MURTHA, 12TH CONGRESSIONAL DISTRICT, PENNSYLVANIA

Mr. Chairman, as a cosponsor of the legislation to update the cost-benefit ratio used by the Army Corps of Engineers to evaluate flood control projects, I had hoped to testify in person today. Since a scheduling conflict prevents it, I have asked Congressman Ertel to present this statement to the committee on my behalf.

I believe the direction taken in this legislation (H.R. 9495) is essential to continue the outstanding work of the Corps of Engineers. The indirect effects of flooding outside the immediate flood plain must be considered in an area's loss to provide a realistic picture of the project and its impact.

I can speak with firsthand knowledge because of the devastating flooding we encountered in west-central Pennsylvania this summer. None of this flooding resulted from inadequate work by the corps. In fact, their work on the Johnstown viaduct and stream clearance helped prevent even more serious flooding. But one of the lessons this summer's flooding showed was the very serious secondary impact in communities and the long-range social and economic impact.

For instance, damage in Johnstown goes beyond immediate property losses when you add in businesses that do not reopen, jobs that are lost, families without income, home mortgages that go unpaid, and eventually people moving from the area. The loss of just one major business can affect an entire area's total income, retail spending, employment opportunities, and community spirit.

In my research on flood problems, Mr. Chairman, I encountered a second example that helps illustrate this problem. In the past, the corps has largely concentrated on individual river and stream flood problems. This resulted largely from a direct, positive cost-benefit ratio for these projects. In the last few years, the corps has begun more studies of larger river basin areas. I am working with them and this committee presently on one for the Kiski River Basin (which includes much of the flooded areas from this past summer). The larger scale may require more work areas (such as flooding, acid mine drainage, stream control, etc.) to make it cost effective.

In further research, I discovered that if you take the 35 counties in the western two-thirds of Pennsylvania (to simplify from Harrisburg to the western border), there is yearly flooding damage in each of those counties. Taken separately—by river or stream, and in most cases even by river basin—the damage is not sufficient to meet cost-benefit ratios. But taken as a whole for the western two-thirds of Pennsylvania, there is an average annual flood damage of \$20,953,000. Now, that is a direct impact of nearly \$21 million a year in Pennsylvania from flooding. The large area covered does not produce as favorable a ratio (and present law does not encourage such work), but the secondary economic and social impacts from this flooding each year are a serious drain on the state's economy, on money available for floodwork, and on local communities. I use this example to note the complicated impact of flooding on a community, area, and state. It is further evidence of the need to consider secondary economic and social impact.

I bring these examples of the Johnstown flooding and the study on west-central Pennsylvania to your attention because I believe they help show why more input and flexibility is needed on the corps' cost-benefit ratio.

I believe the proposal made by Congressman Ertel is reasonable. I have been very pleased to co-sponsor it. I believe it is a firm step in the direction of protecting communities and insuring that needed flood control projects are completed. Over many years, it could save our citizens and local governments millions of dollars in flood damage.

I will look forward to the analysis and recommendations by the committee on this proposal. I thank you for this opportunity to present my views.

Mr. LEVITAS. Mayor Swenson, every time I think that Members of Congress have a hard job, I reflect upon the problems that the local elected officials have, and you are in the trenches and we appreciate what you have been doing. Thank you for being with us this morning.

TESTIMONY OF HON. HAROLD A. SWENSON, MAYOR, CITY OF HARRISBURG, PA.

Mayor SWENSON. Members of Congress, the Water Resources Subcommittee, the House Committee on Public Works, on behalf of the city of Harrisburg, I would first like to welcome you to the city and express our deep appreciation for the work that you are doing to find a realistic means to calculate and protect this community and dozens like it from the ravages of floods. And especially I would like to commend Representative Ertel for his consistent and determined efforts on behalf of this city and all the other communities who enjoy the rather dubious distinction of being flood prone.

A little bit of background. Last winter and spring, he and I were opponents for nomination as the Democratic congressional candidate from this district. Congressmen Ertel being from the northern area and I being from the southern part of the district, so quite naturally I knew my area and I got to know a great deal of his territory. And I can assure you by the low count that he knew his area very well, and he knows a great deal about my area.

One of the things that, without question, comes up is the fact that we both recognize that areas that are flood prone do have significant problems. Both of us learned that early in the campaign, and flood protection was a matter of citizen concern, business concern, and priority, whether it be north or south, whether it be east or west. So I think it is most appropriate that he should have introduced House bill 8061 which, if enacted, would make flood protection more certain for Harrisburg, available to Milton and many other communities in this, the most flood-threatened State in the Union.

I do not come here to analyze the specific details, line by line, of that legislation, but rather to give you a brief history of Harrisburg's flood problems and to observe how helpful Congressman Ertel's plan would have been if it had been law 5 years ago and how important it can be should it become law, which, by the way, I very strongly urge.

Now, Hurricane Agnes in 1972 vented its fury on Harrisburg in the month of June. It flooded over a third of our city with rampaging waters from both the Susquehanna River and Paxton Creek. Paxton Creek does serve as a drainage creek over a much larger area than the city of Harrisburg. The exact percentages I could not tell you, but well over 50 percent, probably more like 85 percent of the water flowing through Paxton Creek and during floodtime overflowing within the city originates from outside the city.

We in Harrisburg moved promptly and effectively in immediate postflood recovery. Among other things, we declared the effective areas for redevelopment and applied to HUD for certification. Hundreds of householders needed relocation because their properties were neither fit for habilitation or repair, restoration, in any form whatsoever. They were to the point where it was not feasible economically or even physically to restore their homes.

With its own funds, the city bought these properties at pre-flood value, provided additional financial assistance for relocation, and razed the structures. That process began in July 1972. We did not receive final HUD certification until the following May 1973. The city had its next housing financially for almost 12 months to the tune of several million dollars. But we did move on our own rapidly, responsively and, I believe, humanely.

In the meantime, within weeks of the flooding, the Corps of Engineers started its studies for flood protection. In April 1973, the corps held its first public hearing on its tentative proposals, which dealt with two protection schemes, one for Paxton Creek and another for the Susquehanna River in south Harrisburg. A third study involving the Susquehanna River in the northern section of the city proved economically infeasible. And I believe it still would be.

In my advocacy of Congressman Ertel's proposal, it is not a cure-all for all, that which is not feasible economically in any form or fashion. And we have sections of our city which still remain ineligible. But the two other projects had highly favorable cost-benefit ratios, even though we cleared the structure from a large portion of the affected areas.

By September 1973, the city council passed a formal resolution certifying the city's acceptance of the two flood protection plans. In the following May, the Corps of Engineers held its second public hearing with the cost-benefit ratio still remaining favorable under present or old formula, if you will. By November, the North Atlantic division approved the Paxton Creek project but set conditions on the river plan, which the city met promptly that same month.

In December 1974, the rivers and harbors board returned the project to the Baltimore district, calling for increased protection along Paxton Creek. That, gentlemen, is when the trouble began.

In June 1975, the Baltimore district advised that after the revisions were made and certain engineering errors had been corrected, the projects had adverse benefit-cost ratios. Restudy and new analysis of damages then took place, but still the projects could not fly, so to speak.

By mid 1975, were were stalled, 1975 were were stalled because of the currently existing system of cost-benefit calculations. Were the legislation you are now considering had been the law of the land at that time, I believe we would not have had that problem, a 3-year period, gentlemen.

We sought an exception on the basis that successful completion of the redevelopment projects depended on flood protection. That effort went from October 1975 to June 1976, when finally the Department of Housing and Urban Development certified to the Corps of Engineers that flood protection was essential to redevelopment.

Thus, we were then exempt from the cost-benefit requirements, but I emphasize that we were exempt on paper. But, as of that time, at least, no flood protection program under this exception had ever been constructed.

As you know, in a legislative process, a "may" bill and a "shall" bill are as different as night and day. The corps may if HUD so certifies. It does not say a darn thing about the corps shall give HUD. So we were exempt on paper at least.

I do not want to belabor Harrisburg's problems. I should point out that the new hydrology data caused the corps to restudy the whole matter once again. In February of this year, new proposals were presented by the corps, the city gave its reaction within 30 days. And in September, the city council adopted its formal resolution providing for local share.

Just last week, the Harrisburg flood project was transmitted to the North Atlantic Division to begin, once again, its path of reviews and, hopefully, approvals. I emphasize that because we are not here pleading as one who cannot get within the cost-benefit formula. We had a favorable cost-benefit formula on the two projects which are in process. But here we are now where we were in the fall of 1974, but the calendar says this is November 1977.

Had Congressman Ertel's proposal been a matter of law, we would not be sitting here at a point where we were 3 years ago, nor 3 years ago would we have been at a point where we were the night of the flood.

Once again, we have a project which has a favorable benefit-cost ratio. We are still sweating. If that cost-benefit ratio can be tilted again by any combination of factors at any step of the process, finally the process has left the Baltimore district but, as you members of the Public Works Committee well know, there are many, many steps and they take place from here on in, mostly in Washington, D.C. We are sitting up here in Harrisburg with the Susquehanna River.

Now, we do still have that HUD certification. Even if we were to get an adverse cost benefit, we have that loophole. But there is very little guarantee of any guarantee enough. It is a loophole that past administrations have been reluctant to use. And I would respectfully say the Congress should be reluctant to use a loophole.

What we really need is legislation such as being considered today, not only for Harrisburg, but for the other communities up and down the Susquehanna which are in an even less fortunate position, accounting-wise, cost-benefit-wise, than Harrisburg, but need flood protection as desperately as we. We need flood protection for the community survival. And in our case it is a matter of urban life or death. The delays and uncertainties that we have experienced in this community have not contributed to either the urban health or to community recovery. I believe that Congressman Ertel's bill will go a long way toward correcting that situation and, therefore, in concluding my formal statement, I would most respectfully and most vigorously urge its favorable consideration by the full House Committee on Public Works, and, in turn, the Congress of the United States.

I would like to, if I may, also make a few observations regarding items which are not in the prepared statement. One being that—one of them being that the city of Harrisburg does not measure itself in square miles. We are a very small city, a population of over 60,000. We do house the Commonwealth Capitol. We do have 50 percent of our property, over 50 percent tax exempt; 35 percent alone of all city property is tax exempt.

Financing is not easy when you have 100 percent of services due to size at less than half the funding. We do not count the square miles. We count in acres. We have about 3,200 acres in this city. We are not able to turn around and say, well, we are a city of 32 square miles. That

is not the case. But let us talk a minute about what this city is doing itself.

Our Cameron Street corridor, which runs from city line to city line and is parallel to the creek, individual proprietorships, some gentlemen sitting in the audience, Stanley Spring Works, for example, has spent over three-quarters of a million dollars of new investments in their plant which was flooded. That is not counting cleanup after 1972; that is not counting cost of cleanup or replacement of equipment. Three-quarters of a million dollars, but they are in a flood prone area.

Harrisburg is much the same. Forridge's the other day has dedicated their new showroom diagonally across from where they were. They are adhering to the strictest flood plain regulations that exist in this country, the State of Pennsylvania flood plain ordinance. Small businesses, Alpine Seat Covers moving next door in another building, spending money to renovate it and rehabilitate it. Our Capitol Area Transit, our transit authority by counties, improving its plant from the safe efficiency, Telegraph Prep, one of our quite little corporations which does a lot of printing, has invested over \$2 million in a rather small, not very impressive, square brick building which has about \$1,900,000 worth of printing presses in it, all in the flood area.

The city itself right now, today, has a \$95,000 contract, and that may not sound like much to Congress, it is what our contract has been termed, it presently impacts the creek, rubbing and cleaning it out. The businessmen on Cameron Street along with the city got together, and we have a 24-hour warning system, placed it in the creek there. The security offices of one of the companies check it every 3 hours. We have telephone alerts.

I am saying that this city is living, it is surviving, but remember that when we talked about the cost-benefit formula, we talked about damages and damages that will be prevented. Take a company, a large employer like Harrisburg Steel, when they were flooded, if they were to replace the 1928 building in rolling mill unfurnished, it would not replace it with a 1931 replica. They would replace it with the latest available in 1978, causing that kind of employment, that kind of economic activity, but they are in a flood prone area. And even though their home corporate office, their national operation, multistate, sits right here in Harrisburg, they have kept the plant in operation. But it is not just the damage that would be prevented by restoring what was there. You must take in consideration what would go in that area in the way of capital investment, not antiquated reproductions of what was there, when you make it the dry side of the wall.

I think that Harrisburg has shown that it is willing, its city council has acted promptly, it made tough decisions, we have not, for example, put the will right next to the river. In some cases we have moved it back. It is a hard decision to make. That is what our citizens wanted so it is done.

Local share or non-Federal, if you will, we understand it. We signed the commitment. There is State legislation which does enable them to fund up to 50 percent. There is a commitment to us that we would do so if the funding is there. The funding, of course, is an annual matter. But ability and legislative right to do so, that is there.

I think there was some question a little earlier.

With that, sir, all I can say is that the Harrisburg, which has presently favorable cost-benefit ratio, is here to strongly testify for an updating, a recognition of a need to change throughout an antiquated cost-benefit program.

Mr. OBERSTAR [presiding]. Thank you very much, Mayor. Your testimony has been right to the point of our hearings, and that is to get citizen input on the possibility of changing, and effects of changing current benefit-cost ratio of Federal programs in the flood control field.

I would like to come back to a few specifics of Congressman Ertel's bill.

Whatever change—before I ask the question, I want to point out that whatever change we would make in this formula, it is going to have very far-reaching consequences, both for the Federal Treasury, and for taxpayers all over the United States. We may be opening up the way for many hundreds of millions of dollars more in federally funded projects for flood control all around the United States.

About 70 percent of our population lives along the water's edge, whether it is inland waterways, or the coastal waterways of the Great Lakes. So Congress is going to proceed with very great care and deliberation.

But could you pick out any one, or combination of factors, of Congressman Ertel's bill that, as you said, had it been in effect, would have speeded up the processing of the Harrisburg application and, I would like to come to say the effect on incomes, the effect on education, cultural recreational opportunities, the effect on community and regional growth, which of those factors were not considered by the corps, and consequently held up final processing of this project?

Mayor SWENSON. I will confess to not being expert on Congressman Ertel's legislation line by line. As I said, I was not part of the drafting committee, and legislation is very complex. I do not understand the broad thrust of it.

In relation to some of your earlier points you mention about the neighborhood, or development, regional community, whatever you want to call it, there is a factor that can be determined within reason, what would this area support, and what would reasonable, conservative judgment would be put in this area if it was quoted on the dry side of the wall.

That factor has not been able to be cranked in with any kind of ease. What is a matter, and we have done it in Harrisburg Chamber, went door to door to the business people, because they had been more privy to businessmen, books and expenditures, than they would prefer to disclose to taxing agencies, if you will, and all of the cost of the damages could be tallied, and that took several months, it took several years.

The point being that a flood protection wall would turn that piece of land into a new piece of land, not subject to flood. There can be calculations, realistic calculations—what would that mean?

I mentioned Harrisburg Steel, HARSCO, if they had flood protection, I think we could estimate what kind of an investment they would make in capital equipment, which could translate employment in jobs, whereas the figures we must use now, how much did you lose.

Well, it cost us \$3 million here, we lost the old mill that was built in 1931, et cetera, et cetera. You add those together, and that is where we were nip and tuck. We had enough damage even with the old values, and we were able to break a one for one or even better.

The whole spirit, we have an area that is going to be, if you will, a Georgetown. People are moving in now, as they did in Philadelphia, with investments, maximum allowed by the Federal law, in a flood plain area, against their purchase price and with all the sweat equity to allow to make up for it.

Those are, I must say, the younger, who are a little more reckless than you and I. They are not the families, that their children, having obligations and so on, who can take that risk, and they shy away from that area.

So when you look at that area, and you take walking distance of here, and you will find probably the sweat equity, and the people going into that, which are developing, which will be another Georgetown, no question, probably the age will be 27, 28, and if another flood comes, we are young enough to carry it all upstairs, but we are not yet to this fight plan, somebody that is 45, now I have the money, and I would like to put it in here, because this is a beautiful site, and I am not subject to, you cannot take it again.

The earlier witness mentioned psychological. We have had people specifically, I know that served on boards and commissions in a city, who left the city, sold out after the flood, because they are afraid it might come again.

Now, we have not had a flood in there, they have been back in the cities because they miss it, but not in the flood area. They cannot bring themselves to come back in, even though we have not had one in a number of years.

One of the problems with the 100-year flood, as they call it, I have been through three—two here and one in Strasburg, involved in the flood of 1955. It has been said that, well, Mayor, if you get another flood of 1972, then you have 400 years by the law of averages that you would not have any. Right now you have had your ones in every 200.

If I get another one next week, then they say, well now, you have the odd. It is like going to Las Vegas. They are there, they are absolute, they are pretty good. The only problem is if you lose twice, then you have 400 years that you are not going to lose any more.

I do not think we could stand losing a second time.

Mr. OBERSTAR. Thank you very much, Mayor. Your testimony has been very helpful.

Mr. LEVITAS [presiding]. Mr. Ertel?

Mr. ERTEL. Thank you, Mayor Swenson. Your testimony is direct and to the point. I appreciate your support for the bill.

I might just point out that the aspects that you were talking about go directly to the section that Mr. Oberstar was talking about, which is original growth. The region here will grow, because of the—what you talked about, to HARSCO, the steel section, where in fact that growth may be somewhere else, and we had policies in the United States that talked about regional growth and economic development

administration, but under the flood control project we talk about national growth, and it seems to be contradictory.

If you move from Harrisburg to New York City, the national aspect, it does not make any difference. But if you look at it from a regional aspect, from Dauphin County, it makes a great deal of difference, and I think that is directly what the Mayor has expressed, and I appreciate the fact that you have been here, Mayor, I think you give us a good factual basis.

Mayor SWENSON. Thank you for coming to Harrisburg.

Mr. LEVITAS. The next witness is Mr. Robert Bielo, executive director of the Susquehanna River Basin Commission. Mr. Bielo, would you come forward to the witness table, and we will receive into the record any statements that you may have, and from that point forward just proceed as you desire?

**TESTIMONY OF ROBERT J. BIELO, EXECUTIVE DIRECTOR,
SUSQUEHANNA RIVER BASIN COMMISSION**

Mr. BIELO. Mr. Chairman and other members of the subcommittee, my name is Robert J. Bielo. I am the executive director for the Susquehanna River Basin Commission, a Federal-interstate agency created by the Susquehanna River Basin Compact (Public Law 91-575).

Members of the Commission are the States of New York and Maryland, the Commonwealth of Pennsylvania, and the United States of America.

These signatory members agreed to formally join together to co-operatively manage the water resources of the Susquehanna River Basin because they recognized that this resource is a regional asset vested with local, State, and National interest for which they have joint responsibility.

Mr. Chairman, to give the subcommittee a perspective on the basin's flood problems, I would like to speak briefly on factors which contribute to the very significant and widespread flooding problems of the Susquehanna River Basin. These factors are topography, climate, and cultural development.

The first factor to be considered is the natural topography of the basin. The Susquehanna River is a very large stream extending over a course of some 450 miles which starts at Cooperstown, N.Y., traverses Pennsylvania in a north-south direction, and eventually discharges into Chesapeake Bay at Havre de Grace, Md.

The superficial features of this river basin are dominated by a series of mountainous ridges and plateaus, usually flanked with steep slopes and drained by a maze of relatively narrow ravines, gorges, and valleys. Rainfall and/or snowmelt moves rapidly down these steep slopes to natural watercourses. These small tributary streams quickly become raging torrents that we heard described by the gentleman from Johnstown, that carry quantities of forest debris, rubble, and stream-bed gravel.

These accumulations often jam into culverts and bridge openings, and either carry them away, or block them with the stream flow, then

surging overtop and causing overbank flow. Continued precipitation usually causes small-stream flooding to occur rather quickly throughout this basin; and when storms are widespread, the overflow of even the largest stream channels occurs and major flooding events are recorded.

A second factor in the basin flood problem is the climate of the region.

Precipitation averaging nearly 40 inches annually falls in the basin in a usually well-distributed pattern. In extremely wet years, over 50 inches of precipitation have been recorded; and in 1972, the year of the basinwide record flood, 56 inches were recorded at Harrisburg, Pa.

Flooding of major proportions within the basin normally results from three types of storms, all of which can and often do produce intense precipitation of prolonged duration. The first of these are cyclonic storms where warm, moist air from the Atlantic Ocean converges just ahead of slow-moving cold fronts. Such events produced major flooding in 1889 and 1936. Two major events within a 100-year period.

Second, there are the tropical hurricanes which move into the basin from the south and southeast. Storms of this type produced severe flooding in 1884, 1933, 1955, 1972, and 1975. Again a high frequency.

Finally, there are the heavy thunderstorms which may not be as widespread, but do cause severe local flooding throughout the basin.

A third factor that brings in the human element is the cultural development pattern of the basin.

The colonial economy after the frontiersman's era was dominated by farmers who settled in the valleys where the land was most level, and the soils were the best. The Susquehanna River was the natural route for transporting agricultural produce, and later lumber to markets, and by which basin inhabitants were supplied with necessities.

The Commonwealth of Pennsylvania responded to the economic prospects of the agricultural trade and, because of undependable river flows, constructed a statewide barge canal system. The 820-mile canal system followed the river and its major tributaries.

This development enhanced property values and stimulated economic development along the river. The canals were quickly followed by railroads, again using the pathways along the river and its tributaries. With the transportation and commerce corridor established along the waterways, with the most tillable agricultural lands in the valleys, and with much of the other terrain unattractive for profitable occupation, it was inevitable that nearly all basin population centers would be sited on the flood plains of the Susquehanna River and its major tributaries. Unfortunately, the practice of development along the flood plains has continued on down to present days.

It is not surprising that one-third of the total basin population is within the 500-year flood plain.

We have more details in a rather lengthy publication that is available. This estimate is based on data, assumptions, and estimations made in 1973 by the Commission and is summarized in figure 1.

[The following was received for the record:]

FIGURE 1

ESTIMATED POPULATION¹ OF THE SUSQUEHANNA RIVER BASIN WITHIN THE 500 YR FLOOD PLAIN, 1973²

State	Population of Susquehanna River Basin		Residents within the basin's 500 yr flood plain		Basin's 500 yr flood plain residents behind a levee-flood wall system	
	Number	Percent	Number	Percent	Number	Percent
Pennsylvania.....	2,790,000	79	586,000	21	181,000	17
New York.....	665,000	19	427,000	64	144,000	14
Maryland.....	56,000	2	3,000	5	-----	-----
Total.....	3,511,000	100	1,016,000	90	325,000	31

¹ All population figures are rounded off to the nearest thousand.² Jan. 23, 1973.

Mr. BIELO. Thus, we have natural topography that predisposes most of the basin to rapid and forceful runoff. We have climatic conditions that provide an abundance of precipitation. Our basin is located in a seemingly storm pathway. Our flood plains have historically served as the most expedient sites for development of our population centers and our economy.

These several factors combine to create a latent flood hazard of serious portent. The flood history of the Susquehanna River Basin bears out this contention. Generally, flooding conditions occur annually at a number of areas in the basin.

Of approximately 673 communities in the basin that contain a population of 1,000 or greater surveyed for flood vulnerability and damage after the 1972 flood, 295 experienced flooding prior to June 1972, and 161 had suffered more than 1 previous flood. The June 1972 flood affected 293 communities with populations 1,000 or greater throughout the basin.

Historical records mention floods as far back as 1740, with specific flood records commencing in 1810. Major floods involving large areas of the basin occurred in 1865, 1884, 1889, 1933, 1935, 1946, 1972, and 1975. Flooding of lesser areal extent has also occurred in the years 1933, 1942, 1950, 1954, twice in 1955, 1959, 1964, 1975, and 1977. Clearly, the Susquehanna River Basin is a flood-prone region.

There is a considerable need for structural projects on large and small waterways to protect old, well-established communities. Also there is a need to implement more nonstructural measures such as improved flood warning and forecasting systems, and other damage reduction programs.

Certainly there is a local responsibility to move toward utilization of high-hazard flood plains for purposes not subject to significant damage from flood waters. The latter two kinds of programs are being implemented to some extent by several levels of government.

In terms of added structural protection measures there is indication that few such projects can be justified under existing procedures for determining benefits. Obviously, it is to this area of concern that H.R. 8061 is directed.

We have not made a detailed evaluation of the changes proposed by this bill. However, we would anticipate that agencies such as the Corps of Engineers, who work regularly with the current statutes

relative to determination of project benefits will be commenting on the economic and technical ramifications of the concepts proposed in H.R. 8061. We do have some general comments on the bill.

To be eligible for consideration for Federal financial assistance under present guidelines, a proposed flood control project must have a favorable benefit-cost ratio. The thrust of amending section 209, as proposed by the bill, would provide for consideration of secondary benefits in the benefit-cost analysis, thereby enhancing the possibility of achieving unity or greater in a project's benefit-cost ratio.

Consequently, more local communities could become qualified for Federal flood protection project assistance and resulting in more authorized projects. Seemingly there is a need to reconcile the surfeit of authorized projects and the obvious funding limitations facing the Congress.

Section 2 of the bill creates an opportunity for non-Federal interests to contribute to a project an amount of funds equal to the amount by which the cost of the project exceed the benefits thereof. This proposal may have considerable merit, however, should be conditioned to protect communities having high protection needs and limited ability to pay an extra share of costs from losing projects to communities having less protection need by greater affluence.

On behalf of the Commission I wish to express appreciation to the committee for its interest in flood problems, and for this opportunity to present some thoughts regarding the very considerable flood hazard that threatens many communities in this basin.

I would also like to thank you for the opportunity to put our thoughts on the record.

Mr. LEVITAS. Thank you, Mr. Bielo.

I have just one question.

Are there, in existence today, in Pennsylvania, and in the Susquehanna River Basin, State or local regulations which prohibit future development within the 100-year flood plain?

Mr. BIELO. There are no State regulations. There is no State flood plain bill. Such was defeated, fortunately, a year or so ago. There are local regulations, in many communities, and again this is a difficult area to get local support for land use controls. That is where the power lies today, but this is not moving as fast as one would really like to see it go.

Mr. LEVITAS. Of course, one of the problems that we have in Congress, across the country, is the situation where businesses and individuals build within a known flood plain, and then what is anticipated to happen does in effect happen, a flood occurs, and they are damaged, and then the taxpayers are called upon to pay a very high price to relieve the human suffering and the hardship.

Frequently I have felt that State and local officials just have failed to face up to the hard realities of this fact, and bite that bullet locally, in making those decisions. I think that this is one of the problems we have got.

Mr. BIELO. I would say that I think there is a very high potential for local participation in, or local activity in, new ordinances controlling flood plain development to move forward, because this particular basin we have mapped for HUD for FIA studies, 245 communities have completed FIA studies, and these studies cover almost 90 percent of the baseline population within an area having flood risks.

So, with good flood mapping available to the communities, I think we are going to start to see far more activity by local government bodies passing ordinances protecting against a development of an unsatisfactory nature.

Mr. LEVITAS. Thank you. Mr. Oberstar.

Mr. OBERSTAR. Thank you, Mr. Chairman.

I would like to follow up on the chairman's comments with an observation that I made with an earlier witness, and that is that it seems to me that legislation introduced by our colleague is going to result in more development in flood-prone areas by, in effect, extending and adding additional factors to the cost-benefit analysis. And we are going to be putting up Federal structures to protect people in known flood-prone areas.

Now, as the director of a water resource basin commission, I would think you would be concerned about that, and you do say that "More local communities could become qualified for Federal flood protection project assistance and resulting in more authorized projects."

Do you think that is good Federal policy to encourage development in flood-prone areas?

Mr. BIELO. I do not think you are encouraging development in flood-prone areas with this type of bill. Here in our business, and these are old communities, they are there, they are established, the economy is built upon the development of any flood hazard zone, with a steep terrain and really limited suitable development area reasonably close to existing sites, there is only one alternative to moving out, and that is to protect them. They are either going to have to move away and totally redevelop in major areas, old established, or we are going to have to give them protection.

Of course, another alternative is to watch them continue to wither on the vine and see them lose and deteriorate in terms of the economy.

Mr. OBERSTAR. The mayor's testimony seemed to indicate that there would be very substantial future development gains from flood-control structures built in the Harrisburg flood plain if these criteria were liberalized, as our colleague proposes to do.

You are saying that legislation is needed just to keep those who are already in the flood plain, not necessarily to augment that growth?

Mr. BIELO. I would have to agree with what the mayor said that certainly protection is going to stimulate existing industries that are there to do a better job, possibly to expand. Some that he talked about expanded vertically. He did not go this way. They were raised up on a second- or third-floor type of thing. But I do believe strongly that there is need to come up with some scheme to protect these older well-established communities. But, secondly, we do share your concern that the list of authorized projects gets longer and maybe the pot of money to satisfy the funding of those projects does not get any larger. We would hope that some way in your legislation you could recognize a way to reconcile this very difficult problem.

Mr. OBERSTAR. That is the dilemma of our committee, to try to resolve. That is why we are here, to try to determine the effects of the changes.

I totally sympathize with those of you who are stuck here in the sense that this area is one of the oldest settled areas in the United States. I think your statement and the statement of the mayor previously pointed out that settlements here go back into colonial history.

It is folly and, I think, grossly unfair to suggest that, as some have done in testimony before our committee and in previous years, have suggested that we ought to relocate people out of flood plains. I do not think that is reasonable, and I do not subscribe to that philosophy.

By the same token, as I mentioned earlier, something like 70 percent of the population of the United States lives in essentially a flood plain, along our rivers, alongside the Great Lakes, alongside the tide-water areas of the east gulf and west coast areas. And whatever we do here is going to have very far-reaching economic impact and budgetary impact.

Mr. BIELO. That is the reason we mentioned it. We very well appreciate it, and I wish I had a ready answer to supply.

But I do believe that certainly there are ways to recognize one man's needs may be greater than another. Somehow, this is one of the real problems that the Congress and the staff and the engineering people of the Government are going to have to wrestle with to determine how do we set these priorities, to use the money most effectively to get the job done.

Mr. OBERSTAR. Thank you.

Mr. LEVITAS. Mr. Ertel.

Mr. ERTEL. Thank you for your testimony, Mr. Bielo. And I think your point is well taken that there will be more projects to authorize under this proposed legislation if it were enacted and then it becomes a decision that the Congress would have to make, based upon not only the economic figures but other considerations which might be appropriate. And that is a job that is tough for anybody to make a decision on. I guess we have to bite the bullet and make those decisions, just like we are going to bite the bullet and make decisions on projects in the United States that we think are outdated.

But I was interested in Mr. Oberstar's comment that he said if this legislation were enacted, it would encourage more building on the flood plain. But would it not encourage building on the flood plain which is protected rather than unprotected?

Mr. BIELO. I would hope so.

Mr. ERTEL. You would not expect someone to come in an unprotected area under this legislation?

Mr. BIELO. No.

Mr. ERTEL. Thank you.

Mr. LEVITAS. Thank you very much, Mr. Bielo.

Now, Colonel Withers, we are ready for your testimony. Col. George Withers, Baltimore district engineer, Corps of Engineers. Welcome, you may feel free to proceed.

**TESTIMONY OF COL. GEORGE K. WITHERS, DISTRICT ENGINEER,
BALTIMORE DISTRICT, CORPS OF ENGINEERS, ACCOMPANIED BY
HAROLD NELSON, ASSISTANT CHIEF OF PLANNING**

Colonel WITHERS. Mr. Chairman, members of the committee, I appreciate the opportunity to appear before the committee and to testify on the status of the Baltimore District, U.S. Army Corps of Engineers, flood control studies for Harrisburg and Milton, Pa., and on the methods used by the corps in evaluating these types of projects.

Mr. LEVITAS. Excuse me, Colonel. If you would, for the record, would you identify the gentleman sitting to your right?

Colonel WITHERS. I have with me, sir, Mr. Harold Nelson, Assistant Chief of Planning, Baltimore district.

I will first describe the status of the Harrisburg and Milton studies.

The Harrisburg local flood protection survey report was prepared in response to House Public Works Committee resolution of June 24, 1965, and October 12, 1972, and in partial response to Senate Public Works Committee resolution of May 10, 1962, and October 12, 1972. The study area includes the east bank of the Susquehanna River at Harrisburg and the drainage basin of Paxton Creek.

Flooding from the Susquehanna River at Harrisburg has been reported since the 1700's when the city was first settled. Tropical Storm Agnes, in June 1972, caused the highest flood of record at Harrisburg, with damages in excess of \$85 million.

In the corps' study, numerous flood prevention schemes were developed and screened, resulting in the final analysis of nine plans for providing flood control in South Harrisburg. These were presented to the city in February 1977. Before I described the recommended plan, I will state that North Harrisburg did not meet the requirements of economic justification, as the highest benefit to cost ratio was only 0.2. The average annual benefits for North Harrisburg are insufficient to justify a project because the area is situated on a relatively high bank and does not receive substantial flooding until the so-called "30-year flood," that is, a flood which has a 1 in 30 chance of occurring in any given year. Most average annual flood damages accrue for the very frequent and relatively low flood stages, and not for the infrequent, highly damaging stages. This is the precise reason why it is possible to recommend flood protection for the South Harrisburg area. Paxton Creek floods very frequently, causing extensive damage to the high-value commercial and industrial area along Cameron Street.

The recommended plan will protect South Harrisburg against an Agnes level storm on the Susquehanna River or Paxton Creek. The plan consists of a 4,200-foot-long wall and a 6,100-foot-long levee system, with associated closure structures, to protect against Susquehanna River flooding, and a pumping station for disposal of interior drainage. A detention reservoir on Asylum Run, improved channels for Paxton Creek, and modification of 26 bridges are recommended to protect the area from Paxton Creek flooding.

Based on an economic project life of 100 years, an interest rate of 6 3/4 percent, and October 1977 price levels, the first cost and the average annual cost of the recommended plan are \$128.2 million and \$8.3 million, respectively. The non-Federal share of the first cost is \$20.2 million. The recommended plan would accrue estimated average annual benefits from flood prevention of \$12.3 million, and the benefit to cost ratio is therefore 1.6.

On November 8, 1977, I recommended the project just described and forwarded my report to the North Atlantic Division Engineer for his action and subsequent forwarding of the report to the Board of Engineers for Rivers and Harbors and to the Chief of Engineers in Washington, D.C.

The most recent study of flood control for the borough of Milton was done under authority provided by resolutions of the Public Works

Committee of the U.S. Senate, dated October 5, 1961, and July 7, 1972, and the Public Works Committee of the House of Representatives, dated May 10, 1962, and October 12, 1972.

The borough of Milton has been subject to flooding by the West Branch Susquehanna River. Over the past 40 years, the borough has experienced six major floods—1936, 1946, 1951, 1964, 1972, and 1975. The greatest flood of record occurred as a result of tropical storm Agnes in June 1972. A reoccurrence of the June 1972 flood would cause \$46 million in flood damage. Various structural and nonstructural plans of improvement for flood protection were considered during the study. Due to the severity of flooding, the nature of existing land use in the flood plain, and the topography, the analysis showed that a system of levees and flood walls was the only means of providing the high degree of protection desired by the borough.

Two levee and flood wall alternatives were investigated in detail for three levels of protection and with two separate schemes of protection for Limestone Run. The most feasible plan includes 7,200 feet of earthen levee, 7,800 feet of flood wall, two pumping stations, bank stabilization along the West Branch, a pressure conduit on Limestone Run, and six closure structures. The first cost of the project is estimated at \$35 million with an annual cost of \$2.3 million. The average annual benefits are \$950,000, and the benefit-to-cost ratio is therefore 0.4.

Since the plan was not economically justified, I did not recommend a Federal project. The Division Engineer concurred in my recommendation in his public notice issued on June 27, 1977.

The situation in Milton is similar to that of North Harrisburg, as I described earlier. Milton is situated on a relatively high bank overlooking the river. Because of this, Milton does not start to receive substantial flooding damages—and therefore benefits in the benefit to cost analysis—until about the 20-year flood. Furthermore, the long and narrow geometry of the Milton flood plain, and that of North Harrisburg incidentally, is such that a relatively long—and therefore expensive—levee and flood wall system would be required for protection. Thus, as the hydrologic situation lowers the benefits, the flood plain geometry raises the cost.

Finally, I will discuss the methods used by the corps in evaluating these types of projects. We must consider, before recommending a project, its engineering feasibility, economic justification, environmental impact, and public acceptance.

It is my understanding that the committee is primarily interested in the economic evaluation of a flood-control project, and I shall therefore outline our procedure.

In general, there are two benefits which accrue as a result of a flood-control project—damages prevented and intensification of land use.

First, damages-prevented benefits. Here we find the difference between the damages which occur under existing flooding conditions, and damages which would occur given construction of the proposed project. We develop data which reflect damages at each stage of flooding. Following detailed hydrologic and hydraulic analyses, we develop data on frequency of flooding and of flood stages, or levels. Integrating all of these data mathematically, with the help of a computer, we derive damage frequency data which are in turn used to de-

velop average annual damages. Average annual benefits result from subtracting the "with project" average annual damages from the "without project" average annual damages.

Next, intensification of land-use benefits. These land enhancement benefits result from presence of the proposed project. In other words, flood protection allows the land to be put to more productive use.

In the benefit-to-cost analysis, the corps expresses both the benefits and costs on an equivalent time basis. We use average annual dollars. Typically, most of the costs of a project is incurred during construction, with significantly less costs incurred for annual operation and maintenance. Initial cost is amortized over the life of the project, using the Federal discount rate, and is combined with operation and maintenance costs for a total average annual cost. As noted previously, flood damage reduction benefits are computed on an average annual basis, so no conversion is necessary. Land enhancement and intensification benefits, which usually increase over the life of the project, are converted to an average annual basis by use of the discount rate.

This concludes my statement. I will be happy to answer any questions the committee may have.

Mr. LEVITAS. Thank you, Colonel. Mr. Ertel.

Mr. ERTEL. Thank you, Mr. Chairman.

Colonel Withers, I was curious, you talking about land intensification benefits. Can you tell us in detail what goes into the computation of land use benefits, what factors you were utilizing?

Colonel WITHERS. Land intensification in general, what we are referring to is the use that would be made of the land because protection exists. This could be upgrading of the—for instance, manufacturing plant. As Mayor Swenson indicated earlier, if a steel company were to replace something, they would replace it with modern equipment. Those kinds of investments might be made.

This also could mean use of land which, before the project, someone did not want to use.

Mr. ERTEL. What you would be equating then is the increase in the price of the land with protection basically. You also compute in the investment which would be made into that area to upgrade plants. For instance, if you had a 1931 plant which may not be expanded because it is in a flood-prone area or modernized, how would you throw in the computation that some private investor or corporation or someone else would upgrade the plant?

Would you include in there the value of the upgrading of the structural aspects and the machinery that is on that land?

Maybe Mr. Nelson would be kind enough to answer that.

Mr. NELSON. The plan and answering benefit, we calculate the increase of the increased value of the land as a result of the flood-control project, then the return which that owner could expect to get off that land because the value has been increased, that is classified as the benefit in that type of operation.

Mr. ERTEL. So you would not be taking into account then the loss of income or potential income value of people who had worked on that project or derived benefit or any secondary benefits which were the

result of that plant operating in that area and peripheral plants being around and supplying the plants?

Mr. NELSON. No, sir.

Mr. ERTEL. You also take into account—is there any way in your formula that you account for the loss of jobs in the event a plant is flooded and then there is a subsequent decision, because of the flooding of that plant or that facility, whatever it might be, the loss of jobs to that area when that plant relocates, say, from Harrisburg to New York City, or would that just be a wash transition since it is the national economy, and would move, and it would not make any difference?

Colonel WITHERS. Under the present procedure as you last stated, Mr. Congressman, it would be a national situation, and a change from one location of the country to another would not be.

Mr. ERTEL. So there is no consideration at all in your cost-benefit ratio of reasonable benefits which might be to a—whatever you may define as your local labor area, local regional impacted area?

Colonel WITHERS. That is correct.

Mr. ERTEL. You also, in your formulation, and I am just trying to lay this out and use you as a sounding board because I have these in the bill so that the committee, eventually, when they review the transcript, can see the differences that might exist.

Do you consider, when you talk about the land and the protection, the land enhancement, the fact that there is a depreciation of the value of the land and then an erosion of the tax base to that community because, as it is in a flood-prone area, of course, the property value of land goes down and, therefore, the tax base goes down to the community and they derive less taxes, is that considered in any way in your land enhancement value?

Mr. NELSON. No, sir.

Mr. ERTEL. In other words, when you protect it, the value of the land goes up, but then you do not consider the fact that there is an additional benefit to local municipalities of an increased tax rate?

Mr. NELSON. No, sir.

Mr. ERTEL. No way to compute that in.

I think those are some of the things—one other thing I wanted to ask you. When you are talking about your cost-benefit ratio, is there any relationship between your agency, which is evaluating this, the Corps of Engineers, and other Federal agencies which may be investing in that flood plain with different programs?

I meant to ask that question of some of our witnesses here.

Colonel WITHERS. There is one, sir. In the case where the benefits did not exceed the cost, but if there is a Department of HUD, housing urban development project in that area, which would depend upon the flood-control project, then, and if the Department of HUD so certifies, then I am allowed to recommend a project in that kind of case.

Mr. ERTEL. I believe you are referring to the exception that Mayor Swenson referred to, specifically here in the Harrisburg area?

Colonel WITHERS. Yes.

Mr. ERTEL. But that is clearly an exception rather than an accounting of the other Federal projects going in. You have to go through

what I guess is a very rigorous exemption process, would that be correct?

Colonel WITHERS. As I say, we have to get the certification from HUD that the flood control project is essential to a successful completion of a HUD project.

Mr. ERTEL. I thank you, and I think we have been able to point out some of the distinctions on the changes which will be brought by this bill, whether good or bad. At least we know what the impact will be.

Thank you for your comments.

Mr. LEVITAS. Mr. Oberstar?

Mr. OBERSTAR. Thank you, Mr. Chairman.

Following up on the point raised by my colleague, the matter of impact on industry, does the corps at all consider whether or not industry would remain in an area, or relocate somewhere else, if flood control structures were built?

Colonel WITHERS. Sir, it is considered, and it is laid out in the report. However, the regional economic development benefits, the movement of an industry from one place because of flooding, that kind of thing would not be accounted for in the computation.

Mr. OBERSTAR. It is considered, but not reflected in the benefit-cost analysis?

Colonel WITHERS. Yes, sir.

Mr. OBERSTAR. Yet we have kind of a reverse twist in the economic development administration programs, where EDA, a loan or grant will not be approved if that approval will result in an industry relocating from one area of the country to another.

It seems that there may be room here for consideration, whether the project would result in industry leaving that area or remaining because of flood control considerations. That is a policy question that I guess you are not in a position to respond to at this point.

I would like to go one step further, and inquire whether there would be a change in your engineer district, in a number of projects approved, say in the last 2 years, had the Ertel criteria been in effect.

Colonel WITHERS. Sir, I believe the answer to that question, and I, of course, can only estimate this, would be that had the Ertel bill been in effect, we would have been able to recommend, because there would have been a favorable benefit to cost ratio, a great number of additional projects.

Mr. OBERSTAR. And that would be development on—as one previous witness said, on the dry side of the flood wall, but still in the flood-prone area, do you think that is good policy?

Colonel WITHERS. I cannot say that.

Mr. OBERSTAR. Are there social costs that are reflected in the Ertel bill that you think would be quantifiable, educational, cultural, recreational opportunities? How would you quantify those?

Colonel WITHERS. I think the best answer to that, sir, it would be extremely difficult.

Mr. OBERSTAR. What about impact on income in an area?

Colonel WITHERS. We have to define, in response to a letter from the Congress recently, that some quantification of regional economic development benefits is possible, but again we find also that that is extremely difficult.

Mr. OBERSTAR. The Ertel bill addresses itself to disruption of community and regional growth, and yet the policy that the corps carries out, which is not corps policy, it is policy set by the Congress, is one geared to national economic growth and development.

Do you believe that that policy, that the time has come to change that policy, in your contact with engineer districts, established on a geographic basis, watershed basis?

You have had contact with a lot of local community development leaders, regional development leaders. Do you find support for this kind of change?

Colonel WITHERS. Sir, I think the best way to answer that is to say that I do find, in the Susquehanna basin, a considerable degree of frustration over the inability to get Federal flood protection projects in some cases.

Mr. OBERSTAR. No further questions, Mr. Chairman.

Mr. LEVITAS. Mr. Ashworth?

Mr. ASHWORTH. Colonel Withers, the corps is quoted in 1975 as saying that there was an estimated saving of \$700 million found in flood damages as a result of the projects existing. Is that an accurate estimate?

Colonel WITHERS. I cannot verify the accuracy of that at this moment.

Do you have that?

Mr. Nelson gives an even larger figure, \$1.8 billion. I cannot, at the moment, verify, however.

Mr. ASHWORTH. Do you have any means to provide a total figure of the estimated savings from avoided damage as a result of flooding, including Agnes, Eloise, and Johnstown?

Colonel WITHERS. Yes; we can provide that figure. I believe it is \$1.8 billion for everything to date.

Mr. ERTEL. If the gentleman will yield.

When you say \$1.8 billion, are you talking strictly property damage at that point?

Colonel WITHERS. Damages prevented, yes, sir.

Mr. ERTEL. That would be physical damages to property at the current market value at the time of the projected flooding?

Mr. NELSON. That would have been whenever the floods occurred, we would have totaled the damages at that time. We did not project all those costs up to current date costs.

Mr. ERTEL. In other words, that figure in fact, if that were brought down to today's cost, with the inflation in the market, would be much—well, let us not speculate on how much inflation is added to the cost, but it would be substantially higher than that \$1.8 billion, would that be right?

Mr. NELSON. Yes, sir.

Mr. ERTEL. I just wanted to clarify.

Mr. ASHWORTH. Under the Flood Protection Act, the corps participates with Soil Conservation Service and other agencies in making the flood elevation studies used by the FIA.

There seems to be quite a bit of controversy in communities that have not suffered recent floods by the 100-year flood level. Do you think that 100 years is too high? I know it is accepted, but do you think that 100 years is too high? Should there be a change in that level so that there will be more community acceptance?

Mr. NELSON. I do not have any opinion on that.

Mr. ASHWORTH. Do you think we are still suffering from Noah's problem? You cannot convince them that there is going to be a flood?

Mr. NELSON. I do not know. I am sure that exists in some places.

Mr. ASHWORTH. Mr. Bielo's statement pointed out that of 673 communities in the basin that contain a population of 1,000 or more, about 295 experienced flooding prior to June of 1972, and 293 were flooded in June 1972. What is the flood plain average in the basin, is it 20, 30, or 40 year flood level?

Mr. NELSON. I am sorry, I do not know.

Mr. ASHWORTH. One of the witnesses suggested that there was legislation to be introduced in the Pennsylvania Legislature that would make participation in the Federal flood insurance program mandatory. Should there be a set flood level point at which such insurance became mandatory? Should it be mandatory below 100 or 50, or do you have an opinion?

Mr. NELSON. No; I do not have an opinion on that subject.

Mr. ASHWORTH. Colonel, you may have been courteous, but I notice you never quite stated what the corps' position would be on Congressman Ertel's bill.

Do you have an official position on that?

Colonel WITHERS. No; I cannot state a corps' position.

Mr. ASHWORTH. Thank you, Colonel.

No further questions.

Mr. LEVITAS. I have just one or two questions.

In the event the criteria of cost-benefit determination in the Ertel bill were worked into the method of computation that you now perform, you testified that there would be some projects, I think you said a great many projects in the last few years that would have been approved, that you did not now approve.

Let me ask you this. Would the projects that you did approve, given the new criteria, have been a higher cost-benefit ratio?

Colonel WITHERS. I believe so, sir. As you are aware, Congressman Ertel's bill would allow regional economic development benefits to be calculated as benefits, and where they pertain, for example, where industry or commerce intends to move out of a given area at the next flood, then a benefit could be taken under the Congressman's bill.

Mr. LEVITAS. You discuss the methods used by the corps in evaluating projects. Is there a manual, a regulation, a text, in which this is set forth in more detail?

Colonel WITHERS. There is a manual, and there are Corps of Engineers regulations which describe in detail the procedures we used, yes, sir.

Mr. LEVITAS. Could you identify, by title, or by reference number, the manual and regulations for the record?

Colonel WITHERS. Yes, sir, engineers regulation 1105-2-351, dated June 13, 1975, and the title is: "Evaluation of Beneficial Contributions to National Economic Development for Flood Plain Management Plans."

Mr. LEVITAS. All right.

Now, you identified, as well as dealing with engineering feasibility, economic justification, public acceptance, environmental impact as a criteria. Your testimony properly today addressed economic justification.

However, in making economic justification, do you take into account the economic, or adverse economic impacts on the environment, or perhaps the positive economic impacts on the environment creating a recreational area, or fishing conservation preserve?

Colonel WITHERS. Sir, where they pertain, recreation benefits are calculated as quantified benefits, and the benefit to cost analysis. There are, as I am sure you can imagine, a great number of environmental benefits, which is very difficult to quantify, and those are not.

Mr. LEVITAS. What about the negative environmental impacts? Is that fed into your economic cost-benefit formula?

Colonel WITHERS. Not in any significant degree, sir. When it gets down to certain details, such as ability to fish in a given area, and the project would change that ability, reduce it, then one decreases from the benefits that are lost then.

Mr. LEVITAS. In your south Harrisburg projects you have recommended a 4,200-foot wall, and a 6,100-foot-long levee system with associated closures, structures, so forth. Now, was there any evaluation given to the economic adverse environmental impact of that type of structural approach?

Colonel WITHERS. None were considered to be significant, sir.

Mr. LEVITAS. Was there public input from environmental groups on that aspect?

Colonel WITHERS. We held public meetings on this, sir, and received public input through that, and through letters received, we are aware of no significant environmental objections.

Mr. LEVITAS. I just have one or two more questions.

You have recommended, or at least considered, in certain proposed recommendations, nonstructural solutions. Has your district experienced any difficulty in getting those nonstructural recommendations approved by OMB?

Colonel WITHERS. Sir, I do not believe that we have yet come up with an economically justifiable nonstructural solution in the Baltimore district, and therefore the district engineer has not even been to the point of recommending one.

Mr. LEVITAS. I think it is section 72 of Public Law 92-500 that deals with nonstructural solutions, and calls on the Corps of Engineers to publish recommendations relating to that. I think that is correct.

Do you know whether the Corps of Engineers has published such regulations?

Colonel WITHERS. Sir, we do analyze nonstructural alternatives as part of our normal process. It is not because we have not, in the Baltimore district, it is not because we have not analyzed them that we have not recommended any projects. We have analyzed them, and the benefits have not exceeded the cost.

Mr. LEVITAS. Just as a matter of curiosity. Would you explain what you mean by 20 or 30 year, or 100-year flood plain, the likelihood that once every 100 years a flood of that sort could occur? I do not know whether this is based on any historical fact, or whether it is just a calculation, but how do you determine the 400-year flood plain?

There is no historical data, is there?

Colonel WITHERS. Sir, the way we determine that is we take all the records available, and plot a line, and by extrapolating that line we can estimate what a 400-year occurrence would be.

Mr. LEVITAS. Is that the highest that you ascertain, 400 years?

Colonel WITHERS. Well, it happens to be for this area the highest flood of record. Agnes approximately was a 330-year event for the Harrisburg area.

Mr. LEVITAS. Do you believe that it is economically feasible for Congress to authorize flood control protection for a 400-year flood plain?

Colonel WITHERS. Yes, sir. In fact, in the case of the Harrisburg project, it will protect south Harrisburg and Paxton Creek from the Agnes level of the storm.

Mr. LEVITAS. In listening to the testimony earlier, of Mr. Bittinger, I got the impression that some of the—a significant portion of the damage, the water damage, and flooding damage that occurred in Johnstown recently, would not have been avoided by flood control projects as such, that they resulted from dam problems, and from other factors, that the flooding, the flood plain itself was not a significant consideration in this occasion.

Is that your understanding of it?

Colonel WITHERS. That is my understanding, sir, but I must tell you I am not intimately familiar with the Johnstown area. It is not in the Baltimore district.

Mr. LEVITAS. I have no further questions.

Mr. ERTEL. Will the gentleman yield?

Mr. LEVITAS. Yes; I would be happy to.

Mr. ERTEL. Colonel Withers, I do not know if you have this data with you, but Mr. Bielo indicated certain flooding conditions in the Susquehanna River Basin, and he gave the years for the various floods.

Do you have the information and to what stage or what yearly floods you expect those to be, or do you have a way of estimating this?

Colonel WITHERS. I can provide that information, yes, sir.

Mr. ERTEL. Would you submit that for the record?

Colonel WITHERS. Flood stage information for the various years, yes, sir.

[The following was received for the record:]

FLOOD FREQUENCY FOR HISTORIC SUSQUEHANNA RIVER BASIN FLOODS

Location	1889	1894	1933	1936	1946	1950	1955	1964	1972	1975
Williamsport.....	40	25	1	50	25	15	2	15	170	20
Milton.....	(1)	(1)	(1)	40	30	15	(1)	15	125	40
Elmira.....	(1)	(1)	1	10	50	5	12	12	220	40
Binghamton.....	(1)	(1)	(1)	30	2	2	1	5	2	3
Wilkes-Barre.....	(1)	(1)	2	25	15	5	5	20	270	45
Sunbury.....	(1)	(1)	(1)	45	18	3	2	10	130	25
Mapleton Depot.....	(1)	(1)	(1)	90	2	2	1	2	200	2
Harrisburg.....	35	25	2	50	10	2	2	10	330	20

¹ Indicates flood discharge is not available.

Note: Data takes into account the existing reservoir system. The flood frequency means that the particular flood has a 1 in (flood frequency) chance of occurrence in any given year.

Mr. ERTEL. The other question which came to mind is, is it not true that the—when you say a 400-year flood in one particular place, it may vary even within the same terrain in different streams and certain parts of the tributaries?

Colonel WITHERS. Yes, sir.

Mr. ERTEL. It may be a 200-year flood in one tributary and in your justification, depending on whether the water is coming down both from the north and west branch, what it is on river stage here and what it is in Paxton Creek?

Colonel WITHERS. Yes; for example, the Agnes flood was approximately a 330-year flood year for Harrisburg, but upstream and on the west branch in Milton, it was a 130-year occurrence.

Mr. ERTEL. Do you think the means of just extrapolating from 120-year floods and so on, trying to project that this is a 400-year flood sounds rather a strange way to determine the level of flooding inasmuch as you have never had any other historical records of a 400-year flood?

How do you justify that kind of extrapolation? I was curious about that when I heard it.

Colonel WITHERS. Sir, we, of course, use all the data that are available, all the historic records that are available, and we—we just cannot go any further than that.

Mr. LEVITAS. Would the gentleman yield?

Mr. ERTEL. I would be happy to yield.

Mr. LEVITAS. I must confess that I am equally fascinated and curious about that. That is why I asked the question, and I was somewhat taken back by your response, saying that you do think it is appropriate to justify protection against the 400-year flood.

I raise this question, not without a real concern about dealing with the problem of people in Harrisburg and wanting to protect against the experience of an Agnes-type situation. But if your figures are correct, in other words if the likelihood of that occurring is once every 400 years, and you project the life of a flood control project, if I remember correctly, on the basis of 100-year life, those two figures do not seem to coincide to me. You are projecting the life of the project to be a 100-year life, and yet you are saying—you just had one a few years ago and the probability is you will not have another one for 400 years.

Colonel WITHERS. Yes, sir. I think one answer to that is that although the project has a 100-year life, there is no way of promising that there is not going to be another 400 or greater, or greater than 100-year flood in that 100-year life.

Mr. LEVITAS. I think if you—I guess it is a question of drawing to an inside straight. It is the question of figuring the possibilities.

Colonel WITHERS. I think another thing that is important, Mr. Congressman, and that is there were mentioned four bases upon which we formulated the project, and one of those was public acceptance, and I think the public wants very much to get that.

Mr. LEVITAS. I understand that, and I was trying to refer to that when I said I can understand the feelings of the people in Harrisburg.

Mr. OBERSTAR. Will the chairman yield?

Is not the 400-year flood or the exceptional flood the one that causes the greatest damage and the greatest social and economic impact though?

Colonel WITHERS. That is right.

Mr. NELSON. I would like to respond, too, in that it is the corps' policy in general to provide the highest level of protection that is feasible along major river courses.

Primarily if you are dealing with levees and floodwalls, where, if the project is over the top, the consequences are very catastrophic as opposed to if you were dealing with a channel-type of project. And here in Harrisburg, since they did have the 400-year flood, or the Agnes flood was very large, you can imagine the apprehension of the people. Here, the Corps of Engineers is building a project that did not protect against a flood that has already occurred. So we usually try to go as high as possible and at least to the flood that has occurred already.

Mr. OBERSTAR. And yet in the colonel's testimony, it is that exceptional flood that is the one that is more difficult or the most difficult to—to justify on a current cost-benefit ratio criteria. And the purpose of the Ertel legislation is to change that criteria so that the exceptional flood becomes somewhat more easier, somewhat easier to justify protection than at present.

Mr. ERTEL. If the gentleman will yield.

One other question. I keep going back to this 400-year flood, this 200-year flood, and that bothers me because you are taking historical data to interpolate or extrapolate to find what you determine to be protection. Yet do you take into account any other change in the conditions within the river basin system that you are considering, or are you just taking historical data that has already been developed because somebody measured it since 1810 and saying, well, we have floods so often?

Do you take into account the fact that there may be development in the upstream areas or higher runoff or changing geographic characteristics of the total river basin system, because your flood levels may increase, for instance, downriver as you create more runoff in the upstream areas?

Colonel WITHERS. Sir, that has been considered. And in the large area, the entire basin, we find that there is no appreciable—no significant difference over the years. Certainly, though, the Congressman is absolutely right. When one gets to an area highly urbanized, then there are appreciable differences.

Mr. ERTEL. So what you are saying, this could be significant on smaller tributaries or smaller impact areas but not on the entire river system itself?

Colonel WITHERS. Absolutely. In fact, in our analysis of the Harrisburg-Paxton Creek flooding problems, that very problem had to figure very prominently in our analysis.

Mr. ERTEL. Thank you.

Mr. LEVITAS. Thank you very much, Colonel Withers. We appreciate your testimony.

It is the Chair's intention to hear from one further witness before we take a recess, if that is acceptable to the members of the committee.

I would like now to ask Mr. Jarvis Shaffer, vice president for civic affairs of the Harrisburg Area Chamber of Commerce, to come forward and give us the benefit of his testimony.

TESTIMONY OF JARVIS SHAFFER, VICE PRESIDENT FOR CIVIC AFFAIRS, HARRISBURG AREA CHAMBER OF COMMERCE

Mr. SHAFFER. Thank you. I am Jarvis Shaffer, vice president for civic affairs, Harrisburg Area Chamber of Commerce, sitting in for Harry Johnston, who had a time conflict and could not stay to make this statement.

At the outset, it might be well to point out the area that we are talking about, and that is the high-density area of commerce and industry in the 2½-mile flood plain extending from Wildwood Lake at the north to the confluence of Paxton Creek and the Susquehanna River to the south. This presents, as we see it, two great problems, major flooding and minor flooding.

Storms of the magnitude of Hurricane Agnes in 1972 and Eloise in 1975 call swift and dramatic attention to the dangers, disruptions, and terrible losses from major floodings. At the same time, lesser floods which, for want of a better name, we will call minor, have become almost a way of life for the business people in the Paxton Creek corridor. Some leave for safer ground outside of the city; others stay and try to adjust. But no one is particularly happy with the existing situation.

First, let us consider a bit of the economic impact that Hurricane Agnes had on the city and indirectly on the surrounding area.

Prior to Hurricane Agnes, 115 businesses were located in the Paxton Creek corridor. Today there are 72. So, obviously, the city tax base has eroded considerably.

Five years ago, industry and business provided 6,000 jobs in the flood plain. Because of Hurricanes Agnes and Eloise, 432 of those jobs were lost—312 to Agnes, 120 to Eloise. Pay for the average worker in the flood plain is \$12,400 per year. So \$4,358,000 was immediately lost in annual income. To add to that, however, each job in the flood plain supports 2.8 jobs elsewhere in the Greater Harrisburg area, according to Army Corps of Engineers economists.

Given the prospects for disaster, why would business and industry want to remain in the flood plain?

Not all of them do. Following Agnes, 15 businesses immediately left the area—4 of which were manufacturers. But that is only part of the situation. Many businesses still located in the flood plain have taken the precautions of purchasing land outside of the city with stated intentions of moving there in the event of another flood. Equally ominous is that spokesmen for several large industries have indicated that if there is any more flooding of their local installations, they will simply move and absorb them in their other plans located throughout the country.

Now, let us consider what we shall loosely call minor flooding.

It is only slight exaggeration to say that a heavy dew will cause Paxton Creek to overflow its banks and cause flooding in business places abutting it. It is a somewhat freakish situation in that Paxton Creek can be at flood stage while other streams in the area are running at normal elevations.

Extensive urban development in the Paxton Creek watershed has caused water to virtually cascade into the creek itself, causing flash flooding downstream in the business sector. This periodic flooding is

of such a serious nature that, in 1974, city and chamber officials went to Washington and met with Congressmen Schneebeli and Shuster and urged that they submit legislation for a flood cost-benefit ratio dealing with accumulative damage from recurring flooding.

The legislation was not submitted, but the problem is still with us. So the businesses of the flood plain and the chamber of commerce got together to form a flood alert system, which will hopefully give the business people in the flood plain sufficient time to put their own contingency plans into operation. The alert system was put together with the generous assistance of city and Federal officials, and has already been used on occasions where Paxton Creek rose to the danger point of the flood gages that are part of the system.

In 1972, businesses in the flood plain suffered \$85 million in property and inventory losses alone to Hurricane Agnes. How much has been lost because of recurring floods, we have no way of calculating.

The chamber of commerce has strongly endorsed the Army Corps of Engineers plan to construct flood controls against floods the magnitude of those caused by Hurricane Agnes.

From talking with business people in the flood plain, we know that they do not want to leave the city. But we also know that many will leave if they are once again wiped out or are not reasonably assured that flood controls will be constructed.

Thank you.

Mr. LEVITAS. Thank you very much, Mr. Shaffer.

Mr. Oberstar?

Mr. OBERSTAR. Thank you. That has been very, very helpful testimony here and answered some of the questions that we were asking early on.

Do you have any idea of the economic impact of the loss of those 15 businesses that you referred to that left the flood plain?

First of all, did they remain in the immediate area or did they move altogether out of Harrisburg?

Mr. SHAFFER. In most instances, they remained in the immediate area but moved out of the city of Harrisburg.

Mr. OBERSTAR. So there was economic loss to the city itself?

Mr. SHAFFER. Yes, sir.

Mr. OBERSTAR. How many jobs were lost?

Mr. SHAFFER. As a result—well, I think it was a part of the figure that I quoted in here earlier, 312 would probably be a major part of the 15 leaving, would be a major part of that.

Mr. OBERSTAR. Do you have a payroll figure?

Mr. SHAFFER. Of the 15, no, sir, I do not.

Mr. OBERSTAR. I think that is part of this calculation of economic losses that Congressman Ertel is attempting to include in future calculation of benefits to be gained from flood control projects. And if we could have that figure, I think this would be an excellent case study.

Mr. SHAFFER. Yes, sir, I will be glad to send it to you.

Mr. OBERSTAR. Do you have any indication that those businesses would have remained here had the proposed flood control structure, now many years delayed, and prospect of being constructed within a reasonable time?

Mr. SHAFFER. It is rather difficult to say. I would say, in talking to some of them, they indicated that—perhaps they might have stayed. Let me put it that way. I think some of them definitely would have stayed.

I think what we are talking about here, too, is the fact that there are so many, as we indicated here, there are so many businesses indicating—we know they bought land outside of the city and have given indication and strong indication that they are not going to take another major flooding. They are going to move.

Mr. OBERSTAR. So, in that scenario, the prospect of a flood control structure that would provide them protection over the next 50 years would have been an inducement to remain in the city?

Mr. SHAFFER. Yes, sir, I think so. I think the ones remaining there now, judging from the statements that we have heard in talking to the people, and also that were given at the Corps of Engineers public hearing, the 72 businesses remaining want to stay here. They want very much to stay here but they want assurances also that something is going to be done to protect them in the long run. The self-help program, which we mentioned, is something of a morale factor toward their staying here, staying in business until such time as flood structures can be brought about.

Mr. OBERSTAR. Now, as the current criteria stands for determination of benefit-cost ratio, the loss of those businesses from Harrisburg is not considered, as we witnessed with earlier testimony with the corps, nor would the gain to this area be measured either. Only the protection to those 72 businesses remaining would be a factor considered by the corps.

Now, Congressman Ertel would include the negative impact of income loss, of cultural and recreational loss, and negative impact on community and regional growth.

Are those all factors that your chamber group has taken into consideration?

Mr. SHAFFER. We have taken into consideration a lot of those. I think that the 1972 businesses remaining, if there were a flood construction built to protect again 400-year floods the size of Agnes, I think would bring other businesses into the area, on land that now exists, and is standing vacant, I think it would have a great deal to do with businesses coming back into this particular area, into the city.

Also, I might add, that it also encourages people living in the flood plain to expand their existing businesses physically.

Mr. OBERSTAR. I read what you have just said, in that if this were an EDA eligible area, and I do not know, Allen, whether it is, if this were an EDA eligible area you might be able to come into the Economic Development Administration of the Federal Government and show that by building certain structures, you could definitely attract x number of industries, and x number of jobs, and x dollar payroll impact into the area, and succeed in getting EDA support for a project. But you cannot do the same with the Corps of Engineers nor flood control project, because they cannot take that local economic benefit, it is speculative over a long period of time.

Thank you, Mr. Chairman.

Mr. LEVITAS. Mr. Ertel?

Mr. ERTEL. I really appreciate your testimony, and since I have had numerous inputs from you, Jarvis, I do not think I need to ask any questions.

Mr. LEVITAS. Mr. Ashworth?

Mr. ASHWORTH. Sir, you say in your testimony that with the help of Federal officials and the chamber of commerce, they got together a flood alert system. Was that in desperation?

I note in the Susquehanna River Basin Report, in the past, there was some criticism of the Federal system.

Mr. SHAFFER. I can only say, that perhaps it was borne out of a certain sense of desperation. But once we were assured that the Corps of Engineers—that the proposal that was submitted, and is still being sent through channels, of course, of once something was on the way, I think we said well, it is this far down the line, so we better do something to help ourselves in the interim time.

As far as the criticism being levied at Federal agencies, I have nothing but absolute—the highest praise for the cooperation that we receive from the Federal and city officials. It has simply been outstanding, and without it, there is no way that we could have effected an alert system.

Mr. ASHWORTH. Do you think you have an adequate system now?

Mr. SHAFFER. Sir?

Mr. ASHWORTH. Do you think you have an adequate system now?

Mr. SHAFFER. An adequate alert system?

Mr. ASHWORTH. Yes.

Mr. SHAFFER. No. No; I do not think that. I think we have a good alert system, which we intend to make more sophisticated as the years go on, but what we have now is a very basic, very elementary system, like watching the gages, and when it comes to the 7-foot mark you get somebody over and share with him your apprehension, and take a look at it, and then call and sound the alert for the businesses by telephone. We call all the businesses by telephone, say it is coming up. We have given them contour maps, and so forth, so that they can figure out where their businesses are, and how the flood will be affecting them at that particular time of the alert.

Mr. ASHWORTH. Do you also supply rowboats?

Mr. SHAFFER. I beg your pardon?

Mr. ASHWORTH. Do you supply rowboats?

Mr. SHAFFER. I guess that would be the ultimate in sophistication. We have not gotten that far yet.

Mr. ASHWORTH. The Commission report in October 1975 suggested that there was deficiency in the Federal flood warning control system, simply because of the small amount of money that was supplied.

Are you saying to us that the committee should look at the flood forecasting, at the Federal level, and make sure that there is more money provided?

Mr. SHAFFER. If our situation here is any indication, I would say definitely yes, because the people from the Susquehanna Basin Commission, for the National Weather Service, Geological Survey, have been most helpful in getting us established, in establishing our alert system here. They have provided us with gages at no cost, the labor of installing those things at no cost, they have provided us with

background information, with systems, other places that worked and did not work, and have advised us along the way, and we have found them most helpful.

Mr. ASHWORTH. The Federal Flood Disaster Act applies to communities with 100-year flood plans and below it, and the testimony here indicates that North Harrisburg has a 40-year level, and some areas are even below that.

So obviously flood insurance provisions apply. What is the chamber of commerce doing about flood insurance?

Mr. SHAFFER. Nothing.

Mr. ASHWORTH. Is that good?

Mr. SHAFFER. We think it is. We think it is up to the people, the decision of the people that have had enough experience, living in that through the years.

Mr. ASHWORTH. You were just saying to us earlier that you lost businesses because of flood problems. Is that not the responsibility of the Chamber of Commerce?

Mr. SHAFFER. I do not think that our telling the people to buy insurance or not buy insurance is our business, no, sir.

Mr. ASHWORTH. You do not think the chamber—

Mr. SHAFFER. I think our business is trying to keep the business here, but not to tell individuals whether or not they should or should not buy flood insurance.

Mr. ASHWORTH. When the Federal law requires it?

Mr. SHAFFER. I think it is up to the individuals. What we are saying is, we want the people to stay here. We want them to stay here, but it is up to their judgment as to whether or not to take flood insurance, depending on the amount, and other considerations.

Mr. ASHWORTH. Is not the sale of flood insurance through private insurance agencies something that the chamber of commerce would be interested in?

Mr. SHAFFER. It is possible that you are right, sir. But it is something that we have not gotten into, because I have a feeling that, for whatever reasons we felt we should not be in that particular area.

Mr. ASHWORTH. No further questions.

Mr. LEVITAS. Mr. Shaffer, in your testimony you identify a problem which Colonel Withers had referred to, and you said that extensive urban development in the Paxton Creek watershed had caused water to virtually cascade into the creek itself, and that leads me to a concern that I have got, that a great deal of the problem that exists, whether it is in Paxton Creek or elsewhere around the country, particularly in urbanized areas, is not the fault of an act of God, but the result of inadequate manning and zoning, and logical urban development that would take into account the consequence of building a huge shopping center, with a parking lot, and where the flow will run off to.

Do you feel that it is proper for the general taxpayers, as well as the local taxpayers, to be called upon to bear the cost of those decisions, when something could have been done by government, or by business earlier, either to provide the solutions at the time the development was approved, or to take other steps?

Mr. SHAFFER. Well, I suppose what we are talking about is bringing together, as I understand it, sir, bringing together various local

governments, and I am not so sure that this—if the flooding is in one particular area, and the government, with a place that causes a flood in another, I think this is what we are faced with.

Mr. LEVITAS. That is a very good point. I am glad you made it.

The water runoff from surface water, and streams themselves, have no idea when they are crossing from one county into another, or from one municipality into another. But we, in our human wisdom, have said, well, if it is across the city line, or across the county line, it is none of our concern, that is someone else's problem, and for that reason, as much as it may be controversial, and as much as it may be resisted by some who feel they will be adversely impacted, it seems clear to me, at any rate, that State or regional solutions to flood zone planning are absolutely essential, because if you do not do it, and this is not the only area, the problem of airport noise is another example, but in this instance, where as you have just pointed out, the upstream development was not even within the jurisdiction of the city of Harrisburg, yet, nevertheless you people are living with the problem, and had there been a regional or State approach to this it might have been avoided.

I have no further questions.

Mr. ERTEL. If the chairman will yield on that point.

I think he is absolutely correct that upstream development has to be done to a regional basis. Tomorrow we will be hearing from State Senator Franklin Kury, who has introduced a bill in the Pennsylvania Legislature, and has some of that as a criteria under that bill, and we will be hearing what the Pennsylvania State Legislature is doing to address that problem.

But I think there is another issue beyond that, that is the prospect that we are facing now, what has already occurred, and that is what we are looking at somewhat in this bill.

Mr. LEVITAS. Thank you very much, Mr. Shaffer.

Before the committee recesses for a brief luncheon recess, I will recognize the gentleman from Pennsylvania.

Mr. ERTEL. Thank you, Mr. Chairman.

I have received a communication from the borough of Middletown, which is just south of here, and they are basically written testimony, and it is signed by the president of the borough council, and I see that we do have the prospective mayor, who has been elected, here, and I welcome him here. He came to hear, and he has the testimony in writing, and I would like to submit this for the record.

Mr. LEVITAS. Fine, without objection it will be accepted into the record, and we welcome to the hearings the mayor-elect.

[The following was received for the record:]

BOROUGH OF MIDDLETOWN,
Middletown, Pa., November 16, 1977.

Chairman, Water Resources Subcommittee of the House Committee on Public Works and Transportation

DEAR CONGRESSMAN: In response to the interest of Congressman Ertel in the economic and social well-being of the Middletown area, the enclosed point paper summarizes the factors that we in the Borough believe ought to be considered in determining the need for a local flood protection project. These factors are in addition to that of basic property values on a one-to-one basis.

For the loss factors we have listed, there are no established records of the amounts suffered as a result of past floods. However, if your staff has a need to quantify these, I would be glad to have official estimates prepared by the Borough.

The opportunity to submit our viewpoint for consideration by the subcommittee is appreciated.

Sincerely yours,

E. H. GIVLER,

President, Middletown Borough Council.

POINT PAPER FOR WATER RESOURCES SUBCOMMITTEE OF THE HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION ON H.R. 8061 TO AMEND THE FLOOD CONTROL ACT OF 1970

In determining the need for a local flood protection project, it would appear that the following factors have not been fully taken into account in the past:

- (a) For the flood prone area :
 - (1) Lost time from their jobs suffered by the residents.
 - (2) Lost electric, sanitary sewer and water revenues suffered by the municipality.

- (3) Reduced property values suffered by the residents (market values depressed by flood history/threat).

- (4) Reduced tax revenue suffered by the municipality because of the depressed property values.

- (5) Lost tax revenue suffered by the municipality because of clearance of taxable properties from the area.

- (6) Expense to the municipality for annual maintenance of land cleared of taxable properties.

- (b) For the adjacent area :

- (1) Lost electric and water revenue suffered by the municipality as a result of being forced to curtail service because of flood damage.

- (2) Lost food in home freezers as a result of interrupted electric service because of flood damage.

- (3) Lost personal property in basements as a result of sanitary sewer back-ups because of the flood.

- (4) Damage suffered by the municipality to its sanitary sewers as a result of surcharge from the flood.

- (c) For the surrounding area :

- (1) Lost time on the job suffered by business employing workers who reside in the flood-prone area.

- (2) Lost time from jobs suffered by workers employed in the flood-prone area.

In order for the need for a local flood protection project to be fully determined, it is urged that the proposed legislation require full consideration of the impact of the foregoing factors on the economy and social well-being of the local and surrounding areas if flood protection is not provided.

Mr. LEVITAS. The subcommittee will stand in recess until 1:45.

[Whereupon, at 1:03 p.m., the subcommittee recessed, to reconvene at 1:45 p.m., the same day.]

AFTERNOON SESSION

[Whereupon, at 2:05 p.m., the Subcommittee on Water Resources reconvened, Hon. Elliot H. Levitas (acting chairman) presiding.]

Mr. LEVITAS. The subcommittee will be in order.

This is the Subcommittee on Water Resources of the Committee on Public Works and Transportation, continuation of the hearings on H.R. 8061.

The first witness for the afternoon session is the Honorable A. L. Hydeman, Jr., secretary, Pennsylvania Department of Community Affairs.

Mr. Hydeman, we are pleased to have you with us today, and if you will proceed at your discretion, as you desire, and at the completion of your prepared testimony which, without objection, will be made a part of the record, we would like you to answer some questions.

TESTIMONY OF HON. A. L. HYDEMAN, JR., SECRETARY, PENNSYLVANIA DEPARTMENT OF COMMUNITY AFFAIRS, ACCOMPANIED BY W. ROY NEWSOME, JR., SPECIAL PLANNING ADVISER

Mr. HYDEMAN. Thank you, Congressman.

First of all, I would like to introduce Mr. Roy Newsome, planning adviser to the secretary to the department, who is an expert on this particular issue, more than I, and he will help me answer any questions that you may ask.

I am pleased to be here today.

Since 1968, the Department of Community Affairs has been an active and concerned participant in the issues of flood protection, flood recovery, and overall flood-plain management. We have encouraged and assisted our State's flood-prone communities—of which there are more than 2,400—to make flood protection part of their planning and community development process.

We are proud of our successes which, given the flood-prone terrain of our State, are singular in the Nation. I think Pennsylvania is the most flood-prone State in the Union. As the administrators of the national flood insurance program, the Department has helped some 2,200 communities to qualify for this program, enabling homeowners and business people to purchase subsidized flood insurance.

But there is so much more that can and must be done in mitigating the hazards of floods. We are always on the alert for opportunities to improve and expand flood protection and flood-plain management activities. And it is in that spirit that we will comment on your proposed amendments to the Flood Control Act, H.R. 9495.

This bill presents a number of opportunities to usefully expand structural flood protection activities to some communities that could benefit from such an approach; and at the same time, it is an opportunity to tie together some loose ends concerning the faltering Federal Government commitment to such nonstructural flood protection measures as floodproofing of structures, flood-plain regulation, and relocation from and acquisition of flood-plain lands.

The two basic purposes of your bill are to expand the scope of the Army Corps of Engineers cost-benefit analysis of flood protection measures by including heretofore excluded concepts dealing with general economic and social well-being; and, in cases where the cost-to-benefit ratio is not in balance for a specific structural flood protection measure, such as dikes or dams, to allow local governments to contribute such funds as would bring the cost-benefit ratio in proportion and make the project feasible.

We commend your proposal to expand the congressional intent in section 209 of the Flood Protection Act of 1970 by inserting "local economic development" as an objective to be considered in evaluating cost-benefit ratios for federally financed water resources projects.

Further, we agree that such expanded consideration should take into account possible losses of income, jobs, property taxes, market areas, cultural recreational, and other facilities and economic categories which H.R. 9495 enumerates.

Basically, we believe there are only a finite number of cases—no more than a dozen or so, but nonetheless important—in which your

proposal could provide some added flood protection to a community. In such cases, it is unfair that the Federal Government computes costs to benefits by excluding from the benefit side all but the potential savings in structural damage in the flood plain.

In the first place, such a narrowly based computation is far short of the factors of social and economic well-being which Congress stated as the intent of the cost-benefit computations. And, in the second place, assuming the availability of the financial resources and the willingness of the local government to contribute to a flood-protection project, it is unfair and unwise not to protect structures that are new exposed to flood hazard and could be protected with some reasonable balancing of the cost-benefit considerations.

Excuse me for my voice, Congressman, but I caught a frog last night and have not been able to get rid of it.

Thus, we can and do give you our support for this aspect of H.R. 9495, qualified by our observation that it is very likely to be successfully applicable in a limited number of cases and that these communities will be further limited by the finite availability of State and local funds to furnish the "buy-in" to Federal projects.

And before turning our concern from structural flood protection measures, I must observe that while DAC has historically supported them as part of a broad range of flood-plain management options, we express our support of structural measures always nervously looking back on the topping and failure of the Wyoming Valley, Danville, Athens, and Sayre dikes in the Agnes disaster of 1972, and on Johnstown's concrete channels, designed for the 100-year flood level protection, which were so tragically proven inadequate last July.

An equal, if not greater reason for our support of H.R. 9495 is the opportunity it presents to reemphasize and renew the Federal Government's commitment to nonstructural flood protection measures. I would venture to say that Pennsylvania, the Commonwealth of Pennsylvania, has funded more nonstructural flood damage abatement projects in the last few years than any State in the Nation.

In connection with our traditional urban renewal program, we staff and maintain a full-time disaster project division, which not only oversees flood proofing, relocation, flood-plain-zoning control and other measures directly concerned with State-funded projects, but which also supplies a wide array of technical assistance and advice, primarily on nonstructural approaches.

As but one sample of our assistance, I am submitting with the written text of my testimony some copies of a Handbook of Flood-Resistant Construction Specifications, which is suggested for use on areas protected by dikes and levees. It is the blue handbook that has been passed out.

The foundation for a Federal commitment to non-structural flood plain protection—to flood plan management in its broadest context—was set forth in the 1974 amendments to the Water Resources Development Act. As contained in section 73, this language reads as follows:

In the survey, planning, or design by any Federal agency of any project involving flood protection, consideration shall be given to nonstructural alternatives to prevent or reduce flood damage including, but not limited to, flood proofing of structures; flood plain regulation; acquisition of flood plain lands for recreational, fish and wildlife, and other public purposes; and relocation with a

view toward formulating the most economically, socially, and environmentally acceptable means of reducing or preventing flood damage.

Where a nonstructural alternative is recommended, non-Federal participation shall be comparable to the value of lands, easements, and rights-of-ways which would have been required of non-Federal interests under Section 3 of the Act of June 27, 1936, for structural protection measures, but in no event shall exceed 20 per centum of the project costs.

But, as far as we know, there have been only three nonstructural programs considered by the Federal Government since the enactment of section 73 in 1974. Furthermore, closer to home, the Baltimore District of the U.S. Corps of Army Engineers has surveyed the Susquehanna River Basin, and, in the entire three-State area of New York, Pennsylvania and Maryland, has identified barely a dozen communities as having possible nonstructural projects.

Thus, we heartily endorse H.R. 9495, as long as the intent is to, at least, treat nonstructural flood control measures equally with structural measures. If applied to nonstructural solutions, the revised cost-benefit computation and provisions for a local "buy-in" would result in the greater availability of nonstructural rather than structural projects.

We would strongly advocate that in those areas where a structural project is feasible under past criteria or becomes feasible under the new criteria of H.R. 9495, that new development occurring behind the protective devices not be allowed indiscriminately.

Here, too, we would continue to press for nonstructural safeguards, without necessarily suggesting that all new construction in these protected areas be elevated or floodproofed, but I am suggesting caution.

SUMMARY

We support the bill's expanded cost-benefit ratio considerations.

We support a community's right to "buy-into" a project with a nonfavorable cost-benefit ratio.

We urge new development restrictions in areas protected by local structural measures.

We urge in-depth analysis of a community's ability to carry the local financial burden of a project.

We strongly urge a full Federal commitment through H.R. 9495 and under section 73 of Public Law 92-251 to the broadest of flood damage abatement projects with an emphasis on nonstructural approaches.

That is the end of my formal testimony, gentlemen.

Thank you.

Mr. LEVITAS. Thank you very much, Mr. Hydemán.

Mr. Oberstar?

Mr. OBERSTAR. Thank you very much, Mr. Chairman.

I think this has been an excellent presentation that addresses itself again to the key elements of Mr. Ertel's bill. Although this is a hearing directed mainly to the social and economic aspects of benefit-cost ratios, I have attempted here to ask some questions in order to better understand the background of your testimony.

Is your problem in this area urban or rural runoff?

Mr. HYDEMAN. Both.

Mr. OBERSTAR. Which gives you the greatest quantifier?

Mr. HYDEMAN. The greatest problem would be the urban runoff because there is more property and more people affected.

But, for example, during the Johnstown flood, there was a tremendous amount of agricultural land that was damaged, and I think that is also true during the Agnes disaster, probably much more rural area damage than urban area damage. But the effect is much greater in the urban areas because there is more people, more property involved.

Mr. OBERSTAR. The damage is one thing but the source of the water that causes the damage is what I am getting at.

Mr. HYDEMAN. OK. The source of water, it seems to me, comes from development. Every time you put down a piece of concrete or you lay blacktop or put a building in an area, you add to the runoff problem. And every time you put a building in the flood plain, you add to the—you change the flood plain, the 100-year flood plain rises because of displacement problem.

Mr. OBERSTAR. Now, in that context, I was very intrigued by your interest and support of nonstructural flood control measures which is something this committee has consistently urged upon the corps, and also your pointing out that they have identified very few such approaches to flood control in this flood plain area. That bears on the change in criteria that Congressman Ertel is proposing.

In that context, do you propose to control development of new shopping centers? Do you propose to control development of new parking lots upstream of Harrisburg, say, add to your runoff problems in this wide flat river that continuously floods this area?

Mr. HYDEMAN. Congressman, the answer is at the present time we have no controls. There was a bill introduced in the general assembly which received short shrift or water flood plain management. Many of the local governments of the State were opposed to restriction of building within their boundaries. We think the flood control measures and flood plain management is an extraordinarily important piece of legislation that should be passed and implemented in this State.

I do not know whether that answers your question directly, but at the present time we do not have controls.

Mr. OBERSTAR. That does answer my question because indiscriminate development, you talked about control against indiscriminate development is a cause of flooding. So much of our flood is not due to a massive change in weather and massive amounts of rain, but enormous amount of runoff that we are having because of urban development, and also some extended rural development that causes urban runoff.

Mr. HYDEMAN. Well, it has been both in this State, Congressman. I think we can point out that we have had excessive amounts of rain in the last few years that have caused some of the floods and major flooding that we have had.

Now, we do have areas in which we have flooding in almost a continuous basis. Matter of fact, I live in a community south of Harrisburg called York, and the road that I go into town on, if there is a heavy rainstorm, I have to take an alternate route because I would need pontoons to get past a particular area in that road. That is strictly because of overdevelopment.

Mr. OBERSTAR. You also support the community's rights to—you put it, to buy into a project, a nonfavorable cost-benefit ratio. You think that is fair for other taxpayers around the country to have to support a project that is not favorable simply because one smaller segment wants to go ahead and wants to spend more of their money?

Mr. HYDEMAN. Well, I think that if the local government—the local governing body and/or the State are willing to make up the difference, I think it certainly is fair because, then, you do have a cost-benefit ratio that balances on the Federal side.

Mr. OBERSTAR. But it says it is not going to be—the cost-benefit analysis says it is not going to be an effective flood control structure, and for a short-term gain what you are advocating is that the rest of the taxpayers across the country subsidize the local madness.

Mr. HYDEMAN. Well, the cost-benefit ratio is a fact, that the factors that are built into that are based on criteria that the corps has. The fact that the cost-benefit ratio does not figure does not mean that the structure itself will not do the job. And if the local governments are willing to pay, again I am being repetitious, the difference, the general taxpayer is not being treated unfairly. They are still only paying what they would normally pay at the level of cost-benefit ratio that the corps found to be proper. The balance is being paid by the local taxpayer to protect themselves. And I think that is fair.

Mr. OBERSTAR. I must say that Congressman Ertel has a very unique proposition here which is going to consume a considerable amount of the committee's time as we come to grips with that.

Thank you, Mr. Chairman.

Mr. ERTEL. If the gentleman will yield.

Mr. LEVITAS. You are about to be recognized.

Mr. ERTEL. Thank you, Mr. Chairman.

Might I suggest, would you agree that a local community or State clearly subsidizes the cost-benefit ratio, that, in fact, shows the commitment by that community or that State that they think this is important rather than the Federal Government dictating from on high with an artificial formula, and the cost-benefit ratio is artificial in any aspect because it does not take into account the loss of human life. We do not assign a value to that in the cost-benefit ratio.

So since we have an artificial standard by allowing a community to subsidize to come up to that yardstick which is applied across the Nation, that, in fact, we are showing a commitment by that community to the protection and to make a better environment for those people in that area.

Mr. HYDEMAN. Yes; I think so. And you know it is one more form of home rule and ultimate decisionmaking that I have advocated for a long time. I came out of Federal Government and I, too, advocate the home rule concept.

I would also just add to something Congressman Oberstar said we would not be in favor of allowing a community to buy in the difference on a cost-benefit ratio if the particular structure was not going to do the job. And I do not think that that is Congressman Ertel's intent. I have had a chance to talk to him about this, and I know it is not his intent.

Mr. OBERSTAR. It is a point that is—if the gentleman will yield—it is a point that is going to need clarification and elaboration as we go through this process, and that is what this hearing is all about.

Mr. HYDEMAN. I understand that.

Mr. ERTEL. I can see that we will have considerable discussion on this point. I am glad you have your testimony on the record because it certainly adds to the merits.

I was kind of curious about a few things that you stated in your statement. You talked about Johnstown concrete channels designed for 100-year flood levels, and you said it proved inadequate.

Can you tell me what the probability of the rainfall in the flooding that you have had in Johnstown? Has anyone come up with any kind of—

Mr. HYDEMAN. They were calling it—some ridiculous figure, Congressman, 1,500 years, 3,000-year flood. I am not quite sure what they called it. It was an unusual flood because it was a sheet flood, literally sheets of water coming down that very steep terrain out there. And, of course, in addition to the flooding itself, you had the number of earthen dam, I think five—either four or five earthen dams, one of which was quite large which burst.

So you really had a series of things. You had much, much more rainfall than you would normally expect coming down at a faster rate than you would normally expect. You had dams breaking, and Johnstown was declared, I think, by both the Corps of Engineers and some of the folks in control out there to be a flood-proof city just 6 months ago. I was—as you know—appointed by the Governor to spend a few weeks out there and, believe me, it was not a flood-proof city.

Mr. ERTEL. I would like to turn to one other aspect of your testimony.

You talked about nonstructural means. That, I assume, means flood plain management. Does it mean anything else to you other than just basically not allowing construction within the flood plain and the runoff?

Mr. HYDEMAN. Nonstructural also, even though it does not really make sense, but to use nonstructural means to build buildings in areas that could be flooded in a method when they are flooded that they will not be damaged. For example, having electrical systems on the second floor, building them on piles so that there is parking on the first floor instead of living conditions, so that nonstructural also—nonstructural includes dikes and dams. I think that is the basic thing. Nonstructural includes safeguards against flooding for even those things that are built in the flood plain, zoning, and flood plain management as well.

Mr. ERTEL. That was my understanding of it, but I was shocked when I was on the county development authority a year ago and learned that that was the definition that I understood to mean by nonstructural, and found out that there was a different definition being used by the Federal Government.

In fact when they are talking about nonstructural, they are talking about waterproof buildings and arcs located on the flood plain and not talking about flow-through buildings where you would allow the water to flow through, and like the piles are having an opening and let the water through the building, and then clean up.

Mr. HYDEMAN. You are talking about wet-proofing rather than dry-proofing?

Mr. ERTEL. I understood the Federal Government would not recognize that.

Has that been changed?

Mr. NEWSOME. The Federal Government still, in redevelopment projects, will not recognize wet flood-proofing. Our position in Pennsylvania is that wet flood-proofing should be in certain positions, especially on application to industrial or commercial. Part of the problem that the Federal Government has had between wet flood-proofing and dry flood-proofing is that the Federal flood insurance program, which would mean the contents of the building would have to be covered, and if it were wet flood-proofing, that means the contents of the building might be damaged through flood waters in additional pay-offs to claims.

Mr. ERTEL. Are you also part of that nonstructural alternative is actually condemnation of existing properties within the flood plain and then opening up existing spaces, taking over existing properties—

Mr. HYDEMAN. We are doing that, Congressman, as I am sure you are aware in the post Agnes disasters.

The Federal and State governments have put \$545 million into a number of urban renewal projects, and in cases where the flood plain below the 100-year flood plain could be completely cleared, we have exercised some very strong regulatory power over how these flood plains are treated, and many of them are being turned into recreational areas.

Mr. NEWSOME. If enough money was made available through the redevelopment process for total acquisition, we require total acquisition clearance of an area in the flood plain.

Mr. ERTEL. Am I correct in stating that those funds are no longer available, that that was under the provisions because of the flooding?

Mr. HYDEMAN. Those were special funds. There was \$400 million appropriated by the Congress—well, there was more than that. Pennsylvania got \$400 million, special appropriation. The Commonwealth floated a \$140 million bond issue to pay a local share, it was a 3-to-1 match. We, the Commonwealth, paid the local share. Those funds are no longer available.

However, until this year, and we are awaiting the outcome of legislative decision, we have had an urban renewal—an ongoing urban renewal program in this State, and we had used some of those funds for those kinds of projects on a regular basis. In addition, in the use of both BOR, Bureau of Outdoor Recreation funds, and a similar fund that the State has, called Project 500, we have encouraged the purchase and development of outdoor recreational facilities in flood plain areas. And we have purchased a good deal of land along streams, local governments have, and we have funded them to do so.

Mr. ERTEL. I want to just follow up one further question.

Are we to assume from your testimony then that this type of activity, which is nonstructural type of activity, has been completed to the State of Pennsylvania and could not go forward any further? There is no further need for that type of activity?

Mr. HYDEMAN. Are you asking if there is additional need for those kind of activities? Oh, yes, sir. There could be additional need.

Mr. ERTEL. Are you suggesting that under my bill, and I think it is an interesting suggestion, that there would be a cost-benefit ratio set up on this type of nonstructural alternative which would mean, in

effect, that we would be condemning property, taking it and opening it up?

Mr. HYDEMAN. Yes, sir, we are suggesting that.

Mr. NEWSOME. The suggestion is to apply cost-benefit ratio to non-structural alternatives also.

Mr. ERTEL. I am just wondering how you would want to apply cost-benefit ratio to that? I had not considered that when I drafted my bill, and it is unique and thought provoking. But why would you want to limit that to cost-benefit ratio?

In fact, you do not want to use those nonstructural alternatives when you cannot hope to put in any kind of structural alternative and, in fact, put property that is maybe isolated, you cannot afford a structural project, why would you want to apply a cost-benefit ratio?

Would that not have to be an individual judgment based upon that area rather than saying how are you going to come out with a 1-to-1 ratio?

Mr. NEWSOME. You do not know.

Mr. HYDEMAN. You have to take a good look at it. We think you could come up with 1-to-1 ratios if you get into areas where there is considerable amount of flooding, and there is flood insurance involved, the Federal Government is taking a whipping from the end of having to continually help with flood insurance and State and local governments are continuing the process of clearance and those kind of activities. I think you might come up with some 1-to-1 ratios. I am not sure, but my people who are more into this than I am felt that that was an idea whose time has come.

Mr. ERTEL. I like your idea of the nonstructural approach in those isolated areas. I am not quite convinced that this is the formula that should be used. It may be, in addition, should it be needed, and I would be happy to amend to take that into account, but I am not convinced that you could fit it under my bill. And I would be happy to try and take care of it.

I was trying to figure out how you are going to work it in.

Mr. HYDEMAN. You know, one of the things we do want to work out, and I think it is pretty important, and we obviously have generated the kind of discussion that we want, that in addition to structural kinds of activities, nonstructural kinds of activities are equally important and may be, in many instances, more important in terms of taking care of the problem that exists in the Commonwealth.

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

Did you have another comment you wished to make?

Mr. NEWSOME. Only one additional comment in order to emphasize one particular point, and that is that the handbook that we supplied you with deals with areas, the construction of homes and buildings constructed in areas protected by dikes and levees. This is being applied here in Pennsylvania in redevelopment projects behind dikes.

So, in other words, we do feel that even though you do have a structural solution, you have to protect buildings and new construction going into these areas anyway. And our experience here in Pennsylvania certainly bears that out, and this is unique. It has not been done in any other State, but we do require in all of our redevelopment projects behind dikes.

Mr. HYDEMAN. As a matter of fact, we have one unit that reviews all the building that is going on in the disaster urban renewal projects to make sure that our guidelines are being followed. We do have that much leverage because we are putting money into those projects and we are controlling the kinds of development that goes on, the post-redevelopment, if you will.

Mr. NEWSOME. And consequently here in Pennsylvania, certainly if a cost-benefit ratio were to be applied to nonstructural areas, the cost of the higher level of construction of buildings, even in protected areas, should be taken into consideration.

Mr. ERTEL. I would certainly work against the cost-benefit ratios because your costs would be higher.

Mr. NEWSOME. Yes, sir.

Mr. LEVITAS. Mr. Ashworth?

Mr. ASHWORTH. Mr. Hydeman, you mentioned in your testimony that you had assisted 2,200 communities in qualifying for Federal flood insurance. Recently the Federal Register carried a listing of 30 Pennsylvania communities which had failed to provide technical data to rebut flood elevation determinations, or failed to qualify by passing the necessary ordinances. Are you familiar with any of those communities?

Mr. HYDEMAN. We, on a monthly basis, circulate the names of any of the communities that are so cited in the Federal Register to our regional offices. The planners who have been working with those communities to get them certified under the national flood insurance have gone back to them to give them the technical assistance to get accomplished those things which they have not accomplished, and I think our record of that has been fairly good.

I think if you will check, you will find many of those communities, after they have been cited, many of those communities that have been cited, have been cited because the information they were to provide got there about the same time it was published in the Register. We found that to be one of the problems.

Second, we do go in and try to help them to complete the kind of information that they need, so that their names can be withdrawn, and I think our record has been good on that.

Mr. ASHWORTH. What do you find is the leading cause for the communities' failure to comply?

Mr. HYDEMAN. I did not hear the question.

Mr. ASHWORTH. What do you find is the leading cause for the communities failing to comply with the FIA determinations?

Mr. HYDEMAN. The bureaucratic requirements, and many of them are small communities, and do not have the expertise to complete all of the work that needs to be done, and we do not have the numbers of people to go in and give them the complete technical assistance that we should be able to.

Mr. NEWSOME. We have had a small number that have been terminated, in fact.

Mr. ASHWORTH. Do you feel there is inadequate notice in the Federal Register to the local community of what their requirements are under the FIA program?

Mr. HYDEMAN. No, I do not think that is a fact.

Mr. ASHWORTH. You say that you have helped the communities to purchase subsidized flood insurance. What do you find is the biggest deficiency in the sale of flood insurance?

Mr. HYDEMAN. The insurance people themselves. We have had, in—I think after the Wilkes-Barre flood, and I think after the Eloise flood, people who have told us that they went to their insurance broker, and were told that it really was not worthwhile, and given a number of excuses, and in one case, that I am not familiar with, but the former Secretary suggested to the individuals that they sue the insurance company for not giving them the flood insurance, and a suit was never brought, because they were compensated for their losses by the insuring agencies.

Mr. ASHWORTH. There have been some suggestions that to promote the sale of flood insurance we should either have a large PR program, or increase the commissions that are available.

Mr. HYDEMAN. You touched upon a subject. I asked my own insurance agent what he does in this instance, and he indicates that wherever he sells insurance, where he knows they are in a flood-prone area, he suggests—he said it cost me money to sell the insurance to them. Because A, the premium is too low, and apparently the amount of paperwork that is required is more for the flood insurance than for regular insurance.

I have heard a couple of horror stories, and I would rather not get into them, of having to fill out three and four forms to get a policy terminated.

Mr. Newsome is bringing up another point, and I think I sort of stated, in the beginning of the testimony, but did not pin it down, by stating that the Federal Government's lagging interest in this, the—pulling out of the Housing Redevelopment Act of 1977, the control that it—that flood insurance could not be sold, or—no, removal of the sanctions under the 1977 act, that were in the 1974 act, the sanctions against mortgage banks, or banks, savings and loans, Federal savings and loans, granting mortgages in non-Federal flood insurance certified communities.

Now, they can give mortgages in flood plains, and noncertified.

Mr. ASHWORTH. With full knowledge that they will not have Federal disaster assistance?

Mr. HYDEMAN. That is true. But it is somewhat watered down, if you will excuse the expression. The whole Federal flood insurance program.

Mr. ASHWORTH. What does your Department do in a planning way to promote compliance with flood insurance programs?

Mr. HYDEMAN. Well, we have sent out, literally 10 mailings in 7 years, through local government, we have by regional offices. The planners in those regional offices go out and work with regional governments, to get themselves certified. We have run ads, we have done all kinds of promotions.

I suspect that this State government, in the last 7 years, has done more to promote Federal flood insurance than the Federal Government has.

Mr. ASHWORTH. There was a suggestion made here this morning that there should be a mandatory community participation.

Mr. HYDEMAN. We think there should be.

Mr. ASHWORTH. Do you suggest a particular cutoff, flood plain level, in other words, 20–30–40, or do you think all under 100, or what?

Mr. HYDEMAN. All under 100.

Mr. NEWSOME. You asked specifically how we help with the planning.

The Commonwealth of Pennsylvania does have State appropriated planning assistance grants, similar to the 701 grants in the Federal Government, and we have made those available, and in certain cases those plas have been used to the Federal Planning Board.

Mr. ASHWORTH. You mentioned the collapse of the earthen dams. Can you tell us, or do you know whether or not those dams are State-built, local-built, Federal-built?

Mr. NEWSOME. They were pre-First World War structures, built mainly by industry in Johnstown.

Mr. ASHWORTH. Do you have any idea as to when those dams were last inspected?

Mr. NEWSOME. You would have to contact the Department of Environmental Resources. I am not sure.

In fact, I think that is out of our area.

Mr. HYDEMAN. Neither of us has that information.

Mr. ASHWORTH. Thank you.

No further questions.

Mr. LEVITAS. Mr. Hydeman, I was very interested in your testimony, and the role which apparently the Department of Community Affairs plays in Pennsylvania.

When I was in the State legislature, I had the privilege of creating, for the first time in our State, a department of community affairs, and legislation, and many of the things that you do are precisely what I had conceived such a department to be capable of doing.

And, because of your vantage point from the State level, and yet being involved intimately with local government, I wonder if you would give me your thoughts on the need for State and regional initiatives in flood plain planning, zoning, in use, what do you think should be done?

Mr. HYDEMAN. First of all, if we were to have flood plain management and flood plain planning, we are going to have at least a State or Federal law with some teeth in it, requiring it.

I do not think until such time as we have a good flood plain zoning law in this State, that we are going to be able to do much, except try and sell the idea of flood plain management being a good idea, and hopefully get both regional and planning agencies to deal with proper flood plain zoning and planning.

That is not much of an answer, but without teeth, there is not going to be much happening.

Mr. LEVITAS. I am going to get more specific in just a minute.

Mr. HYDEMAN. By the way, I might mention, Congressman, I, on Monday, became president of the National Council of the State Community Affairs Agencies, and we are very much, as a national organization, interested in this problem.

Mr. LEVITAS. Well, it seems to me that we have this situation, the Federal Government—by that I mean the general taxpayers of America, are being called on frequently. Pennsylvania being a classic example of it, to provide disaster relief, to provide special benefit payments after a disaster, to spend millions and millions, perhaps billions of dollars over a period of years, to deal with that is a—in large part, a failure of State and local governments to manage their flood plains,

and there comes a point where the Federal taxpayer, Members of Congress, say look, you do not have a free call on the Treasury of the United States.

Sure, we have humanitarian concerns, and we are not going to see people who suffered be destitute, and we are going to help them get back on their feet, but you have a responsibility also to minimize the potential of these types of situations.

I think what you are doing, and I say you, I do not mean Pennsylvania, I think generally speaking, by the failure of State government, to take an initiative to avoid these consequences, you are inviting Federal intervention.

Now, that, if my analysis is correct, and I do not want to see that, because the Federal Government, in my opinion, has not made good judgment when it comes to matters of this sort, we do not have the expertise or the knowledge, but do you not feel that, almost without question, a State, such as Pennsylvania, has to develop a State law with teeth in it that can deal with the fact that water runs down hill, and it does not recognize where a county or city begins or ends?

Mr. HYDEMAN. Congressman, there is a young Senator from just north of here, by the name of Franklin Kury, who has been, for the last 4 years, promoting a flood plain management bill, and I am sorry that I did not bring our November issue of reports, which is a magazine, or a newspaper, published by this Department, that goes to all of the local governments. It has in it this month, an article written by Senator Frank Kury, on flood plain management.

So we have, and I think Congressman Ertel can attest to the fact, that the former Secretary and the staff of this Department have been continuously—I keep referring to former Secretary, I have been Secretary for less than 2 weeks, or 3 weeks, have been continuously in the fore, promoting good flood plain management, and good flood plain zoning legislation, in many instances, against our normal constituency, local government.

Mr. ERTEL. If the chairman will yield.

Just for your information, if you were not here this morning, we intend to have Senator Kury testify tomorrow in Sunbury, so we will be hearing about his bill.

Mr. HYDEMAN. You will get a better answer to that question from Frank Kury, Congressman.

Mr. LEVITAS. Well, I, just looking into the future, see that when we are talking about the hundreds of millions of dollars of Federal taxpayers' money that we are talking about, the time is going to come where the Federal Government, I regret to say, I do not want to see it happen, is going to simply take over the problem of flood plain management as a matter of a condition of disaster relief.

That is, in effect, what the Federal flood insurance program is, to begin with. And I would rather not see that.

Let me move to another subject, one which Mr. Oberstar touched on.

I would like to explore it a little bit deeper with you. If we start off with the given fact that a project, a flood control project, is by definition, economically unfeasible, and that is where we begin, then under what justification can you, or anyone, advocate taxpayers to

invest in a project which is economically unfeasible in relation to the shared cost?

Mr. HYDEMAN. That is a judgment that has been made by somebody else, that it is economically unfeasible, that the cost-benefit ratio is not 1 to 1.

If indeed, and I am going to repeat my answer, because I only have one answer, the corps has found a cost-benefit ratio not to be 1 to 1, and the people living in that community are going to be paying the difference, wish to pay the difference, the taxpayers, the general taxpayers certainly have not been treated unfairly. They have only paid what the cost-to-benefit ratio would have been initially, 1 to 1, and the balance is paid by the people at the local level.

It seems to me that it is a matter of fairness. It seems to me that they deserve the opportunity to have that safety mechanism, whatever it might be, whether it be a dam or levee built, that they are going to pay a portion of the burden.

You know, one of the things that we must realize, and I am not going to be preaching, excuse me, one of the things that we realize is that Pennsylvania is a very old State, and that all of the communities in the State, or most of the communities in the State, that were built many years ago, were built on water, because of transportation, the need for power, the need for water. We are not going to be able to remove Harrisburg from the flood plain.

A third of Harrisburg is really in the flood plain. So it seems to me that we have to protect these areas.

Over and above that, I agree with you, that we should have a strong mechanism to control additional development in those flood plain areas, and that is what we are opting for. We have two levels of concern here.

One is a level of concern for those communities already developed, and already in the flood plain, that you are not going to remove, because I do not think you have the dollars to do it, and the second level is not yet addressed, is managing those flood plains, and zoning those flood plains, so that additional development does not go into this flood plain.

Mr. LEVITAS. The second part of your response to my question, I think, is going to be the subject of great controversy when the committee begins to take this matter up.

The first part, in which you said the decision is an accurate decision, and certainly I can understand what you mean. I would state it another way.

Frequently people who do not live in a local community do not have all of the pertinent information. But under my hypothesis, we assume that it is not the cost-benefit project. The problem that I think Mr. Oberstar has, and I think I have, too, is that if we have unlimited resources, then what you say certainly makes sense.

We do not have unlimited resources, and in effect any project which is federally funded, in part, takes away from another list of Federal projects, which conceivably are cost-beneficial. But that is neither here nor there.

Let me turn to my next to last question, and I want to endorse what Mr. Oberstar and Mr. Ertel say, and that is the importance of emphasizing nonstructural solutions, and in particular, the concept of liter-

ally acquiring properties in urbanized areas which are in the flood plain, and turning those into other uses, recreational uses, tennis courts, baseball diamonds, which accept the water in a period of flood, and yet not bring about the type of structural damage and property loss that we have in other uses.

Earlier this morning, Mr. Hydeman, I incorrectly referred to section 72 of 92-500, and I want to correct my reference at this point. I should have been referring to an item you referred to in your testimony, section 72(f), Public Law 92-351, which, as I read it, very clearly gives a mandate to the Corps of Engineers, and other Federal agencies, to give serious consideration to nonstructural alternatives.

Mr. HYDEMAN. We agree.

Mr. LEVITAS. Now, it is your testimony that there has been little emphasis, actually manifested in that congressional mandate. Is that your interpretation?

Mr. HYDEMAN. The research that was done for me indicates, as I think I said here, that there were three such projects actually implemented, and that in the Susquehanna River Basin there were identified merely a dozen such projects, and I suspect that we could identify, you and I, not being experts, many dozens of such projects.

Mr. LEVITAS. Well, I recently have become very interested in this aspect with the whole matter of flood control, and I intend to pursue it at some great length, and intensity, because I think Congress, in 1974, and I think there may be some agencies in Washington that have not gotten that message yet—

Mr. HYDEMAN. Congressman, let me say this to you. I think maybe this Department has had more to do with floods, and with nonstructural situations than any agency in a concentrated period of time. We have had three major floods in this State since I have been in State government. I have been in State government for 6 years.

Mr. Carling in the back has become an expert here, Mr. Muzone, if any of our people can sit down with your staff to work out these problems from our vantage point, I would like to offer their services, sir.

Mr. LEVITAS. Thank you very much.

The last question is this: In listening to some earlier testimony today about the recent Johnstown flood, I got the impression that a major source of the problem, and damage, really was unrelated to implementation of flood control projects, that a lot of the damage occurred as a result of events that occurred above the flood plain, and because of the dams which ruptured.

Reference was made to some of the problems—Solomon Run, which was on high ground, and the problem resulted not from a deficiency in flood control projects, but for some other circumstances.

Mr. HYDEMAN. As I mentioned earlier, Congressman, and I would like to repeat this is an unusual flood, it is known as a sheet flood. The water came tumbling down literally. I was out there after the flood and surveyed a good deal of the area, and there were houses on the side of hills that were flooded as a result of sheets of water coming down. So that what you say is true, that the Johnstown flood was caused—may not—there may not have been any way to protect Johnstown from the kind of rain that they had July 21.

Mr. NEWSOME. Take, for instance—

Mr. HYDEMAN. If those dams had not broken, there would not have been as much damage, but there still would have been damage and flooding.

Mr. LEVITAS. My point is simply this, if Mr. Ertel's bill had been law 10 years ago, and the Corps of Engineers had studied and made a recommendation on flood projects in the Johnstown area to cope with those problems, that you still would have had a good bit of the type of damage that you had in Johnstown?

Mr. HYDEMAN. I think the corps had already done what they thought was necessary for flood control. Is that concrete? It was a corps project, so the corps had done what they thought needed to be done in Johnstown.

So the answer to your question is "Yes."

Mr. NEWSOME. That is precisely why we are concerned about construction even in areas that supposedly are protected.

Mr. HYDEMAN. We look over our shoulders whenever we talk of structural kinds of flood protection devices.

Mr. LEVITAS. Thank you very much. I appreciate your participation, Mr. Hydeman, and you made a valuable contribution to our hearings today.

Mr. HYDEMAN. Thank you for giving me the opportunity to appear before you gentlemen.

Mr. ERTEL. Congratulations on your new appointment.

Mr. LEVITAS. Our next witness is Mr. John Youngman, Sr.

TESTIMONY OF JOHN C. YOUNGMAN, SR., ATTORNEY, WILLIAMSPORT, PA.

Mr. YOUNGMAN. I am John C. Youngman, Sr., of Williamsport, Lycoming County, Pa. I am a graduate of the Wharton School of the University of Pennsylvania, class of 1924, and of Harvard Law School, class of 1927. For the past 50 years, I have practiced law in Williamsport, and am senior partner of the law firm of Candor, Youngman, Gibson & Gault.

Since 1935 I have been chairman of the Flood Control Committee of the Williamsport Chamber of Commerce, formerly the Williamsport Community Trade Association.

My inspiration to work for flood control is twofold. Williamsport had suffered severe floods in 1865, 1889, and 1894. My late wife's grandfather, John M. Young—who, incidentally, heard Lincoln's Gettysburg Address—had headed a committee after the 1895 flood, which went to Washington, D.C., to urge the construction of dikes at Williamsport.

The other source of inspiration was also close to my heart. As a small child, every Sunday I was driven in a horse-drawn, three-seated vehicle to the Youngman lot in Wildwood Cemetery where two of my sisters, who had died at the ages of 13 and 15, were buried. At the lower portion of the lot was a long row of tombstones. Here were buried my aunt and five first cousins who had been drowned in the flood of 1889. Another aunt and her three children had been drowned in the same flood. They are buried at Jersey Shore, Pa. Needless to say, in our family a flood was a serious matter.

In 1935, I read in our local paper that the Federal Government was preparing a \$2,200,000 WPA project for dikes at Williamsport. I went immediately to the editor of the paper and obtained his support. The result, I became chairman of the Flood Control Committee of the Williamsport Community Trade Association.

In August 1935 we had a mass meeting at the Lycoming County courthouse to drum up support for dikes for our community. The opposition argued that since we had had no floods since 1894, a new flood was impossible. The floods of 1865, 1889, and 1894 were caused by the cutting of the timber. The timber had grown up and therefore there could not be another flood.

Just the same, our committee went to Washington. In the office of the U.S. Engineers we discovered that they knew more about Williamsport than we did. We were asked when and how we were returning to Williamsport. Our reply was, "We are driving back this afternoon." The rejoinder was, "When you get there, if there isn't water in Market Square, you will be lucky because it is 18 years overdue."

The flood of 1936 and the 1936 Flood Control Act settled two things. Future floods were a fact and dikes could be obtained.

All that was needed was to have the voters of Williamsport approve a \$175,000 bond issue to cover the cost of buying the sites for the dikes and changing the public utility line. Specifically, that meant that the Williamsport City Council had to pass a resolution employing bond counsel whose duty would be to set up a special election on the proposed bond issue.

Meanwhile, the U.S. Engineers opened an office in Williamsport and started preparing plans and specifications for dikes for the Williamsport-South Williamsport, Loyalsock Township, Old Lycoming Township area.

Throughout 1936, 1937, 1938, and 1939, the Williamsport City Council refused to pass the resolution that would have allowed the people to vote for the necessary bond issue.

The principal reasons for the opposition to the dikes were:

1. The dikes would not work. Dikes had failed along the Mississippi River.
2. The dikes would cost the local taxpayers money. If we waited we would get flood control through dams without any direct local cost.
3. The dikes would create a dead air condition inside the city which would cause sickness.
4. The dikes would spoil the beautiful view of the river.

In 1940, we got a new mayor who favored construction of the dikes. At least one other councilman also favored the dikes, but three Councilmen, a majority, were opposed to the diking project.

In January 1940 the U.S. Engineers gave the city council an ultimatum. Pass the bond counsel resolution or Uncle Sam would spend the money elsewhere.

On one snowy Saturday morning in February 1940 our Flood Control Committee went to a council meeting. The council just sat there and so did our committee. The noon hour passed and we sat. The dinner hour passed and we still sat. At midnight, the clock was stopped, as council did not want to take any action on Sunday. About 1 a.m., George Lamade, president of the Grit Publishing Co., arose and stated

that he had written two stories for his Sunday newspaper, "The Grit." In one, the council had passed the bond council resolution and, in the other, the resolution had been turned down. Lamade assured council that the latter article was a "dilly" and that the paper would go to press within the next three-quarters of an hour.

Council then excused itself and left the room. In a short time it returned and announced that it had passed the resolution three to two. I never did find out who it was who changed his vote.

A special election was held April 1, 1940, in Williamsport. The good Lord had the Susquehanna River lapping the Reading Railroad tracks at the foot of Pine Street as the vote was being cast. The bond issue passed 19-to-1. A short time later, South Williamsport passed its bond issue 23-to-1.

The irony of all this was that not one bond of the \$175,000 Williamsport issue ever had to be sold.

In the campaign that preceded the special elections, we had a large and well-informed speakers' bureau. Where a handful or more of people would listen, a speaker was provided.

For the success of that campaign, among many others, I want to commend Charles E. Noyes, who was then executive director of the Williamsport Community Trade Association. Mr. Noyes personally saw to it in that campaign that everything that had to be done was done at the time it was supposed to be done.

The Williamsport area dikes have been a real blessing to our community. Anyone who was in Williamsport at the time of Agnes in June of 1972 can attest to that fact. Since their completion in 1955, our dikes have prevented flood damage that would have been many, many times the cost of their construction.

Work on the Williamsport dikes was stopped for the duration of World War II. The local interests wanted a 500-acre piece of farmland in the Reach Road area of Newberry protected for use for future industrial sites. A decision was made by the U.S. Engineers that under the formula such an extension of the dikes was not justified. Unless we could get the dikes extended to this vacant land, Williamsport industrial expansion would become impossible.

In the dead of winter, when driving was impossible, our committee took the train and rode all night, arriving in Syracuse, N.Y., by way of Canadaigua, the next morning at the office of the U.S. Engineers. The first thing the colonel said to us was,

Gentlemen, I know that you do not consider the extension of your dike a boondoggle or you would never have undertaken the trip up here in this awful snow.

During our interview, it was developed that the U.S. Engineers had found that Williamsport was industrially static and that no industries would ever be located in the 500-acre piece of land.

We pleaded our case with all sincerity. Finally, we were told that if we could prove that Williamsport was not static industrially, and if the city would pay the costs of a pumping station in the area in question, if one was ever needed, the U.S. Engineers would reconsider their decision to build the dike only next to the built-up area in Newberry. Our committee returned to Williamsport and dug up every existing statistic available, size of phone books, postal cancellations, bank loans and so on, ad infinitum. City council promptly agreed to

pay for a pumping station. Incidentally, Ray Rall, the director of finances, created a secret fund, and when the time came to build the station, the city had the cash for it, about \$200,000.

When the statistics were laid before the U.S. Engineers, they proved that, industrially, Williamsport was slowly progressing but, nevertheless, progressing. This did the trick, and Williamsport's flood protected industrial park with its myriad of plants and factories today testifies to the wisdom of our efforts.

Thank you.

Mr. LEVITAS. Thank you very much, Mr. Youngman, for that excellent fascinating testimony and a very important part of the history and the development of our concern about flood control, and what the commercial and industrial significance can be where a community, in cooperation with the Federal Government, takes the initiative.

Mr. Ertel?

Mr. ERTEL. Thank you, Mr. Youngman. I am pleased to have you here, and I know that you are known as the father of the dikes in Williamsport.

But if we were to apply the cost-benefit ratio today that we had and applied it to that open piece of land at 500 acres in Williamsport, I am sure the cost-benefit ratio would have been about 0.1.

Could you give us an idea of the amount of money invested in that 500-acre plot which includes the industrial base for Lycoming County in northern central Pennsylvania?

Mr. YOUNGMAN. That industrial park runs for about 1 mile, and there are plants and factories, including a new U.S. post office, on both sides. And while I do not know the exact amount, I would say it must be at least \$100 million worth of property that is there now where it was nothing but a farm before.

Mr. ERTEL. Can you tell us the cost of the dikes that were built?

Mr. YOUNGMAN. The cost of the dikes at Williamsport was approximately \$13 million. They were started in 1940 and finished in 1955.

Mr. ERTEL. Do you know if they used the cost-benefit ratio at that time to evaluate whether or not those dikes should be built?

Mr. YOUNGMAN. At the time, the main part of the dikes, there was no argument about that. But this 500-acre piece of vacant land was the stumbling block, and they took the position that it would not be filled or any plant building, because we were static. We had to prove to them that we were not static industrially, and it took a lot of work to do it.

Mr. ERTEL. Can you estimate for the committee how many floods would have flooded the metropolitan area of Williamsport since the time those dikes were completed?

Mr. YOUNGMAN. Well, in 1950, they had completed the dikes except for the Market Street Bridge in the main part of Williamsport that would be east of Lycoming Creek. They sandbagged the Market Street Bridge and the eastern part of Williamsport was saved in 1950. Newberry was wet.

Now, since then, there has been two, three—I am not certain, you had Eloise and Agnes. Agnes was the worst. One thing about Agnes I would like to call your attention to, at the time of that flood, that water came up approximately—I have heard it 18 inches from the top, I have heard it a foot—I am not sure exactly what—but we are worried about the work that goes on in the 5,000 square miles west of

Williamsport. If they build enough parking lots, enough roads, and enough to increase that flow, we could have the same amount of water in the same amount of time as Agnes. And I am afraid it might go over the top.

Now, they tell us if we get dams and whatnot, but it is something that I want to call to your attention because we are conscious of it. We appreciate and thank Heaven the Congress of the United States that we have what we have. But we do not know about that, what is going to happen.

Mr. ERTEL. Do you have any idea how much protection, how many dollars were saved as a result of those dikes?

Mr. YOUNGMAN. Oh, it would be—the 1946 flood was \$10 million in damage, the 1936 claim was something like that, but it would run better than that, the cost in damage, what has been saved in direct property damage.

Now, your benefits, which they do not use today in their formula, employment and whatnot, is just very difficult to calculate.

Mr. ERTEL. Would you say that the entire industrial base of Williamsport, northern central Pennsylvania, is almost protected by those dikes, if that almost fits—

Mr. YOUNGMAN. Well, it is a terrific number of plants, terrific number of jobs. I cannot tell you exactly. But if you see the industrial park and know that it would not be there except for the dikes, then you can appreciate what the dikes mean. And yet it had been decided that should not be done. That is the thing that really worries and finally succeeded in change.

Mr. ERTEL. You said the Federal Government is not infallible in its wisdom, in its judgment as to whether to build flood control projects?

Mr. YOUNGMAN. Well, they go by the book, and when they go by the book they get peculiar phases and whatnot.

Mr. ERTEL. Thank you very much. I appreciate your testimony.

Mr. LEVITAS. Just a minute, Mr. Youngman. There may be some other questions.

Mr. Oberstar.

Mr. OBERSTAR. No questions. I think your presentation is very much in point, but I can see now where Mr. Ertel got the idea and the inspiration for his legislation. It is pretty obvious you have been, not a director mentor, certainly a great influence to the legislation that he has—

Mr. YOUNGMAN. I would say you need inspiration in a problem of this kind.

Thank you very much.

Mr. OBERSTAR. It was a very dramatic presentation. Thank you.

Mr. LEVITAS. Our next witness is Mr. James Readle, General Counsel, U.S. Water Resources Council.

Mr. Readle, you may proceed.

TESTIMONY OF JAMES R. READLE, GENERAL COUNSEL, U.S. WATER RESOURCES COUNCIL

Mr. READLE. Thank you very much, Mr. Chairman. I do not have a prepared statement today. I was a little in doubt as to the subject that I should cover in the presentation this afternoon. With your liberty, I will attempt to, No. 1, outline the steps that the national

water policy has taken today and, No. 2, to quickly review the latest draft the policy paper and highlight those forms dealing with the subject of the hearing if that is OK with you.

I wish to also thank you for inviting the Water Resources Council to represent the policy today. Dr. Leo Eisel, who is the Director, asked me to thank you and regrets that the study policy required his presence in Washington.

I found out yesterday that we would be testifying here today so I have put together, as I said, procedure and substance. So let me begin by outlining some of the steps that the policy study has taken to date. In his environmental message to the Congress, outlined the requirements for a national policy study. He directed that the Office of Management and Budget, the Council on Environmental Quality, and the Water Resources Council, working with the Congress and the public, develop recommendations for a national water resource policy within 6 months.

It is a rather tight timespan to put together such major—accomplish such major work and deal with such major policy issues. Since that time, the study has been extended and the termination date is scheduled for last February, as I recall, the 22d.

So, to implement the study, the Secretary of the Interior, Chairman Andrus, also Chairman of the Water Resources Council, took the lead role in conducting the study along with the Office of Management and Budget and Council on Environmental Quality, and Secretary Andrus, in turn, designated his Assistant Secretary of the Interior for Land and Water Resources, Guy R. Martin, to chair a policy study, to conduct the day-to-day thrust of the study. The other two members of that policy committee are Elliot Cutler, the Associate Director of the Management and Budget, and Mr. Guy Speth, who is a member of the Council on Environmental Quality.

Now, the task group broke down into roughly seven task groups, or the policy committee broke down into seven task groups. The first task group, which probably is going to have more relevance to your interest here today, deals with the principles and standards that was promulgated awhile ago by the Water Resources Council. There was a cost-sharing task group, an institutions task group, one devoted to conservation. The remaining three dealt with the Federal reserve water rights of the doctrine, and the remaining two were dealing with water quality and water research. There was an eighth one that was broken off early to deal with the specific issue of Indian water rights.

On June 21, the study plan for the policy center was announced in the Federal Register, and then beginning on July 15, we began publishing in the Federal Register four of the issues and options papers dealing with principles and standards, cost sharing, institutions, and conservation.

On July 25, we published the remaining three task group reports. They were described as option papers dealing with water rights, water quality, and water research. It is hoped that the Indian water rights paper, which is being somewhat separated from policy study, will be merged with the first seven task group reports to go to the President in late February.

On July 28 and 29, we held hearings in Minneapolis, Denver, Boston, Atlanta, and Los Angeles, and then on August 1 and 2, there

were regional hearings on the policy study held in Seattle, Cincinnati, and Dallas, Tex.

Then, on August 4 and 5, there were regional hearings held in Washington, D.C., for a period of 2 days.

Now, it is probably significant to note that in the nine hearings, there were a total of 666 people who appeared. They represented everyone from Congressmen, Governors, to private individual interests. The hearing in Denver was the most well attended, and there was probably two study things that emerged.

No. 1, there was not enough time for public participation, which I think has been fairly well recognized by everyone at this point, and No. 2, there was extremely strong Federal bias if you observe your opinion papers.

On September 1, the study was extended, the common period, that is, for public comment was extended to November 20, and I should note that in late September, Mr. Guy Martin agreed that there should be increased participation by the States, and there was a coalition comprised of National Government Association of Water Management, the Interstate Conference on Water Problems, the Western States' Water Conference, and the Association, State and Interstate Water Pollution Control Administrators, and from that coalition, the product of that coalition was the designation of State representatives who would represent the State on individual task groups.

I should add that they had a very major role involved in the paper that has come out recently.

On October 5 there was another revised timetable, and as perhaps you may know, it was the same day that Senator Curtis had passed in the Senate a resolution concerning water resources policy.

On November 7, was the date on which the task group submitted what might be termed the first draft of the last installment of the policy papers, and on November 9, the policy committee met with the task force chairmen, to give them guidance on what those policy papers, how they should be revised, and on November 10 we had a rather large briefing, both Senate and House Members, principally staff people, on the status report.

November 20 will be the closing date for comments for those who are still interested, and try to get the comments in by that time, and from here on out, November 30 is slated the date that the final task reports will be due to the policy committee.

On December 5, the Water Resources Council will meet, and from there the final task reports will be presented at that meeting. On December 20, the final agency comments will be due to the policy commission. They have been circulated among the agencies, and they will give their comments to the full committee.

On January 13 the policy committee will submit its final draft option document to, No. 1, the Chairman of the Water Resources Council; No. 2, to the Director of OMB; and No. 3, the Chairman of the Council on Environmental Policy.

Then on February 10 the decision document will be finalized by OMB, and will be sent to the White House. That is the tentative schedule, so far.

It has been a very rapid, fast-moving project, and I do not know if we have had time to concentrate on all there is, but I know there has been a lot of time spent.

I am going to talk briefly, in a moment, about the paper. I should outline, first of all, the general scope of the paper.

There is an introduction that introduces the subject on each one of these task group reports, and then there is a subject devoted to issues, as well as options, and it is important to stress the word "options," because at this point there are no recommendations. That includes the statement of issue, backgrounds, options for resolving the issue, and pros and cons of the options.

Let me turn to a brief overview of this document. It is a rather thick document. I hope to have copies of it up to the Hill within the next couple of days, but in order to save your time, let me just quickly go through it.

In task group 1, the formal name is "Revision of Water Resource Planning and Evaluation Criteria and Procedures." There were basically five issues that were identified, and I am not going to read the entire document.

Issue No. 1, this again is the task group that devoted time to the subject that is most relevant to this hearing. Issue No. 1 was what objective should govern the formulation and evaluation of water resources plans.

No. 2, issue No. 2, is what discount rates should be used in formulating and evaluating the Federal and the federally assisted water projections; and No. 3, to what extent should the principles and standards of the Water Resources Council be applied to the Federal water-related grant and loan programs.

Issue No. 4 is how much of the Federal role and planning and implementing of water resources plans should be updated, and No. 5 is how can the quality and reliability of water resource planning be improved.

Now, I am going to quickly go through the remaining six, and if you have any questions, maybe you can elaborate on them. I am going to go through them very fast.

Transcript No. 2 dealt primarily with cost sharing, and the issues that it outlined are basically this: The goals—it indicated the present financing and cost-sharing policy should be reviewed to propose alternative ways, or options, to No. 1, promote water conservation.

No. 2, move toward consistency and cost sharing on the programs serving the same purpose. Reduce the impact on the Federal budget; obtain a more applicable distribution and cost among the beneficiaries, and among groups and regions, and assure better protection of the environment.

They had eight potential options. They range all over the place. There was a floor option, which refers to the establishment of a minimum level, reimbursement of cost recovery; they list a consistency option, and it runs all the way down the gamut of cost sharing, different formulas.

The Institutions Task Group, it is probably fair to say, is the one that created the greatest amount of flak when it came out. The one that stepped on a lot of State toes, and I think the revised document reflects a greater, if not a tremendous, sensitivity to the problems that were identified earlier, and I will quickly go over the four major issues.

No. 1, what are the proper relative institution roles of a State, local, and Federal Government in water resource planning management and development.

No. 2 is basically the statement of the problem, water-related planning institutions are unacceptably diverse, with wide range in criteria goals.

Issue No. 3, again a statement of a problem, the ability and willingness of Federal water development and construction agencies to develop and implement plans, provide saltwater-related problems, and needs as distinct by law, and judicial institutional bases, and their agencies and constituencies.

No. 4 again, mission-oriented roles of Federal agencies which implement or impact water-related final development programs, loans or licensing, create institutional impediment of sound, comprehensive water resource plan and development.

No. 5 is what should be the Federal role in the development and implementation of State laws designed for effective and efficient management, allocation of water, and to what degree should the Federal Government accord its action to substantive State water law.

I am not going to read the rest of the issues under water rights, conservation, water quality, and water research. What I would rather do is go back and hit the issues as they come out, and jump on the particular ones.

Since adoption of the WRC principles and standards, the broad categorical objectives of national economic development and environmental quality to govern water resource planning undertaken directly by Federal agencies, in participation and construction by the Federal Government.

The two objectives of the principles and standards disappointed those who wanted a more comprehensive basis for formulating Federal water projects.

For example, section 209 of the Rivers and Harbors Act of 1970, passed in anticipation of executive branch approval, the standards task force report, which recommended four objectives, states: it is the intent of Congress, and the objectives, one, of enhancing regional economic development.

Two, the quality of the total environment, including its protection and improvement.

Three, the well-being of the people of the United States, and four, the national economic development, are the objectives to be included in federally financed water resource projects.

It should be noted, in section 209, it is directed at all federally financed projects. It should also be noted that although the principles and standards utilize only the national economic development and environmental quality objectives, they do include a system of four accounts, corresponding to four objectives for the effects of the plan.

In these four accounts, virtually any type of impact can be displayed for evaluation purposes, but in practice, however, the regional development and social well-being accounts are given scant attention and evaluation, because regional and social effects are not to be considered in plan formulation, and somewhat difficult to measure.

The social well-being, and regional development objectives, were not adopted by the executive branch, because the administration believed that these objectives could not be consistently applied, and that they provide a basis for justification of uneconomic construction projects.

That was the position of the administration in 1973.

Consequently, it has become an issue whether the formal addition of some form of regional development, social well-being objectives is needed to improve water resource climate.

In the current principles and standards, the national economic development objective encompasses all impacts that result from either national economic gains or losses—

Mr. LEVITAS. Let me interrupt you right there.

Would you go back and read for me again that part where you said why social concerns were not included?

Mr. READLE. Right.

It says, in practice, however, the regional development and social well-being accounts were given scant attention in evaluation, because regional and social effects are not to be considered in one planned formulation, and some are difficult to measure.

Mr. LEVITAS. Go ahead. Something else?

Mr. READLE. The social well-being and regional development objectives were not adopted by the executive branch, because the administration believed that these objectives could not be consistently applied, and that they provided a basis for justification of uneconomic construction projects.

Mr. LEVITAS. Thank you. That is what I wanted to know.

Mr. ERTEL. If I may, are you saying that the administration chose to ignore the direction of the Congress?

Mr. READLE. I do not think that there is any other question.

Mr. ERTEL. That is, the previous administration?

Mr. READLE. 1973. The current principles and standards, the national economic development objective encompasses all impacts that result in either a national economic gain or loss, and thus, from a national perspective, can be viewed as either an economic benefit or cost.

Consequently, it can be argued that the national economic development objective leads to a distribution of regional goals consistent with national economic efficiency. That the question remains whether national efficiency alone is an appropriate way to regional development concerns.

Environmental quality is defined as a national environment as opposed to the human environment. Thus, it encompasses the full range of national values, but it does not include certain human concerns, such as the threat of flood, or drought, which are inherent in the national environment.

These considerations were included in the original social well-being objective, which was eliminated when the principles and standards were adopted.

There has been argued that the present objectives are not adequate unless some recognition of these factors is restored, and that large environmental quality objectives cause separate consideration.

Now, I could quit there, since time is limited.

Mr. LEVITAS. I think it might be a good idea, because I am sure there will be some questions, and we have targeted 4 o'clock for adjournment. We have one or two other witnesses.

Mr. Ertel?

Mr. ERTEL. Thank you, Mr. Chairman.

I am curious. You read the things that had been neglected.

What are the suggestions to remedy the neglect that has been done by the administration in previous years with regard to both regional economic benefits and social well-being? What are the proposed alternatives?

Mr. READLE. Let me identify four short options. These are basically the ones for resolving the issue options.

No. 1, affirm the two national objectives of national economic development and environmental quality as the objectives, and emphasize conservation as a component of each.

No. 2, expand the definition of environmental quality to include the human as well as national environment as an alternative to social well-being objectives.

No. 3, is add other aspects of social well-being to include life, health and safety, and community preferences for economic and social structure as an objective, and

No. 4, add regional development as an objective.

Mr. ERTEL. In your report, or your suggested draft, whichever you want to call that, do they suggest a way of reaching that?

I agree with their policy objective. Obviously, the legislation which I have introduced was formulated upon that act, too, but I thought it was neglected, as well.

But what steps, or means does the report recommend in reaching those objectives?

Mr. READLE. Two points should be made here. No. 1, the considerations under cost sharing got into that; again, your recommendation is for the community to pick it up. That is picked up in the cost sharing, where some costs have not been carried, that would be one option.

The text that I have here, and I have not worked with this task group, does not go into specifics, and scope of the paper, and basically tries to identify the major policy changes that should be made.

I think it is fair to say that the details, the steps themselves, would probably be outlined later. If the President decides to go forward with this, I am sure he would recommend it to Congress.

It will come back to the agencies to again develop. Again I think the ball is going to have to be developed when it goes to Congress for details, because they are not in the final analysis here, in terms of what steps they are going to take to reach those objectives.

They did analysis, impact, but nowhere do they state the specific stuff.

Mr. ERTEL. I guess it would be fair to say, then, that the objective of looking at the object, or the purpose, of the study, and what they look to be objectives of the policy, would be the same as we are looking for in this legislation, and we go a bit further and try to define the means, so that we are basically in accord with the administration in that regard.

Mr. READLE. Again, Mr. Congressman, I would suggest that these are options, and there is no recommended approach to any one of them.

That recommendation probably—will probably come from the Policy Committee to the President, presenting any one policy that should come forward, in January.

Mr. ERTEL. You say that report will be made available?

Mr. READLE. This report is available at this moment.

Mr. ERTEL. I would be happy to have one. I think that would be much more beneficial for me to sit down and read it. I appreciate your comments.

Mr. LEVITAS. Mr. Oberstar?

Mr. OBERSTAR. Thank you very much, Mr. Chairman.

I just want to thank you, Mr. Readle, for your presentation, and for acknowledging the concerns that this committee has, and that are reflected, to some extent, in the bill that Mr. Ertel has introduced.

Earlier this year our Public Works Committee held a hearing on the President's recommendation to cut off funding, I guess is a kind of way to say it, of a number of water resource projects. At that time the Corps of Engineers came and said that they were supporting the President's order because we needed to develop a more coherent water resources policy than was used.

It led me to wonder whether the policy of the corps, advocated for so many years, had been incoherent. General Graves did not respond to that question, by the way.

Are you developing now a coherent water resources policy, is that what you feel you have in front of you?

Mr. READLE. Right, Let me just briefly identify a couple of points.

I think, if this does not answer your question, I do not know what would.

In February, or—well, in March, there was a statement by the Secretary of Interior that attempted to establish criteria for the beginning audit, as you perhaps know. Later on, President Carter asked Chairman Andres to come up with some policy recommendations, and I think, realizing that the project was a very large one, it mushroomed into a fairly large policy study.

I think it is probably fair to say that this is the "coherent policy" of recommendations that are coming. I think it is also fair to put on the line, that these again, although there will be recommendations to the President, I think the President again, answering congressional criticism, is going to recommend policy to Congress.

Mr. OBERSTAR. We fully expect that he is going to recommend policy to the Congress, and we are going to take a hard look at that.

But in the course of your consideration, and development of policy considerations, are you looking at those factors that are included in the Ertel bill?

Mr. READLE. Most certainly.

Mr. OBERSTAR. And is it the sense of your joint study committee to include some of those factors, or to leave them out?

Mr. READLE. If you are asking me for what is going to be recommended, I cannot say, but they certainly have been considered.

The factor of human safety, social well-being, regional development, which I think indicated are the goals, Congressman, as I outlined in my testimony.

Mr. OBERSTAR. Well, I would certainly hope that the Council would give those factors very careful consideration, because they are the kinds

of questions that other Members of Congress are asking, and the kinds of factors that we are going to be asking the Water Resources Council to testify on, when and if you do come up with a coherent water resources policy.

Mr. READLE. Understandably, and again, the objective here has been to outline the total range of options, while keeping them fairly short, manageable list. Both viewpoints, going either way.

Mr. OBERSTAR. Would it be fair to say—the last question, Mr. Chairman, that in general, the Ertel approach would run counter to the policy of this administration?

Mr. READLE. I could not say that. I would not go so far as to say that.

Mr. OBERSTAR. Thank you.

Mr. LEVITAS. Thank you, Mr. Oberstar.

Thank you very much, Mr. Readle. We shall be looking forward, with a great deal of interest, to receiving a copy of this report, and these recommendations that no doubt will be forthcoming.

One of the concerns I have had on the part of the Congress is that for the last number of years, I think, we have failed to make decisions on matters which we have the responsibility of making decisions on, and have used, as a means for avoiding that decision, putting provision, each bill that comes through, that we refer it to the Water Resources Council for a study. That has been fine, but I think we are going to see the bread that has been cast on the water come back now, and we are going to have to end up making the same decision, any way.

I am sure that we will benefit from the consideration and study by the Council.

Mr. READLE. If I may add one comment.

I think there has been too much ad hoc studying, and too much ad hoc planning, to plan all the aspects of these studies.

Mr. LEVITAS. Thank you.

Our next witness is Mr. Ernest U. Gingrich, professional engineer with Michael Baker, Jr., Inc.

Mr. Gingrich, if you will please come forward to the witness table, you may proceed.

If you would identify the gentleman accompanying you.

**TESTIMONY OF ERNEST U. GINGRICH, PROFESSIONAL ENGINEER,
SENIOR ENGINEER FOR MICHAEL BAKER, JR., INC., ACCOMPANIED BY ANTHONY T. SPAGNOLO, COMMISSIONER, SWATARA TOWNSHIP**

Mr. GINGRICH. This is Mr. Spagnolo, Mr. Chairman, of the Swatara Township commissioners, which we also represent.

Mr. LEVITAS. Please proceed.

Mr. GINGRICH. The testimony we present today resulted primarily from our experience on preliminary studies for projects which were contracted to us by the U.S. Army Corps of Engineers, and the U.S. Department of Agriculture, Soil Conservation Service, or on projects where their criteria were used. The most recent study performed was for Spring Creek Watershed with the primary damage center located in Swatara Township, Dauphin County.

We were retained by the Dauphin County commissioners for this study which was performed in accordance with Soil Conservation Service criteria. We are also representing the board of commissioners of Swatara Township at this hearing as their consulting engineer.

The high degree of cooperation between State and Federal agencies, and between Federal agencies themselves, is commendable. This same cooperation, perhaps with refinement in certain areas, must continue with any alterations that might be made in the existing regulations by all agencies concerned.

We agree with recent efforts by the Water Resources Council to establish principles and standards for incorporating regional and non-economic factors in the benefit-cost evaluation of water projects, from which we also heard from our previous speaker.

Our experience indicates that the benefit-cost methodology is better suited to economic analysis of flood control projects than other forms of analysis with present net worth or internal rate of return. The alternative analyses fail to take into account the stream of benefits which vary over the life of the project and are dependent on hydrologic probabilities. Cost analysis is straightforward, requiring little subjective judgment. Nearly all costs occur from the application stage through the construction stage, while benefits occur over the entire life of the project.

Social, economic, and environmental adverse impacts caused by floodwaters are referred to as benefits when a project prevents their recurrence, or induces positive effects on income, employment, regional economic stability, and natural resource amenities.

Therefore, to compare costs and benefits, each must be converted to the average annual dollars. This is accomplished by amortizing total cost over the life of the project, at an interest rate determined annually, by the Secretary of the Treasury, based on the interest-bearing securities of the United States maturing in 50 years.

Benefit-cost ratios are decreased by incremental increases in the interest rate which increases average annual cost. One hundred years is set as the upper limit of analysis period because the present worth of far distant benefits is practically insufficient.

For example, benefits received in the 50th year are worth today only 3 months' worth of the same return during the first year. Another significant aspect of benefit-cost ratios for flood control is that benefits are dependent on hydrologic relationships between precipitation and runoff, and discharge and flood frequency. The frequency method of relating hydrology and economics for determining average annual damages is adequate and reflect the uncertainty of hydrologic conditions within a fixed time frame.

Problems inherent in benefit-cost analysis lie not in the methodology, but in quantifying benefits. There are no conceptual difficulties with the benefit-cost model. However, practical difficulties are evident in categorizing and assessing flood damages which must be expressed in dollars.

Damages whose values are reflected in the marketplace are labeled direct and indirect. Intangible losses have no fixed place in today's market, and their values are determined by tradeoffs and subject to fluctuations in today's markets. Physical damages to structures and

contents, financial losses of capital, labor, and profits are examples of direct and indirect losses.

Assessment of flood damages are subjective because there is no clear understanding of the following:

1. The relationship of flood stage to total damages—variables affecting this relationship include debris, velocity, and duration of flood waters inundating structures, contents, and landscapes.

2. Cost of repairs and the magnitude of flood losses as influenced by supply of material and labor.

3. Repair or replacement value of a flood-damaged item.

4. Value reduction in the economic life of a flood-prone structure.

5. Flood losses not recovered prior to the next flood.

6. The influence of reoccurring damages caused by storm and sanitary sewer backup and local drainage problems upon the project benefits.

The problems mentioned above deal with assessing existing losses. Predicting future changes of the region is even more uncertain. Future predictions must assess changing hydrologic and hydraulic conditions of the watershed and economics of the region for the entire life of the project—50 to 100 years.

Because of the difficulty of these predictions, the Water Resource Council states in their principles and standards that—

*** complete display of beneficial and adverse effects for all components in the regional development account will not be made for all components unless directed by a department secretary or head of an independent agency.

The level of detail of the analysis directly influences the amount of benefits; however, a more detailed analysis has little effect in changing preliminary costs. Therefore, a comprehensive detailed review of all direct, indirect, and intangible benefits at the regional and national level during the preliminary analysis insures that no project is denied funding due to an incomplete benefit assessment.

Intangible values of environmental quality should not be limited to physical disturbances of the ecosystem; rather, these values should also include the impacts of environmental changes upon social and psychological needs of the people within the region.

Although most intangible values are not expressed in today's market, the environmental impact statement presents an opportunity to express important relationships to decisionmakers for assessing project feasibility. Therefore, a comprehensive assessment of benefits and costs is assured by reviewing the engineering, economic, and environmental reports.

In reality, however, efficient allocation of limited public funds among competing projects requires that benefits exceed project costs in the preliminary analysis. Most often indirect regional benefits are not included in the preliminary benefit-cost evaluation because they represent benefits that can be duplicated in other regions if similar Federal funds are spent.

Therefore, the preliminary analysis determines if a project accomplishes its intended purpose; and, if it does, then regional benefits are quantified in the final analysis and added to the national benefits. Excluding projects with benefit-cost ratios less than 1.0 can be justified if a project does not provide a reasonable level of protection from

the threat of floodwaters, but does provide other indirect benefits to the region by increasing employment, incomes, or social development. Then projects other than flood control should be assessed which may better provide these regional benefits.

Our experience has shown the benefit-cost methodology as applied to flood control projects adequately displays benefits and costs for choosing alternatives within a particular project. However, benefit-cost ratios are also used for ranking all national flood control projects.

Ranking projects by this criteria is acceptable if all ratios are similarly developed. In reality, this is not the case, because analysts do not have enough information to accurately predict the scale or occurrence of significant hydrologic and economic variables which change over time.

Research geared to quantifying critical relationships stated earlier in the text will reduce subjective judgments and bias viewpoints of agencies and individuals so that all benefit-cost ratios are consistently developed to enable an equitable distribution of flood control projects throughout the country.

As an additional consideration in the benefit-cost analysis, local sponsors should be allowed the opportunity to contribute an additional share of project costs to meet the minimum criteria required for project feasibility as determined by the benefit-cost ratio.

Additionally, this same opportunity should be allowed the local sponsors to contribute to increase a favorable benefit-cost ratio to a more favorable standing in relation to other projects. By this expression of interest in implementing the project, the responsible Federal agency and Congress should act favorably toward approving and funding of the project more expeditiously than if no contributions were made. Precautions need to be exercised in this consideration to insure that the equitable intent for project selection for implementation is not violated.

The Federal Government should encourage the local sponsors to perform their own studies by engaging qualified consulting firms to perform the work according to agency criteria. This should hasten project implementation, and again express the desire of the local sponsors to complete the project in an expeditious manner. Consideration should also be given by the Federal Government toward cost sharing the costs for these studies, or providing credit adaptable to the benefit-cost ratio.

A case in point is that of Spring Creek watershed. The Soil Conservation Service determined from their field examination report, using damage figures from the flood resulting from Hurricane Agnes in June 1972, that the benefit-cost ratio was too low to justify further consideration.

Swatara Township insisted that something must be done. They enlisted the interest and support of neighboring municipalities lying partially within the watershed and sharing similar problems. Because of this multimunicipal interest, the Dauphin County commissioners agreed to administer the flood mitigation study with the financial support from the local municipalities. The study was performed in accordance with Soil Conservation Service criteria, and resulted in five alternative plans having a favorable benefit-cost ratio.

With this kind of local interest, the sponsors should be rewarded for their enthusiasm, cooperation and participation by having a high priority given to their project. They are concerned with the elapsed time that takes place between project application and project completion. Consideration should be given toward reducing this timespan as well as providing monetary incentives when they perform their own study.

Comments presented herein have dealt with the problems with application of the benefit-cost ratio as it has been historically used with direct and indirect costs.

Additionally, consideration of noneconomic factors require evaluation for incorporation into the benefit-cost ratio. Finally, sponsor participation with incentives from the Federal Government would provide for more expeditious implementation of the project.

Thank you.

Mr. LEVITAS. Thank you very much, Mr. Gingrich.

Mr. Ertel?

Mr. ERTEL. Thank you for your statement. I do not want to go into depth in your statement, but I am curious about one thing.

You have the Spring Creek project. Who paid for that study, because the Federal Government did not go forward?

Mr. GINGRICH. A contract was with the Dauphin County commissioners, and they in turn elicited the support of the local municipalities for participation, cost participation.

Mr. ERTEL. Now, have you used your cost-benefit ratio for that particular project to evaluate and you came up with five different projects which had a favorable cost-benefit ratio, how did you get the data for the criteria to use in evaluating that project?

What criteria—when you said Soil Conservation Service, is that criteria different than the criteria used by the Corps of Engineers?

Mr. GINGRICH. They are basically the same, but there are some minor variations. There is nothing significant. I am not prepared to say what significance there is, but there being the small type of watershed that it is, and it applies more directly to the soil conservation criteria than the Corps of Engineers.

Mr. ERTEL. Can you give me an explanation of why you came up with a more favorable cost-benefit ratio when the preliminary studies, after the flood of Agnes indicated they could not, and the Soil Conservation Service or the decisionmaking apparatus decided not to go forward?

Mr. GINGRICH. I would say this. Our study was done in more detail than what the soil conservation study was, and that would be the primary answer. Had the Soil Conservation Service gone forward with the same study that we did and the same detail they did, I am sure they would come up with a more favorable project.

Mr. ERTEL. If I remember correctly, without pointing out the page in your testimony, you indicated that when the preliminary estimates were made, your detail studies come up just about the same.

Would this be an exception to this rule?

Mr. GINGRICH. Would you repeat that please?

Mr. ERTEL. I believe that somewhere in your statement you indicated that when a preliminary study is done, usually it comes up with a cost-

benefit ratio, and then in a later detailed study done under that project, they are usually within a close margin of error with the detailed study and the preliminary study.

Now, it would indicate to me that at least the one that you have talked about here is an exception to that rule.

Mr. GINGRICH. I would agree with you, Mr. Congressman. This is a field examination report. Basically, studies are performed by the Soil Conservation Service, if I remember correctly, and I believe I was in the employment of the Soil Conservation Service for 7 years myself, and we do work for them, as I indicated in my testimony, that basically it is three separate levels of study.

First of all, the field examination report, and then there is the preliminary investigation type report which we did, using that criteria, and then there is the more detailed work plan type of study. And so what they did was the field examination report, where they take the damages received from one particular storm, the flood of record was Hurricane Agnes, and then apply everything to that one. In reality, what happens here in this Spring Creek watershed is that they have almost annual damages from the flooding from Spring Creek which, in turn, boosts up the benefit-cost ratio, boosts up the average annual cost.

Mr. ERTEL. Does not the Soil Conservation Service come up with the frequency of flooding which would be what you are referring to, which seems to be the thing that they did not come up with?

Is that what you are saying, that you have more—you did your detailed analysis and came up with more frequency of flooding than the Soil Conservation Service?

Mr. GINGRICH. Well, actually, they did not consider—it was my understanding they did not—I do not—I cannot speak for what they did or did not do except that their study was made available to us in the field examination report. It is my understanding that they did not consider the annual damages, such as we did in our flood limitation report. That is my understanding.

Mr. ERTEL. Thank you very much.

Mr. LEVITAS. Mr. Oberstar.

Mr. OBERSTAR. Thank you, Mr. Chairman.

I think your presentation has been very challenging and very thought provoking. I read through it prior to your concluding your reading of it.

I am not so sure that my colleague is going to be as enthusiastic about it as maybe he would like to be, but it gives us another avenue of consideration. It tends to support what some environmental advocates have urged of the House Public Works Committee, and that is that Congress ought not to place so much reliance on structural solutions to flood control problems but rather to look to nonstructural approaches. And there are some who go so far as to say that all of the nonstructural, take care of the problems before it becomes a flood.

But you certainly do give us more to think about in considering flood control legislation. But it seems to me that, nonetheless, you have not sufficiently addressed yourself to the question of the social and economic cost in developing a water resources policy.

Mr. GINGRICH. Excuse me, Mr. Congressman. That was for a reason. We really do not have the experience in that area, and we prefer to

speak on experience that we have. We have some ideas and opinions and so forth, but it was eliminated for that reason.

I might add that one of the favorable alternatives that came up as a result of our study was a nonstructural alternative, strictly a nonstructural alternative, no structures whatsoever.

Mr. ERTEL. Will the gentleman yield?

You said you came up with five alternatives and you say one was nonstructural. Then the other four must have been structural.

Mr. GINGRICH. Structural combinations, yes.

Mr. ERTEL. Any idea what the cost-benefit ratio was for the various ones?

Mr. GINGRICH. They ranged from the minimum 1.0 to, I believe, 3.5, 3.7—I am not exactly sure what it is. I do not have the report with me.

Mr. ERTEL. Yet these were ruled out originally by the Soil Conservation Service and you had a 3.5 cost-benefit ratio?

Mr. GINGRICH. That is correct. They came up in the preliminary investigation, field examination report, of about 0.6. It was not entirely complete. I would not want to be derogatory to what the Soil Conservation Service did. They did it according to their procedures at the time, but it so happens, in my opinion, this is one particular watershed that did not result favorably and ordinarily in a rural type watershed. It probably does by their experience. They have to speak for themselves on their procedures.

Mr. ERTEL. I am sorry.

Mr. OBERSTAR. That is all right. That is a very important issue to raise.

One final question. Do you feel that local community and area-wide economic development resulting from flood control protection should be part of the consideration of benefits in the benefit-cost analysis of water resource projects?

Mr. GINGRICH. Yes; I do.

Mr. OBERSTAR. And you would amend then the national perspective of water resource policy assessment?

Mr. GINGRICH. Whatever is needed to be done. I am not sure that I—that all the full details of these procedures and so forth, to say what needs to be amended, altered. I would not be prepared to say.

But if there be some alteration needs to include this, I would say yes.

Mr. OBERSTAR. Thank you very much. I think yours has been a very helpful presentation.

Mr. LEVITAS. Mr. Ashworth.

Mr. ASHWORTH. Mr. Gingrich, is what you are saying that because of the pattern you found in the Spring Creek watershed problem, that there may be existing a pattern of lack of depth in such preliminary studies and in field work so that their problem is not so much a need for a relaxation of cost-benefit requirements, but a more indepth study by existing Federal agencies? Is that what you are saying?

Mr. GINGRICH. Not really. At this stage of Spring Creek watershed, for example, I believe there is to be a preliminary field examination made. However, I think there should be exceptions recognized where the application of these rules and, in this case, as I mentioned, Spring Creek is an exception probably, again I am not sure of the

full application of the Soil Conservation Service practices. But I believe that this is an exception to the rule of their procedures.

Mr. ASHWORTH. But you would not rule out the possibility that your own findings in this particular instance might not also be the case in others; that turn out to have an unfavorable cost-benefit ratio?

Mr. GINGRICH. Undoubtedly, this would probably be the case. Undoubtedly, there are others.

Mr. ASHWORTH. What would you attribute that to, the extra work that they have to do?

Mr. GINGRICH. It is rather difficult. We did not get into an in-depth comparison as to why the reason. It was not within our scope and we did not feel the necessity of going into it.

But on the surface I would say it is a matter of recognition of differences.

For example, if a stream, such as Spring Creek, causes frequent flooding, experiences frequent flooding along the stream, it would appear automatically that there would be additional annual costs rather than geared to or projected to one particular event, which is the normal procedure, as I understand.

So the—it is a recognizing where the damages come from. Do they come from one particular event or is it many events, and if you have many events, it is going to increase the average annual cost and damages?

Mr. ASHWORTH. Other witnesses have voiced their concern about the difficulty in obtaining Federal flood protection projects. Do you think that is related to the lack of indepth study by Federal agencies?

Mr. GINGRICH. There could be. But again I would not—I do not—I still would emphasize that I do not believe that indepth study is warranted at this stage of initial, shall we say, look see initial consideration and the Swatara Township commissioners were insistent that something be done about this, and they were willing almost to go into study it themselves.

But, as I mentioned, they enlist the cooperation and participation of their neighbors to see what could be done. We did not know when we first went into it whether anything would be favorable or not. In fact, we really assumed that there would not be when we first went into the contract and study of it simply because the Soil Conservation Service procedures indicated that they would not receive favorable ratios.

But if there would be any funding available, then we would know a detailed study, such as we performed, had not been performed before this and it needed to be done.

Mr. ASHWORTH. In using the same procedures that you did, other communities would have the same options to follow that course, would they not?

Mr. GINGRICH. This is correct.

Mr. ASHWORTH. Thank you, sir.

Mr. LEVITAS. Mr. Gingrich, I have a number of questions but we have already gone beyond the hour that the committee intends to adjourn. Therefore, I will ask only three brief ones and if I have additional questions, I would like to submit them to you in writing at a later time, and I will reflect upon that after we conclude.

You say problems inherent in benefit-cost analysis lie not in the methodology but in quantifying benefits. You say that intangible losses have no fixed place in today's market and their values are determined by tradeoffs and subject to fluctuations. Then you say intangible values of environmental quality should not be limited to fiscal disturbances of the ecosystem. Rather, these values should also include the impasse of environmental changes and social and psychological needs of the people within the region.

Now, it seems to me that you are going from the frying pan into the fire. If there are difficulties, problems inherent in cost-benefit analysis in quantifying benefits using very simple criteria, valued property, the value of buildings, how in the world would you ever be able to take into account and quantify the impact of environmental changes on social and psychological needs?

Mr. GINGRICH. There undoubtedly is some difficulties in working out something that would be equitable. I don't question that at all.

However, initially what I mentioned in my testimony is—or refers to the normal practice, procedures of quantifying benefits and their difficulty in determining them but, at the same time, this last statement, which you mentioned, we feel that this, even though those are difficult to determine and to quantify, these other additional considerations need to be given to be determined, to determine project feasibility. It is not necessary, as I see it, it would not necessarily enter into the benefit-cost ratio momentarily or economically. It needs to be considered into—as a feasible project. There are different ways to implement what the problems which I indicated, and I recognize I do not have solutions here, but they are problems primarily, so I do not have solutions here, but those things should be considered, we feel.

Mr. LEVITAS. In terms of assessing whether there is a need for the legislation that Mr. Ertel just proposed, I think one of the most revealing statements, at least one of the most provocative statements in your testimony is the one in which you say the level of detail of the analysis directly influences the amount of benefits.

Now, if I read that statement correctly with its implications, what you are saying then is that if you do enough detailing analysis that you come up with a higher level of benefits because you have taken into account the types of things that Mr. Ertel thinks should be taken into account.

My question is, I guess twofold. No. 1, do we simply need more thorough engineering analysis either by consultants or the Federal agencies to accomplish that purpose without legislation, or can the Corps of Engineers, by regulation under existing law, provide for these expanded criteria? Account for the necessity of those—

Mr. GINGRICH. Actually I am not sure just what the difference is between the legislation and the rules and regulations that are put out by the Corps of Engineers, of the Social Conservation Services. We work with the regulations as they come from the agency. What is law, I am not prepared to answer. I really could not answer that.

Mr. LEVITAS. What about better more detailed analysis, what would that bring about?

Mr. GINGRICH. We believe that we should have more detail in taking into account the greater considerations of the many factors that you can come up with, a more accurate benefits, yes.

To say that they would be greater or lower, I could not say, depending upon the application of them.

In the preliminary study, for example, a lot of estimation is made for example, and sometimes it may be estimated high and sometimes low, but at least in a more detailed study it can be more refined and more accurate and, I would say, most likely it would be greater.

Mr. LEVITAS. Thank you very much, Mr. Gingrich. We appreciate your testimony. It has been very helpful to the committee.

Mr. Ertel.

Mr. ERTEL. May I just ask one additional question?

I am just—my mind is—cannot comprehend 600-percent error. What you are telling us, that the Soil Conservation Service came up with a 0.6 in a cost-benefit ratio and you came up with 3.5, which is a shade less than 600-percent error in an estimation process.

Does that not suggest to you something very unusual? Either your analysis has to be incorrect or the Soil Conservation has to be incorrect, or somebody did not apply the same standards? I just cannot believe that kind of discrepancy.

Mr. GINGRICH. I would like to emphasize the point that we performed a detailed, much more detailed study. Theirs was just a map and field study. We performed field surveys and worked the water surplus profiles out with the computer and came up with accurate results on this. They did not do any of this. This was entirely a field examination. I would like to emphasize that point.

Mr. ERTEL. I understand that. But as an engineer, and you are an engineer, you have to error dramatically between an estimate which is supposed to be something of accuracy and the ball park, and what you came up with in the detailed study. It suggests to me that the American taxpayer is not getting his value out of the Federal agency. We might as well keep them home if your analysis is correct.

It troubles me a great deal and I guess that is not a question, that is just a statement. It bothers me a bit.

Thank you, Mr. Spagnolo for coming along. Do you have something to say?

Mr. SPAGNOLO. If your committee will indulge me just 1 minute. I know it has been a long day. I want to first thank you for coming to Harrisburg to hear this testimony. I have heard similar many times. And I want to tell you I have had my feet wet. I have been evacuated at 7 years old in South Harrisburg personally and in the same location in 1972 I lost my business, and in the location I live it is not related anywhere near water, I have had 28 consecutive years of water in my basement.

If you are listening to all the technical aspects, you have to hear the human aspects, and this Spring Creek thing is where it is. So that is why I appeal to you on a personal level.

Nationally, we see it as a disaster level, and, Congressman Ertel, on cost-benefit ratio benefits, I am in favor of his proposal 100 percent. I wish our engineer would send you a copy, and if you look at it you will see that our figures are similar.

I am sorry that I got so emotional, but when you get your feet wet so many years—

Mr. LEVITAS. Thank you very much.

The record will be kept open for 10 days in the event that any person who testified or any person would like to submit testimony for the record.

The committee will stand in recess until 10 o'clock tomorrow morning in Sunbury.

[Whereupon, at 4:23 p.m., the subcommittee recessed, to reconvene at 10 a.m. Thursday, November 17, 1977, in Sunbury, Pa.]

[The following additional items were received for the record:]

LEAGUE OF WOMEN VOTERS
OF THE WILLIAMSPORT AREA,
Williamsport, Pa., November 10, 1977.

Congressman ALLEN E. ERTEL,
*U.S. House of Representatives,
Longworth Office Building, Washington, D.C.*

DEAR MR. ERTEL: The League of Women Voters of the Williamsport Area, Pennsylvania, appreciates the opportunity to react to your proposed bill H.R. 8061. After two centuries of building in flood plains without understanding the consequences, we now recognize the need for some structural controls to give some measure of protection for the largest clusters of population. At the same time, we have been horrified by the tragic loss of life despite the thousands of fallible dams and dikes and by the gigantic tax burdens to rebuild homes and businesses in the same hazardous areas.

Any change in the cost-benefit ratio which makes it easier to build dams and dikes will increase the cost of the potential failure since dams create a false sense of security and always attract additional population and investment to the area. Changing the cost-benefit ratio alone is continuing to look at a narrow aspect of the total management solution. It will, in effect, act as a circumvention of a rational total approach.

Additionally, we feel that the opportunity for municipalities to contribute to the cost of local flood control structures would make it possible to benefit their situation at increased hazard to communities downstream. Certainly by this time we have learned we must respond to hazards in broad geographical areas rather than attempt to solve them one at a time. Even the Army Corps of Engineers, after years of experience, have begun to speak in terms of flood plain management being the better solution. We need to control the type of development, requiring flood-proofing of any additions to flood plain areas. Some communities like Rapid City, Iowa and Littleton, Colorado, have succeeded in getting government help to relocate businesses and residences and to use flood prone land for parks and playing fields.

It is unfortunate that we look at floods as "Natural Disaster", as though we had no part in or responsibility for them. Natural hazards are inevitable, but natural disasters are not. Our observations and final realization in this century indicate that most flood disasters are not visited upon us, but that like lemmings, we walk right into them by continuing to settle and develop in the rivers' laps. We should stop the willful defiance of natural forces in our thoughtless, continued development in the path of rivers' seasonal overflow areas.

If the billions spent in repeated disaster relief programs were more thoughtfully administered toward alternatives such as relocating smaller communities and flood proofing existing structures, we might stop the escalating costs to our taxpayers and more importantly, save priceless lives.

We appreciate your interest in the problem and wish your efforts would include both structural and nonstructural alternatives as well as a program for educating municipalities and the public to the nature of disasters and the fallacy of piecemeal solutions.

Respectfully yours,

ROSE KAPLAN, *Chairman,*
Land Use Committee,
League of Women Voters of the Williamsport Area.

G. E. SHEFFER—SON,
CHESTER M. SHEFFER,
CONTRACTING CARPENTER AND BUILDER,
Harrisburg, Pa., November 10, 1977.

To U.S. Congress, Committee on Public Works and Transportation:

My name is Mary Sheffer. I am a housewife and partner in my husband's building and property maintenance business. I reside at 2103 N. Third St., Harrisburg, Pa.

During the past five years, Harrisburg has suffered two devastating floods. Our City Council has approved a plan intended for flood control which I understand was one of those take-one-of-these-or-else choices submitted after a US Corps of Engineers' surveys based solely on a ratio yardstick and concerned only with South Harrisburg.

I vigorously protest the U.S. Government complete lack of consideration of the northern part of Harrisburg and/or that part of Susquehanna Twp. bordering the Susquehanna River.

Williamsport and Sunbury fortunately built river walls after the 1936 flood. And up along the River, such small communities as Liverpool have not suffered in the 1970s because of the built-up bed of Rt. 11-15 highway that thus confines the water. All this confinement quite naturally increases our danger here below those proper improvements. And, there has been no relief planned, or apparently in the making by the Engineers, to help those of us who are, in this dilemma, unfortunate enough to live and/or own property in the flood plain that now exists and which includes countless hundreds of "sitting ducks". Not to mention historically important buildings.

When the Susquehanna River waters, in floodtime, come through the Narrows in the vicinity of Fort Hunter Museum—some five miles north of City Line—the water can spread at will, inundating the businesses and residences that are along the River.

The danger is increased, for some distance up there, because of the bed of the old Pennsylvania Canal of 19th Century importance has never been taken care of—so the water comes in front and rear of many Twp. properties.

The spreading water of the River can continue, at will, over Harrisburg's Front, Second, Susquehanna, Penn and Third Streets. I live at Third and Maclay's NE corner, some two miles south of City Line. During the 1972's "Agnes", a rowboat was tied to our front gate for several days.

I realize there have been, and no doubt still are, important influences to bring about attention only to South Harrisburg. I have no quarrel with this pressure but I fail, completely, to understand why NO attention is given to any other part of the city. Especially since the main River's potential damage to the north is widespread and has been experienced. Further, I believe confining efforts to South Harrisburg only compounds our worries and dangers here north of South Harrisburg.

Over a period of some thirty years, my husband has invested a million dollars two miles north of City Line, on Front Street, in an 8-acre complex containing 90 permanent residences in bungalows, semi-detached houses, small apartment buildings together with 39 motel units, as well as being longtime owner of quite a few properties in the city that, too, are in the up-to-now completely neglected part of the city as far as flood control attention is concerned.

Many, many property owners have begged me to try to speak up for them. I have attended every known public meeting here about flood control and have spoken, or attempted to, at all of them. The very youthful engineers—who seemed to be more like undergraduate students—presiding at one of the meetings at HACC probably put it most bluntly when he replied to my pleas—if you get flooded and can't take it, move out. Unfortunately we just can't pick up properties and transfer them like play blocks.

I respectfully petition that proper attention be rightfully focused to the woes of property owners north of South Harrisburg who are, as of now, left to live in fear.

MARY SHEFFER,
Mrs. Chester M. Sheffer.

STATEMENT OF ALLAN ROBINSON OF THE SOUTHERN ALLEGHENIES PLANNING
AND DEVELOPMENT COMMISSION, JOHNSTOWN, PA.

The Southern Alleghenies Planning and Development Commission was established by the Commissioners of the six (6) Pennsylvania Counties of Bedford, Blair, Cambria, Fulton, Huntingdon, and Somerset in 1967 and was authorized . . . "to engage in regional planning, to promote the orderly economic growth of the region, the counties, and the municipalities contained therein . . ."

During 1968, the Commission was designated by the United States Secretary of Commerce as an Economic Development District and by the Governor of the Commonwealth of Pennsylvania as a Local Development District and authorized to implement the Public Works and Economic Development Act of 1965, as amended.

In the 10 years the Commission has been in operation, it has participated directly in the economic rebirth of the region, to a point where on July 19, 1977 the Commission, in partnership with the many other agencies within the region and virtually all of the Federal and State agencies and bureaus had lowered the regional unemployment rate by nearly 6.0 points to 5.4 percent, had seen out-migration slowed or stopped in each of its constituent counties, and watched the leveraging of millions of dollars in public sector investment into a multi-million dollar economic development program that was truly working in an almost textbook fashion.

During the early morning hours of July 20, 1977, the Commission and its constituency watched helplessly as much of that progress was washed away by the most highly concentrated flooding in the Nation's history.

To say that the Commission is interested in floods and flood control is obviously a gross understatement.

We thank you for this opportunity to present testimony and hope that our involvement in these hearings will in some way assist in either the prevention of massive flooding or diminish the magnitude of future flood disasters.

As we have indicated, the area suffered the consequences of a major flood on the 20th day of July, 1977. The magnitude of the damage is expected to be in the vicinity of some \$500 to \$600 million.

Over \$235 million had been expended by early September, via the FDAA, for restoration purposes. Seventy-seven individuals lost their lives in the flooding; over \$1.5 million of market value was lost; in excess of 250,000 man days of employment were lost; countless numbers of retail stores will not reopen; over 400 jobs were lost permanently with the closing of a single, major retail outlet. Perhaps the most devastating single incident resulting from the flood was the reduction in employment announced by Bethlehem Steel Corporation, the area's largest employer.

On August 2, 1977, plans were made public that the Bethlehem Steel Corporation would cut the production workforce at its Johnstown Plant from 11,500 to 7,500—a loss of 4,000 jobs—and would abandon construction of a \$70 million basic oxygen furnace (BOF). The steel corporation's announcement followed a meeting of Bethlehem officials with federal and state officials in Washington, D.C., on August 1, after an assessment of their options and the damage caused by the July 20, flood.

The exact number of employees to be laid off as a result of Bethlehem's planned reduction in capacity is still uncertain. In a statement published on August 19, Bethlehem indicated that the Johnstown Plant, when fully operating at reduced capacity, is expected to have 7,600 employees as compared with a pre-flood force of 11,400 (hence, a reduction of 3,800 employees). These figures vary from the originally announced levels of 7,500 and 11,500 respectively. Various press accounts have estimated the employment reduction at between 3,500 and 4,000.

However, the significance of the "basic" or "export base" economic activity, particularly the manufacturing sector is not its employment per se, but its role in bringing or attracting outside dollars into the economy and generating and supporting a vast complex of dependent or "nonbasic" economic activities throughout the area economy. It has an immense multiplier effect and a tremendous spin-off effect through nearly all sectors of the local economy. It spawns entrepreneurship in a wide variety of activities; in industrial services; in the fabrication and

processing of parts, components and other inputs; in the transporting, storage, and distribution of inbound and outbound goods; in retail and wholesale trade activities; and in a range of professions, specialities, and services that move up the economic base of an area.

The reductions in Bethlehem's operations and the many other jobs lost as a result of the flood, thus will create both direct as well as indirect multiplier effects on the area economy.

The direct job losses will result in a significant decline in aggregate local personal income. The most recent data compiled by the Pennsylvania Bureau of Employment Security of July, 1977 indicates that weekly earnings for a basic steel worker in the Johnstown Labor Market Area averaged \$314.41 (based on gross earnings of \$7.98 per hour times the average workweek of 39.4 hours). On an annualized basis, then, each direct job loss at Bethlehem amounts to an average loss of \$16,350.

Thus, the planned employment reduction at the Bethlehem plant alone is likely to result in a direct payroll loss of between \$57.2 million and \$65.4 million.

In addition to these payroll losses, other direct impacts on the local economy, while more difficult to quantify, are nonetheless expected. These impacts will reflect the relationship of this displaced workforce as both *supplier* and *purchaser* of goods and services to and from other sectors of the local economy.

It is not possible to estimate the losses in local purchases attributable to the reduction in jobs. However, the general magnitude of such impacts is incorporated in the estimates of indirect multiplier effects of cutbacks on other sectors of the area economy.

The direct impacts of these reductions upon employment and income within the impact area can be expected to lead, in turn, to secondary or indirect impacts in employment and income.

To estimate the magnitude of these indirect impacts, a technique known as the base multiplier technique has been employed. According to economic base theory, the rate and direction of growth of a region's economy is determined by its function as an exporter of goods and services outside the region. Applying the rationale of economic base theory, the base multiplier technique requires that the economy of a region be divided into two sectors: a basic sector and a nonbasic sector. The basic sector is export-oriented, producing goods and services for "export" outside the region and bringing money into the region. On the other hand, economic activities which are locally-oriented—producing goods and services for consumption within the region and recirculating money internally—comprise the nonbasic sector (also often referred to as the service sector).

Further, economic base theory hypothesizes that a change in basic sector activity will cause a predictable change in economic activity in the nonbasic sector. The base multiplier technique expresses the relationship between basic and nonbasic activity at any given time as a fixed multiple; that is, a change in basic employment (or income) will result in a change in nonbasic employment (or income) according to some fixed multiple.

In July 1977, the Johnstown economy provided 100,900 jobs. An estimated 33,420 (or 33.1 percent) of these were basic sector jobs and 67,480 were nonbasic jobs. The basic to nonbasic ratio, therefore, was 1:2.02, and the base multiplier was 2.02.

It was previously estimated that the Bethlehem reduction will result in a *direct* loss of between 3,339 and 3,816 jobs—all in the basic sector—to residents of the Bethlehem Impact Area. In estimating the indirect employment impacts likely to result from layoffs at the Johnstown plant, we have assumed that an additional 2.02 (the existing base multiplier) jobs will be lost in the nonbasic sector for each job lost in the basic sector or an additional 6,745 to 7,708 jobs lost as a direct result of the July flood.

With the indirect nonbasic losses in employment will come additional losses in income, all indirectly attributable to the Bethlehem layoff, and/or the flooding. We estimate that each nonbasic sector job added about \$11,500 annually in gross payroll income to the Johnstown economy. Thus, the projected 6,745 to 7,708 indirect job loss will generate an additional loss in payroll to the community from \$77.6 million to \$88.6 million.

Total job losses to area residents, reasonably attributable to the post July situation, could range from 10,084 to 11,524. Thus, over 11,500 area families could be ultimately affected.

Many of these households have other wage earners and/or other financial resources which will allow them to remain in the community and support their

housing unit. Others will leave. In either case the impact on the housing market of 6,000-7,000 households losing their primary income support will be substantial.

The loss of retail expenditure potential, attributable to both direct and indirect payroll losses by area residents, is estimated to be between \$59.5 and \$68.0 million annually. These estimates were derived assuming that about 45 percent of a worker's gross earnings are spent on retail goods and services. The expenditure level is consistent with national and regional expenditure patterns.

It should be noted that the potential retail losses projected above will not necessarily result in immediate, equivalent reductions in retail sales. Over the short term at least the loss of retail expenditure potential attributable to payroll loss is likely to be compensated with unemployment compensation and savings.

We believe that in sighting the region's Bethlehem experience we can correctly dispute the Corp of Engineers' "Isolated incidence" theory relating to local economies and the economic loss a major industrial displacement can cause.

Their theory, in practice, appears to be a rather diluted application of Newton's Laws of space and occupancy.

Though it is that "space/jobs will be filled, it seems somewhat naive to believe that the location or relocation of an industry will impact only on that specific industrial work force.

It is impossible to overstate the magnitude of the July 20, flood in terms of personal or property losses.

When a life or in most cases a lifetime is washed away, how can a dollar value be placed on it?

It is also impossible to state, with certainty, that a flood control project larger than the one in place since the same area was devastated in 1936, would have prevented this most recent disaster, since this flood was not typical in its cause. The July 1977 flood was a result of a freak weather pattern that dropped 15 inches of rain within an 18 hour period and many areas that were the most severely damaged were the hillside communities that were ostensibly above the predictable flood zone.

One fact does stand forth however, the flood control system did maintain its integrity and one can only surmise the extent of the damage to the Johnstown area had this particular flood control project not been in place and operational during July, 1977.

It is for this purpose that the Commission can urge the changing of flood control project location criteria in the hope that future disasters of this nature can be prevented or at a minimum reduced in their destructive impact.

HARRY SAVLOV,
Harrisburg, Pa., December 29, 1976.

SUSQUEHANNA TOWNSHIP COMMISSIONERS,
160 S. Progress Avenue,
Harrisburg, Pa.

GENTLEMEN: Since we all know that the flood stage in our city is 17½ ft. you will be amazed to learn that since March 13, 1920, to January 1977, we have had 11 floods from 20 ft. to 34 ft. along the Susquehanna River. I feel that it is incumbent on the Dauphin County Commissioners, the city of Harrisburg, Susquehanna Township Commissioners, the Chamber of Commerce, Bethlehem Steel Co., Steelton, Middletown, New Cumberland, and Millersburg to join together to have a Watershed Conservancy, very similar to the Mushkingum Watershed Conservancy at New Philadelphia, Ohio, and to petition Commonwealth Court to give consideration to issue an order in mandamus for flood control through Dauphin County.

Please realize that by building reservoirs and provide local protection the utilities can build two more nuclear plants to create electricity which is the most economical source of energy, there is a two-thirds saving against producing electricity with oil. In other words we would be killing two birds with one stone.

Through HUD, the Army Corps of Engineers may have a justifiable project for Harrisburg, the Army Corps of Engineers have been working on a flash flood alarm system for the past 2 years. These reservoirs built up stream would provide excellent recreational facilities for boating, fishing, swimming, et cetera and would attract tourists here from all areas. This would also create good employment and new business in this area.

On Nov. 15, 1976, I attended the Public Meeting and Workshop on Susquehanna River Basin Flood Control Review Study. This meeting was conducted by the Army Corps of Engineers. The following are the questions I asked and some answers:

1. How many floods have we had since March 1936? Answer: Agnes June 1972 and Eloise Sept. 1975.

2. How many loans were made by SBA for Agnes? Answer: They did not know. I told them the answer—46,951 loans amounting to \$268,422,937.

3. How many loans were made by SBA for Eloise? Answer: They did not know. I told them 821 loans amounting to \$2,895,900.

4. What was the cause of the break in the Dyke at Wilkes Barre during the Agnes flood in 1972? Answer: The water went over the Dyke.

The Army Corps of Engineers has been studying and surveying the Susquehanna River Basin for 40 years. One good thing I learned is there will be an early warning weather forecasting system to more adequately make the predictions for rainfall in the Susquehanna River Basin. I have additional information that I could reveal at the proper time.

Yours very truly,

HARRY SAVLOV.

P.S. Flood walls with 7 pumping stations North Susquehanna Township, do not comply with cost plus ratio.

HISTORICAL FLOOD DATA

1. *Flood of record.*—The drainage area of the Susquehanna River above Harrisburg is approximately 24,100 square miles. The drainage area of Paxton Creek above its confluence is approximately 28 square miles. The flood stage on Susquehanna River at Harrisburg is at elevation 307.0 feet above mean sea level (msl). The flood of June 1972 caused by Tropical Storm Agnes was the highest on record and reached a stage of elevation 322.5 feet msl. The second highest flood stage of record, elevation 319.2 feet msl, occurred in March 1936. Table 4 lists the ten highest known floods exceeding 20 feet in stage which have occurred at Harrisburg. Appendix I, Flood Plain Information, contains more information regarding floods and factors affecting flooding in the study area.

TABLE 4.—HIGHEST KNOWN FLOODS IN ORDER OF MAGNITUDE SUSQUEHANNA RIVER AT HARRISBURG, PA.

Order—Date of crest	Gage height		Estimated peak discharge (cfs)
	Stage (feet)	Elevation (feet msl)	
1—June 24, 1972.....	32.57	¹ 322.5	1,020,000
2—Mar. 19, 1936.....	29.23	¹ 319.2	740,000
3—June 2, 1889.....	26.80	² 316.8	654,000
4—May 22, 1894.....	25.70	² 315.7	613,000
5—Mar. 18, 1865.....	24.60	² 314.6	573,000
6—May 29, 1946.....	21.80	¹ 311.8	494,000
7—Mar. 12, 1964.....	21.51	¹ 311.5	484,000
8—Oct. 5, 1789.....	22.00	² 312.0	482,000
9—Mar. 15, 1846.....	22.00	² 312.0	482,000
10—Mar. 13, 1920.....	20.20	³ 310.2	423,000

¹ Nagle St. gage, flood stage, elevation 307.

² Former gage abandoned in 1904, approximately 5,800 ft upstream from Nagle St. gage.

³ Former Walnut St. gage, approximately 3,700 ft upstream from Nagle St. gage.

Due to short period of record for Paxton Creek, no comparable data are available. The Penbrook gage on Upper Paxton Creek provided data only from 1940 to 1950, a period during which no major floods were encountered on Paxton Creek.

(Survey Report, Harrisburg LFP Study, August 1974, pages 12 and 13.)

(Letters of endorsement follow :)

NORTH SUSQUEHANNA TOWNSHIP CIVIC ASSOCIATION,
November 15, 1977.

To whom it may concern:

Mr. Harry Savlov of 3704 North Green Street, Susquehanna Township, is a member of the Board of Directors of the North Susquehanna Township Civic Association and our spokesman for the Flood Control and Flood Protection Planning.

It is requested that Mr. Savlov be authorized entrance to this meeting as the legal representative for the North Susquehanna Township Civic Association.

Very truly yours,

CHARLES E. BROADFIELD, Jr.,
President, N.S.T.C.A.

SUSQUEHANNA TOWNSHIP,
Harrisburg, Pa., October 31, 1977.

To whom it may concern:

I have known Mr. Harry Savlov for over twenty years. Since being a resident of Susquehanna Township, he has been a very dedicated and worthy citizen who has given much time and shown much interest in his community.

He has been appointed by the Susquehanna Township Board of Commissioners to represent us in our Flood Control Program and to attend all meetings of the State, County or in our interest.

Very truly yours,

JACK S. PINCUS,
President,
(For the Board of Commissioners.)

FLOOD CONTROL ACT AMENDMENTS

THURSDAY, NOVEMBER 17, 1977

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON WATER RESOURCES,
OF THE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION,
Sunbury, Pa.

The subcommittee met, pursuant to notice, at 10:05 a.m., in the auditorium of the Shikellamy High School, Walnut and Sixth Streets, Sunbury, Pa., Hon. Elliott H. Levitas (acting chairman) presiding.

Present: Representatives Levitas, Ertel and Rahall.

Mr. LEVITAS. The subcommittee will be in order.

My name is Elliott Levitas, Congressman from the Fourth District of Georgia, and it is my honor and privilege to have the opportunity today of chairing the second day of hearings of the Subcommittee on Water Resources.

This subcommittee, which met yesterday in Harrisburg, and today is meeting here in Sunbury, has convened to hear testimony on flood problems which exist in this area, and possible solutions to them.

Our distinguished colleague, Congressman Allen Ertel, has impressed upon us the severity of the flooding problems here and the adverse effects they have on the economic well-being of the area and the welfare of the people.

We have, therefore, at his urging, scheduled these field hearings so that we could learn firsthand from the local people about the problems they face. This information will assist us in our attempt to find a workable solution so that this area and its inhabitants can lead a safer, more productive, and rewarding life.

I might say that I think it is also very significant that this committee has continued its practice of recent years in realizing that the solutions to all problems are not in Washington, and that in order to get these answers we must come and talk to the people who have firsthand experience of the problems, and deal with them based upon the facts, not upon our pre-suppositions about them.

So it is a real privilege for me to be here at my colleague's invitation, and before hearing from the witnesses, I will yield to Congressman Ertel, who has a statement.

Mr. ERTEL. Thank you, Mr. Chairman.

I would like to take this opportunity to welcome the subcommittee to north-central Pennsylvania, and particularly to the 17th Congressional District. I think the subcommittee and the interested observers from the Water Resources Council and the Corps of Engineers will benefit from the testimony we will receive today.

Our primary purpose for these hearings is to draw upon the personal experiences of the many in Pennsylvania and neighboring areas who have had to cope with the devastating effects of floods.

Last week's storms and subsequent flooding in the Middle Atlantic and Southeastern States demonstrate that no area of the country is safe from the threat of floods. Earlier this summer, perhaps one of the driest summers in our history, Johnstown, Pa., the city in the United States most identified with floods, was again hit with a devastating flood. In recent years, Pennsylvania also has had to endure major flooding as a result of hurricane Eloise and Agnes.

I think Sunbury is an appropriate place to hold this hearing. As we saw and heard this morning, Sunbury has benefited from the protection provided by a local flood control project—its flood wall. At the same time, Sunbury sits almost at the confluence of the north and west branches of the Susquehanna River. The Susquehanna River Basin was the hardest hit by Eloise and Agnes flooding.

Mr. Chairman, I have introduced legislation which would bring about a major change in the formula for determining the desirability of Federal participation in flood control projects. And, flood protection has proven to be a good economic investment.

In Pennsylvania, from 1967 through 1976, the Federal Government invested \$430 million in flood control projects. During the same time period, the estimate of damages prevented is \$2.9 billion. I believe we can and should provide a fair and accurate standard upon which to evaluate the economic benefits and costs of a proposed local flood protection project. Only then can we assess accurately the economic considerations against environmental and other social considerations.

Some of the testimony we will hear today will address this concern directly. Other testimony will familiarize the subcommittee with the flood problems of the Susquehanna River Basin. In both cases, I believe much is to be gained and, again, I am pleased to have had the subcommittee come to Sunbury.

I am also pleased to see that we have the State Senator from this area, who has been gracious enough to come to testify before this committee. I know he has been active in flood protection, and has introduced legislation in the State House, which you, Congressman Levitas, have been interested in, and questioned people yesterday.

So I would especially like to welcome Senator Franklin Kury.

Mr. LEVITAS. Thank you, Congressman Ertel.

Senator Kury, we are pleased to have you as our first witness today. Your name was mentioned several times during the course of the proceedings yesterday, and not having met you previously, nor being aware, before yesterday, of some of your initiatives, I can only tell you that, without trying to endorse or advocate your specific legislative concern, that I think there is great merit, and indeed, great need for State and local people to make decisions, rather than having them move to Washington, and we are a very humanitarian nation.

When there is a disaster that befalls people, in any part of the country, those of us in other parts of the country are willing to come to their assistance. In the case of floods, this has been, of course, the experience.

The Federal Government has moved in with tremendous amounts of money and disaster assistance, unemployment benefits and welfare

payments, redevelopment funding, and it is not done begrudgingly. It is one very willingly.

However, where the general taxpayer sees that people who are the unhappy recipients of these funds are not taking those steps that they can take locally to diminish or alleviate the problems, then you create a situation that I think will begin to bother us in a few years and therefore your proposal that seeks to make, seeks to alleviate the problem by controlling, or by wisely planning new developments to minimize the runoff effects, I think is absolutely essential, and I for one much prefer to see that done at the State-regional level, rather than having those decisions moved to Washington, D.C.

Therefore, for this reason, I am very pleased to have the opportunity of meeting you.

Let me say two other things before we recognize you for your statement.

During the course of the morning I am going to have to leave, and turn the chair over to my colleague, Mr. Ertel. But I am taking with me copies of all of the statements, including yours, to review, as well as the transcript, when it is complete, and we hope to have a complete record made, as it was yesterday, and I am sure it will be very valuable to this committee as it proceeds in this deliberation.

Let me also identify, for purposes of the record, Mr. Erroll Tyler, majority counsel of the subcommittee, and Mr. Richard Ashworth, minority counsel of the subcommittee.

With those few words, Senator, it is a pleasure to have you with us this morning.

We have your prepared statement, and without objection, it will be made a part of the record in full at this point and you may proceed as you will.

[Statement referred to follows:]

STATEMENT OF PENNSYLVANIA STATE SENATOR FRANKLIN L. KURY

I want to welcome this important Subcommittee of the U.S. House of Representatives to Sunbury and to central Pennsylvania. In coming to Sunbury, you have chosen a major flooding area in the central Susquehanna valley. Flooding has been a major problem through the history of this area and will continue to be for the future.

Sunbury is also an outstanding example of what can be done to protect the community from the ravages of flooding. The wall which you have just inspected literally saved this community from being devastated in 1972. The photograph which I am not showing you is a vivid demonstration of what a wall can do to protect a community from flooding.

The years ahead will see increased, not decreased, dangers of flooding. Every year sees more land developed, more land losing its capacity to absorb water, more land throwing off water rapidly, rather than soaking it up and discharging it slowly as nature intended. Every year more people build in the flood plains and thereby increase the likelihood of more flood damage in future years.

I believe that the Congress of the United States and the Legislature of Pennsylvania both have important responsibilities if we are to minimize dangers and damages from flooding in the years to come.

The first step that must be taken in dealing with flooding is to recognize that there are three laws of nature we are dealing with. The U.S. Congress and the State Legislature of Pennsylvania can repeal and amend many laws but we cannot touch the laws of nature. These laws of nature are as follows:

1. When rivers overflow, they flow into the adjacent flood plains. Flood plains are, therefore, disaster zones. Building on a flood plain is, therefore, illogical and it is only a matter of time until those who build on a flood plain incur disaster.

2. Secondly, rivers and streams must be treated as a whole watershed system for flood control purposes. To deal with flooding on a community-by-community basis cannot be effective.

3. Streams constantly change, flow, fill, form, and reform almost as if they were living organisms. Dredging, the removal of islands and similar suggestions often made to alleviate floods are, therefore, at best short-term expedients which cannot permanently reduce flood damage.

Attached to my prepared testimony is a newspaper article I have published in the Philadelphia Bulletin examining the ramifications of recognizing these three laws of nature. I shall not impose upon you by reading the article now. I do call it to your attention and earnestly suggest that you ponder the ramifications of recognizing these three laws of nature.

For purposes of this committee, I submit that dealing with floods requires a balanced program of several lines of action:

- a. Flood control projects such as dams in selected upstream area;
- b. Engineering projects, such as the wall around Sunbury or the one proposed for Milton, for appropriate communities;
- c. An effective program of managing construction in the flood zones and regulating storm water runoff from the higher elevations into the flood zones.

Any of these approaches by themselves will not be effective. Taken together in a proper balance, they can provide maximum effectiveness in dealing with flood damage.

In the matter of establishing engineering projects, such as the fall around Sunbury, the bill proposed by Congressman Ertel to adjust the cost-benefit ratio is important and should be approved. There are a number of communities, like Milton, which have significant economic basis which need the protection of a dike such as the one around Sunbury. The present cost benefit ratio is unrealistic and is unfair to many communities like Milton which provides an economic structure for the entire lower west branch area.

At the national level, the Congress has the power and the funding to provide the appropriate flood control and engineering projects which are needed in many parts of the United States, including Pennsylvania. You also have the National Flood Insurance Act which I believe deserves the full support of the Congress and ought to be strengthened, rather than weakened. Through the National Flood Insurance Act, the Department of Housing and Urban Development is regulating construction in the flood zones for those communities that seek flood insurance. This is absolutely essential. To allow continual building and rebuilding in the flood zones is just not logical. The Congressional Act and the HUD regulations passed implementing it, while they may need adjustment, are absolutely essential to a sound national flood policy.

The biggest weakness with the National Flood Insurance law, according to the federal Comptroller General, is that the federal government is unable to enforce it. Compliance is voluntary. There is no capability in the national government to insure that communities are complying with the HUD regulations for flood zoning purposes.

In this regard, I think the State of Pennsylvania and other states should act promptly to pass legislation which will have states effectively monitor compliance with the HUD flood insurance program. In this session of the State Legislature, I have introduced Senate Bill 743. This bill would require every community in Pennsylvania in the flood zones to comply with the federal flood insurance law and enact a flood plain zoning plan. The Department of Community Affairs would be given the authority to assure compliance on a uniform basis within each watershed in Pennsylvania.

I also introduced Senate Bill 744 which would require Storm Water Runoff plans for every county. Under this legislation, developers would be required to take action so that water is held back and no more water is discharged after development than was discharged before it. It is not my intent to elaborate on these bills because they are before the State Legislature and not your committee. I point them out only to underscore the inter-related nature of dealing with flooding by the federal and state governments.

The two governments, federal and state, must work hand in hand if we are to deal effectively with flooding and its serious consequences. We cannot stop flooding, but we can take effective action to minimize it. I, therefore, urge you to enact the Ertel bill for adjusting the cost-benefit ratio. I also urge you to continue to strengthen the flood insurance law. I urge you to take whatever

action is necessary to encourage states to take action to implement flood plain zoning ordinances so that we have a rational program for dealing with floods. Thank you.

Mr. LEVITAS. Pleaes proceed.

**TESTIMONY OF HON. FRANKLIN KURY, MEMBER OF THE SENATE
OF THE COMMONWEALTH OF PENNSYLVANIA**

Senator KURY. Thank you, Congressman Levitas, and my good friend, Congressman Ertel. I appreciate this opportunity to be here.

I want to identify myself for the record. I am the State senator from the 27th senatorial district, which includes six counties here in central Pennsylvania: Columbia, Montour, Northumberland, Synder, Union, and northern Juniata. This senate district is where the West and North Branches meet at the confluence, where we were this morning, looking at the wall, and it is an area which was very, very badly devastated and damaged by flooding in 1972, and again by Eloise, to a lesser extent in 1975, and which over—throughout its history has been hit by floods, and damaged periodically.

Being the senator from this district, I consider that action to eliminate and minimize future flood damages is one of my highest obligations, and I have tried hard to pass legislation at the State level for that goal.

I want to say that in coming to this area, you have come to an area which has had severe flooding problems, and which will continue to have severe flooding problems in the future, because if any candid assessment of the future indicates that we are going to have more danger from flooding in the years ahead, not less, and that is for a number of reasons, because every year that goes by we see more land being developed, we see more land being taken from its ability to absorb water, and being turned into a condition of repelling water.

We see more and more development in the flood zones, and the result is, that I believe that flooding will continue to be a very serious problem.

Therefore, we have to act, and that is why I think the Congressmen coming here today to talk about, and to listen to testimony on Congressman's Ertel's bill, and other related problems, I think is very important.

This morning we were down to the wall with Congressman Levitas and Congressman Ertel, and we looked at the wall around Sunbury, and at that time I brought forth this picture, which I had in my office in Harrisburg for some time now, to illustrate something.

I believe the wall around Sunbury illustrates two very important points we have to bear in mind in dealing with minimizing flood damage, and that is, first, walls can be very important. They can provide the protection that is needed. Obviously this proves it. Without the wall, the city of Sunbury would have been devastated like Wilkes-Barre was in 1972.

But the picture also, to my mind, illustrates something else which is equally important, and that is that walls alone are not enough; that if we rely on walls we are still at the mercy of nature, and particularly if we allow activities to continue upstream, which add to the height of

the water, because if we do that, as you can see, it only takes another inch or two and the wall would have been rendered meaningless.

I think that is the point we have to recognize. You cannot treat any community as an island. If you have to have a fortress wall put around it and say that is all we have to do to protect Sunbury, Milton, Bloomsburg, or any place else, it takes more than that. We need walls like this in selected communities.

I think Milton, for example, ought to have one. That is just the beginning. We have to go beyond that to regulate what goes into the river, and holding back the water upstream, so that the walls are not topped. Because if they are, then it is wasted.

Now, I do not want to dwell at any great detail on this. I think that this points up the fact that what we are dealing with are laws of nature. The Congress of the United States, and the State legislature in Pennsylvania can amend a lot of laws, we can repeal laws, but we cannot touch the laws of nature, no matter what bills we pass, and there are three laws of nature, I think, that we have to recognize as we deal with this subject.

First, does the flood plain belong to the rivers, and that people who build on the flood plain really do so at their own peril? Flood zones are really disaster zones, and unlike the Egyptians, over the years, we have done that. Most of our communities are in the flood zone. Sunbury is in a flood zone. Milton is in a flood zone, a lot of towns are in the flood zone.

We cannot ask people to move out. We have to give them protection, but we certainly can stop, or at least regulate future additions to the building in these disaster zones.

The second law of nature which I think we have to recognize is that the river systems must be treated as a whole. To deal with the river system on a community-by-community basis is like a surgeon operating on an arm without treating it as part of the whole human body.

The third point that we have to recognize is, streams are living organisms. They form, they reform, they grow, they change, and that therefore attempts to dredge or remove islands, things of that nature, may help in the short term, but in the long term they cannot be effective in reducing flood damage.

I have spelled all this out in an article which was published in the Philadelphia Bulletin, and I would not impose upon you by expanding on those points, but I do have the article here for anyone who would like to read it.

[Whereupon, Mr. Ertel assumed the Chair.]

Mr. ERTEL. That article will be included in the record at this point.

[The following was received for the record.]

[From the Evening Bulletin, Aug. 1, 1977]

JOHNSTOWN SHOWS NEED FOR FLOOD ZONING

(By Franklin L. Kury)

When will Pennsylvania learn from its experiences with floods? Johnstown in 1977 . . . Eloise in 1975 . . . Agnes in 1972 . . . Three times in five years Pennsylvania has seen the devastation that major floods bring.

Yes, as a state, we have done absolutely nothing to minimize the ravages of the next flood disaster, a disaster which will surely come in the course of time.

I believe that Pennsylvania's government has a moral and legal obligation to protect the lives and property of its people from floods. The first step towards

meeting this obligation is to recognize that we are dealing with the laws of nature. These laws are permanent and cannot be amended or repealed by any legislative body.

The first law of nature is that when rivers flood they flow over the adjacent flood plains. Flood plains are disaster zones. Building on a flood plain is as illogical as building on a railroad track. It is only a matter of time until there is a disaster.

The second law of nature is that rivers and streams must be treated as whole watershed systems for flood control purposes. To deal with flooding on a community-by-community basis cannot be effective.

The third rule is that streams constantly change, flow, fill, form and reform almost as if they are living organisms. Mark Twain's book, "Life on the Mississippi," vividly describes this phenomenon. Dredging, the removal of islands and similar suggestions often made to alleviate floods are at best short-term expedients that cannot permanently reduce flood damage.

For centuries we have lived and built in defiance of the laws of nature. We have paid a heavy price for doing so. It is estimated that 2,468 of Pennsylvania's 2,800 communities have been built in the 100-year flood zone. The price we pay for building, in defiance of the laws of nature is the damage done to towns like Johnstown, Wilkes-Barre and Milton.

Having built so many communities in violation of nature's rules, we have then spent over a billion dollars in dams, dikes and other flood control projects to protect ourselves from the original mistake.

The 1977 Johnstown flood tragically underscores the futility of relying on engineering projects to protect communities from flooding. Dams are not, and never can be, enough.

We must do more. The next step is to make a bold decision—to regulate *further* development in the flood plains. This decision is necessary to avoid compounding the already serious problem we have created with *existing* development in the flood zones.

This can be accomplished by a state flood plain management law like Senate Bill 743, which is now pending in the Senate. This bill requires every flood prone community to enact a flood plain zoning ordinance in compliance with the federal flood insurance requirements. The Department of Community Affairs would be required to coordinate municipal flood plain ordinances in each watershed to insure that they are effectively and uniformly enforced. If a municipality fails to act, the state, as a last resort, could do the flood plain zoning for that municipality.

S.B. 743 is limited to the 100-year flood zones and is in no way a statewide zoning bill. It is aimed directly at the locale of flood devastation—the flood zones.

S.B. 744, a companion bill to S.B. 743, would require every county to have a storm water runoff plan within two years. This bill is aimed at holding back the water that comes into the flood zones from development in the higher areas. The goal is to require that developers who build shopping centers, housing projects and other improvements hold back the increased runoff caused by development and discharge it slowly.

The two bills are essential to minimizing future flood damage. Yet, they are being opposed once again by certain local government associations of Pennsylvania, the same organizations that successfully blocked the predecessors of these bills in the last legislative session.

On July 20, the same day the flood struck Johnstown, the Pennsylvania State Association of Borough and Township Commissioners issued a newsletter calling for the defeat of both bills. The reason for the opposition? The bills empower the state government to *require* effective flood plain and storm water management by local government.

Pennsylvania boroughs and townships for years have had the authority to zone their own flood plains voluntarily. They have failed to act. The Department of Community Affairs reports that of Pennsylvania's 2,468 flood zone prone communities, only 530 have actually enacted flood plain zoning ordinances. Of these, less than 100 are in compliance with federal standards.

Eighty-two municipalities were affected by the Johnstown flood. Of the 82, only two have adopted flood plain management ordinances.

Action is needed, and it is needed now. We can never total prevent a disaster like Johnstown. But we must reverse our irrational compulsion to build and rebuild in the flood plains. We must begin to move into conformity with the laws of nature.

This is why I and other concerned senators will be working hard to enact Senate Bills 743 and 744. We know that Pennsylvania will have more rendezvous with

flood disasters like the one that devastated Johnstown. What we don't know is when or who is next.

Which poses the question again: When will Pennsylvania learn from its experiences with floods?

Senator KURY. Thank you.

Now, what then do we do? It seems to me that what we need to minimize future damages from flooding, is a balanced program. We can never stop flooding. It is not going to stop, in fact, I think flooding is going to increase. But I do think we need a balanced program of activity, that action by the Federal the State and the local governments in balance and in tandem, to minimize future flood damage.

I think we need a balanced program of flood control projects, like the walls, and where appropriate, I think we need additional upstream retention facilities, but I also believe that we need to manage what is put on the flood plains, and to require that every municipality and county have a storm water runoff plan, so that new developments outside of the flood plain do not send more water cascading into the flood zones, and thereby raise the water, and top the protection systems that we have.

Let me go through these briefly, one at a time, and then I will be glad to respond to any question.

The first thing, on the matter of flooding control projects, such as the wall around Sunbury, and the one proposed for Milton. I have read carefully House bill 10020, sponsored by Congressman Ertel, and a number of other Congressmen and I want to add my support to this legislation in the House of Representatives in Washington. I believe this bill would do a great deal to change a very unfair cost-benefit analysis which is now required for flood control projects, and I think this bill, for example, would do a great deal to help the borough of Milton, because it recognizes that a borough like Milton is an industrial center, not just for its own borough limits, but for the entire lower west branch valley.

And the employment, for example, provided in a number of plants in Milton, is absolutely essential to the economy of our whole area here. I believe that this bill is a very important step in the right direction, and I want to add my support to it, and urge the House of Representatives to act favorably on it, at the earliest possible time.

The second thing I want to talk about very briefly is the fact that the Federal Government can provide help through the Corps of Engineers, because the State legislature, the State of Pennsylvania, is not in a position financially to provide the kind of projects that the Army Corps of Engineers can under this and other legislation.

But the Federal Government also is deeply involved with local government through the Federal flood insurance system, because under the Federal flood insurance law, passed by the Congress, and now law, to qualify for communities—for communities to qualify for flood insurance, that is, to protect property value, to protect property in the flood zone, they have to comply with certain regulations promulgated by the Department of Housing and Urban Development, and these are in effect to regulate construction in the flood zones.

Now, I believe that this Federal flood insurance program is good in theory, but has not worked so well in practice. For one thing, the Federal Government has no mechanism for enforcing it.

In fact, the Federal Comptroller General has said that the biggest weakness in the Federal insurance program is that it requires communities to comply with flood-plain zoning, and to qualify for flood insurance, but yet there is no way to insure that they are in fact complying.

Even more important, there is no mechanism in the Federal law to insure that the communities in the same watershed are acting uniformly, and I think that is absolutely essential.

It does not make sense for Milton to do one thing and Lewisburg something else, and the townships upstream do a third thing.

So I believe that we have got to fill in that gap in the law.

Now, I prefer that that not be done by the Federal Government, and that is the reason I have introduced, in the State legislature, Senate bill 743, which would require the communities in every watershed to uniformly enforce the flood insurance regulations of the Federal Government. If they do not do it, the State department of community affairs should come in and insure that it is done.

Mr. ERTEL. Senator Kury, do you have a copy of that bill with you?

Senator KURY. No, I do not. I left them in Harrisburg, in my haste to get home last night. But I can mail them to you.

Mr. ERTEL. We will keep the record open for 5 days. I feel that it would be appropriate that a copy of that bill be submitted and put in the record, because there will be questions by the committee as to what the State is doing in regard to flood control, and how that meshes with the Federal effort.

So, I would appreciate it if you would mail a copy of that.

Senator KURY. I will mail you copies of the bill, and the analysis. [The following was received for the record:]

SENATE OF PENNSYLVANIA,
November 18, 1977.

Congressman ALLEN E. ERTEL,
Longworth House Office Building,
Washington, D.C.

DEAR CONGRESSMAN ERTEL: As I promised, enclosed you will find a copy of Senate Bill 743, the Flood Plain Management Act, and Senate Bill 744, the Storm Water Run-Off Act plus analyses.

If you have any further questions concerning this legislation, please don't hesitate to contact me.

Sincerely yours,

FRANKLIN L. KURY, *State Senator.*

Enclosures.

SENATE BILL 744

STORM WATER MANAGEMENT ACT

FACT SHEET

Legislative findings

It is the finding of the General Assembly that the run-off storm water from development outside the immediate flood plain of a community contributes significantly to the potential for flooding by overtaxing the capacity of streams and storm sewers to handle the load and only serves to undermine the conscientious effort to coordinate and plan development within the flood plain itself. Therefore, a comprehensive program of storm water management to regulate development which causes accelerated run-off is fundamental to a comprehensive and coordinated program of flood control.

Statement of purpose and policy

The act is intended to encourage planning and management of storm-water run-off and preserve the flood carrying capacity of Pennsylvania streams through a program of local administration and implementation.

Watershed storm water plans

Within 2 years of enactment, each county shall adopt a watershed storm water management plan for each watershed located in the county as designated by the Dept. of Environmental Resources. The plans are to be revised and, when necessary, revised at least every five years. Among the factors the plans must incorporate are:

A survey of run-off characteristics.

An assessment of projected and alternative land development patterns within the watershed and the potential impact of them on run-off quantity, velocity and quality.

A survey of existing drainage problems and their solutions.

A review of existing and projected storm water collect systems and their impact.

A designation of those areas to be served by storm water collection and control facilities within a 10-year period; the design capacity and cost of such facilities; and a schedule of financing, construction, and operation.

An identification of flood plains within the watershed.

Municipal and public participation

The act calls for the creation of a watershed planning advisory committee composed of at least one representative from each municipality in the watershed. The committee is to advise the county on planning, policy, and the like.

Before the adoption of a watershed storm water plan, a review shall be made by the planning agency and governing body of each municipality, the county planning commission and regional planning agencies for consistency with other plans and programs affecting the watershed. Public hearings also would be required before adoption of the plan.

Department of Environmental Resources

The Department of Environmental Resources would be required to review all watershed storm water plans and approve them if it is determined they are: Consistent with municipal flood plain management plans, water obstructions and state and federal control programs; and also, are compatible with other watershed plans for the basin in which the water is located.

The Department would also coordinate the management of storm water throughout the state and provide technical assistance to counties and municipalities in the development of management plans.

Enforcement

If the DER finds that a municipality has failed within 6 months to adopt ordinances to implement a county storm water plan, it shall notify that municipality in writing.

If within 60 days of notification, noncompliance still exists, the Department may issue an order directing compliance. The municipality may appeal the order to the Environmental Hearing Board.

If no appeal is taken, or the order sustained on appeal and the municipality fails to comply, a petition for a contempt order may be filed by the Department with Commonwealth Court or the appropriate county court. If the court finds contempt, civil penalties of not less than \$100 or more than \$10,000, plus \$500 for each day of continuing violation. In addition, the court shall order full compliance with the Department's order by a date fixed by the court.

Responsibility of landowners and developers

Any landowner or developer would be required to tailor into their alterations or development provisions to insure: The maximum rate of storm water runoff is no greater after development than prior to development; and to manage the quantity, velocity and direction of resulting runoff in a manner which adequately protects health and property. Downstream municipalities or property owners would be given power to go into court to seek relief from developers who fail to comply.

Appropriations

To DER—\$500,000.

Effective date

Immediate upon enactment.

THE GENERAL ASSEMBLY OF PENNSYLVANIA

SENATE BILL**No. 744**Session of
1977

INTRODUCED BY KURY, MURRAY, MELLOW, HOLL AND WOOD, APRIL 19, 1977

REFERRED TO ENVIRONMENTAL RESOURCES, APRIL 19, 1977

AN ACT

- 1 Providing for the regulation of land and water use for flood
2 control and storm water management purposes, imposing duties
3 and conferring powers on the Department of Environmental
4 Resources, municipalities and counties, providing for
5 enforcement and penalties, and making appropriations.

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13 planning.
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19 Section 12. Failure of municipalities to adopt implementing

1 ordinances.

2 Section 13. Duty of persons engaged in the development of
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4 Section 14. Powers and duties of the Department of
5 Environmental Resources.

6 Section 15. Civil remedies.

7 Section 16. Criminal penalties.

8 Section 17. Preservation of existing rights and remedies.

9 Section 18. Appropriations.

10 Section 19. Repealer and savings clause.

11 Section 20. Effective date.

12 The General Assembly of the Commonwealth of Pennsylvania

13 hereby enacts as follows:

14 Section 1. Short title.

15 This act shall be known and may be cited as the "Storm Water
16 Management Act."

17 Section 2. Statement of legislative findings.

18 The General Assembly finds that:

19 (1) Inadequate management of accelerated runoff of storm
20 water resulting from development throughout a watershed
21 increases flood flows and velocities, contributes to erosion
22 and sedimentation, overtakes and carrying capacity of streams
23 and storm sewers, greatly increases the cost of public
24 facilities to carry and control storm water, undermines flood
25 plain management and flood control efforts in downstream
26 communities, reduces ground-water recharge, and threatens
27 public health and safety.

28 (2) A comprehensive program of storm water management,
29 including reasonable regulation of development and activities
30 causing accelerated runoff, is fundamental to the public

1 health, safety and welfare and the protection of the people
2 of the Commonwealth, their resources and the environment.

3 Section 3. Purpose and policy.

4 The policy and purpose of this act is to:

5 (1) Encourage planning and management of storm water
6 runoff in each watershed which is consistent with sound water
7 and land use practices.

8 (2) Authorize a comprehensive program of storm water
9 management designated to preserve and restore the flood
10 carrying capacity of Commonwealth streams; to preserve to the
11 maximum extent practicable natural storm water runoff regimes
12 and natural course, current and cross-section of water of the
13 Commonwealth; and to protect and conserve ground waters and
14 ground-water recharge areas.

15 (3) Encourage local administration and management of
16 storm water consistent with the Commonwealth's duty as
17 trustee of natural resources and the people's constitutional
18 right to the preservation of natural, economic, scenic,
19 aesthetic, recreational and historic values of the
20 environment.

21 Section 4. Definitions.

22 The following words and phrases when used in this act shall
23 have, unless the context clearly indicates otherwise, the
24 meanings given to them in this section:

25 "Department." The Department of Environmental Resources of
26 the Commonwealth of Pennsylvania.

27 "Governmental unit." Any county, municipality, political
28 subdivision or the Commonwealth, and any department, authority,
29 agency or board thereof or any agent of the foregoing.

30 "Municipality." A city, borough, town or township, or any

1 county or other governmental unit when acting as an agent
2 thereof, or any combination thereof acting jointly.

3 "Pennsylvania Municipalities Planning Code." The act of July
4 31, 1968 (P.L.805, No.247), as amended.

5 "Person." An individual, partnership, public or private
6 association or corporation, firm, trust, estate, municipality,
7 governmental unit, public utility or any other legal entity
8 whatsoever which is recognized by law as the subject of rights
9 and duties. Whenever used in any section prescribing or imposing
10 a penalty, the term "person" shall include the members of a
11 partnership, the officers, members, servants and agents of an
12 association, the shareholders, officers, agents and servants of
13 a corporation, and the officers of a municipality or county, but
14 shall exclude any department, board, bureau or agency of the
15 Commonwealth.

16 "Public utility service." The rendering of the following
17 services for the public:

18 (1) gas, electricity or steam production, generation,
19 transmission or distribution;

20 (2) water diversion, pumping, impoundment, or
21 distribution;

22 (3) railroad transportation of passengers or property;

23 (4) operation of a canal, turnpike, tunnel, bridge,
24 wharf or similar structure;

25 (5) transportation of natural or artificial gas, crude
26 oil, gasoline or petroleum products, materials for
27 refrigeration or other fluid substances by pipeline or
28 conduit;

29 (6) telephone or telegraph communications; and

30 (7) sewage collection, treatment or disposal.

1 "Storm water." Drainage runoff from the surface of the land
2 resulting from precipitation or snow or ice melt.

3 "Watershed" The entire region or area drained by a river or
4 other body of water, whether natural or artificial.

5 "Watershed storm water plan." A plan for storm water
6 management adopted by a county in accordance with section 5.
7 Section 5. Watershed storm water plans and contents.

8 (a) Within two years following the effective date of this
9 act, each county shall prepare and adopt a watershed storm water
10 management plan for each watershed located in the county as
11 designated by the department, in consultation with the
12 municipalities located within each watershed, and shall
13 periodically review and revise such plan at least every five
14 years.

15 (b) Each watershed storm water plan shall include, but is
16 not limited to:

17 (1) a survey of existing runoff characteristics in small
18 as well as large storms, including the impact of soils,
19 slopes, vegetation and existing development;

20 (2) a survey of existing significant obstructions and
21 their capacities;

22 (3) An assessment of projected and alternative land
23 development patterns in the watershed, and the potential
24 impact of runoff quantity, velocity and quality;

25 (4) an analysis of present and projected development in
26 flood hazard areas, and its sensitivity to damages from
27 future flooding or increased runoff;

28 (5) a survey of existing drainage problems and proposed
29 solutions;

30 (6) a review of existing and proposed storm water

1 collection systems and their impacts;

2 (7) an assessment of alternative runoff control
3 techniques and their efficacy in the particular watershed;

4 (8) an identification of existing and proposed State,
5 Federal and local flood control projects located in the
6 watershed and their design capacities;

7 (9) a designation of those areas to be served by storm
8 water collection and control facilities within a ten-year
9 period, an estimate of the design capacity and costs of such
10 facilities, a schedule and proposed methods of financing the
11 development, construction and operation of such facilities,
12 and an identification of the existing or proposed
13 institutional arrangements to implement and operate the
14 facilities;

15 (10) an identification of flood plains within the
16 watershed;

17 (11) criteria and standards for the control of storm
18 water runoff from existing and new development which are
19 necessary to minimize dangers to property and life and carry
20 out the purposes of this act; and

21 (12) provisions for periodically reviewing, revising and
22 updating the plan.

23 (c) Each watershed storm water plan shall:

24 (1) contain such provisions as are reasonably necessary
25 to manage storm water such that development or activities in
26 each municipality within the watershed do not adversely
27 affect health, safety and property in other municipalities
28 within the watershed and in basins to which the watershed is
29 tributary; and

30 (2) consider and be consistent with other existing

1 municipal, county, regional and State environmental and land
2 use plans.

3 Section 6. Municipal and public participation in watershed
4 planning.

5 (a) The county shall establish, in conjunction with each
6 watershed storm water planning program, a watershed plan
7 advisory committee composed of at least one representative from
8 each municipality within the watershed and such other agencies
9 or groups as are necessary and proper to carry out the purposes
10 of the committee.

11 (b) Each committee shall be responsible for advising the
12 county throughout the planning process, evaluating policy and
13 project alternatives, coordinating the watershed storm water
14 plans with other municipal plans and programs, and reviewing the
15 plan prior to adoption.

16 (c) Prior to adoption, each plan shall be reviewed by the
17 official planning agency and governing body of each
18 municipality, the county planning commission and regional
19 planning agencies for consistency with other plans and programs
20 affecting the watershed. All such reviews shall be submitted to
21 the department with the proposed plan.

22 Section 7. Joint plans and coordination of planning.

23 Where a watershed includes land in more than one county, the
24 department may require that the affected counties:

25 (1) prepare, adopt and submit a joint plan for the
26 entire watershed; or

27 (2) take such other actions as may be necessary and
28 appropriate to coordinate storm water planning for the entire
29 watershed.

30 Section 8. Adoption and amendment.

1 (a) Prior to adoption or amendment of a watershed storm
2 water plan, the county shall hold a public hearing pursuant to
3 public notice of not less than two weeks. The notice shall
4 contain a brief summary of the principal provisions of the plan,
5 and a reference to the places within each affected municipality
6 where copies may be examined or purchased at cost.

7 (b) Adoption or amendment of the plan shall be by resolution
8 carried by an affirmative vote of at least a majority of the
9 members of the county governing body. The resolution shall refer
10 expressly to the maps, charts, textural matter and other
11 materials intended to form the whole or part of the official
12 plan, or amendment thereto, and the action shall be recorded on
13 the adopted plan, part or amendment.

14 Section 9. Review and approval by the department.

15 (a) The department shall, in consultation with the
16 Department of Community Affairs, review all watershed storm
17 water plans and revisions or amendments thereto. It shall
18 approve the plan if it determines:

19 (1) that the plan is consistent with municipal flood
20 plain management plans, State programs which regulate dams,
21 encroachments, and water obstructions, and State and Federal
22 flood control programs; and

23 (2) that the plan is compatible with other watershed
24 storm water plans for the basin in which the watershed is
25 located, and is consistent with the policies and purposes of
26 this act.

27 (c) Any person aggrieved by a final decision of the
28 department approving or disapproving a watershed plan or
29 amendment thereto, may appeal the decision to the Environmental
30 Hearing Board in accordance with the provisions of section

1 1921-A of the act of April 9, 1929 (P.L.177, No.175), known as
2 "The Administrative Code of 1929," and the act of June 4, 1945
3 (P.L.1388, No.442), known as the "Administrative Agency Law."
4 Section 10. Failure to submit plan; mandamus.

5 The department may institute an action in mandamus in the
6 Commonwealth Court or the court of common pleas of the county or
7 counties in which the watershed is located, to compel counties
8 to adopt and submit plans in accordance with this act.

9 Section 11. Effect of watershed storm water plans.

10 (a) After adoption and approval of a watershed storm water
11 plan in accordance with this act, the location, design and
12 construction within the watershed of storm water management
13 systems, obstructions, flood control projects, subdivisions and
14 major land developments, highways and transportation facilities,
15 facilities for the provision of public utility services and
16 facilities owned or financed in whole or in part by funds from
17 the Commonwealth shall be conducted in a manner consistent with
18 the watershed storm water plan.

19 (b) Within six months following adoption and approval of the
20 watershed storm water plan, each municipality shall adopt or
21 amend, and shall implement such ordinances and regulations,
22 including zoning, subdivision and development, building code,
23 and erosion and sedimentation ordinances, as are necessary to
24 regulate development within the municipality in a manner
25 consistent with the applicable watershed storm water plan and
26 the provisions of this act.

27 Section 12. Failure of municipalities to adopt implementing
28 ordinances.

29 (a) If the department finds that a municipality has failed
30 to adopt or amend, and implement such ordinances and regulations

1 as required by section 11, the department shall provide written
2 notice of violation to the municipality.

3 (b) If, within 60 days of receipt of a notice of violation,
4 the municipality has not fully complied with the requirements of
5 section 11, the department may issue an order to the
6 municipality and its officers requiring compliance with such
7 terms and conditions as are necessary to carry out this act. Any
8 order issued under this section shall take effect upon receipt
9 of notice, unless the order specifies otherwise. Any person
10 aggrieved by an action of the department in issuing an order
11 shall have the right within 30 days of receipt of notice of such
12 action to appeal such action to the Environmental Hearing Board,
13 pursuant to section 1921-A of "The Administrative Code of 1929,"
14 and the "Administrative Agency Law."

15 (c) Any municipality or person failing to comply with an
16 order issued pursuant to this section from which no appeal has
17 been taken, which has been sustained on appeal, or for which no
18 supersedeas has been granted, shall be deemed in contempt of
19 such order. Upon petition and certification of the order by the
20 department, the Commonwealth Court or the court of common pleas
21 of the county in which the municipality is located, shall, if it
22 finds that the municipality and its officers are not in
23 compliance with the order, adjudge the same in contempt and
24 shall assess civil penalties of an amount not less than \$100 nor
25 greater than \$10,000 per violation plus \$500 for each continuing
26 day of violation.

27 (d) Where the municipality or its officers have not as of
28 the date of hearing before the court complied with the
29 department's order, the court shall specifically order full
30 compliance with the department's order by a date set by the

1 court, and may issue any further order as may be appropriate.

2 Section 13. Duty of persons engaged in the development of land.

3 Any landowner and any person engaged in the alteration or
4 development of land which may affect storm water runoff
5 characteristics shall implement such measures consistent with
6 the provisions of the applicable watershed storm water plan as
7 are reasonably necessary to prevent injury to health, safety or
8 other property. Such measures shall include such actions as are
9 required:

10 (1) to assure that the maximum rate of storm water
11 runoff is no greater after development than prior to
12 development activities; or

13 (2) to manage the quantity, velocity and direction of
14 resulting storm water runoff in a manner which otherwise
15 adequately protects health and property from possible injury.

16 Section 14. Powers and duties of the Department of

17 Environmental Resources.

18 The Department of Environmental Resources shall have the
19 power and its duty shall be to:

20 (1) Coordinate the management of storm water in the
21 Commonwealth.

22 (2) Provide in cooperation with the Department of
23 Community Affairs technical assistance to counties and
24 municipalities in implementing this act.

25 (3) Publish guidelines for storm water management, and
26 model storm water ordinances for use by counties and
27 municipalities.

28 (4) Review, in cooperation with the Department of
29 Community Affairs, and approve all watershed plans and
30 revisions thereto.

1 (5) Cooperate with appropriate agencies of the United
2 States or of other states or any interstate agencies with
3 respect to the planning and management of storm water.

4 (6) Serve as the agency of the Commonwealth for the
5 receipt of moneys from the Federal Government of other public
6 or private agencies or persons and expend such moneys for
7 studies and research with respect to planning and management
8 of storm water.

9 (7) Conduct studies and research regarding the causes,
10 effects and hazards of storm water and methods for storm
11 water management.

12 (8) Conduct and supervise educational programs with
13 respect to storm water management.

14 (9) Require the submission of records and periodic
15 reports by county and municipal agencies as necessary to
16 carry out the purposes of this act.

17 (10) Do any other acts not inconsistent with this act
18 necessary to carry out the purposes and policies of this act.

19 Section 15. Civil remedies.

20 (a) Any activity conducted in violation of the provisions of
21 this act or of any watershed storm water plan, regulations or
22 ordinances adopted hereunder, is hereby declared a public
23 nuisance.

24 (b) Suits to restrain, prevent or abate violation of this
25 act or of any watershed storm water plan, regulations or
26 ordinances adopted hereunder, may be instituted in equity or at
27 law by the department, any affected county or municipality, or
28 any person. Such proceedings may be prosecuted in the
29 Commonwealth Court, or in the court of common pleas of the
30 county where the activity has taken place, the condition exists,

1 or the public affected, and to that end jurisdiction is hereby
2 conferred in law and equity upon such courts. Except in cases of
3 emergency where, in the opinion of the court, the circumstances
4 of the case require immediate abatement of the unlawful conduct,
5 the court may, in its decree, fix a reasonable time during which
6 the person responsible for the unlawful conduct shall correct or
7 abate the same. The expense of such proceedings shall be
8 recoverable from the violator in such manner as may now or
9 hereafter be provided by law.

10 (c) Any person injured by conduct which violates the
11 provisions of section 13 may, in addition to any other remedy
12 provided under this act, recover damages caused by such
13 violation from the landowner or other responsible person.
14 Section 16. Criminal penalties.

15 (a) Any person who violates the provisions of this act or of
16 a watershed storm water plan, regulation or ordinance adopted
17 hereunder, is guilty of a summary offense and, upon conviction,
18 shall be sentenced to pay a fine of not less than \$100 nor more
19 than \$1,000 for each separate offense, and, in default of the
20 payment of such fine, to imprisonment for a period of not more
21 than 60 days.

22 (b) Any person who, within two years after a conviction in a
23 summary proceeding as provided in subsection (a), violates the
24 provisions of this act or of a watershed storm water plan,
25 regulations or ordinances adopted hereunder, is guilty of a
26 misdemeanor and, upon conviction, shall be sentenced to pay a
27 fine of not less than \$500 nor more than \$5,000 for each
28 separate offense or to imprisonment for a period of not more
29 than one year, or both.

30 (c) Each day of continued violation shall constitute a

1 separate offense under subsections (a) and (b). Any criminal
2 penalty collected under this act shall be paid to the
3 municipality or municipalities in which the violation occurred
4 to be used by said municipality or municipalities in achieving
5 the purposes of this act.

6 Section 17. Preservation of existing rights and remedies.

7 (a) The collection of any penalty under the provisions of
8 this act shall not be construed as estopping the Commonwealth,
9 any county, municipality or person from proceeding in courts of
10 law or equity to abate nuisances under existing law or to
11 restrain, at law or in equity, violation of this act.

12 (b) It is hereby declared to be the purpose of this act to
13 provide additional and cumulative remedies to abate nuisances.

14 Section 18. Appropriations.

15 The sum of \$500,000 or as much thereof as may be necessary,
16 is hereby appropriated for the fiscal period beginning July 1,
17 1977, and ending June 30, 1978, to the Department of
18 Environmental Resources for the purposes of administrative and
19 general expenses in implementing the provisions of this act.

20 Section 19. Repealer and savings clause.

21 (a) All acts or parts of acts inconsistent herewith are
22 hereby repealed to the extent of such inconsistency.

23 (b) The provisions of this act shall not effect any suit or
24 prosecution pending or to be instituted to enforce any right or
25 penalty or punish any offense under the authority of any act of
26 Assembly or part thereof repealed by this act.

27 Section 20. Effective date.

28 This act shall take effect immediately.

SENATE BILL 743

FLOOD PLAIN MANAGEMENT ACT

FACT SHEET

Legislative findings

The exclusive use of flood control measures such as dams, flood walls and the like have by themselves failed to significantly reduce the human suffering and economic loss caused by recurring flooding. A comprehensive and coordinated program of flood plain management is necessary for the protection of the people and property of the Commonwealth.

Statement of purpose and policy

Encourage the future planning and development in the flood plains of the state in a manner which is consistent with sound land use practice. Also, to encourage local administration and management of flood plains within the boundaries of the municipality. Also, to minimize the expenditure of both public and private funds for flood control projects and, particularly, for relief, rescue and recovery efforts because of floods.

Municipal participation

All municipalities within the 100-year flood plain as delineated by the U.S. Department of Housing and Urban Development would be required to participate in the Federal Flood Insurance program.

Essentially, they would have 6 months to adopt ordinances which would conform to the requirements of the National Flood Insurance program.

The standards set forth in the National Flood Insurance program would be considered minimal standards. Municipalities may enact more restrictive ordinances should they desire.

Principal administrative agency

The primary responsibility for the administration, implementation and enforcement of the act would be vested in the Department of Community Affairs, with the Department of Environmental Resources as a supporting agency.

DCA would be charged with the responsibility of ensuring that municipal regulations do, in fact, conform to the National Flood Insurance program and that the regulations are coordinated and uniformly enforced.

DCA would be empowered to adopt standards and criteria for making this determination. Public hearings in each major river basin would be required before the regulations are adopted or, later, amended.

DCA also would be the agency to provide technical assistance or support to the municipalities in the preparation of their flood plain management ordinances.

The Department of Environmental Resources would be the administering agency for those things excluded by law from local zoning. They would include facilities providing a public utility service, such as railroads; flood control projects undertaken by public funds; state highways; etc.

Enforcement procedures

If the Department of Community Affairs finds a municipality in violation of the flood plain management provisions, it must notify that municipality of that fact in writing.

If, after 60 days from notification, the municipality still is in violation, the DCA may issue an order directing compliance. If non-compliance continues, DCA may seek a contempt order from the appropriate Common Pleas Court.

If the court finds contempt, it may direct civil penalties to be paid by the municipality ranging from a minimum of \$100 to a maximum of \$10,000, plus \$500 for each continued day of violation.

If the municipality fails to comply by the date set by the court, the court, as a last resort, may order DCA to adopt and administer a flood plain ordinance for the municipality.

Appropriation

To DCA—\$750,000.

To DER—\$250,000.

Effective date

Immediately, upon enactment.

THE GENERAL ASSEMBLY OF PENNSYLVANIA

SENATE BILL**No. 743**Session of
1977

INTRODUCED BY KURY, MURRAY, MELLOW, HOLL, WOOD AND MOORE, APRIL 19, 1977

REFERRED TO ENVIRONMENTAL RESOURCES, APRIL 19, 1977

AN ACT

1 Providing for the regulation of land and water use for flood
 2 control purposes, imposing duties and conferring powers on
 3 the Department of Community Affairs, the Department of
 4 Environmental Resources, and municipalities, providing for
 5 penalties and enforcement and making appropriations.

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- 27 Section 602. Appropriations.
- 28 Section 603. Repealer and savings clause.
- 29 Section 604. Effective date.
- 30 The General Assembly of the Commonwealth of Pennsylvania

1 hereby enacts as follows:

2 CHAPTER 1

3 PRELIMINARY PROVISIONS

4 Section 101. Short title.

5 This act shall be known and may be cited as the "Flood Plain
6 Management Act."

7 Section 102. Statement of legislative findings.

8 (a) Flooding of large areas of land within the Commonwealth
9 causes unnecessary loss of life, destroys private and public
10 property, damages means of livelihood and economic resources;
11 disrupts commerce, communication, utility and governmental
12 services; causes pollution and unsanitary conditions; carries
13 solid waste, sewage and other materials injurious to health and
14 property; all of which is detrimental to the health, safety and
15 welfare of the people of the Commonwealth.

16 (b) Extensive expenditures of public funds have been
17 allocated to costly flood control projects, repair and
18 maintenance of public facilities and property, and relief and
19 rescue efforts, to reduce the disastrous effects of recurrent
20 flooding.

21 (c) The exclusive use of flood control measures, such as
22 engineering projects, has failed to significantly reduce the
23 human suffering and economic losses caused by recurrent
24 flooding.

25 (d) A comprehensive and coordinated program of flood plain
26 management, based upon the National Flood Insurance Program, is
27 fundamental to the health, safety, welfare and protection of the
28 people of the Commonwealth.

29 Section 103. Statement of policy and purposes.

30 The policy and purpose of this act is to:

1 (1) Encourage planning and development in flood plains
2 which are consistent with sound land use practices.

3 (2) Protect people and property in flood plains from the
4 dangers and damage of floodwaters and from materials carried
5 by such floodwaters.

6 (3) Prevent and eliminate urban and rural blight which
7 results from the damages of flooding.

8 (4) Authorize a comprehensive and coordinated program of
9 flood plain management, based upon the National Flood
10 Insurance Program, designed to preserve and restore the
11 efficiency and carrying capacity of the streams and flood
12 plains of the Commonwealth.

13 (5) Assist municipalities in qualifying for the National
14 Flood Insurance Program.

15 (6) Provide for and encourage local administration and
16 management of flood plains.

17 (7) Minimize the expenditure of public and private funds
18 for flood control projects and for relief, rescue and
19 recovery efforts.

20 Section 104. Definitions.

21 The following words and phrases when used in this act shall
22 have, unless the context clearly indicates otherwise, the
23 meanings given to them in this section:

24 "Department." The Department of Community Affairs of the
25 Commonwealth of Pennsylvania.

26 "Flood." A general but temporary condition of partial or
27 complete inundation of normally dry land areas from the overflow
28 of streams, rivers or other waters of the Commonwealth.

29 "Flood plain management regulations." Zoning ordinances,
30 subdivision regulations, building codes, health regulations,

1 special purpose ordinances and other applications of police
2 power. The term describes such State or local regulations, in
3 any combination thereof, which provide standards for the purpose
4 of flood damage, prevention and reduction.

5 "Floodproofing." Structural or other changes or adjustments
6 to properties or obstructions for the reduction or elimination
7 of flood damages to such properties and obstructions or to the
8 contents of any structure.

9 "Municipality." A city, borough, town or township or any
10 similar general purpose unit of government, or county or other
11 governmental unit when acting as an agent thereof, or any
12 combination thereof acting jointly.

13 "Obstruction." Any structure or assembly of materials above
14 or below the surface of land or water, and an activity which
15 might impede, retard or change flood flows. The planting,
16 cultivation and harvesting of field and orchard crops or the
17 grazing of livestock, including the maintenance of necessary
18 appurtenant agricultural fencing, shall not be considered an
19 "obstruction" under this definition and shall not be subject to
20 regulation under this act.

21 "One hundred-year flood." The highest level of flooding
22 that, on the average, is likely to occur every 100 years, that
23 is, that has a 1% chance of occurring each year.

24 "One hundred-year flood plain" or "flood plain." The
25 100-year floodway and that maximum area of land that is likely
26 to be flooded by a 100-year flood shown on flood plain maps
27 approved or promulgated by the United States Department of
28 Housing and Urban Development.

29 "Person." An individual, partnership, public or private
30 association or corporation, firm, trust, estate, municipality,

1 governmental unit, public utility or any other legal entity
2 whatsoever which is recognized by law as the subject of rights
3 and duties.

4 "Public utility service." The rendering of the following
5 services for the public:

6 (1) gas, electricity or steam production, generation,
7 transmission or distribution;

8 (2) water diversion, pumping, impoundment or
9 distribution;

10 (3) railroad transportation of passengers or property;

11 (4) operation of a canal, turnpike, tunnel, bridge,
12 wharf or similar structure;

13 (5) transportation of natural or artificial gas, crude
14 oil, gasoline or petroleum products, materials for
15 refrigeration or other fluid substances by pipeline or
16 conduit;

17 (6) telephone or telegraph communications; and

18 (7) sewage collection, treatment or disposal.

19 "Watershed." The entire region or area drained by a river or
20 other body of water, whether natural or artificial.

21 CHAPTER 2

22 MUNICIPAL PARTICIPATION IN NATIONAL FLOOD INSURANCE PROGRAM

23 Section 201. Required participation in National Flood Insurance
24 Program.

25 (a) Each municipality which has been notified by the United
26 States Department of Housing and Urban Development that it has
27 been identified as having an area or areas which are subject to
28 flooding shall participate in the National Flood Insurance
29 Program.

30 (b) If a municipality is not participating in the National

1 Flood Insurance Program at the time this act becomes effective,
2 such municipality shall apply for eligibility and fully comply
3 with the requirements for participation within six months of the
4 effective date of this act, or six months from the date of
5 notification by the United States Department of Housing and
6 Urban Development that it has been identified as having an area
7 or areas subject to flooding, whichever is first.

8 (c) If a municipality, for whatever reason, is suspended
9 from the National Flood Insurance Program, once having gained
10 eligibility, such municipality shall regain eligibility within
11 90 days of the date of receipt of its notice of suspension.

12 Section 202. Adoption of flood plain management regulations.

13 Each municipality shall adopt such flood plain management
14 regulations, and amendments thereto, as are necessary to comply
15 with the requirements of the National Flood Insurance Program
16 within six months after a flood plain map is approved or
17 promulgated for the municipality by the United States Department
18 of Housing and Urban Development.

19 Section 203. Relationship of flood plain management regulations
20 to the Municipalities Planning Code and other
21 applicable enabling legislation.

22 (a) The adoption and administration by municipalities of
23 flood plain management regulations, or amendments thereto, which
24 are necessary to comply with the requirements of the National
25 Flood Insurance Program shall be governed by the provisions of
26 the act of July 31, 1968 (P.L.805, No.247), known as the
27 "Pennsylvania Municipalities Planning Code," or other applicable
28 enabling legislation; provided, that a municipality may adopt
29 flood plain management regulations for the flood plain without
30 adopting ordinances, codes or regulations for any other area of

1 the municipality, notwithstanding any provision of the
2 Municipalities Planning Code or other applicable enabling
3 legislation.

4 Section 204. Requirements of the National Flood Insurance
5 Program deemed minimum standards.

6 The flood plain management regulations adopted by a
7 municipality in order to comply with the requirements of the
8 National Flood Insurance Program shall be deemed minimum
9 standards for the management of the flood plains, and no
10 provision of this act shall be construed as in any way limiting
11 the power of any municipality to adopt more restrictive
12 ordinances, codes or regulations for the management of flood
13 plains.

14 Section 205. Department review and approval of municipal flood
15 plain management regulations.

16 (a) The department shall, in consultation with the
17 Department of Environmental Resources, review and approve all
18 municipal flood plain management regulations, and amendments
19 thereto, for the purpose of assuring that such regulations
20 comply with the requirements of the National Flood Insurance
21 Program and that such regulations are coordinated and uniformly
22 enforced throughout each watershed.

23 (b) The department, in consultation with the Department of
24 Environmental Resources, shall adopt, and periodically review
25 and amend, regulations including but not limited to:

26 (1) Criteria and standards for the coordination and
27 uniform enforcement of municipal flood plain management
28 regulations under the National Flood Insurance Program.

29 (2) Procedures, requirements and standards for
30 submission, review and approval of municipal flood plain

1 management regulations pursuant to this section.

2 (c) Prior to adoption of department regulations pursuant to
3 this section, the department shall hold at least one public
4 hearing, after public notice, in each major river basin of the
5 Commonwealth. Prior to any amendment of department regulations,
6 the department shall hold at least one public hearing after
7 public notice.

8 Section 206. Municipalities required to comply with department
9 regulations.

10 Each municipality participating in the National Flood
11 Insurance Program shall comply with any regulations adopted by
12 the department pursuant to this chapter within six months of the
13 effective date of such regulations. A municipality shall be
14 deemed to have complied with department regulations if it has
15 received department approval as provided for in this chapter.

16 CHAPTER 3

17 REGULATION OF PARTICULAR OBSTRUCTIONS

18 Section 301. Obstructions posing special hazards in flood
19 plains.

20 (a) The department shall by regulation publish a list of
21 obstructions which it determines present a special hazard to the
22 health and safety of the public or occupants or may result in
23 significant pollution, increased flood levels or flows or debris
24 endangering life and property, if such obstructions are located
25 in all or a designated portion of the flood plain. These
26 obstructions include, but are not limited to: hospitals, nursing
27 homes, jails, facilities for the production or storage of
28 hazardous materials and facilities necessary for emergency
29 response.

30 (b) Construction of any structure or commencement of any

1 activity listed as a special hazard by department regulations in
2 a flood plain or such portion of the flood plain designated by
3 the regulations shall be prohibited except in accordance with a
4 special exception issued pursuant to this section.

5 (c) A municipality administering flood plain management
6 regulations may issue a special exception if the applicant
7 demonstrates and the municipality determines that the structure
8 or activity will be located, constructed and maintained in a
9 manner which:

10 (1) will fully protect the health and safety of the
11 public or occupants;

12 (2) will prevent any significant possibility of
13 pollution, increased flood levels or flows, or debris
14 endangering life and property; and

15 (3) will comply with the requirements of the National
16 Flood Insurance Program.

17 Approval of any special exception shall be conditioned upon
18 compliance with all feasible floodproofing and other
19 requirements necessary to minimize damage, and the hindrance of
20 flood flows and to minimize potential danger to life and
21 property.

22 (d) Written notice of municipal approval of a special
23 exception shall be filed with the department. The special
24 exception shall become effective 30 days following the receipt
25 of notice by the department unless the special exception is
26 disapproved by the department. If the department disapproves a
27 special exception, it shall notify the municipality and
28 applicant of the reasons for disapproval.

29 Section 302. Exclusive State jurisdiction over certain
30 obstructions in flood plains.

1 (a) Except as otherwise provided in this section, the
2 Department of Environmental Resources shall have exclusive
3 jurisdiction under this act to regulate:

4 (1) any obstruction otherwise regulated under the Water
5 Obstructions Act;

6 (2) any flood control project constructed, owned or
7 maintained by a governmental unit;

8 (3) any highway or other obstruction, constructed, owned
9 or maintained by the Commonwealth; and

10 (4) any obstruction owned or maintained by a person
11 engaged in the rendering of a public utility service.

12 (b) No person shall construct, modify, remove, abandon or
13 destroy any structure or engage in any activity specified in
14 subsection (a) in the 100-year flood plain unless such person
15 has first applied for and obtained a permit from the Department
16 of Environmental Resources. The department may impose such
17 permit terms and conditions as it deems necessary to carry out
18 the purposes of this act.

19 (c) The Environmental Quality Board shall adopt such
20 regulations and standards as are necessary to carry out this
21 section in accordance with the purposes of this act, including
22 provisions for the payment of reasonable nonrefundable filing
23 fees.

24 (d) The Department of Environmental Resources may, in
25 accordance with regulations adopted by the Environmental Quality
26 Board, delegate its authority under this act and the Storm Water
27 Management Act to regulate and permit obstructions having only
28 local significance, other than those prescribed in subsection
29 (a) (2), (3) and (4), to a municipality administering flood plain
30 management regulations.

1 (e) The Department of Environmental Resources shall regulate
2 those obstructions subject to exclusive State jurisdiction in a
3 manner consistent to the maximum extent possible with the
4 standards and criteria established in municipal flood plain
5 management regulations.

6 (f) The Department of Environmental Resources may modify,
7 suspend or revoke any permit issued under this act if it finds
8 that the permittee has violated the permit terms and conditions
9 or the provisions of this act and regulations adopted hereunder,
10 or that any change has occurred in the physical condition of the
11 site which will materially affect safe construction and
12 maintenance of the structure or activity.

13 CHAPTER 4

14 POWERS AND DUTIES

15 Section 401. Powers and duties of the Department of Community
16 Affairs and the Department of Environmental
17 Resources.

18 (a) The Department of Community Affairs shall have the power
19 and its duty shall be to:

20 (1) Coordinate the administration of municipal flood
21 plain management regulations in the Commonwealth.

22 (2) Require the submission of municipal flood plain
23 management regulations and municipal records and reports, as
24 necessary to carry out the purposes of this act.

25 (3) Provide technical assistance for the purpose of
26 assisting municipalities in complying with the provisions of
27 this act.

28 (4) Draft, publish and approve, for use by
29 municipalities, model flood plain ordinances, codes and
30 regulations which comply with the requirements of the

1 National Flood Insurance Program and the regulations adopted
2 pursuant to this act.

3 (b) The Department of Community Affairs and the Department
4 of Environmental Resources shall exercise the joint powers and
5 their duties shall be to:

6 (1) Cooperate with appropriate agencies of the United
7 States or of other states or any interstate agencies with
8 respect to the planning and management of flood plains.

9 (2) Serve as the agencies of the Commonwealth for the
10 receipt of moneys from the Federal Government or other public
11 or private agencies or persons and expend such moneys for
12 studies and research with respect to the planning and
13 management of flood plains.

14 Section 402. Additional powers and duties of the Department of
15 Community Affairs, Department of Environmental
16 Resources and municipalities.

17 In conjunction with their responsibilities otherwise provided
18 under this act, the Department of Community Affairs, the
19 Department of Environmental Resources and every municipality
20 administering flood plain management regulations shall have the
21 additional power and its duty shall be to:

22 (1) Investigate complaints and conduct surveys of flood
23 plains and obstructions.

24 (2) Institute prosecutions and civil proceedings to
25 enforce the provisions of this act.

26 (3) Conduct educational programs with respect to flood
27 plain management.

28 (4) Establish reasonable fees for permit processing for
29 the program that the agency or municipality administers.

30 (5) Do any other acts not inconsistent with this act

1 which are necessary or proper for its effective
2 implementation.

3 Section 403. Inspections.

4 (a) An agent or employee of the Department of Community
5 Affairs, the Department of Environmental Resources, or of a
6 municipality administering flood plain management regulations
7 shall have the power and duty to, upon presentation of proper
8 credentials:

9 (1) Enter any land for the purpose of surveying flood
10 plains.

11 (2) Enter any land in a flood plain for the purpose of
12 ascertaining the location and condition of obstructions.

(3) Enter land or, while under construction, any structure located in a flood plain for the purpose of ascertaining the compliance or noncompliance with the flood plain management regulations adopted pursuant to this act.

(b) Whenever an agent or employee of the Department of
Community Affairs, the Department of Environmental Resources, or
municipality charged with the enforcement of the provisions of
this act has been refused access to property for the purposes of
conducting a survey or inspection as authorized by this section
or reasonably requires access to such property without prior
notice to the owner, such agent or employee may apply for an
inspection warrant to any Commonwealth official authorized by
law to issue a search or inspection warrant to enable him or her
to have access and inspect such property. It shall be sufficient
probable cause to issue an inspection warrant that the
inspection is necessary to properly enforce the provisions of
this act.

ENFORCEMENT: APPEALS

2 Section 501. Enforcement of Chapter 2.

3 (a) If the department finds that a municipality has failed
4 to comply with any requirement of Chapter 2, or any department
5 regulations adopted pursuant thereto, the department shall
6 provide a written notice of violation to the municipality.

7 (b) If within 60 days of receipt of the notice of violation,
8 the municipality has failed to comply with the requirement or
9 regulation, the department may issue an order to the
10 municipality and its officers requiring compliance with such
11 requirement or regulation. Any order issued under this
12 subsection shall take effect upon receipt of notice, unless the
13 order specifies otherwise. Any appeal of an order issued under
14 this subsection shall be in accordance with section 503.

15 (c) Any municipality or person failing to comply with an
16 order issued pursuant to this section from which no appeal has
17 been taken, which has been sustained on appeal, or for which no
18 supersedeas has been granted, shall be deemed in contempt of
19 such order. Upon petition and certification of the order by the
20 department, the Commonwealth Court or the court of common pleas
21 of the county in which the municipality is located shall, if it
22 finds that the municipality and its officers are not in
23 compliance with the order, adjudge the same in contempt and
24 shall assess civil penalties of an amount not less than \$100 nor
25 greater than \$10,000 per violation plus \$500 for each continuing
26 day of violation.

27 (d) Where the municipality or its offices have not as of the
28 date of hearing before the court complied with the department's
29 order, the court shall specifically order full compliance with
30 the department's order by a date set by the court and may issue

1 any further order as may be appropriate.

2 (e) Upon petition by the department, if the court finds
3 after hearing that the municipality or its officers have failed
4 to comply with any order issued pursuant to subsection (d) by
5 the date set by the court, the court may, as a last resort,
6 issue an order empowering the department to adopt and administer
7 flood plain management regulations for the municipality.

8 (f) Whenever pursuant to subsection (e) the department
9 adopts and administers flood plain management regulations for a
10 municipality, such regulations shall apply notwithstanding any
11 municipal flood plain management regulation; provided, that any
12 zoning or other ordinance adopted by a municipality shall remain
13 effective to the extent such ordinance is more restrictive than
14 the flood plain management regulation adopted by the department.

15 (g) Upon a determination by the department that the
16 municipality has adopted and is able to administer flood plain
17 management regulations which comply with the requirements of
18 Chapter 2 and any department regulations adopted pursuant
19 thereto, the department or the municipality may petition the
20 court requesting that the court terminate its order empowering
21 the department to adopt and administer flood plain management
22 regulations for the municipality.

23 Section 502. Civil remedies.

24 (a) Any obstruction or conduct in violation of this act or
25 of any flood plain management regulations is hereby declared a
26 public nuisance.

27 (b) Suits to restrain, prevent or abate violation of this
28 act or of any flood plain management regulations may be
29 instituted in equity or at law by the department, the Department
30 of Environmental Resources, any affected county or municipality,

1 or any person. Such proceedings may be prosecuted in the
2 Commonwealth Court, or in the court of common pleas of the
3 county where the obstruction exists, conduct occurs, or the
4 public affected, and to that end jurisdiction is hereby
5 conferred in law and equity upon such courts. Except in cases of
6 emergency where, in the opinion of the court, the circumstances
7 of the case require immediate abatement of the unlawful
8 obstruction or conduct, the court may, in its decree, fix a
9 reasonable time during which the person responsible for the
10 unlawful obstruction or conduct shall correct or abate the same.
11 The expense of such proceedings shall be recoverable from the
12 violator in such manner as may now or hereafter be provided by
13 law.

14 Section 503. Appeals.

15 (a) Any person aggrieved by any action of the Department of
16 Community Affairs shall have the right within 30 days of receipt
17 of notice of such action to appeal such action and request a
18 hearing in accordance with the act of June 4, 1945 (P.L.1388,
19 No.442), known as the "Administrative Agency Law."

20 (b) Any person aggrieved by an action of the Department of
21 Environmental Resources in granting, modifying, suspending or
22 revoking a permit or in issuing an order shall have the right
23 within 30 days of receipt of notice of such action to appeal
24 such action to the Environmental Hearing Board, pursuant to
25 section 1921-A of the act of April 9, 1929 (P.L.177, No.175),
26 known as "The Administrative Code of 1929," and the
27 "Administrative Agency Law."

28 (c) An appeal of any action under this act shall not act as
29 a supersedeas. A supersedeas may be granted by the agency
30 hearing the appeal upon a showing by the petitioner:

1 (1) that irreparable harm to the petitioner or other
2 interested parties will result if supersedeas is denied;

3 (2) that there is a likelihood of the petitioner's
4 success on the merits; and

5 (3) that the grant of a supersedeas will not result in
6 irreparable harm to the Commonwealth.

7 The agency hearing the appeal may grant such a supersedeas
8 subject to such security as it may deem proper.

9 CHAPTER 6

10 MISCELLANEOUS; APPROPRIATIONS

11 Section 601. Preservation of existing rights and remedies.

12 (a) No provision of this act shall be construed to permit an
13 activity or condition otherwise prohibited by law, or to affect
14 the rights of the Commonwealth, persons, counties or
15 municipalities to proceed in courts of law or equity to suppress
16 nuisances or to enforce common law or statutory rights.

17 (b) It is hereby declared to be the purpose of this act to
18 provide additional and cumulative remedies to abate nuisances.

19 Section 602. Appropriations.

20 (a) The sum of \$750,000, or as much thereof as may be
21 necessary, is hereby appropriated for the fiscal period
22 beginning July 1, 1977, and ending June 30, 1978, to the
23 Department of Community Affairs for the purposes of
24 administrative and general expenses in implementing the
25 provisions of this act.

26 (b) The sum of \$250,000, or as much thereof as may be
27 necessary, is hereby appropriated for the fiscal period
28 beginning July 1, 1977, and ending June 30, 1978, to the
29 Department of Environmental Resources for the purposes of this
30 act.

1 Section 603. Repealer and savings clause.

2 (a) All acts or parts of acts inconsistent herewith are
3 hereby repealed to the extent of such inconsistency.

4 (b) The provisions of this act shall not affect any suit or
5 prosecution pending or to be instituted to enforce any right or
6 penalty or punish any offense under the authority of any act of
7 Assembly or part thereof repealed by this act.

8 Section 604. Effective date.

9 This act shall take effect immediately.

Senator KURY. This is the third session that I have introduced the legislation. The last session it passed the Senate, and it passed the House, in different versions, and then it went into a conference committee, the Senate passed it, but the House rejected it.

The fact is that the biggest opposition to this legislation comes from local communities, which at many times are the most devastated by the floods, because they do not like the idea of somebody telling them what they have to do in the flood zones. That is the basic opposition to the legislation.

I think that this is a very unfortunate situation, because the local communities have had the power to regulate the flood zones for years, and yet, until the flood insurance program came along they did not do anything about it, and now some have complied and some have not.

I am pleased to say that the borough of Milton is the first community of Pennsylvania to comply with the flood plain—or with the Federal flood insurance law, and passed a good flood plains zoning law.

Other communities have not. In Johnstown, there are 82 communities hit by the flood, and only 2 had passed flood plain zoning plans, even though they had the authority to do so for over 10 years.

Now, while those local governments have failed to act, damage continues to be inflicted, and people, the State legislature, and the Federal Government have poured out money. In 1972 we were prepared to give the people of this State \$150 million in tax relief. Then a lady named Agnes visited us, and we wound up spending \$220 million in flood relief, which I cheerfully supported.

But the fact remains, as Congressman Levitas said, why should we continue to pour money into flood relief if no action is taken to minimize future flood damage, and therefore, I think we have got to pass legislation along these lines. I want to see it kept as local as possible. I prefer to have the communities enact it, but I think the local governments have to get the message, if they are not going to act, somebody else is going to do it.

It is like the old sewage enforcement law. Here we had a sewage treatment plant for 20 years, before Wilkes-Barre got around to it, and upstream in larger communities, they did not have any sewage treatment plant until the State took them to court and made them do it. Yet we were treating our sewage here in Sunbury and Milton, and Danville, and so on.

So I think we need action to insure that everybody in the watershed is enforcing what is—enforcing reasonable regulations for what is done in the flood zones. So that is something that is absolutely essential.

If we do not have that, and we continue to build walls, we are not doing a complete job, and we are risking all that money to see it topped, because we have more construction in the flood zone, a jamup of bridges, higher water, and more damage.

One other piece of legislation I want to mention, that, very briefly, is Senate bill 744, which I have been sponsoring, to require developers out of the flood zone to hold back water. This is a storm water management bill.

If a fellow wants to take a 40-acre cornfield and turn it into a 40-acre parking lot, that is fine, but I think he ought to be required to insure that the amount of water running off after he has completed his

project is no greater than it was before he started. Otherwise you are going to see that water cascading down into the flood zones, and more water in the flood area, and threaten the walls, and the communities of this State.

So that is another piece of legislation that we have at the State level, which I feel very strongly about.

Now, I do not want to go on and on about the State bills, because this is a Federal committee, you are concerned about Federal legislation. But the point I want to make here, in closing, is that a Federal Government cannot act in isolation on this problem any more than we in the State legislature can.

We need, as I said before, and I will say again and again and again, a balanced program of action at all three levels. We need effective engineering projects, and flood control projects from the Corps of Engineers, and at the Federal level, but at the State level we need action by flood management, storm water runoff, and at the local level we need enlightened action, and a forceable action for the communities to protect themselves by protecting others, by acting to regulate what is allowed to happen in the flood zone, and what is allowed to happen out of the flood zone that sends more water into the flood zone, and therefore it contributes to the damage. That is what we need.

So, I am pleased to have this opportunity to impress upon our congressional visitors the importance of acting in tandem, of passing Congressman Ertel's bill, of strengthening, and not weakening the Federal flood insurance law, and doing everything possible to encourage regulation of what is done in the flood zones, as well as what is done out of the flood zones that might send water into the areas.

I think we need all three, and if we fail on any of them, we are threatening our own effort.

Thank you.

Mr. ERTEL. Thank you very much for your statement, Senator Kury.

I think it is very enlightening, and points out that we need to cooperate with the States.

Congressman Nick Rahall from West Virginia has just arrived to join us. This is Frank Kury, the State senator, who has testified about his legislation, and the bill itself.

I would like to welcome you to our hearings, Congressman Rahall. I will continue.

Senator KURY. Welcome to central Pennsylvania, Congressman.

Mr. RAHALL. Thank you, Senator, very good being here.

Mr. ERTEL. Senator Kury, yesterday we heard testimony that Pennsylvania is the most flood-prone State in the United States. Would you agree with that, since you have done quite a bit of research in the flood picture?

Senator KURY. Yes; I think over the years we have had serious flooding in Pennsylvania almost every 20 or 25 years, and we have recorded floods as far back as the colonial period. So we are flood prone because of the fact that almost every major community is built in a flood plain.

Mr. ERTEL. That is what I was going to come to next. You suggested a balanced program to attack the flooding problem. We have at the present time, a lot of communities on the flood plain, the bulk of them

in Pennsylvania, and that is what my bill is designed to do: is to protect those communities that are already there. The bill that you are talking about, as far as the future of the State, I believe would be to protect new development, and protect those communities from further encroachment by flooding, but could not protect them from existing flooding conditions.

Would that be a correct analysis?

Senator KURY. I would go a little bit further, Congressman. I think if we have a sound flood plain management bill, and storm water run-off bill, it is also going to protect existing communities in the flood plain, because it will minimize the amount of water going in the flood zones.

Mr. ERTEL. Well, would it not minimize additional effects in the future, but also minimize the effects that are here?

Senator KURY. That is right, unless you put a wall or something, but then you still need to build, because the walls are in danger of being topped.

Mr. ERTEL. I think one of the things that Congressman Levitas was interested in, and also Congressman Oberstar, yesterday, is what is the proper role for the Federal Government and the State governments in the total concept of a balanced program.

If the Federal Government goes forward with a bill such as mine, which basically changes the cost-benefit ratio for structural alternatives, what role do you see, do you see the Federal Government also getting into flood plain management, or allowing that to remain with the States and local communities?

Senator KURY. I would not want to see the Federal Government get into the flood plain management system any more than it is. I think this is something that should be done as locally as possible.

However, you cannot leave it just to each individual community, because if you do that, you will not have any guarantee of uniformity, and to be effective you have to have uniformity in each water system.

I think if we have something like we have proposed in Senate bill 743, now pending in the State senate, whereby the State insists, will insure that the communities will comply, with the communities doing the actual permit issuing regulating. I think that is the proper balance.

Now, Senate bill 743 is tied to Federal flood insurance, because what it in effect does, it requires every community in Pennsylvania, in the flooding area, to comply with the Federal flood insurance regulations of HUD, which we have the flood plain zoning plan, and enforce it.

I would prefer to see the Federal Government kept in that balance. I would not want to see the Federal Government come in and actually start requiring permits be issued by the Federal Government for construction of the flood zone.

Mr. ERTEL. If my recollection is correct, I think it was Representative Bittinger yesterday who suggested that Federal flood insurance be mandatory. Would you go so far? That it be mandated?

Senator KURY. No; I would not make it mandatory, but I think people misunderstand Federal flood insurance. Federal flood insurance is only partial compensation for property damage. It is not even complete compensation for property damage, and it does not give you a penny compensation for loss of life, or mental anguish or dis-

tress, and, of course, as we know from Johnstown and other situations there can be tremendous loss of life.

I think many people think if you have flood insurance it is safe to build in a flood zone. I think that is a false premise.

I think flood insurance ought to be for people who live in the flood zone, and cannot afford to move out, or do not want to move out. If somebody is already there, and does not want to move, fine. If they want to stay there and take their risk, fine, they ought to buy flood insurance. But I do not think flood insurance should be encouraged to make more people build in the flood zone, because building in a flood zone is like a building on a railroad track. It is just a matter of time before there is a disaster.

I think we should do everything possible to discourage building in flood zones.

Mr. ERTEL. In the bill which you have endorsed, which is the bill that I introduced with my colleagues, we have a provision there for a buy-in, which we call a buy-in, where the cost-benefit ratio has not reached 1-to-1, local communities or the State, or whatever governmental entity wishes to, can put up the additional money, which would then make it a 1-to-1 ratio, and possible funding by the Congress.

I appreciate the opportunity to be here this morning for these hearings on your bill, and also I appreciate Senator Kury's testimony.

Representing quite a flood-prone district as I do in southern West Virginia, a district that was declared—the entire district was declared a Federal disaster area last April, I certainly can recognize many of the problems that you are dealing with in your testimony.

I would first like to ask, in the past, when you had floods, what the reaction of the Corps of Engineers was. I notice we have a representative from the corps here today. Has their responses been adequate. What could the corps have done following the flood, to better assist the victims?

Senator KURY. Well, in Pennsylvania, at least in my area here, the Corps of Engineers has not been particularly involved in the recovery. It has been done by the State, through the National Guard, and through other agencies here.

I think what the Corps of Engineers' involvement has got to be, in working out a coordinated plan of projects that would minimize future damages, and this is where I think Congressman Ertel's bill, H.R. 10020, becomes effective.

I think the cost-benefit ratio, which they are now required to apply, is unrealistic and unfair to many communities. I think the proper role of the Corps of Engineers here is working in a coordinated fashion with local and State governments, in coordinated projects, to minimize damage.

What is your opinion of that concept, and secondly, would Pennsylvania, as you know the State legislature, be willing, in certain instances, to put up money to make a buy-in, in those situations?

Senator KURY. Well, we would favor the—you are talking about, of course, the section that starts on page 4, line 22, section 2, on that, I would support it.

I think what Secretary Hydeman told you yesterday about that section is right, and I would support his position on it.

As to whether the Legislature of Pennsylvania will put up funds at this point, I would not be optimistic.

As you know, we have a serious budget problem in Harrisburg.

Mr. ERTEL. What would be your judgment of local municipalities? On a just general concept, would it be a visible concept, to except them to put up money?

Senator KURY. I think they should be given that opportunity, yes.

Now, you would have to take it as to how much a community could afford, that you would have to take on a community-by-community basis. But I would support that provision in the bill, and give the communities a chance to utilize it.

Mr. ERTEL. Thank you.

Congressman Rahall?

Mr. RAHALL. Thank you, Mr. Chairman.

Mr. RAHALL. They were not involved in any way in the cleanup processes in the floods that you have had here in the past?

Senator KURY. Well, not—they may have been involved, but I do not remember particularly what they did. Mostly it was National Guard and the Governor's office, or the State civil defense office that coordinated.

Mr. RAHALL. Were many of the communities eligible for flood insurance in the flood-prone area? Are they eligible for flood insurance, and if so, did they take advantage of it?

Senator KURY. In 1972, very few took advantage of it, but I think more and more are taking advantage of it now. But the problem is, Mr. Congressman, they have filed a letter of intent to qualify for Federal flood insurance, and that makes them eligible, but they have not, many of them, followed through with actual passing of flood zone ordinances, in regulating what goes into the flood plain.

That, to my mind, is the biggest weakness in the law. This is why I introduced in the State level, Senate bill 743, to have the department of community affairs of this State, with the power to insure that communities are enforcing those regulations, so we have a rational plan of regulating what goes on in the flood zones.

Mr. RAHALL. Thank you.

Mr. ERTEL. Mr. Ashworth, do you have some questions?

Mr. ASHWORTH. Senator, your colleague in the House, Mr. Bittinger, yesterday pointed out that 11 dams had given way during the Johnstown flood. You went over legislation, of course, in the Speaker's ad hoc committee, and some of the testimony here, but none have involved State dam safety legislation.

Senator KURY. I think that is something that we are going to have to do, and I think legislation has been introduced in the State legislature to inspect the dams that are under State jurisdiction, and I would support that legislation.

I think absolutely we have to insure that the dams that we have are safe.

Mr. ASHWORTH. Following up on the question that Congressman Rahall raised, each time we have a national disaster, such as Agnes and Eloise, there are proposals for legislation, reorganization of the relief agencies at the Federal level, and great promises of more effective Federal assistance, but do you think there has been any improve-

ment in the Federal flood relief program, or do you feel that more revisions are needed?

Senator KURY. Well, I think that a change is needed. After Agnes, the Federal Government loaned people money, and then gave them \$5,000 as an outright grant, to rebuild, right in the disaster zone.

I think that should be changed. I think they ought to give the same kind of aid, but I think if they are going to insist on rebuilding in the flood zone, they ought to pay it back with a reasonable interest rate. If they move out of the flood zone, you ought to give it to them. You ought to encourage people to relocate out of flood zones.

A flood zone is a disaster zone.

Mr. ASHWORTH. Some of the Federal agencies have loan policies which require the homeowner to obtain a new loan to cover his original indebtedness plus the cost of the new construction, all of which is far more than a good banking institution would cover.

What do you think of that?

Senator KURY. I am not familiar with that, but I would say—

Mr. ASHWORTH. SBA, for instance.

Senator KURY. I would prefer that the Government require people to pay it back if they want, if they insist on building in the flood zone. If they want to make grants, that should be the incentive to build out of flood zones, and that is what I would prefer to see. I think it is much more logical, and would save taxpayer dollars in the long run.

Mr. ASHWORTH. Although we are talking about flood legislation, we are also concerned with any kind of disaster. In many communities last March, particularly Pennsylvania, they complained that they did not get adequate Federal disaster assistance because the FDAA, in the kinds of disaster, or emergencies that existed in the State, classified a particular problem as an emergency, rather than a natural disaster.

Do you think there is far too much Federal leeway to determine how the local people suffer?

Senator KURY. Well, I cannot intelligently comment on the Federal aspect, but I can tell you that in the State legislature we have bills pending to improve the ability of the State to respond to the kind of disasters that we had last winter.

As a matter of fact, I introduced Senate bill 1103, which would create a permanent State energy council.

We have another bill to improve our civil defense preparedness, to make it an office of emergency rather than civil defense, to improve the State's ability to react. And I think we ought to pass those at the State level as much as possible to not have to rely on the Federal Government.

Mr. ASHWORTH. You talked about the flood insurance program needing strengthening rather than weakening. How do you think it needs to be strengthened and how do you think it has been weakened?

Senator KURY. Well, I think it is weak because there is no assurance of any kind of compliance. In other words, communities can send in letters qualifying for flood insurance, but then there is no guarantee that they follow through what happens in the flood zones. So I think that is a serious defect.

I prefer to see that defect remedied by the State than the Federal Government, but it has to be remedied someplace if we are going to regulate what happens in the flood zones.

The other thing is I think the regulation as to what happens in the flood zone should be kept strong and effective, but I do not think they should be weakened. I am seriously concerned about what the Eagleton amendment does to building in a flood zone. That might have the effect of encouraging people to build in a flood zone.

Mr. ASHWORTH. Does that not conflict with your idea of stimulating the local government to do their part?

Senator KURY. Well, I do not think so. Only the Federal Government has the financial power to pass flood insurance law. The State government cannot do that. So I would like to see us work around the State—or the national flood insurance program, and that is why Senate bill 743 is keyed into complying with the Federal flood insurance program so that we do not have duplication of regulations between the Federal and State Governments.

Mr. ASHWORTH. But you feel your bill, 743, actually does a thing at the State level that ought to be done—

Senator KURY. If we could have this done in Pennsylvania, I think that would cure the biggest defect in the Federal flood insurance program. I think it would make it much more effective, yes.

Mr. ASHWORTH. Thank you.

Mr. ERTEL. Senator Kury, I have just one further question.

You have indicated that you would have flood plain management with your bill. But the Susquehanna River basin extends into many States, particularly New York State north of us. What then? So we have managed the flood plain in Pennsylvania and New York fails to do anything in their areas, how then can the State effectively take action since much of the river basin, or a great part of the origination of the Susquehanna River, starts in New York State?

Senator KURY. I would approach it through the Susquehanna River Basin Compact Commission. I think at that point the State of Pennsylvania, the Federal members of the Commission ought to bring to bear the powers of the River Basin Commission on New York State.

Mr. ERTEL. New York State would have to have the same sort of regulation of the flood plain basically as Pennsylvania would have to have?

Senator KURY. Well, assuming they did not, giving Pennsylvania still the right thing to do because three-quarters of the leaf is still substantial improvement, and still if we did it in Pennsylvania, it would still be a substantial improvement. Ideally, it ought to be done in both, and I think that is why we belong to the River Basin Compact Commission so we can enforce that, to bring pressure on them to do it in New York State.

Maybe there is some way, if that does not work, the National Government, or through some act of Congress, can create a mechanism whereby these States have to cooperate because we do have to deal with the whole Susquehanna River basin. It is a whole system and you have to deal with it as a system.

Mr. ERTEL. Thank you very much for your testimony. I appreciate your coming and I appreciate your bringing the photograph of the

water at the Sunbury Wall. Congressman Rahall, you were not here when we inspected the wall. That is a plain wall like the wall in this building. It is not a levee as you know it, an earthen levee, and it probably extends up 14 or 15 feet. And the water in Agnes came to the height—you can see the top of the wall in the photograph. There was no overtopping there. The center of the city of Sunbury, which you are sitting in now, is 15 feet below the top of that wall, so that the people in Sunbury would have had a real disaster because they would have had a torrent of water pouring in there, especially if that wall were broken.

Senator KURY. Congressman Rahall, this picture ordinarily I keep in the State capital, but I brought it here today. It illustrates two points. One is that the walls can be effective in protecting the community but, secondly, walls alone are not enough. If you build a wall and you keep pouring more water in upstream and it tops the walls, the walls are rendered meaningless. You need the walls but you need more. You cannot just stop at the wall.

The city of Sunbury needs protection from construction, in addition to water discharges upstream. They are going to threaten that wall by going over the top the next time. So it is the old story, no city or no man is an island unto itself. If you build a city and put a wall around it, you are still living at the mercy of the river. You have to regulate the whole thing, not just put a wall around it. That is just realistic to put a wall around it, is to build a medieval castle. It is not enough.

Mr. ERTEL. Thank you very much.

Senator KURY. Thank you, Congressman. I appreciate all of you coming.

Mr. ERTEL. The next witness is Richard Evans from the city of Elmira. He represents Elmira, N.Y., and the Southern Tier Economic Group, and he is also from Congressman Lundine's congressional district. Congressman Lundine is a cosponsor of my bill. And without objection, I will insert in the record a statement to the committee from Congressman Lundine, along with the exhibits from the city of Elmira, N.Y. And without objection, they are so ordered to be a part of the record.

[The following was received for the record:]

STATEMENT OF HON. STANLEY N. LUNDINE, A REPRESENTATIVE IN CONGRESS FROM
THE STATE OF NEW YORK

Mr. Chairman, thank you for providing me with this opportunity to add my strong endorsement for passage of H.R. 8061, as introduced by my colleague Mr. Ertel of Pennsylvania. I addressed this hearing panel with the personal experience and supportive advice of my constituents in the 39th Congressional District of New York when I say that this legislation can be of the greatest importance to the economies of our nation's waterways communities.

The Chemung Valley area of New York State—the counties of Steuben and Chemung, and the cities of Corning and Elmira—is ably represented here today by Mr. Richard Evans of Elmira, a businessman himself and a highly respected participant in the community and economic development efforts of those counties. He will address the community's specific interests in this legislation. But I, personally, would like to speak about some of the most important yet least evident benefits of my colleague's bill: the secondary protection needs in our river basin communities.

When this, the original industrial heart of America was settled, our waterways were vital links of transportation for both personal and commercial reasons.

Settlements grew up close to rivers and navigable streams. Industry grew with communities, and conversely, communities grew with industry. Later, expansion of those communities took place within blocks and even yards of our rail lines, then outward as commerce forced further expansion.

Our population and industrial centers, then, historically grew around transportation ties. While the significant switches to trucking and air transportation have changed the growth patterns of our Northeast, the fact remains clearly evident that population, small business and many long-standing industries remain in river basins. And many more can be enticed to locate there, near their employees' homes and shopping centers, with adequate protection from the threat of rising waterways.

It can be overwhelmingly demonstrated that economic growth potential will be increased with passage of this bill. Mr. Ertel has wisely provided for these losses to be carefully studied in H.R. 8061.

Without protection, industrial occupants of flood plains simply will not expand their operations even though there may be very strong development reasons to do that. They are more likely, when the need for larger facilities and production is needed, to look elsewhere, away from the threat of water damages. Taken on a national scale this relocation may not impact on the gross national product, but it does have serious impact on the communities involved.

The Corps of Engineers—a national agency—has never had reason to question the negative impact of relocation. On the other hand, countless federal agencies *are* recognizing the regional needs which the Corps cannot recognize. Programs like the Appalachian Regional Commission and the latest, multi-billion dollar Economic Development Administration public works program are targeting monies where people are and jobs aren't. Throughout the federal government, in increasing amounts, money is being targeted toward keeping jobs, homes and business where they will do the most good.

It is true that a working American can be every bit as productive in California as New York. That has never been disputed. But when a New Yorker's job moves to California because his company is threatened by flood water, the New Yorker is out of work—or at best forced to relocate his family with the sale of the home, uprooting children from schools, reducing the business of his neighborhood merchants, and increasing the burden on the remaining property taxpayers of his district. When too many of these relocations take place—as happens when a major industry moves away—the neighborhood merchant also loses his job, and the property tax base threatens to bankrupt those who remain.

At the other end, a new industry produces new jobs in the new community, it may be said. But there, too, we find newly relocated employees who have spent vast amounts of their resources—often savings—to make the move, to buy new homes, to make new demands on new public services. Resources which might otherwise have gone into consumer goods or into economy-strengthening hometown projects are now gone, and the viable economic base which that employee once had is gone as well. Those cases, of course, are the best results of industrial relocation. All too often—as happens in our district now—loss of business or the refusal to expand, places growing numbers of capable, employable Americans on the streets at the mercy of welfare and other public charge programs.

Within our own communities and regions, we can, and in many cases already have, faced this point and we're trying to do something about it. Again, Mr. Ertel's legislation provides a chance for us to do something which has never before been possible. In cases where cost-benefit ratios cannot justify full federal payment of protective projects, the legislation authorizes non-federal shares. States, counties or even consortiums of communities which recognize the need for protective measures and yet can't pay the full costs themselves are given a new opportunity to see their dreams fulfilled by contributing to the overall project, making federal government participation feasible.

This aspect of H.R. 8061 is probably one of the most sensible and meaningful provisions yet to be included in any flood protection program. State and regional clearinghouse agencies often provide local expertise in the review of applications for federal grants. Local opinion is sought and sometimes demanded before the federal government will proceed with programs. Why shouldn't that local opinion mean every bit as much in flood protection projects?

There is more to providing flood protection than can be measured in square footage and dollars. Any who doubt that is invited to visit and speak with the residents in my congressional district where lives have been so affected by floods, or in Johnstown, Pa., or Rapid City, S.D. No longer does the dollar rule all

thought about flood protection. Money alone can't stop flood waters, once imprudent or too-broad decisions regarding protection have been made. I urge this subcommittee to wholeheartedly endorse Mr. Ertel's bill and forward it to the full committee and the House for prompt favorable action. Thank you.

CITY OF ELMIRA, NEW YORK,
OFFICE OF THE MAYOR,
November 9, 1977.

CONGRESSMAN STANLEY N. LUNDINE,
39th District, New York, Cannon Building,
Washington, D.C.

DEAR CONGRESSMAN LUNDINE: On October 11, 1977 the Elmira City Council adopted a resolution supporting Bill H.R. 8061. I am attaching a copy of this resolution to this letter.

I would appreciate it if you would see that this resolution is presented to the Congressional Committee conducting hearings on this Bill.

Sincerely,

JOHN M. KENNEDY,
Mayor.

Attachment.

OCTOBER 6, 1977.

FOR THE AGENDA COMMUNICATION

To The City Council Members.

DEAR COLLEAGUES: Sometime ago I requested Congressman Stanley Lundine to provide members of Council with a copy of a Bill which has been introduced in the House of Representatives, known as H.R. 8061. This Bill which amends the Flood Control Act of 1970 would require the Corps of Engineers to consider local economic development when evaluating a potential flood control project.

Under present procedures the Corps does not consider industry and business relocation for a flood prone area to be a bona fide economic loss.

I believe that passage of this Bill will be of benefit to the citizens of the City of Elmira and Chemung County, and for this reason I am recommending that the City Council adopt a resolution urging the United States Congress to approve this Bill and to urge Congressman Stanley Lundine, and Senators Jacob Javits and Daniel Patrick Moynihan to support this Bill and to press for approval at the earliest possible date.

Respectfully submitted,

JOHN M. KENNEDY, Jr.,
Mayor.

RESOLUTION No. 77-529

Resolved, That the communication from Mayor John M. Kennedy, Jr., dated October 6, 1977, recommending that the City Council adopt a resolution supporting a Bill which has been introduced in the Congress of the United States House of Representatives, known as H.R. 8061, which would amend the Flood Control Act of 1970 and require the Corps of Engineers to consider the impact on the economic and social well-being of the local area in determining the need for local flood protection projects, be received and placed on file; and be it further

Resolved, That approval of Bill H.R. 8061 by the United States Congress and the President of the United States is in the best interest of the people of the City of Elmira and the County of Chemung; and be it further

Resolved, That the Mayor and the Council of the City of Elmira do hereby urge the passage of Bill H.R. 8061 by the Congress of the United States; and be it further

Resolved, That a copy of this resolution shall be sent to Congressman Stanley Lundine, to the United States Senators Jacob Javits and Daniel Patrick Moynihan, and to all sponsors of Bill H.R. 8061, and to the Chairman of the House of Representatives Committee of Public Works and Transportation.

CORNING, N.Y., November 11, 1977.

Hon. STANLEY N. LUNDINE,
180 State Street, Room 101,
Elmira, N.Y.

DEAR MR. LUNDINE: There are many rules and regulations governing the Corps of Engineers. The Bill H.R. 8061 to amend the Flood Control Act of 1970 has the unanimous support of the Steuben County RAFT Chairmen. In our RAFT (Residents Against Flood Threats) organization we represent approximately 6,000 people, and combined well over 13,000 throughout the Southern Tier of New York State.

Many areas throughout our whole County have suffered irreplaceable losses due to flooding. In meetings, through letters to our Congressmen and Senators, we have stressed the Corps did not include such things as loss of income, jobs, lost tax base to a community, displacement of homes, farms and people in the Cost Benefit Ratio.

Studies have been made by the Corps and other agencies, for all types of flood control projects, only to be turned down with "NO COST BENEFIT". It is our belief, studies should be utilized where possible, rather than gathering dust on a shelf, and we agree this Committee has just cause to expand the Cost Benefit to include those items previously mentioned. Further, we also feel there must be a way to expedite the funding of those projects that are approved for implementation. A period of ten (10) to twelve (12) years to appropriate funding for approved construction often eats into the construction costs due to the fact studies have become out-dated over the time lapse.

Steuben County is larger than the State of Rhode Island in square miles. We have many problems that could be solved through flood protection projects. Unemployment, which is over seven percent, reduced; lost business attracted again; a depressed area which will grow economically; all due to the change in the Cost Benefit for Corps projects.

On behalf of the RAFT members and residents of Steuben County, we respectfully request you read this letter of support of the Bill H.R. 8061 into your Committee Hearing Records. Thank you.

Very truly yours,

MRS. ELLUISE ANDERSON,
Steuben County RAFT Chairman.

ZONTA INTERNATIONAL,
ZONTA CLUB OF ELMIRA, NEW YORK,
November 8, 1977.

Hon. STANLEY N. LUNDINE,
House of Representatives, Congress of the United States, 430 Cannon Building,
Washington, D.C.

DEAR MR. LUNDINE: The Zonta Club of Elmira, Zonta International, at a regular meeting on November 8, 1977 resolved to notify the members of the Congress of the United States through you as our Representative that we wholeheartedly support the views expressed on H.R. 8061 by our member, Mrs. Maybelle Kutka, Chairwoman of Residents Against Flood Threats (RAFT), Chemung County Chapter, Elmira, N.Y.

As business women, intimately acquainted with the economic disaster inherent in the continuing lack of action to avert further damage to our area, we wish to repeat Mrs. Kutka's argument that the application of the present Cost-Benefit Ratio has worked a hardship on a distinctive region, the Southern Tier of New York State and the Northern Tier of Pennsylvania. Furthermore, the ripple effect of Southern Tier well-being carries over to a larger area.

We do hereby strongly urge the Members of the Congress to vote favorable on this bill.

Yours very truly,

(Miss) IDA M. HICKMAN, President.

NOVEMBER 9, 1977.

Re congressional bill H.R. 8061, House Committee on Public Works and Transportation, Subcommittee on Water Resources, hearings to be held Nov. 16, 17, 1977 in Harrisburg and Sunbury, Pa.

Congressman STANLEY N. LUNDINE,
39th District, New York, Cannon Building,
Washington, D.C.

Dear CONGRESSMAN LUNDINE: Please present the following written testimony to the above named committee on our behalf, to be included in the official records of this hearing.

R.A.F.T., Residents Against Flood Threats, Chemung County Chapter of New York wishes to add our supporting resolution to that of the City Council of Elmira, the Chemung County Legislature and other responsible groups and agencies in Chemung County and the Southern Tier area of New York for passage of Congressional Bill H.R. 8061. It is our strong belief that such passage is vital to the continued recovery and well being of the people of the Southern Tier since the total devastation we suffered from Hurricane Agnes in June, 1972 and the frequent subsequent flooding since that time.

In Chemung County alone, 45,000 people, almost 45% of our population, were directly affected by the 1972 flood, either in their homes, businesses, and, in many cases, both. Determined to rebuild our homes and shattered lives, homeowners availed themselves of SBA loans in the amount of \$90 million dollars which we will be repaying for many years to come. Many millions of dollars more was also spent by businesses and industry in rebuilding. We assumed these debts willingly for many reasons.

First and foremost, we believed that this disaster was a freak of nature, a 100 year flood, and there was almost no chance of such a thing ever happening again. So, we all hung out our American flags and got to work. We were wrong.

Second, we believed that all possible measures would be taken by both Federal and State governments to prevent a recurrence of the worst disaster in the history of the United States. Again, we were wrong.

With the exception of the building of the Hammond-Tioga and Cowenuesque dams in Pennsylvania, very little in the way of improved flood control projects have been implemented although the need is clearly present. With each succeeding disaster or near disaster, a little is done here and there, mostly in the area of patching up the damages. It was not until the disaster following Hurricane Eloise in September, 1975, that we came to the shocking realization that we could expect very little to be done to help us with our problems, primarily due to something called a "cost-benefit ratio" under which the Army Corps of Engineers operates by mandate of Congress. R.A.F.T. members in both Chemung and Steuben Counties arranged, and/or attended countless meetings with the Army Engineers, National Weather Service, New York State Department of Environmental Conservation, Susquehanna River Basin Commission, as well as attending a meeting held in Albany, New York called by Gov. Carey on October 26, 1976 for the purpose of forming a task force to work on the flooding problems in the Southern Tier. Again and again we came up against the "cost-benefit ratio" problem, and were told by Col. McGary of the Baltimore District Office of the Army Corps of Engineers, that the only way this problem could be corrected was by an act of Congress, and he conveyed strong doubts that this ever could or would be accomplished.

As citizens of the United States, we feel that any law that so adversely affects the lives, homes and well being of so many of its citizens is morally wrong, and that it is our responsibility to correct it. New York State is the third ranking state in agricultural production in the country, and second in the country for being flood prone. The productivity of agriculture in the Southern Tier has been very seriously affected by the continued erosion of the many creeks and streams, flash flooding, irreplaceable loss of valuable top soil, crops and livestock. A just completed study prepared by the Southern Tier Central Regional Planning and Development Board under Section 208 of the Federal Water Pollution Control act states that control of stream bank erosion, which is also causing sediment pollution, would cost \$50 million. We believe that not only should this work be done, it should be under a continuing program to preserve our natural resources.

The City of Elmira has spent in excess of \$65 million rebuilding the city since 1972, including \$53 million spent under Urban Renewal Plans for the New Elmira, a city that is little better protected now from catastrophic

flooding than it was five years ago. Even with the completion of the two new dams, the high water level would only be reduced by about 2 feet from that reached in June, 1972.

As homeowners, we find that we are very heavily invested in property that is, for all practical purposes, unmarketable, if we live in a primary flood zone. If family circumstances demanded sale of our homes, few of us would be able to do so without heavy financial losses because of combined debts of mortgages and SBA disaster loans which would have to be satisfied at time of sale. Yet, we continue to pay high taxes on property which we know we would have a very hard time selling and could never realize a current market value for if we did find a buyer. This knowledge, along with the almost continuous psychological stress, the fear of further disasters, is extremely detrimental to the physical and mental health and well being of the entire community. We have been told by representatives of virtually every State and Federal agency that we have met with, that the only real solution to our problems is relocation, simply move out of the flood plain, with no suggestions as to how this can be accomplished in view of the thousands of people such a move would involve. Since we "choose" to ignore this expert advice, the implication we are then given is that we must expect to live with our problems as best we can. The National Flood Insurance program also has its pitfalls in that a community can lose the right to have such coverage available to their people if it fails to comply with rules and regulations concerning improvement of flood protection on the local level. Many small towns and villages simply do not have the financial resources or technical expertise to comply with these regulations, do not qualify for assistance under the current cost-benefit ratio, and are even now in danger of losing their eligibility for flood insurance coverage.

The Southern Tier area of New York is also an economically depressed area with a very high rate of unemployment. It is our strong belief that our flood prone propensity greatly hinders our ability to attract new business and industry from locating here.

Passage of H.R. 8061 would provide the means for correcting a great many of our water problems, within the capabilities of human endeavors. It is also our desire to see this done in a way that is compatible with our lives and environment, always protecting our irreplaceable natural resources for future generations. By so doing, the complete rebirth of the Southern Tier will be assured.

Very truly yours,

MAYBELLE F. KUTKA, *Chairman,*
R.A.F.T., *Residents Against*
Flood Threats, Chemung County Chapter.

Mr. ERTEL. We are happy to have you with us, Mr. Evans, and you may proceed.

TESTIMONY OF RICHARD EVANS, SOUTHERN TIER ECONOMIC GROUP (REPRESENTING ELMIRA, N.Y., AND CONGRESSMAN STANLEY M. LUNDINE)

Mr. EVANS. Thank you very much, Congressman and members of the subcommittee. I appreciate this opportunity to testify before you the concerns that we have in the Chemung Valley. I basically am a proponent to water control at ground level as well as above that, because I happen to be in the roofing and sheet metal business, and I hasten to add, after staring at this wall for 20 minutes, that they have a water control problem in this particular school. And I suggest that somebody take care of it.

Mr. ERTEL. I think that is beyond the jurisdiction of this committee.

Mr. EVANS. I think, Congressman, I would like to read my testimony. It is short, and it sets the stage, maybe, for some subsequent remarks.

Mr. ERTEL. Fine. Proceed as you wish.

Mr. EVANS. Southern Tier Economic Group, the Chamber of Commerce of Chemung County, the Chemung County Legislature, and others from the Chemung Valley have expressed affirmative feelings in favor of H.R. 8061 which would amend the Flood Control Act of 1970.

On June 23, 1972, Tropical Storm Agnes forced the evacuation of 17,500 people from the city of Elmira and inundated 2,200 acres of land. Corning, N.Y., west of Elmira approximately 20 miles, and adjacent communities suffered similar experiences on the same date. The entire Chemung Valley was devastated. The human suffering and economic impact will long be remembered. That storm, which was said by experts to be a once-in-a-lifetime experience, almost happened a second time just 3 short years later when Tropical Storm Eloise caused flooding which was 1 foot short of breaching the floodwalls in the city of Elmira. Eloise, while falling short of the Agnes disaster, managed to make her unwanted mark in the Chemung Valley. These types of calamities on a repetitive basis do not develop economic stability for any community.

The Northeast of the United States presently is strained by the exodus of industry and business from its boundaries for so-called economic advantages in the Sun Belt areas of our country. We also reside in the Chemung Valley are also straining to retain our business and industry and, in many cases, are hampered because many in the business community lament the fact they are located in flood-prone areas. Obviously, H.R. 8061 could help to alleviate this situation.

Flood protection can be most reasonable in the Northeast if you consider most industry needs abundant natural water resources and sewage facilities. If we protect these resources in areas that are flood prone, we eliminate the need in other areas of our country of providing these nonexistent resources at great cost. The Chemung Valley tax base provides for services and resources that cannot be duplicated in a virgin geographic location without great investment and subsequent ecological problems. Mr. Ertel's bill, H.R. 8061, helps in many ways to secure the advantages we have to contain and attract business and industry.

That is the text of the testimony, and I would like to add a few remarks to that. I believe it has been made as a matter of record, or you have had a letter from the woman by the name of Maybelle Kutka, who is the chairperson of the Residents Against Flood Threats in the Chemung Valley area. It just so happens that Residents Against Flood Threats spells "RAFTS," which I suppose is planned that way. Mrs. Kutka is interested in people along the river and the people and how she perceives them from constant flood threats, she feels that these people need to have a restoration of confidence. I would carry that further to the chamber of commerce resolution, the Southern Tier Economic Group resolution, the county board resolution as they relate to business. They want to see confidence restored to people that have been suffering on a repetitive basis.

If you take Stan Lundine's remarks, which I have a copy of, and I will turn this over with two resolutions that you do not have.

Mr. ERTEL. I have Congressman Lundine's remarks and other correspondence that I have already incorporated into the record.

Mr. EVANS. All right. Then I have two others, resolutions from STEG, Southern Tier Economic Group, from Chemung County Legislature, and I will submit those to you.

Mr. ERTEL. Without objection, they will be submitted as part of the record.

[The following were received for the record:]

CHAMBER OF COMMERCE OF CHEMUNG COUNTY,
Elmira, N.Y., November 8, 1977.

Congressman ALLEN ERTEL,
House of Representatives,
Washington, D.C.

DEAR CONGRESSMAN ERTEL: The Chamber of Commerce of Chemung County has gone on record in favor of H.R. 8061 which would amend the Flood Control Act of 1970. As you are the prime sponsor of this legislation, there is no need to dwell on your reasoning which would change the formula of determining the desirability of flood projects. What we would like to point out, however, is the local impact of this legislation.

Last week at a Chamber Board Meeting, at which our position was taken, a major manufacturer pointed out the problem his company incurs in attracting qualified people to the area due to a fear of flooding, not only in the plant but possibly in their residences. He also related a significant factor of the cost of business interruption insurance based on the fears of the companies underwriting such insurance. When a firm such as this employing over 700 people poses the questions, then it certainly gives credence to your proposed legislation. This does not take into account the cost of flood insurance itself.

The economic viability of the area is determined by the number of people we employ and without adequate flood protection there is a fear on the part of new commercial and industrial companies to locate within the area. This does not relate necessarily to physical potential damage but to the viability of the community as a whole for a profit making operation. Even those business firms currently within the area not only twice but three times asked whether they should go back in business in Chemung County. This, of course, relates to the 1972 Agnes Disaster which put six major manufacturing employers temporarily out of business and knocked out the central business district of Elmira for almost two months.

It was particularly interesting to note your inclusion of the social concerns which should be included and specifically the references to negative psychological impact. I have personal knowledge of many people who went through the 1972 Flood, including men, women, and children who still have some psychological problems as a result of the experience. When it rains in Chemung County, the entire community gets "uptight."

Another factor within your legislation is the possibility of the sharing of costs for flood control projects. Without knowledge of the formula it is difficult to elaborate, but it would seem to make a great deal of sense.

Again, we strongly support the proposed legislation (H.R. 8061) as we have been through the problems associated with the lack of flood protection measures. This lack is obviously due to the restrictions imposed on the Secretary of the Army and the Corps of Engineers when considering which projects will be contracted. We commend you for submitting the bill along with the others who have co-sponsored this legislation including our own Congressman, Stanley N. Lundine.

If we may ask, would you please distribute copies of this letter (which are included) to all the members of the Public Works and Transportation Committee and to anyone else involved in the hearing which will be held November 17 and we stand ready to answer any specific questions which might result from the hearing through your office.

Cordially,

JAMES W. LUNDQUEST,
Executive Vice President.

RESOLUTION No. 77-255—RESOLUTION SUPPORTING CONGRESSIONAL BILL H.R. 8061
CONCERNING NEW RECOMMENDATIONS TO AMEND FLOOD CONTROL ACT OF 1970

By: Flory and Douglas.
Seconded by: Habeck.

Whereas, the County of Chemung and the Southern Tier area has been exposed to two (2) major floods in the past five (5) years, to wit: 1972 Hurricane Agnes Flood and 1975 Hurricane Eloise Flood; which caused considerable damage in property, jobs, tax base, erosion, lower property values, loss of business and in-

dustry, displacement of homes and farms, and had an adverse social as well as economic impact in the Chemung County area; and

Whereas, a bill has been presented in Congress known as H.R. 8061 for the purpose to provide that, in determining the need for a local flood protection project, the Secretary of the Army shall consider the impact on the economy and social well-being of the local area and certain surrounding areas if flood protection is not provided, to specify the factors to be evaluated in considering such impact, and for other purposes; and

Whereas, the County of Chemung can address itself to the subject of said bill by actual experience as aforesaid stated and wishes to impress upon the members of the House of Representatives of the adverse impact it had in the Southern Tier and the need for remedial legislation to counteract the same; now, therefore be it

Resolved, That the County of Chemung strongly endorses the passage of the Congressional Bill HR 8061 as above stated and urges its passage at the earliest possible date to aid local communities who are unable financially and with its local resources to protect itself from the effects of local floods, and be it further

Resolved, That the Clerk of the Chemung County Legislature is hereby authorized to submit a copy of this resolution to the appropriate Congressional committees.

STATE OF NEW YORK
County of Chemung, ss:

This is to certify that I, the undersigned Clerk of the Legislature of the County of Chemung, have compared the foregoing copy of resolution with the original resolution now on file in the office, and which was passed by the Legislature of Chemung County on the 14th day of November, 1977 a majority of all the members elected to the Legislature voting in favor thereof, and that the same is a correct and true transcript of such resolution and of the whole thereof.

In witness whereof, I have hereunto set my hand and the official seal of the Legislature this 15th day of November, 1977.

Resolution No. 77-255.

DARLENE S. SALTON,
Clerk of the Chemung County Legislature.

Mr. EVANS. In Mr. Lundine's statement he mentions that historically in the Northeast, most of our communities settled along waterways simply because that was the mode of transportation, and we expanded beyond that, and industry was built and business was built, and maybe flood threats are more repetitive now, or seem to be that way, but, of course, there is a greater concentration of people than we had years and years ago in these particular areas.

To me, if we take that situation that we have in the Northeast, the location of this viable business and industry and all the resources that go with it, and you try to say, well, you should not have built in a flood-prone area, you should be in another location. It really does not make much sense when you relate to where you would have to go and what you would have to do to duplicate those very resources that you have in that particular area. I think just out of pure conjecture that you are better off in those areas where you have those resources that are so costly to duplicate today.

I would hate to see, along with this well-known exodus that we have going on of industry from New York State, which we are trying to stem, this is why, like this bill, it is one of those things that becomes an advantage to help keep people there that are thinking of excuses to leave other than the normal ones that are in vogue today. It helps to keep them in a community that they have grown to love and have all the natural resources and all the cultural events and school system that are hard to duplicate any other place. So that is basically why I am for this particular bill. It is just one more step toward re-

taining that. I do not want to see an Elmira, N.Y., a Corning, N.Y., become an industrial business ghetto. I do not want to see it spread throughout the State where the State becomes a ghetto either here or in Pennsylvania or any other State in the Northeast, and I do not want the State to become the ghettos especially in these areas of the country.

It is important that we take steps like this to insure orderly transition of changing social economic impacts.

Gentlemen, I thank you very much for this opportunity.

Mr. ERTEL. We thank you for the statement that you have made and endorsement of the bill. I especially thank you for that. And I would like to ask you a couple of questions if I might.

You have indicated, and the bill does, in fact, take into consideration the psychological effects of the people who live in the flood plain who are threatened with the repetitious flooding.

One of the criticisms that has come forward because of that particular provision in the bill is, how do you quantify that? How do you put that in the equation when you are talking numbers, when you are talking economics to the Congress of the United States when we are trying to allocate resources. And, secondly, are we not penalizing the other taxpayers in the Nation to pay for the particular flood protection in this area? That is some of the criticisms that have incurred.

I wondered what your response would be. I have one, but I would be interested in hearing what you have, too.

Mr. EVANS. It would be hard to be definitive, to set a price tag on a loss of confidence in a given community by individuals because of the fears of further flooding. But it is known that repetitive flooding in given areas tends to dry the real estate values in that area, and whether the people can afford to move out or not is not always the case. It is that they have no other place to go, and there is no way to put a dollar value on it except to say that there are many dollars lost in areas that are flooded, and there is a great deal of human suffering just in a general way. That is the only way that I can explain it.

What was your second question now?

Mr. ERTEL. Well, the fact is that you cannot quantify that, and therefore, the other taxpayers in the United States are basically subsidizing what some would equate in uneconomic development of flood protection.

Mr. EVANS. Well, of course, we taxpayers in New York and Pennsylvania, I suppose subsidize other taxpayers in other parts of the country in different ways, and I think we are trying to find a solution to a problem on a national basis that exists and does not seem to be solvable by local and State governments at this particular time, and we look to the National Government to solve this. And, yes, there is always a complication for those tax dollars, but I think in this particular case and in my testimony, if you relate to what I said in the testimony that I believe that it can be cheaper to enhance that industry and business that is located in a flood prone area by protecting it more adequately, that dollars are saved rather than total relocation or duplication in an area that has none of the resources that that particular community has.

Mr. ERTEL. A few other questions.

In the Chemung area, were there any lives lost in the Agnes flood? I notice that your testimony did not contain that.

Mr. EVANS. Yes; there were a few lives lost in Corning and Painted Post area. I cannot tell you the exact number but I believe it was 8 to 12.

Mr. ERTEL. One other question.

You indicated that you, of course, evacuated 222 acres of land. Were you able to get any kind of statistical analysis to indicate how many jobs were lost and if businesses relocated or left the area because of the flooding, with the idea that they could go somewhere else in the Nation rather than relocate or rebuild within the immediate area?

The reason I ask that question is that within the bill that I have introduced, and we are having hearings on today, we consider regional economic growth and regional economic patterns. At the present time under the formula if a business is located, say, in the Chemung Valley and it moves to New York City, since on the national perspective there has been no change in the national output or national growth or anything else, that becomes a wash transaction.

But yet when we go to EDA, which is Economic Development Administration, they evaluate economic projects on a regional basis.

Now, we are trying to utilize that to create a new concept for the flood control because I think that is appropriate, and I would hope you would as well. But we are trying to develop a statistical base to indicate whether a business has left because of flooding not to return, and how many jobs were lost, and the throwover of that.

Has there been any statistical analysis made by anyone in the area in the Chemung Valley to give us that, or would you supply that for the record?

Mr. EVANS. I can only say that there may be, and if you are leaving the record open for 5 days, when I return to Elmira, N.Y., I will attempt to search out that statistical information and send it to you.

[The following was received for the record:]

SOUTHERN TIER ECONOMIC GROWTH INC.,
Elmira, N.Y., November 21, 1977.

Congressman ALLEN E. ERTEL,
1019 Longworth Building,
Washington, D.C.

DEAR CONGRESSMAN ERTEL: This letter is being sent to you to amplify on the potential economic impact that additional flooding would cause to the Elmira, New York, area. In addition to those potential losses, I am listing two industries that would have well been lost to the area after the Flood of 1972, but were located in other areas of the County outside of the City. I also will refer to one business which was totally lost during the 1972 Flood which will never be relocated anywhere.

First, I would refer you to the enclosed booklet assembled by the Chemung County Historical Society during the rebuilding effort. This book states the economic losses sustained throughout the County in June, 1972. Those data can be found on pages 2201 through 2214.

The Flood of 1972 affected the expansion of several industries which to this day have no made final plans due to concern over repeated flooding. Included in that grouping are American LaFrance, a division of A-T-O Inc., an employer of some 800 people; the Grinnell Division of ITT which operates the Kennedy Valve Manufacturing Company here, an employer of some 750; Chemung Foundry, a division of Vulcan Inc., an employer of 125; Trayer Products, an employer of 250; all of the companies mentioned above were extensively damaged during the 1972 Flood. Their statistics can be found in the Historical Society publication. Certain flooding in the area not related to the Chemung River at a later date has caused a cloud of uncertainty over Schweizer Aircraft, a manufacturer of sailplanes and

agricultural planes which employs 540 people. Flood protection for this industry was out of the question due to the present method of determining cost/benefit.

The above industries, in most cases, are owned by outside ownership and exist in the local area only so long as they are profitable. Needless to say, it doesn't take many floods to make such a division unprofitable. We are, therefore, threatened not only with delayed expansion plans, but also with a potential total loss of our major industries.

Two additional industries relocated outside of the flood area and just as easily could have gone outside of the State after the Flood of 1972, but were persuaded by local industrial development groups to remain. Included in this group are Fairway Spring Company which employs 115, and Frosted Foods, an employer of 50. Those two industries constructed new facilities and still remain in our community.

One other industry, Hygeia Refrigeration Company, sustained over \$1½ million in damage and closed its doors forever.

With the problems that now exist in the Northeast with antiquate plants, high labor costs, deteriorated transportation systems, and other physical problems, we are facing some of the most difficult economic times in our history. To compound these problems with the existing rigid system of evaluating economic impact would be signing this region's death certificate. It is felt that the recommended changes in the evaluation methods will go a long way towards retaining a viable economic base for our community.

Kindest regards,

RICHARD H. EVANS,
President.

Mr. EVANS. Southern Tier Economic Growth, whether you know it or not, is an organization that is responsible for the industrial climate and well-being in our community in the Chemung Valley. We are most interested in attracting industry as well as retaining industry, and your bill really enhances our situation for those many industries that are in a flood-prone area. I have got one industry right now that employs 800 people that have been talking of moving out of State, and it is a very old concern. They are in antiquated buildings. We want to relocate them within the Chemung Valley, and they want to be out of a flood-prone area. That is one of the things urging them away from us. So we have to fight the battle that they initially want to get out because there are attractions south of them or to the west of them in a geographic area, but the—additionally, we are being hampered by the fact that they have been flooded and subsequently could be flooded again.

Mr. ERTEL. If we could get some sort of statistical analysis from you, the ones prospectively going to move because of the flooding, those who may have done so and the jobs that have been lost in industries, I certainly think the record would be much more complete, and I would certainly appreciate getting that kind of information.

Mr. EVANS. I will be happy to search that out for you.

Mr. ERTEL. Very good.

Congressman Rahall?

Mr. RAHALL. Yes. I want to associate myself with the comments you made about moving people out of the flood-prone areas, out of flood plain areas. I know in many cases this does not make economic sense, and you cannot do it because people have lived their entire lives in these areas. They do not want to move even if more attractive lands were made available to them.

This is where I think we do have to consider the psychological and human suffering when we consider future flood protection. Congressman Ertel's bill takes this into account. I do not have the exact formula as to how we put down in figures, or how we compute psycho-

logical suffering, but to solely determine future flood protection on the basis of cost-benefit ratio is certainly a coldhearted way to look at it. And I think to take into consideration the human and economic suffering is only decent. I know that the amendment by Senator Eagleton was referred to earlier, and the help it has been to those living in the flood plain areas. I think this is where the people that you mentioned do look to the Federal Government for help, and this is where we can be of help. This and the legislation lowering the interest on loans that the Congress did pass and was signed into law, providing lower interest rates to victims of flooding in Presidentially declared disaster areas.

This is where our Federal Government, as you mentioned, should step in and be a help to the people. And I think we have been this year. I think you have, too.

I have no questions at this point.

Mr. ERTEL. I appreciate your comments, Congressman Rahall.

Mr. Ashworth.

Mr. ASHWORTH. Having had some experience in your area in cleaning up after a disaster, you are probably aware that there are some special legal problems that occur because of things that happen during a disaster, such as the risk-of-loss question under long-term installment contracts, and determinations of legal debt and rights of entry on land to clear up debris and boundary disputes that occur because reference points, such as rocks and trees, have been moved by the floodwaters, and foreclosures, things of that nature.

Are you aware of how your own community dealt with special problems of that nature?

Mr. EVANS. I do not think our community, being Elmira, N.Y., at least I am not aware of any great amounts of that type of problem that you are speaking of. I recognize the problem, but I do not think we really suffered that type of problem, too, in any great amount to be noteworthy at that particular time.

Mr. ASHWORTH. Thank you.

Mr. ERTEL. Thank you very much, Mr. Evans. We appreciate your coming down. I understand it was some personal inconvenience to you. You had to fly in. And we appreciate your coming down.

Mr. EVANS. I always appreciate being able to testify on any improvements that would enhance our community and our State, and I certainly appreciate what you are doing.

Mr. ERTEL. Thank you.

Our next scheduled witness is Colonel Withers, but prior to that, I understand Congressman Rahall would like to make a statement, and I recognize Congressman Rahall.

Mr. RAHALL. Thank you, Mr. Chairman. I did have testimony prepared for today. I would just submit it here in the absence of time and ask that it be made a part of the record, and I will highlight what I have presented.

[The following was received for the record:]

STATEMENT OF HON. NICK RAHALL, A REPRESENTATIVE IN CONGRESS FROM THE
STATE OF WEST VIRGINIA

Mr. Chairman, I appreciate this opportunity to share with you and the other distinguished members of this committee my views on H.R. 8061, which would bring about a major change in the formula for determining the desirability of flood control projects.

Let me begin by way of background and example. In early April southern West Virginia suffered a devastating flood, resulting in all the counties of my Congressional district being declared a Presidential disaster. Too many of the victims are still struggling to overcome the economic and personal losses of that flood.

One of the reasons for this continuing struggle is the uncertainty of future protection for the residents of southern West Virginia. Many people have suggested solutions for flood protection of the Tug Fork Valley including the United States Army Corps of Engineers. The Corp's plan, known as Big Bend and The Matewan Cut-off, would cut a mountain in half and alter the course of the Tug Fork River, in an attempt to provide flood protection for residents of the Tug Fork Valley. Continuing studies will include investigation of complementary measures to reduce flood damages (such as flood proofing and evacuation of extremely hazardous areas) and formulation of plans for the use and development of lands made developable by the protection projects.

Included in this plan is a floodwall in Williamson. The potential Williamson floodwall project, according to the U.S. Army Corps of Engineers, is being considered primarily to protect the central business district and is not proposed to provide protection for the entire Williamson area, especially the Vinson Street area of Williamson because, according to the Corps, to do so would require a 1 to 1.5 million dollar increase in the estimated cost of the project. When I inquired about the Corps' intentions to include the Vinson Street area in the latest flood protection plan, I received the following response, and I quote:

"... While costs would be extensive, economic benefits that would accrue from such an extension would be relatively minor. Approximately forty additional structures (consisting, I understand, primarily of low to moderate value residences) could be afforded flood protection. However, the market value of the additional development which could be protected by extending the floodwall probably would be less than the cost of the additional protective works."

Herein lies the rub. Water resource development (flood control, navigation, irrigation etc.) projects of the Corps of Engineers, Bureau of Reclamation and other Federal agencies often become the subject of intense controversy. During the course of such controversies, there is inevitably considerable debate over the validity or lack thereof, of the benefit-cost ratio, a sort of magic number which is supposed to provide an objective assessment of whether constructing a project would be in the nation's best interest. Benefits projected to accrue from a project are quantified, costs are estimated, and the two are compared. Water resource development is unusual as a Federal program to rely so extensively on such an objective evaluation process. Rather than eliminate the need for political debate over controversial projects, however, benefit-cost analysis has itself become the subject of intense controversy.

Water resource development projects can entail considerable expenditures of public funds. As with any public investment, this implies a need for political or administrative decision-making to determine the best use of resources and public funds. A characteristic feature of water resource development programs is the heavy reliance upon benefit-cost analysis to aid in the decision-making process.

Benefit-cost analysis is a formal procedure for calculating the benefits that are expected to result from a water resource development, calculating the costs necessary to produce that development, and comparing them. The resulting economic evaluation is one of the principal factors in judgment of proposed projects. The Corps of Engineers has never recommended a project which did not have a projected ratio of benefits to costs (B/C) greater than one, i.e. a positive expected benefit.¹ Although all projects with positive net benefits are considered economically feasible, a high B/C ratio undoubtedly makes it easier for a project to get funded.

While economic evaluation is so basic to water resource development programs, its legal foundation is essentially a single phrase from the Flood Control Act of 1936. Section 1 of that Act found that the Federal Government should participate in flood control, "if the benefits to whomever they may accrue are in excess of the estimated costs and if the lives and social security of people are otherwise adversely affected."

The phrase "benefits to whomsoever they accrue", from the 1936 Flood Control Act, is a rather curious phrase which points out an important issue about eco-

¹ Brown, Howard A., *Benefit-Cost Analysis of Water Resource Projects*, CRS, Library of Congress, p. 3.

conomic evaluation procedures. Benefit-cost analyses for Federal water resource projects have traditionally been made in terms of national economic development. Who actually receives benefit is not analyzed, only the total effect on the national economy. Although this may be an essentially sound economic criterion, it does not necessarily match the reasons for having Federal water resource development programs. Nor is it necessarily desirable to ignore distributional effects. This is the crux of my whole argument. There are some justifiable circumstances when human suffering should outweigh economics. I have personally talked to many flood victims who have repeatedly experienced disastrous flooding of their homes and property. Repeated flooding and continuing lack of flood protection are by my standards, unique and justifiable circumstances for disregarding economic cost benefit ratios. To deny these individuals flood protection simply because they live in "moderately priced" housing not justifiable by economic standards alone borders on indecency. Probably the most frequently voiced criticism of benefit-cost analysis is that because of this singular economic criterion, it ignores environmental and other effects which cannot be monetarily quantified.

The problem is a difficult one, however, because even if data are developed on other goals, it is hard to present it in a manner comparable to the hard simple ratio of benefits to cost for the national economy. Senate Document 97, the benefit-cost analysis guidelines in effect from 1962 to 1973, did contain a three part objective; development (national and regional), preservation and well being of people. The principal criterion for project choice, however, was that tangible benefits exceed project economic costs. In practice, national economic development was the only objective utilized.

The 1970 Task Force Report to the Water Resources Council proposed using four objectives; national economic development, quality of the environment, regional development and social factors, to be weighed according to public preference. As the new Principles and Standards were finally approved and went into effect in October 1973, however, there were only two objectives; national economic development and environmental quality; and it was specified that a recommended plan must have net national economic development benefits. Only if changes were made to meet environmental quality objectives could there be a net deficit of economic benefits. In other words, the benefit-cost ratio is still the essential criterion, despite Section 209 of the 1970 River and Harbor and Flood Control Act which stated it to be the intent of Congress that regional development, environmental quality, social well-being, and national economic development should be the objectives of evaluation of Federal water resource projects.

I feel that the forty-some residents of Vinson Street, and all residents of the Tug Valley deserve, and should be afforded, protection from flooding. To say that a person doesn't receive protection because of some arbitrary cost-benefit ratio is a cold-hearted practice that should be changed. Indeed, any area that has the flood history and unique circumstances of the Tug Valley and all of Appalachia, should be provided the opportunity of flood protection exclusive of any cost-benefit ratio formula.

Mr. RAHALL. As I mentioned earlier in my questioning of Senator Kury, I do represent a district that was declared a Federal disaster area earlier this year, due to problems of severe flooding. The people of this area face, as many people here in central Pennsylvania, an uncertain future for fears of future flooding and look toward their Federal Government for help.

There have been many suggestions for solutions to flood protection, including the Corps of Engineers continued studies of many possible flood protection plans for southern West Virginia. The studies include investigation and measures to reduce flood damages and formulation of plans for the use and development of lands to redevelop the lands for homes—a part of future flood protection.

The one basic problem that I have found, and I quote in my testimony from the Corps of Engineers in responding to this problem, has been that the human and economic suffering is not always taken into account when considering future flood protection. The cost-benefit ratio which Congressman Ertel's bill addresses has never been more

than one to one. This sort of magic number, this sort of objective assessment of the construction of a project determines if a project is going to be of great benefit to the people. It does not take into account their own personal lives.

The benefits projected to accrue from this project are quantified, the costs are estimated, the two are then compared, formulated, spewed out in a computer, and attempts are made to see if the best interests of our Nation are served.

Many water resources development projects entail considerable expense, expenditure of Federal funds, public funds, and as with any public spending of money, this implies political decisions and administrative decisions. A characteristic feature of water resource development programs is the heavy reliance upon benefit-cost analysis to aid in the decisionmaking process.

The economic evaluations that are so necessary to these programs and its legal foundation is essentially based in the Flood Control Act of 1936. One section of that Act that I would like to quote concerns flood control, and it states, "If the benefits to whomever they may accrue are in excess of the estimated costs and if the lives and social security of people are otherwise adversely affected." This is one of the bases for the decisions of the water resources program.

The phrase "benefits to whomsoever they accrue" from the 1936 Flood Control Act is a rather curious phrase which points out an important issue about economic evaluation procedures. The benefit-cost analyses for Federal water resource projects have traditionally been made in terms of national economic development. Who actually receives that benefit is not analyzed, only the total effect on the national economy.

Now, although this may be an essentially sound economic criterion, it does not take into effect the reasons for having these programs, nor does it take into effect the distributional effects, the special justifiable circumstances of human suffering that do exist in many areas. I personally talked to many flood victims, as I am sure Congressman Ertel has in this area. They have repeatedly faced disastrous floods. They are uncertain of their future. Repeated flooding and continued lack of flood protection are, by my standards, unique and justifiable circumstances for disregarding the economic cost-benefit ratios. To deny these individuals flood protection simply because they live in an area that is moderately priced does not meet the high income standards, does not meet the economic cost-benefit ratios, to deny them adequate protection, I believe, is bordering on indecency.

Because of this singular economic criterion, decisions ignore environmental and other effects which cannot be momentarily quantified.

The problem is a different one, and it is one that we in the Congress should take into consideration. We should look very hard at it as we are in Congressman Ertel's bill to consider the human economic suffering at the same time that we are providing flood protection for our people.

In other words, to wrap up, I believe that the cost-benefit ratio is still an essential criterion, but we have to make flexible that criterion. We have to make it flexible so that we can take into consideration the social well-being of our people. To say that a person does not receive protection because of some cold-hearted figure does not make sense.

That, Mr. Chairman, is a summary of my testimony, and I think that it does point to the need for the bill that you have presented, that you have introduced in the Congress. One other provision which I do not mention in my testimony, but you did mention earlier, is the buy-in provision which gives the local communities an opportunity to participate and to insure that they will receive Federal protection. This is one way that the local people can show their needs, their concern and not leave it entirely up to the Federal Government.

So, with that, I want to conclude my testimony and just ask that it be submitted in full in the record.

Mr. ERTEL. Without objection, it will be inserted in full in the record.

Thank you very much for your statement, Mr. Rahall, and we certainly appreciate your support for this bill, and the fact that you are moving it along in Congress.

Colonel Withers, we are prepared for your testimony at this time. It is nice to see you again today in Sunbury.

You may proceed.

[Colonel Withers's prepared statement follows:]

STATEMENT OF COLONEL G. K. WITHERS, DISTRICT ENGINEER,
BALTIMORE DISTRICT, CORPS OF ENGINEERS

Mr. Chairman, Members of the Committee: I appreciate the opportunity to appear before the Committee and to testify on the status of Baltimore District, U.S. Corps of Engineers, flood control studies for Harrisburg and Milton, Pennsylvania, and on the methods used by the Corps in evaluating these types of projects.

I will first describe the status of the Harrisburg and Milton studies.

The Harrisburg Local Flood Protection Survey Report was prepared in response to House Public Works Committee Resolution of 24 June 1965 and 12 October 1972 and in partial response to Senate Public Works Committee Resolutions of 5 October 1972 and 7 July 1972 and House Public Works Committee Resolutions of 10 May 1962 and 12 October 1972. The study area includes the east bank of the Susquehanna River at Harrisburg and the drainage of Paxton Creek.

Flooding from the Susquehanna River at Harrisburg has been reported since the 1700's when the City was first settled. Tropical Storm Agnes, in June 1972, caused the highest flood of record at Harrisburg, with damages in excess of \$85 million.

In the Corps' study, numerous flood prevention schemes were developed and screened, resulting in the final analysis of nine plans for providing flood control in South Harrisburg. These were presented to the City in February 1977. Before I describe the recommended plan, I will state that North Harrisburg did not meet the requirements of economic justification, as the highest benefit to cost ratio was only 0.2. The average annual benefits for North Harrisburg are insufficient to justify a project because the area is situated on a relatively high bank and does not receive substantial flooding until the so-called "30-year flood," that is, a flood which has a 1 in 30 chance of occurring in any given year. Most average annual flood damages accrue for the very frequent and relatively low flood stages, and not for the infrequent, highly-damaging stages. This is the precise reason why it is possible to recommend flood protection for the South Harrisburg area; Paxton Creek floods very frequently, causing extensive damage to the high value commercial and industrial area along Cameron Street.

The recommended plan will protect South Harrisburg against an Agnes level storm on the Susquehanna River or Paxton Creek. The plan consists of a 4,200-foot long wall and a 6,100-foot long levee system, with associated closure structures, to protect against Susquehanna River flooding, and a pumping station for disposal of interior drainage. A detention reservoir on Asylum Run, improved channels for Paxton Creek, and modification of 26 bridges are recommended to protect the area from Paxton Creek flooding.

Based on an economic project life of 100 years, an interest rate of 6% percent, and October 1977 price levels, the first cost and the average annual cost of the

recommended plan are \$128.2 million and \$8.3 million, respectively. The non-Federal share of the first cost is \$20.2 million. The recommended plan would accrue estimated average annual benefits from flood prevention of \$13.3 million, and the benefit to cost ratio is therefore 1.6.

On 8 November 1977, I recommended the project just described and forwarded my report to the North Atlantic Division Engineer, for his action and forwarding of the report to the Board of Engineers for Rivers and Harbors and to the Chief of Engineers in Washington, D.C.

The most recent study of flood control for the Borough of Milton was done under authority provided by resolutions of the Public Works Committee of the U.S. Senate dated 5 October 1961 and 7 July 1972 and the Public Works Committee of the House of Representatives dated 10 May 1962 and 12 October 1972.

The Borough of Milton has been subject to flooding by the West Branch Susquehanna River. Over the past forty years, the Borough has experienced six major floods: 1936, 1946, 1951, 1964, 1972, and 1975. The greatest flood of record occurred as a result of Tropical Storm Agnes in June 1972. A reoccurrence of the June 1972 flood would cause \$46 million in flood damages. Various structural and nonstructural plans of improvement for flood protection were considered during the study. Due to the severity of flooding, the nature of existing land use in the flood plain, and the topography, the analysis showed that a system of levees and flood walls was the only means of providing the high degree of protection desired by the Borough.

Two levee and flood wall alternatives were investigated in detail for three levels of protection and with two separate schemes of protection for Limestone Run. The most feasible plan includes 7,200 feet of earthen levee, 7,800 feet of flood wall, 2 pumping stations, bank stabilization along the West Branch, a pressure conduit on Limestone Run, and 6 closure structures. The first cost of the project is estimated at \$35 million with an annual cost of \$2.3 million. The average annual benefits are \$950,000, and the benefit to cost ratio is therefore 0.4.

Since the plan was not economically justified, I did not recommend a Federal project. The Division Engineer concurred in my recommendation in his public notice, issued on 27 June 1977.

The situation in Milton is similar to that of North Harrisburg, as I described earlier. Milton is situated on a relatively high bank overlooking the river. Because of this, Milton does not start to receive substantial flooding damages—and therefore benefits in the benefit to cost analysis—until about the 20-year flood. Furthermore, the long-and-narrow geometry of the Milton flood plain, and that of North Harrisburg incidently, is such that a relatively long—and therefore expensive—levee and flood wall system would be required for protection. Thus, as the hydrologic situation lowers the benefits, the flood plain geometry raises the cost.

Finally, I will discuss the methods used by the Corps in evaluating these types of projects. We must consider, before recommending a project, its engineering feasibility, economic justification, environmental impact, and public acceptance.

It is my understanding that the Committee is primarily interested in the economic evaluation of a flood control project, and I shall therefore outline our procedure.

In general there are two benefits which accrue as a result of a flood control project: damages prevented, and intensification of land use.

First, damages-prevented benefits. Here we find the difference between the damages which occur under existing flooding conditions, and damages which would occur given construction of the proposed project. We develop data which reflect damages at each stage of flooding. Following detailed hydrologic and hydraulic analyses, we develop data on frequency of flooding and of flooding stages, or levels. Integrating all of these data mathematically, with the help of a computer, we derive damage frequency data which are in turn used to develop average annual damages. Average annual benefits result from subtracting the "with project" average annual damages from the "without project" average annual damages.

Next, intensification of land use benefits. These land enhancement benefits result from presence of the proposed project. In other words, flood protection allows the land to be put to more productive use.

In the benefit to cost analysis, the Corps expresses both the benefits and costs on an equivalent time basis. We are average annual dollars. Typically, most of the costs of a project are incurred during construction, with significantly less costs incurred for annual operation and maintenance. Initial cost is

amortized over the life of the project, using the Federal discount rate, and is combined with operation and maintenance costs for a total average annual cost. As noted previously, flood damage reduction benefits are computed on an average annual basis, so no conversion is necessary. Land enhancement and intensification benefits, which usually increase over the life of the project, are converted to an average annual basis by use of the discount rate.

This concludes my statement. I will be happy to answer any questions the Committee may have.

**TESTIMONY OF COL. GEORGE K. WITHERS, DISTRICT ENGINEER,
BALTIMORE DISTRICT, CORPS OF ENGINEERS, ACCOMPANIED BY
HAROLD NELSON, ASSISTANT CHIEF OF PLANNING**

Colonel WITHERS. Thank you, sir.

Sir, I have with me again Mr. Harold Nelson, Assistant Chief of Planning, Baltimore District.

Sir, I am prepared to either repeat the testimony that I gave yesterday or summarize it if you prefer.

Mr. ERTEL. I would prefer that you summarize it. The record, the transcript, will be complete. We have your testimony from yesterday, but we have some people here who are listening to a Representative from this area, who do not know the content of your testimony, and they may want to react to it. I would certainly appreciate it.

Colonel WITHERS. Mr. Chairman, members of the committee, I appreciate the opportunity to appear before the committee and to testify on the status of the Baltimore District, U.S. Army Corps of Engineers, flood control studies for Harrisburg and Milton, Pa., and on the methods used by the Corps of Engineers in evaluating these types of projects.

I will first describe the status of the Harrisburg and Milton studies.

The Harrisburg local flood-protection survey report was prepared in response to a number of House and Senate resolutions. This study area includes the east bank of the Susquehanna River at Harrisburg and the drainage basin of Paxton Creek.

In the corps study, numerous flood protection schemes were looked at, resulting in the final analysis of nine plans. These were presented to the city in February 1977. Before I describe the recommended plan, I will state that north Harrisburg did not meet the requirements of economic justification as the highest benefit-to-cost ratio was only 0.2. The average annual benefits for north Harrisburg are insufficient to justify a project because the area is situated on a relatively high bank and does not receive substantial flooding until the so-called 30-year flood, that is a flood which has a 1 in 30 chance of occurring in any one given year. Most average annual flood damages accrue for the very frequent and relatively low flood stages, and not for the infrequent highly damaging stages. This is the precise reason why it is possible to recommend flood protection for the south Harrisburg area. Paxton Creek floods very frequently, causing extensive damage to the high value commercial and industrial area along Cameron Street.

The recommended plan which will protect south Harrisburg against an Agnes level storm on the Susquehanna River or Paxton Creek consists of a 4,200-foot-long wall and a 6,100-foot-long levee

system associated with closure structures and pumping stations. The plan also includes a reservoir on Asylum Run, improved channels along Paxton Creek and modification of a number of bridges.

Based on an economic project life of 100 years, an interest rate of $6\frac{3}{8}$ percent, and October 1977 price levels, the first cost of the recommended plan is \$128.2 million, and the average annual cost is \$8.3 million. The non-Federal share of the first cost is \$20.2 million. The recommended plan would accrue estimated average annual benefits from flood prevention of \$13.3 million, and the benefit-to-cost ratio is therefore 1.6.

I recently recommended this project just described to the North Atlantic Division Engineer for his action and forwarding of the report to the Board of Engineers for Rivers and Harbors, and to the Chief of Engineers in Washington, D.C.

The most recent study of flood control for the borough of Milton was done under authority provided by resolutions of the Public Works Committee of the U.S. Senate. There were two of these, and two from the House. The borough of Milton has been subject to flooding by the west branch of the Susquehanna River, with numerous floods over the past 40 years. The greatest of these was tropical storm Agnes in 1972. A reoccurrence of that flood would cost approximately \$46 million in flood damages. Various plans were considered.

Due to the severity of the flooding and the nature of existing land use in the flood plain, and the topography, the analysis showed that the system of levees and flood walls was the only means of providing the high degree of protection desired by the borough.

Two alternatives were investigated in detail for three different levels of protection. The most feasible plan includes 7,200 feet of earthen levees, 7,800 feet of flood wall, two pumping stations, bank stabilization along the west branch, a pressure conduit on Limestone Run, and six closure structures.

The first cost is estimated at \$35 million with an annual cost of \$2.3 million. The average annual benefits are \$950,000 and the benefit-to-cost ratio is 0.4.

Since this plan was not economically justified, I did not recommend a Federal project. The division engineer concurred in this recommendation in his public notice issued last June.

The situation in Milton is similar to that of north Harrisburg, as I described earlier. Milton is situated on a relatively high bank overlooking the river. Because of this, Milton does not start to receive substantial flooding damages and, therefore, benefits in the benefit-to-cost analysis until about the 20-year flood. That is the flood which has a 1 in 20 chance of occurring in any given year. Furthermore, the long and narrow geometry of the Milton flood plain and that of north Harrisburg also is such that a relatively long and, therefore, expensive levee and flood wall system would be required for protection. Thus, the flooding situation lowers the benefits. The flood plain geometry raises the cost.

Finally, I would discuss the methods used by the corps in evaluating these types of projects. We must consider, before recommending a project, four things—engineering feasibility, economic justification, environmental impact, and public acceptance.

It is my understanding that the committee is primarily interested in economic evaluation of a flood control project, and I shall therefore outline our procedures.

In general, there are two benefits which accrue as a result of a flood control project—damages prevented, and intensification of land use.

First, on damages prevented. Here we find the difference—the difference between the damages which occur under existing flooding conditions and the damages which would occur with the proposed project. We develop data which reflect damages at each stage of flooding. Following detailed hydrologic and hydraulic analysis, we develop data on frequency of flooding and of flooding stages, or levels.

Integrating all of these data mathematically, with the help of a computer, we derive damage frequency data which are, in turn, used to develop average annual damages. Average annual benefits result from subtracting the “with project” average annual damages from the “without project” average annual damages.

Intensification of land-use benefits refers to land enhancement which results from presence of the proposed project. In other words, flood protection allows the land to be put to more productive use.

In the benefit-to-cost analysis, the corps expresses both the benefits and costs on an equivalent time basis. We use average annual dollars. Typically, most of the costs of a project are incurred during construction with smaller costs incurred for annual operation and maintenance. Initial cost is amortized over the life of the project, using the Federal discount rate, and is combined with the operation and maintenance costs.

As noted previously, flood damage reduction benefits are computed on an average annual basis, so no conversion is necessary. Land enhancement and intensification benefits, which usually increase over the life of the project, are converted to an average annual basis by use of the discount rate.

This concludes my statement. I will be happy to answer any questions the committee may have.

Mr. ERTEL. Thank you, Colonel Withers.

Since I had the opportunity to question you yesterday. I will yield to my colleague, Congressman Rahall, to ask you some questions at this point.

I do have a couple that I would like to come back to that were raised as a result of the testimony yesterday, and I would like to have your comments on them.

Mr. RAHALL. Thank you very much, Mr. Chairman, and thank you, Colonel Withers, for your testimony here today.

My first question concerns the time elements involved in the studies and the plans that you mentioned in your testimony. I do not see where you mention how many years or months we are talking about.

Can you give me some idea, say on the south Harrisburg plan, just how long it took for your recommendations?

Colonel WITHERS. Sir, we began our study following—the most recent study was begun following Agnes in 1972, sir.

Mr. RAHALL. In doing the studies, do you find that the environmental impact statements are very much of a detriment to you as regards time elements that it would take to build a project? Do they hold up the project, environmental impact statements?

Colonel WITHERS. Sir, in the case of the Harrisburg and Milton studies, the environmental impacts were relatively minor, and therefore, I would say did not provide any significant delay.

Mr. RAHALL. I asked that because in my district, where there has been a major flood plan presented by the Corps of Engineers, which includes cutting half of a mountain out, and using the land that is built up behind the cut for housing projects, we have introduced legislation to waive the environmental impact requirements because of the long time, the long delay that would be involved.

Colonel WITHERS. I should add, sir, that the—there are other flood control projects which have been proposed in the Susquehanna basin, which would face very significant debate on environmental issues.

In particular, reservoirs, because of their fairly widespread impact, as opposed to the narrow environmental impacts that are incurred by a local flood protection project, which is, of course, in a fairly high developed place, to begin with.

Mr. RAHALL. When you are considering economic justification, before you recommend a project, can you explain that just a little further? What you say you are using, I believe you say annual dollars, and how do you evaluate—do you take the assessor's estimation, or the property estimations? How do you go in and determine your valuations?

Colonel WITHERS. Sir, we use a procedure which involves interviews, and a detailed survey of the area which is flooded. It involves determining, for each structure in the area, for example, its relative height with respect—its relative height so that can be keyed to damage potential.

In the case of standard structures, we, of course, do not have to go door-to-door, and ask questions. But in the case of industries, we actually follow a questionnaire, and get detailed information on the value of the commercial or manufacturing activity, and where the structures are again with regard to potential flood might be. So we do go through detailed analysis of that.

Mr. RAHALL. Do you actually talk to flood victims?

Colonel WITHERS. Yes, sir.

Mr. RAHALL. What type of questions do you ask them?

Colonel WITHERS. Well, we gather the full range of information, but when we ultimately assess benefits, so that we can determine economic feasibility through the benefit to cost formula, then only so-called national economic development benefits go into that, and when we are talking about flooding, we are talking about damages prevented, which we quantify with the present system that we use.

Mr. RAHALL. Colonel, you talk about benefit cost analysis, the Corps expressed benefits, and on a timely basis. You use average annual dollars. Typically, most of the cost of the project is incurred during construction, significantly less cost incurred by annual operation and maintenance.

What are these costs that are incurred during the construction?

Colonel WITHERS. The construction cost is the cost of the project itself. If it is a levee and floodwall system, then it is simply the cost of building that system.

Mr. RAHALL. What are the costs that are incurred per annual operation?

Colonel WITHERS. These would be such things as—from the maintenance of the project, cutting the grass, making small repairs, replacements of machinery, and pumping stations, for example.

Mr. RAHALL. And it is these costs that go into the cost-benefit ratio. Is that correct?

Colonel WITHERS. Yes, sir.

Mr. RAHALL. All of this?

Colonel WITHERS. Yes, sir.

Mr. RAHALL. Do you see a way—this now addresses Congressman Ertel's bill, that some way in the future the human and psychological element can be taken into consideration, and how would you recommend, if that is so, that the Congress decide that policy, that it be taken into consideration? How would you put it into economic terms or figures?

Colonel WITHERS. Sir, I do see a way to respond to your question via Congressman Ertel's bill, of quantifying certain other benefits.

For example, regional economic development benefits can be quantified if we attempt to make a determination who would move out of a given flood-prone area, if there is no additional flood protection, and we have done some analysis of that, and found that some of these things can be quantified. There are difficulties inherent to this.

As one gets further into it, one approaches great difficulty in quantifying such things, of course, as human suffering, and families having to leave areas, and things like that.

Mr. RAHALL. What if nobody would move out? That would be a big factor, would it not? If nobody is going to move out of the flood plain level, despite that uncertainty of future floods, how can you quantify that?

Colonel WITHERS. That is what is very difficult, sir.

Mr. RAHALL. I have no further questions.

Mr. ERTEL. Thank you, Congressman Rahall.

If I might suggest, you have reached the point of psychological damage. I do not think we are ever going to quantify that. So it suggests the possibility, and I think my bill addresses it in some regard, that this should be a factor reported to the Congress, which would go into a political decision, and all of these reach a political point of decision by the Congress of the United States, because the corps recommends projects, and then it becomes a question of which one of those projects is going to be authorized, so I think we have to have those considerations, and I hope my bill would look into the report form.

I thought maybe that was just enlightening to you, Congressman Rahall.

Yesterday, Colonel Withers, we had testimony from Michael Baker Associates, and I think you were there when that was presented, concerning a project, or a small project in the Spring Creek watershed in the Dauphin County area.

The Soil Conservation Service had done a preliminary estimate of that, and came out with a cost-benefit ratio of 0.6, as I recall the testimony.

Michael Baker went back and did that, and they came up with five projects which would alleviate the flooding in that particular watershed, and all of them, they indicated, at least, would exceed the 1.0 under the present formula, under the change which I have introduced.

One of those projects went to 3.5, which is approximately 600 per cent error. I do not know if you have had any opportunity to reflect on that over the night. I know it is not your organization that made the original estimate.

Do you have any enlightenment to us on why that major discrepancy? It certainly calls into question the procedures being used.

Colonel WITHERS. Sir, I am not familiar with the course of the project, the Soil Conservation project, but we do, of course, face that same type of thing.

I guess the one answer is that a benefit-to-cost ratio evolves during a process which starts with a fairly quick degree of analysis, and ultimately, if things continue to look good, proceeds to a stage where a great number of things are very carefully gone into.

That is not to say that we do not look at all of the things which may provide benefits, and which may be cost on the other side of it, at the initial time. It is just to say that initially, simply by virtue of the nature of the thing, you do not spend a lot of money investigating something at the beginning. You attempt to determine whether it appears that there is a feasible project there.

That is, I think, about the best answer that I can give to that, sir.

Mr. ERTEL. Maybe you could give me a little bit of the corps' experience. When you have done a preliminary estimate to come up with a preliminary cost-benefit ratio, do you find a great terrain between that preliminary estimate and the final development of the cost-benefit ratio after you have done your detailed analysis?

Colonel WITHERS. Two things, sir.

One, in doing these initial studies, on which we are, of course, going to spend a great deal of money on any given potential project, we usually carry the thing on to a future study, if it has a—anywhere near 1.0 benefit-to-cost ratio.

In fact, we go down to 0.5, and then give that a further look.

The second thing is that in our experience, in the Baltimore District, it has more often turned out that as we really dig into it in the later refinements, the benefits have tended to go down, and the costs have tended to go up.

Mr. ERTEL. Is that because of inflation setting in during the period of the study, or is that because you have more detailed analysis?

Colonel WITHERS. The more details, I would say, sir.

Mr. ERTEL. One other thing, the bill that is proposed in the record, and I think the transcript is complete, most, or all of the things that are suggested in my bill are not incorporated at the present time in the cost-benefit analysis of the corps' present use, is that correct?

Colonel WITHERS. Yes, sir.

Mr. ERTEL. And the analysis on the cost-benefit ratio that you are presently using, that has been set up by regulation, rather than by law.

That is, based upon, as Congressman Rahall has indicated, one sentence in the 1936 act.

Colonel WITHERS. Yes, sir, I would like to say, sir, that we do consider the things that are mentioned in your bill. The regional economic development benefits, and social well-being and in fact, for the Harrisburg project we have sheets which display the effects, which we can

say something about either quantitatively or qualitatively, but as you realize, these do not become part of the benefit-to-cost ratio.

Mr. ERTEL. I can appreciate that they do not at the present time.

I think that is all I have to ask of you.

Possibly, Mr. Ashworth has some additional questions. He is nodding, so I guess he does.

Mr. ASHWORTH. Two questions, following up on what witness said that we heard yesterday.

The essence of his testimony was that the use of more private consultants doing a more thorough study job for the Federal agencies might be a better answer than amending the cost-benefit ratio, do you agree with that?

Colonel WITHERS. No.

Mr. ASHWORTH. There seems to be a contradiction here.

You say in your testimony here that as you go more thoroughly into your studies, the cost-benefit ratio becomes more adverse because of the increased costs, and he was inferring that as he became more thorough the justification—

Colonel WITHERS. No; I did not say that the benefit-cost ratio became more adverse because of increased costs. I said in our experience, many of ours, the benefits have gone down, and the costs have gone up, simply because we dug into it more, and found perhaps that we had been optimistic on certain of the things in our initial look.

Mr. ASHWORTH. That still presents a contradiction between the two, does it not?

Colonel WITHERS. I, of course, cannot speak for the particular SCS study, and the thing that Mr. Gingrich was saying.

Mr. ASHWORTH. Is that because he is trying to justify his existence?

Colonel WITHERS. I cannot say that.

Mr. ASHWORTH. No further questions.

Mr. ERTEL. Thank you, Mr. Ashworth.

Colonel Withers, one further question.

The Congress passed an act in 1970 which indicated that in flood control projects there should be four criteria used. One was special well-being, the other was regional and economic impacts, and two others, which are not relevant, because we have not considered those in the bill that I am presenting.

We had testimony by the water resources council yesterday, that in fact those two criteria have been deliberately ignored by the past two administrations, and in fact, he has cited statements where they were not going to use it, even though it was the intent of Congress that they be used.

Now, has the corps taken any affirmative action to incorporate the principles of those four standards, I guess policy directives of the Congress, in evaluating projects, other than just as you said, and I think you did on the Harrisburg and Milton projects.

The Public Works Committee considered those two things. But as a national standard, or as a national effect, has the corps taken into account those two other things, and if you have, how do you put it into the plan?

Colonel WITHERS. As I mentioned, sir, we do look at the social well-being, and the regional economic development benefits, and display

those, but they are not objectives, as you recognize and they therefore do not become benefits in the benefit-to-cost ratio.

Mr. ERTEL. So, in other words, Congress may never see those considerations in any way, shape, or form, because that project may be curtailed in the administrative process of the corps, because it does not have a 1.0 project based on strict economic ratios that you are now using, is that correct?

Colonel WITHERS. That is correct.

Mr. ERTEL. And the strict economic ratio that you are using at the present time, basically has not been changed, for how long, do you have any idea?

Colonel WITHERS. I cannot say. I do not know, sir.

Mr. ERTEL. Thank you, Colonel Withers.

Colonel WITHERS. Sir, there is one thing, if I might.

Yesterday, when Congressman Levitas was the chairman, there might have been a misunderstanding, which I—if you will let me, I would like to attempt to perhaps clarify.

We talked about the so-called 400-year flood, and that is a sort of an unfortunate term, because it implies that that flood is going to happen once every 400 years, and I would simply like to state for the record that that expression simply means that the flood has a 1 in 400 chance of occurring in any given year.

Mr. ERTEL. I think we went through that yesterday, and the fact of how that was arrived at, since you had no 400-year history in the extrapolation of previous flooding conditions, which I do have to say that I have some question about the methodology which has been utilized.

While you are talking about that, I noted that you indicated that the flooding in the Milton area, and you gave the dates, 1936, 1946, 1951, 1964, 1972, and 1975.

Did you figure out the statistical probabilities of each one of those floods occurring when you did your analysis?

Mr. NELSON. Yes, sir.

Mr. ERTEL. Do you have those with you, the statistical probabilities?

Mr. NELSON. Not with me. I know the 1972 flood is about a 130-year flood.

Mr. ERTEL. At the Milton area?

Mr. NELSON. Yes.

Mr. ERTEL. So you are saying it is one chance in 130. I think for the record you ought to identify who you are.

Mr. NELSON. Harold Nelson.

Mr. ERTEL. One in 130, or basically 125-year flood?

Mr. NELSON. Yes, sir.

Mr. ERTEL. How about the 1975 flood? What was the statistical probability that was Eloise?

Mr. NELSON. One chance in 40 that an Eloise-size storm will occur in any given year.

Mr. ERTEL. Thank you very much for being here.

Our next witness is Mr. Edward Reeser, president of Milton Flood Control Committee.

**TESTIMONY OF EDWARD REESER, PRESIDENT, MILTON FLOOD
CONTROL COMMITTEE, MILTON, PA., ACCOMPANIED BY FRANK-
LIN HARTZEL**

Mr. REESER. Mr. Chairman, I cannot attack the Federal problems and the State problems. I feel very adequate, though, to attack one project for a small town, located 15 miles northeast of here.

My name is Edward F. Reeser, chairman of the Milton Flood Control Committee, an official committee of the Milton Borough Council.

We appear here today, with reservation, to heartily support and endorse H.R. 8061, a bill to amend the Flood Control Act of 1970. Our reservation addresses itself to the definition "the local area and certain surrounding areas."

The Borough of Milton is particularly concerned with the continuing arguments and disagreements between the proponents of multipurpose upstream impoundment and the proponents of single purpose structural protection for well developed communities within the high flood hazard areas. We are not opposed to upstream impoundments, as such, even though recent happenings raise a question of their safety in event of excessive rainfall.

We oppose upstream impoundments in the drainage area of the West Branch of the Susquehanna River, since there is no feasible way that sufficient impoundments can be constructed to provide protection for Milton from flood hazards.

The present four large impoundments were originally intended to hold back snow melts since they were designed as a result of the 1936 flood. However, subsequent events show that the 1936 flood was the only one caused by snow melt. We are faced with the fact that 5 of the last 6 floods over the last 40 years did not come from the area where the present impoundments are located.

The disastrous 1972 flood illustrates the fallacy of depending on the existing four impoundments to help relieve the flood hazard to downstream communities. Even though the four impoundments were filled up, prior to Agnes, to the level of the recreation pool, none of the four impoundments was filled to the top during the storm. Why?

The concentrated heavy rainfall did not occur in the areas where the present impoundments are located. The heavy precipitation fell in the drainage areas of Pine Creek, Loyalsock Creek, Lycoming Creek, Muncy Creek, and others, all of which are located downstream from the existing impoundments. Of the 300,000 cubic feet per second which flowed past Milton in 1972, 100,000 cubic feet per second came from Pine Creek, which is located below the dam.

To adequately protect Milton, an additional 14 impoundments of the size of the four existing ones would be required. Even a cursory examination of the areas from which the last 5 floods originated would immediately reveal that these areas will not accommodate 14 large impoundments.

We submit that the only way to provide protection to the well developed industrial community of Milton is in the form of a flood wall and levee combination along roughly one and one-half miles of the left bank of the West Branch of the Susquehanna River.

Concern has been expressed by residents living outside Milton that erection of the Milton floodwall could cause adverse flooding conditions in communities directly across as well as downstream from the community. Detailed hydrologic studies have been made to address this concern. Two conclusions were reached in these studies.

1. The reduction in flood path which the proposed levee and flood-wall combination could cause would amount to about 2.2 percent. This reduction could be amply offset by clearing 600-foot strips of dense brush and woods along both sides of the islands in the Milton area.

2. The elimination of the Milton downtown area from the Susquehanna River flood plain will have an almost negligible effect, raising the river discharge by a maximum of 900 cubic feet per second (about 1.3 percent of the 1972 flood peak of 300,000 cubic feet per second) at a time about 18 hours prior to the river flood peak, and leaving the magnitude of the flood peak itself unaltered. The flood wave effect at Milton is translated with only minor attenuations to the Sunbury area.

We do not believe there is much question that Milton is highly industrialized with all major industries located in the flood plain. Its contribution to the area economy has been amply documented. By way of illustration, the latest Pennsylvania Industrial Census published by the Pennsylvania Department of Commerce shows the following statistics for Milton and Harrisburg, the capital of Pennsylvania; that is taking this publication of the Commonwealth of Pennsylvania.

I quote here the value of production and related activities for Harrisburg and Milton. Value of production and related activities, \$219,-036,000. Milton, \$267,280,000.

The Milton Flood Control Committee has been insisting that the frequency curve be adjusted to recognize the fact that the floods are occurring more frequently, and are higher than in the past.

As an example, there have been six major floods at Milton in excess of 28 feet in the past 40 years, whereas in the previous 90 years there were only two. It would appear then that since our arguments have fallen on deaf ears, the only help we can get is a consideration on the economy and social well-being of the local area and certain surrounding areas if flood protection is not provided.

We, therefore, heartily support H.R. 8061, providing the impact, or a part thereof, on the economy and social well-being be applied only in determining the benefits to be accrued by the protection of well-developed communities within high flood hazard areas.

We sincerely appreciate the opportunity to testify in support of H.R. 8061.

Thank you.

Mr. ERTEL. Thank you, Mr. Reeser, for your statement. I know that you have been extremely active in consideration of flood control projects.

I personally can attest to that by the contacts that you have had with my office. All have been of the highest standards.

I would like to ask you a question. You have stated the value of the production and related activities, comparing Harrisburg and Milton, and it obviously shows Milton being much higher.

What, basically does that take into consideration? Is that the cost of the facilities in production itself?

Mr. REESER. No; that is the value of production that is being produced for the specific year.

Mr. ERTEL. That is total output of the plan?

Mr. REESER. The output of the industrial plan.

Mr. ERTEL. You do not have a comparison of the cost of the production facilities themselves?

Mr. REESER. No; that is not quoted in here.

Mr. ERTEL. I see.

Mr. REESER. This is, in effect—relates to how much employment there is.

Mr. ERTEL. It may or may not relate to how much employment there is because if your employee produces more in the economic dollar per employee hour, in one place or another, it may not reflect the number of jobs, depending on what that ratio is, is that correct, on these figures?

Mr. REESER. It may be, except you have to multiply a factor, what you are buying also to produce from the local areas.

Mr. ERTEL. Yes; I understand what you are saying.

Has Milton developed a statistical analysis of the number of jobs which would be lost if, in fact, flood protection were not provided for Milton?

Mr. REESER. The corps has completed a study.

Mr. ERTEL. I know they have completed one.

Mr. REESER. We have made no analysis, no.

Mr. ERTEL. Has all of the industry included in the output of 267 million for Milton, are they all in the flood plain which would be characterized by the 100-year flood levels?

Mr. REESER. No; Those are, I would say, about 35 million of that 267 million that is not in the flood area.

Mr. ERTEL. Rather insignificant amount in comparison?

Mr. REESER. Yes.

Mr. ERTEL. The rest is within the 100-year flood plain?

Mr. REESER. Yes.

Mr. ERTEL. I appreciate your testimony about the six major floods in Milton. That is why I asked the question of the corps as to their statistical analysis and probabilities of the reoccurrence of those floods. Sometimes I think our facts do not fit with our theoretical analysis.

Mr. REESER. Well, it is interesting to note if we can take the stage damage curve of the Corps of Engineers as the stage of the flooding up, you have certain damages like that. If we take that and take the actual six floods that have happened in the last 40 years and copy off the damages on the corps thing, we add up to \$92 million. I divide by 40 years, and you get \$2.3 million. That was the cost that the colonel just—the annual cost that he quoted here.

But not, that is—there is no—that is not affected by any statistical manipulations because we have not taken in the fact that you have to wait for a 100-year flood and so forth. This is already actual, actually what happened in 40 years.

Until I heard the colonel, I thought our dam or our wall was \$25 million, but it is now up to \$35 million. We started early 1973 working on this and we had a meeting in Washington, and the cost of the wall was \$12 million. The losses from Agnes were placed at \$15 million.

Mr. ERTEL. Do you know what the losses were for Eloise?

Mr. REESER. I do not think that was ever—that has ever been quantified. Around \$15 million, I understand.

Mr. ERTEL. I certainly appreciate the fact that we have to deal with actualities and sometimes not theoreticals. We will be looking into that some more as a result of your testimony, and I appreciate your coming in and testifying on the issue and your enforcement of the bill.

Congressman Rahall?

Mr. RAHALL. I have one question, Mr. Reeser.

As you know, Congressman Ertel's bill provides or allows for buy-in provision for non-Federal interests to pick up the cost of the project that exceeds the benefits.

Would the city of Milton be in a position to help in this regard to contribute toward the cost if such policy were allowed?

Mr. REESER. I do not believe we could go that far. We have talked to a number of property owners. As you know, the land on which the corps project is built has to be provided by local interests, and we have talked to a number of property owners who, they say, dedicate their piece of land along the river and they have had a number of answers of yes. We are not a big borough. We are only listed as a 7,000 population. And to a certain degree, I am sure that we could raise some money. But it is going to take a tough time to raise it just to provide the local effort. It will probably take a bond issue.

Now, of course, we are talking \$35 million, and I do not know—maybe 10 percent, let us say.

Mr. ERTEL. If the gentleman will yield.

Are you saying there would be a reasonable possibility had my act been on the books, Milton would have been required to contribute 10 percent, that there is a reasonable possibility of State and local action to raise that 10 percent?

Mr. REESER. Oh, yes, I am sure.

Mr. ERTEL. Thank you.

Mr. RAHALL. Mr. Chairman, is it my understanding that the city of Harrisburg had a flood project that has been approved and the cost-benefit ratio has been waived because of development that is planned in the future?

Mr. REESER. No; that is not correct.

As I understand it, South Harrisburg has a flood control project which has been approved to the North Atlantic Division of the Corps of Engineers, which is now going to the Chief's Office. They had a cost-benefit ratio under the traditional formula 1.6. But that was started in Agnes, post-Agnes period, and there were some calculations and mathematical errors, and that was rejected to 1974-75. And it was not until about November 1976, or the beginning of 1977, that it got out of the Baltimore District Office and moved to the North Atlantic Division Office, but there were engineering and mathematical calculation errors, and the hydrology was also a problem. But that has been a 5-year period in the process.

But, under the traditional formula, 1.6. I think that explains it, and I believe that is in Colonel Withers' testimony from yesterday.

Mr. RAHALL. Thank you.

Mr. ERTEL. Mr. Ashworth.

Mr. ASHWORTH. In your testimony you state that all the major industries of Milton are in the flood plain, and we have heard testimony today and yesterday that indicates that we are obviously going to have more State and Federal flood plain management laws which would prevent the rebuilding in the flood plain. Yet there are no statutes that we know of, either State or Federal, which provide funds for the purchase of property on which rebuilding is disallowed.

Do you think there is going to be a future need for legislation of that kind?

Mr. REESER. Well, I think—you know, the flood plain regulations at the present time require that you build 1 foot above the 100-year flood or go up to that height. That adds cost, economic cost of, say, a plant expanding, and they say, well, no, you can expand but you can also waterproof it, which means if you build a ship so as no water can get in, you have no hole there or you fill it up. And one plant up there would take 10 feet of fill. That is economically not justified. So what happens by the flood regulations then, they are prohibiting economically the plant to expand.

Of course, if you are in the floodway, there is no building permitted in the floodway.

Mr. ASHWORTH. But there are obviously going to be situations not only caused by the flood plain management laws but also peculiar legal problems that would prevent residential building?

Mr. REESER. Yes; no question about that. Yes, sir.

Mr. ASHWORTH. Thank you.

Mr. ERTEL. Just to add one thing. I was reminded, and we did have testimony yesterday, that there is an exception to the benefit-cost ratio if there is an exception to HUD. I wanted to ask one further question.

Has there been any Federal building or Federal projects in the flood plain in Milton in recent years?

Has there been Federal investment in the flood plain?

Mr. REESER. Oh, yes, \$20 million, I believe, invested. Low-income housing and housing for the elderly have been built already and there is another—under some title, I forget what, another 30 or 40 units going up.

Mr. ERTEL. Are they flood proof? By that I mean dry flood proofing or wet flood proofing, or will they, in fact, be within the flood plain, the 100-year flood plain, would be subject to evacuation?

Mr. REESER. I am not positive. I am not even sure how high is currently, currently the 100 year. I am not even positive who said so. Most of these things would be flooded in the first floor that have been built in buildings.

All right, it will not hurt the first floor, but up above there we have—how many would it be, Frank, six apartments?

Mr. HARTZEL. Approximately; yes.

Mr. REESER. Elderly people that will be living up there will be surrounded by water. Now, I guess nothing will happen, but they are there.

Mr. ERTEL. Where are the utilities for those facilities?

Mr. REESER. They are up—

Mr. ERTEL. They are up?

Mr. REESER. Yes.

Mr. HARTZEL. The electrical system is underneath it. We had pumps in the last time to get the water out. It is an electrical system.

Mr. ERTEL. But that is one other thing that we address in this legislation is the Federal commitment to back in those flood plains, which has never been taken into account. We have the one arm of the Federal Government rebuilding in the flood plain and the other arm saying we are not going to do anything. And we are acting in counterpurposes, and that is one of the other purposes of the bill. And I was interested because, obviously, I knew the Federal Government did have some investments in the flood plain.

Mr. REESER. No matter who you talk to, there is anywhere between \$25 million and \$39 million Federal costs invested in the flood plain. So you could take either one you want.

Now, this bill then should address itself to protect that investment in addition to trying to keep industries from moving out.

Mr. ERTEL. We do have that in the bill?

Mr. REESER. Yes.

Mr. ERTEL. I appreciate that you have that problem.

Mr. Ashworth.

Mr. ASHWORTH. One clarifying point.

If, through Federal or State legislative action, the continued use of land in a flood plain is prevented, who bears the loss? Who should bear the loss?

Mr. REESER. The last owner of the land.

Mr. ASHWORTH. Thank you.

Mr. ERTEL. OK. Thank you very much, Mr. Reeser. We appreciated having your testimony. It was very helpful to the committee, and I think it will be helpful to myself and other members of the committee when we review the transcript as well.

Mr. REESER. Thank you very much.

Mr. ERTEL. I think we will continue with one additional witness, with the intention of recessing at approximately 12:30 for lunch, and continuing after that. And we may have to interrupt the witness, but I am sure we will be able to come back and continue.

Our next witness is Dennis Robinson, executive director, Susquehanna Economic Development Association, Council of Governments.

TESTIMONY OF DENNIS ROBINSON, EXECUTIVE DIRECTOR, SUSQUEHANNA ECONOMIC DEVELOPMENT ASSOCIATION, COUNCIL OF GOVERNMENTS, ACCOMPANIED BY THOMAS P. BRESENHAN, NATURAL RESOURCES COORDINATOR

Mr. ROBINSON. Mr. Chairman and members of the subcommittee, I would like to thank you for the opportunity to testify here. I think before I begin, there are several things I would like to do. One is I would like to introduce a colleague of mine, Tom Bresenhan. Tom is a member of our staff. He is natural resources coordinator, and he has been heavily involved in flood recovery, flood hazard production activities in our organization for the past 4 years.

Mr. ERTEL. We would like to welcome you, and you are well familiar to the acting chairman of this committee, who got it by default. We are glad to have you, too, Tom.

Mr. ROBINSON. So, from a standpoint of local-regional, Tom could fill you in on some of the technical questions.

The other thing that I do have with me today, and I wonder if I could also—I have one brief testimony that I am prepared to give on behalf of my board of directors and representative who is also a member of our board from the city of Bloomsburg in Columbia County, gave me their testimony in our regular board meeting yesterday. And I just wondered if I could not read it? It is about three pages. Or possibly enter it if that was not permissible.

Mr. ERTEL. We will be happy to incorporate it in the record, without objection. And if you care to summarize it, we will take and incorporate your testimony in the record, and you may proceed as you wish. Whether you wish to read it or summarize, it is your option.

Mr. ROBINSON. I think they would probably prefer that I read it on their behalf. Thank you.

I guess to preface the testimony of our board of directors, we had entered the House bill with our Flood Advisory Committee members and are undertaking an analysis of that in their previous meetings. I would like to say this time that they are in support of House bill 8061, Congressman.

Yesterday at our regular board meeting was the first time that the bill was introduced via the flood hazards advisory meeting to the board, as with any board, about 21 members, 11 from various counties being commissioners and local government representatives and sector people. A full consensus was not reached yesterday, and we are continuing on with deliberation of it. So I do have basically their feelings as of this point to read the testimony today, and I would like to begin.

Mr. Chairperson, members of the committee, I appreciate the opportunity provided by Congressman Ertel to present testimony before the Water Resources Subcommittee of the House Public Works Committee. It is vitally essential to accelerate the reduction of flood hazards in central Pennsylvania, for the hazards of flooding and our responses to them represent the most persistent and pervasive threat to our economic stability, public safety, and environmental recovery. And many of our problems are mirrored nationally.

I see these hearings as an additional step in the evolution of a unified program to reduce flood hazards. They can be viewed as a parallel portion of the present review of the Nation's water resources. We can all sense this is a time of change.

Things have changed in our environs around here. Flood hazards in the Susquehanna River Basin have been reduced since our vulnerability was exposed during Tropical Storm Agnes in June 1972. As a first line of defense, self-help flood warning systems are spreading throughout our smaller watersheds, such as in Lycoming County, to support the improving forecasting network of the National Weather Service. Proportionally, more flood insurance policies are in effect here than anywhere else in the Nation. With Federal, State, and local support, many flood-prone areas are being returned to more appropriate uses such as open space or parks. New development is occurring in compliance with Federal standards, but much more needs to be done.

In our region, flooding can be directly established as the primary reason for the drastic reduction in work force numbers and the closure

of several large industries, such as Magee Carpet in Bloomsburg and FMC/American Viscose in Mifflin County, in our region. I believe you can appreciate how difficult it is to entice new industries into an area to replace ones that have departed. Today, more than 10,000 industrial jobs are in jeopardy because of flooding potential. Certainly something needs to be done to release this draft.

A citizens advisory committee formed after Agnes to provide guidance to the SEDA-COG board of directors on course of action to release flood hazards. Membership in the committee is drawn from throughout the SEDA region. Several of the roots represented by the advisory committee presented testimony on their own behalf today. The range of viewpoints represent some prior aspects, legislation discussed by the SEDA-COG board of directors.

The board received advice of the committee on this legislation just yesterday. The SEDA-COG board wishes to address legislation positively and constructively. But, upon further evaluation, it is necessary before a board consensus or position can be established. It should be understood that this comment should not be considered as looking on favorably on the legislation. It is our view that the flood regions in the SEDA region need to be reduced, and the sooner the better. Deciding whether the piece of legislation is an acceptable path to follow will require considerably more discussion than is possible in order to be able to present a position at these hearings. A position will be forthcoming but only after the regional impact of the legislation is better understood.

The SEDA-COG board of directors wishes to express its appreciation to Congressman Ertel for holding these hearings and for his continuing efforts to reduce flooding problems.

Mr. ERTEL. May I interrupt you for a moment?

We have a change in the testimony which you have presented and which you have given here. I wonder if that has been a conscious effort or not?

Mr. ROBINSON. Which?

Mr. ERTEL. I have testimony before the Water Resources Committee, dated November 17, and when you go into analysis of H.R. 8061, and I would like—

Mr. ROBINSON. OK. That was the one—we had prepared one prior to the board meeting, Congressman, yesterday. And as a result, what we are hoping for was to bring everything to some sort of a consensus of the members in the discussion which did not happen yesterday. So there were some revisions to that particular testimony, subject to the outcome of yesterday's board meeting.

Mr. ERTEL. I note that you have in here some statistical analysis of loss of jobs and so on. Is that still accurate or not because, if it is, I would certainly like to incorporate that in as part of the record?

Mr. ROBINSON. That is still accurate.

Mr. ERTEL. Do you then wish to have me incorporate the total part of your testimony which goes for a much longer part as part of the written record or not?

Mr. ROBINSON. Yes.

Mr. ERTEL. It will be so incorporated, without objection.

[The following was received for the record:]

STATEMENT OF DENNIS ROBINSON, EXECUTIVE DIRECTOR, SUSQUEHANNA ECONOMIC DEVELOPMENT ASSOCIATION

Benefit-cost analysis is a handy economic tool to evaluate, rank, and schedule capital projects. The inclusion of secondary benefits in the analysis, as asked for by H.R. 8061, seems most reasonable. At first glance, it would appear that the only achievement of this inclusion would be to raise the benefit-cost ratio for all projects nationwide, leaving Congress with the difficult task of selecting which projects get funded and leaving citizens, industries and communities in potentially the same "wait and see" position as before. But not necessarily, for if you remember my earlier comment regarding the evolutionary nature of the nation's flood hazard reduction program, things are changing. Non-structural approaches with associated cost-sharing formulas are on the doorstep. In fact, the very use of benefit/cost analyses for these approaches is in question, principally because it appears that doing nothing is the most economical course of action. This is plainly an unsuitable choice. If benefit/cost analysis is to be used to evaluate non-structural projects, such as flood proofing, the inclusion of secondary benefits will be necessary in order to justify projects.

A brief note on secondary or regional benefits. It is important to realize that these secondary benefits are not hypothetical; they actually occur. What is needed is to develop a method to account for them and, of course, establish a legal reason to calculate them.

The logical direction, as I see it, would be to direct efforts at critical points. Two factors press the issue: (1) We are in a time race with the next large flood, and (2) Prior experience is a powerful instructor, as well as lessons learned.

Including secondary benefits will help us decide what needs to be done immediately to reduce the highest flood hazards. These areas in our region we feel deserve prompt attention: adequate financial assistance to improve flood forecasting and warning systems; protecting industry; and reducing flood hazards at mobile home parks.

Flood warning systems are generally not evaluated by benefit-cost analysis, for if they were, the present inadequate funding would not exist. When these systems are looked at economically the direct benefits far exceed the costs; including secondary benefits would make the need for additional support paramount. Perhaps it would be in the best interests of the nation to put this program on a benefit-cost basis. One result might be the immediate recognition of the need to establish secure communication links for local flood warning systems.

The importance of industry to us and the threat of flooding has been stated earlier. This concern for industry does not diminish, in any way, the concern for the flood hazards faced by others. It is just that the threat of flooding presents a very real threat to the regional economy, and that affects us all. If immediate measures to protect industry were undertaken, a public-private cost-sharing arrangement would be necessary. As a start, consider a jointly developed plan and implementation measures to be financed, one part by industry and three parts by the public. This could reflect the 3:1 multiplier effect of industrial jobs. Other cost-sharing arrangements could be developed for homeowners, businesses and public buildings.

The inclusion of secondary benefits might hasten the resolution of the most hazardous and inappropriate use now made of the Nation's flood plains—mobile home parks. Recent tragedies have clearly demonstrated the threat of flooding to mobile home parks. An imaginative and aggressive national program to reduce hazards at these parks only seems lively if secondary benefits can be included in the benefit-cost analysis.

Secondary benefits should also hasten environmental recovery. The residual impacts of past logging and mining practices are still experienced in Central Pennsylvania. Although our forests have recovered from past severe abuses, the present growth of single stand forests make them particularly susceptible to insect infestations, thus reducing their capability to retard runoff. Too many of our streams are still sterile and acid from the discharge of abandoned coal mines. Including secondary benefits in the benefit-cost analysis of multi-purpose, multi-objective water resources projects would clearly assist the Congress in its deliberations, and help non-federal interests understand their position in the national scene.

The preceding comments reflecting upon the impact of increased Federal investment toward the reduction of flood hazards were made mindful of the catastrophic potential of local flood protection projects, such as the one that protects

this city. Should the levees be raised as planned in Wilkes-Barre and other communities in the Wyoming Valley and should flows similar to that seen during Agnes reoccur, Sunbury's present defense would be exceeded unless they are increased. The secondary benefits called for in H.R. 8061 would justify this increase in protection. For other unprotected areas, H.R. 8061 would offer a wider selection of choices.

In the event that H.R. 8061 becomes law, SEDA-COG stands ready to assist the Congress through the Corps in accelerating the reduction of flood hazards in Central Pennsylvania.

Mr. ROBINSON. At this time, if I could read Bloomsburg testimony also, which is also very brief.

Mr. ERTEL. The time is yours, and you may proceed as you like.

Mr. ROBINSON. Thank you.

By way of introduction to the problem of flood protection in the Bloomsburg area, it should be noted that the problem in the Bloomsburg area is similar to that in Sunbury—the problem area is located at the mouth of the creek.

Bloomsburg's industrial base is jeopardized by the lack of any structural protection. The geography of Bloomsburg places the only available industrial land within the flood plain.

Bloomsburg has suffered the economic loss of three industries/businesses, and is faced with the possible loss of three to six more unless some vital structural protection is provided.

The only way we are going to get any revenues is through the development of this area—preferably with industrial, not residential, development. This is for the reason that it has been zoned "industrial" and the fact that we have lost industries in this area due to flooding.

In addition to the industries located within the flood plain, our high school is located in the flood plain, and it should be noted that other business/industries are on the border of the flood plain.

As a result, Bloomsburg has suffered economic losses; for example:

Loss of jobs—Bloomsburg's unemployment rate is presently 17 percent, as compared with a rate of 9 percent for Columbia County.

Erosion of the local tax base.

Loss of direct and indirect business to and from suppliers.

Loss of borrowing capacity.

Loss of Federal investment previously committed to our area.

In addition, Bloomsburg has suffered:

Social losses—negative impact on incomes.

Disruption of vital community and regional growth.

Negative effects on emergency preparedness—due to flooding of community water supply and fire company.

Negative effect on the general health and sanitation of the residents of the Bloomsburg area.

Negative psychological impact on the residents of the Bloomsburg area.

We have been handicapped for some 40 years due to a lack of positive implementation of structural (local) flood control. We have had plans for such structural flood protection as far back as 1937.

In a 1937 study done by the U.S. Army Corps of Engineers and in the Susquehanna River Basin Commission report of June 1970, 1980 plan, local flood protection, Bloomsburg, Pa., proposals recommending structural flood protection were made. Both of these studies were prepared before the area was struck by Hurricane Agnes. We have

experienced two more disasters since Hurricane Agnes. We have become stagnant because any areas available for development lie within the flood plain. Unless we have structural flood protection, characterized by walls and levees, Bloomsburg is going to continue to decline as a vital community in Columbia County.

The only feasible solution for Bloomsburg is the structural wall or levee system due to the size of our community. This is the most economically feasible solution at this time. In the 1974 flood plain information—Bloomsburg, Columbia County, Pa., report, prepared by the Baltimore District Corps of Engineers, it was noted:

There are no existing or authorized flood control projects in the study area. Six upstream reservoirs, Stillwater, Aylesworth, East Sidney, Whitney Point, Almond, and Arkport, lower the frequency of flooding along the Susquehanna River, but do not provide complete protection. The reduction from these reservoirs in the June 1972 flood or by a recurrence of the 1936 flood is less than 1 foot. Two additional reservoirs, Tioga-Hammond and Cowanesqua on tributaries of the Susquehanna River are under construction. During a recurrence of the June 1972 flood reduction in stage at Bloomsburg due to these reservoirs would be one-half foot or less.

At a cost of at least \$800 million, the Keating Dam gives absolutely no protection to the North Branch of the Susquehanna River, and protection given in inversely proportionate to the distance below the dam on the West Branch.

What we are really questioning is the fact that there have been no moneys expended because of the cost-benefit ratio. We have not been able to qualify under the cost-benefit criteria as it now stands. For this reason no structural flood protection has been implemented for Bloomsburg, although moneys have gone to other communities surrounding Bloomsburg.

We have suffered just as much as the larger areas. We feel that communities such as ours, as vital as they are to our national interests, will never have any hope of meeting the cost-benefit criteria as it now stands. We do not feel that moneys are being equitably disbursed to meet the needs of our flooded people. The people of this area have had to suffer all the difficulties, losses, trauma, et cetera, which are presented in Congressman Allen E. Ertel's bill, H.R. 8061. Therefore, we support Congressman Ertel's bill.

Thank you.

Mr. ERTEL. Thank you for reading the statement into the record.

I have gone back and reviewed some of your prepared testimony, and note some of the comments you make about the flood warning systems in your prepared written testimony. You state:

Flood warning systems generally are not evaluated for cost analysis. For if they were, the present inadequate funding would not exist.

Would you be kind enough to explain what is inadequate about the present flood warning system, and how it could be benefited, and what you view as to be the cost of making inadequate flood warning systems?

I will be happy to have your response, whichever you might designate to respond.

Mr. BRESENHAN. NOAA is in the Department of Commerce, and they are down at the end of the corridor in Commerce, and they receive money, for flood warning programs. Our experience in the Baltimore

basin with the National Weather Service in Harrisburg is that they are understaffed, they are very, very careful about their expenditures, they are very reluctant to spend money, they are using—begging money from other agencies.

The corps has been very cooperative, because they have access to the funds that more directly address the problem than through NOAA. That sets the stage.

In 1970 there was a study done on the benefit-cost analysis of flood warning systems. The benefits were 7 to 1 for residential structures, they are probably 1,000 to 1 for industry. That is not reflected anywhere in the expense, in the money that is expended to improve or maintain the system.

The second point. Throughout the SEDA region, and throughout Baltimore, throughout the Susquehanna basin, self-help systems are being developed, where volunteers are supporting the local civil defense agencies, and having rainfall networks, and streamfall networks, they are depending on phone lines, telephone lines, CB radios, to communicate back to the courthouse. That is very inadequate in disaster consequences.

The experience in Columbia County, CB networks, it is difficult to monitor, it is difficult to manage, it is difficult to have any discipline on the system. It seems that the expenditure to—for secure communication links is a wise investment.

There is no way to go through that now. You cannot go through NOAA, or Commerce there. The money is not available. If there was some other way to approach that on a benefit-cost ratio, it would be quite obvious that the expenditures are justified.

That is essentially the point.

Mr. ERTEL. Just to follow up once more. It is my understanding that we are, or at least the Federal Government, NOAA is attempting to develop a computerized satellite warning system with a sensor located in various locations, which would then be communicated by computer to the communication satellite, back to the central headquarters, and then the warning system would be effectuated from that, and I would be interested in your comment on that, as to whether it would work, whether it is working.

I understand that they are close to perpetuating the model to be utilized.

Mr. BRESENHAN. That is my understanding, too. I think Mr. Reeser is gone—no, he is still there. How long did it take to get emergency power station into Harrisburg? The flood warning system. How long did it take to get one into Harrisburg?

In Agnes, the weather bureau was out of commission. The forecasts were made by candlelight, because there was no emergency power, so the communities like Mr. Reeser's community were getting inaccurate, behind the times, delayed forecasts, which are no good at all, because they are confusing forecasts, when the water is already at level, that they are forecasting 8 hours in the future.

It took—well, I will answer my question, it took until 1976 to get an emergency backup power supply to that Federal building. That is too long. Okay. That is too long.

Now, speed is picking up. The satellite system is still experimental. If I could go over here. As far as I know, it is still experimental for

making forecasts with. It is still testing the reliability of getting the information to USGS, and then upstairs to the Weather Bureau. Is that your understanding?

Mr. NELSON. I know in the corps, which funded around 15 or 16 of the platforms that are going out, tried in various phases—

Mr. ERTEL. Just to bring you up to date a little bit on that. I spent a little time on that. I am not here to testify, but they are trying to get up the models now, as I understand it, running through the computer, and my recollection, a month ago they had 16 operating stations, but I may be wrong.

Mr. BRESENHAN. The present flood warning system, we spent some time looking at this, it is developed over time, since 1936.

Very often, in order to gather the information, they have to telephone the gauging station, if it is busy they have to wait, they call back, it takes 3 hours to collect the information to make the forecast.

The satellite system would secure that land, because you would not have to depend on telephones.

Now, I agree with you, the speed is picking up, that it still is experimental. Now, I am not sure how closely that would coincide with the increasing expenditures that may be available if this was developed through cost analysis.

My impression has been it would pick up speed now. The colonel just mentioned that they fund the system, and they get their appropriations in an entirely different way than NOAA gets their appropriations, and I do not know if it goes to this committee, to the Water Resources Committee or not. But that system would not be this far if it were not for the corps' access to the money.

Mr. ERTEL. Thank you.

Congressman Rahall?

Mr. RAHALL. I have no questions.

Mr. ERTEL. Mr. Ashworth?

Mr. ASHWORTH. Mr. Bresenhan, I believe it would be accurate to assume, from what you have said, as I asked the witness yesterday, local flood warning systems were developed out of desperation; is that right?

Mr. BRESENHAN. Yes, let us use that word "desperation."

Mr. ASHWORTH. Because the Federal system is inadequate, or not developed far enough along, they do not have enough money, those type circumstances?

Mr. BRESENHAN. No, sir. Those circumstances, and everybody is a little more practical, since Hurricane Agnes. The storm was an exceptional storm, and it was difficult to make forecasts, any way. The system broke down, because, as I said, it was developed incrementally, and each piece started to fall off.

The local systems would, for instance, in Pennsylvania, the Johnstown flood, the loss of life in Johnstown, the loss of life in Georgia, would have been prevented—the loss of life could have been prevented from the small system I am talking about.

We have volunteer rainfall service. Johnstown is clearly the case.

Mr. ERTEL. Well, may I interrupt there?

Our information from testimony yesterday, is that in Johnstown, I think it was 11 dams that failed.

How would you project those in the flood warning system?

Mr. BRESENHAN. The flood warning system, you are not just talking about here comes the water. You are talking about people knocking on doors, here comes the water. A good size of the picture.

Mr. ERTTEL. But with a dam failure, that is pretty quick action, and I do not think we project, in a flood warning system, a dam failure, generally.

Mr. BRESENHAN. Generally. OK, you could.

The next step, which I am pleased right now to talk about, and it fits right in with the corps' efforts, and the committee's efforts, are alarms on the dams. The cost of those are small, they are dependable, and for a quick national program, the expenditure would not be that great.

You may have heard this yesterday, you probably are not hearing enough of it, that would work. It is a simple section.

Mr. ASHWORTH. What can this committee, or another committee do, to improve the Federal flood forecasting warning system?

Mr. BRESENHAN. All right. In these local systems that are developing, in this basin, the forecast points are along the Susquehanna. There are communities that flood off the main stem, who have to develop their own flood warning systems, and I mentioned earlier there is the communication links, and those systems are very insecure.

The Federal Government may wish to go in and assist the communities in securing the communication links. This probably would be better done through civil defense, in that direction, but the money could come from anywhere. That is an immediate need right now in this area, to secure communication links.

I believe the systems are becoming more sophisticated every time it rains. Their projections and forecasts are reasonable. Their warning systems, their actual warning systems, door knocking systems, are improved.

In the past, as I understand it, the appropriations, however, this would work down to get to the pockets of the local civil defense offices that have been unstable. At one time they stressed the nuclear problems. They oriented their problems in that direction. The next time it might be natural disasters.

I think we need a constant focus on the natural disasters. We have the HUD program, the HUD flood insurance map. Those maps can be used to modify quick flood warning systems. We are attempting to, right now, scratch up some money to go in and take the existing detailed flood insurance maps and modify them, so that a community that is downstream from forecast points can immediately relate, and that forecast is their own problem.

The flood insurance maps, which map the flood plain in some detail, it provides the details to do that. I think it would be particularly wise that that procedure be built right into the development of those maps. They would have to come from the weather bureau, the corps, USGS, and HUD. I think it is necessary to do.

Mr. ASHWORTH. Are you saying also then that the installation of electronic warnings on dams, such as those that gave way, could be helpful?

Mr. BRESENHAN. Oh, invaluable, absolutely. Yes. And that can be done.

Now, the Commonwealth could do that.

Mr. ERTEL. May I interrupt? Has the State made any effort to set up a dam safety program, that you are aware of?

Mr. BRESENHAN. No.

Mr. ERTEL. Or has your SEDA-COG group done anything in the inspection of dams?

Mr. BRESENHAN. No, sir. The State inspection program occurs at the beginning of the construction of the dams. They have dam standards. No inspected dam has failed in Pennsylvania. Since 1913 there has been a State program of certifying dams, in their construction, much like the corps.

Mr. ERTEL. How about private dams?

Mr. BRESENHAN. I am not aware of one.

Mr. ERTEL. Thank you. I am sorry.

Mr. ASHWORTH. Legislation has been proposed at the Federal level for Federal dam safety programs, but some groups already are saying well, the legislation that is proposed would give too much jurisdiction to the Federal level, and it should be a State responsibility.

What is your attitude?

Mr. BRESENHAN. I think we could develop a cooperative program, where the States put in some money, and the Federal put in some money, and we could get it done. That traditionally has been the position of the States. We would much rather do it. We are familiar with all of those things; the cost of Federal program, just fine. Just the State Department of Environmental Resources has the people already on staff. If the money was available, and there was some initiative, they would go out and do it.

Mr. ASHWORTH. So you are saying a cooperative State-Federal program is what is needed?

Mr. BRESENHAN. Yes, sir. Starting tomorrow.

Mr. ASHWORTH. Thank you, sir.

Mr. ERTEL. Thank you, Mr. Ashworth.

Just to follow that one step further. There are some of us, I would think a number of us, who are concerned about Federal-State relationships, and when you talk about a Federal program, the Federal Government would put up money, but there is no assurance that the State would go along with that, and how then would you suggest that the safety program be set up so to insure that States would cooperate, possibly Pennsylvania would do so, but there may be other States which would say well, it is nice to see your money, but we are not going to go along, and obviously those dams in many other States that affect flooding would affect areas in other areas. Water knows no boundaries.

Mr. BRESENHAN. I would say, in West Virginia, I cannot imagine States saying no.

Mr. ERTEL. Well, in other States it might.

Mr. BRESENHAN. One obstacle I could see is just what is entailed once you tell a fellow his dam is unsafe. What do you do then?

Now, whether that requires a corps' backup alarm system on the dam, at the expense of the operator, or maybe cooperative expense, I do not see any problems with the Federal providing money, and there

is enough engineering money that they could agree on standards. This is a safe dam.

The difficulty would be what happens when dam is declared unsafe.

Mr. ERTLE. I think that is an additional problem.

Mr. BRESENHAN. And I do not know what to do with that.

Mr. ERTLE. I appreciate your testimony, and I thank you very much for coming.

The committee will stand in recess until 1:45.

[Whereupon, at 12:35 p.m., the subcommittee recessed, to reconvene at 1:45 p.m., the same day.]

AFTERNOON SESSION

[Whereupon, at 1:55 p.m., the subcommittee resumed, Hon. Allen E. Ertel presiding.]

Mr. ERTLE. The subcommittee will come to order.

This is the Water Resources Committee. The House Transportation Committee, and we are having hearings on a bill which I have introduced in the Congress, H.R. 8061, and for the people who might have joined us, we have had testimony this morning from four different individuals, and we had the pleasure this morning of having Hon. Daniel J. Flood, Dean of the Pennsylvania delegation, and also chairman of the HEW Subcommittee, chairman of the Appropriations HEW Subcommittee of the Appropriations Committee.

Glad to have you with us, Congressman Flood.

He is also my colleague, in my adjoining district. We appreciate your coming with us.

TESTIMONY OF HON. DANIEL J. FLOOD, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF PENNSYLVANIA

Mr. FLOOD. Thank you, Mr. Chairman.

I would like to begin by saying I have here a dear colleague letter, issued by my colleague, Al Ertel, on July 20, 1977. It is an excellent letter in reference to this problem, and this hearing, and if there will be no objection from you, Mr. Chairman, personally, or as Chairman, I would suggest, in all circumstances, that I would like to introduce this at this point in the record.

Mr. ERTLE. We would be happy to receive it, without objection.

[The following was received for the record:]

CONGRESS OF THE UNITED STATES,
HOUSE OF REPRESENTATIVES,
Washington, D.C., July 20, 1977.

DEAR COLLEAGUE: On June 28 I introduced H.R. 8061, legislation which would bring about a major change in the formula for determining the desirability of flood control projects. It is clear that the cost-benefit formula, which evolved from the 1936 Flood Control Act, is too narrow to meet the needs of flood prone communities today.

H.R. 8061 would require the Corps of Engineers, when evaluating a potential flood control project, to consider local economic development in conjunction with regional and national economic activity. Under present procedures, the Corps does not consider industry and business relocation from a flood-prone area to another region of the country to be a bona fide economic loss. This may in fact be the case—from a national perspective. But the failure of the corps to consider

the impact on regional and local economies is inconsistent with the Public Works and Economic Development Act of 1965, which emphasizes the importance of strong local and regional economies to the maintenance of a strong national economy. Current corps procedure is also inconsistent with congressional intent for water resource development as specified in section 209 of the Flood Control Act of 1970.

In general terms, H.R. 8061 directs the corps to consider the benefits resulting from protection of what I have termed the "local economic impact area." The local economic impact area would include the flood-prone areas to be protected and the surrounding areas in which a significant number of workers and direct suppliers of industry adversely affected by flooding are located. The bill also provides a checklist of economic and social factors which the corps must consider in evaluating the potential loss if a flood strikes a local economic impact area. And finally, H.R. 8061 would give State and local governments the opportunity to contribute to a flood control project if the corps finds that estimated costs of the project exceed estimated benefits. Congress would have the final word on all proposed flood-control projects.

I feel the need for legislation of this type is clear. While the Corps of Engineers is currently required to take a narrow view of the benefits of a proposed project, the Federal Government finds itself paying for all the broad consequences that follow in the wake of a disaster. It follows that the more obvious of these broad consequences should be included in the evaluation of the need for a proposed flood-control project.

I hope I can count on your support for this important legislation. If you have any questions or would like to join me as a cosponsor of this bill, please contact Phil at x54315 by Wednesday, August 4.

Sincerely,

ALLEN E. ERTTEL,
Member of Congress.

Mr. FLOOD. It touches upon the problems that I have been talking about, and nobody has been paying attention to me for years. You talk once and they listen to you. So it is quite an achievement.

So, Mr. Chairman, I have introduced your letter for the reason that it goes to the very guts of the bill that I was talking about.

Mr. Chairman and my colleague, members of the committee, people who are in attendance here, I notice some old pros in this business as I look around the audience from the Government—Federal, State—and the engineers who worked with me down through the years on this problem, so there are certainly many professionals here. We are very fortunate.

My name is Flood, and I come from Wilkes-Barre. Now, if you saw that in the movies, you would walk out. I cannot say I would blame you. Imagine Flood from Wilkes-Barre!

I was asked to testify before your committee today because I am supposed to be a pro when it comes to the subject of flood control. Nothing personal. And this is so, I am a pro, but not by choice; by necessity, Mr. Chairman. I had a lot of teachers in my time, a lot of teachers in my time.

Mr. Chairman, I had one teacher, what a gal. Her name was Agnes. Hurricane Agnes. I will tell you a little more about her later.

For now, though, suffice it to say that Pennsylvania, and particularly the region we are now within, the Susquehanna River Valley, is one of the most flood-prone States in the Nation, one of the most flood-prone States in the Nation.

Now, the average Member of Congress simply does not believe that. You talk about Pennsylvania on the floor of that House, the average Member of the United States, all he knows is coal, steel, and railroads.

He does not think about anything else. I hope he remembers now that we are having trouble with the three of them, and helps us.

But, as you know, of the billions of billions of dollars that we spent in the United States for disaster relief activities of all kinds, that is a very important figure; more than 80 percent of the whole sphere of disaster relief is spent for flood related. That is not known. I am mindful of our colleague who is here today and has been with your committee, Mr. Levitas, how very recently he saw his State, Georgia, suffer from a recent and deadly flood. But, year in and year out, Pennsylvania is threatened more often and more seriously devastated than most States. That is a fact. I will repeat that for the purpose of emphasis. Absolutely it is not known to be so in the Washington area except by experts in the field. Of the many towns and cities that I represent, so-called Wyoming Valley, that is located upstream from here, from Sunbury, about 70 miles, it is the most densely populated of all, and lies astride the Susquehanna, large towns on both sides of the river save for about 12, 12½ miles, something like that.

That does not sound like very much difference, 12, 12½ miles; when you are talking about a flood control region in a flood valley, 12½ miles is an awful lot of miles. Due to the physical location, Wyoming Valley has suffered from floods or the threat of floods ever since several generations ago. This place was not born just over the weekend.

It probably goes back to prehistoric times.

I do not think this is remembered too much, too. No reason why not. But it is not. You know, that river and the era that I am talking about right now, Mr. Chairman, has actually been monitored since 1787. And from that date to the present, the Susquehanna has exceeded 25 feet at Wilkes-Barre. This right smack in the heart of that valley, and it has exceeded 25 feet 32 times. Thirty-two times that river has climbed above the 22-foot flood stage, flood stage 22 feet, and she has been over there 32 times.

Up until the building of the dikes, every time it reached that level, there was a flood in the city of Wilkes-Barre. There was one in April 1807, one in March 1865, one again in March 1962, and the flood which gave birth to the dikes, St. Patrick's Day flood, of all names, the great flood of 1936.

These dikes are great. They are a godsend to people. Let me say these dikes were great. Use the past tense in that sense. People said it was a godsend. Of course, they were, and hundreds of millions of dollars damage. I say that pretty fast. Just think about a lousy million dollars, hundreds of millions of dollars, hundreds of millions of dollars, now, that "ain't hay," and countless suffering was prevented by those dikes and the protection that was afforded by those dikes was good enough to surface until June of 1972, and then, wham, Agnes. You know how it happened. She came up over the Key West, off the gulf, across Florida, up the coast, and like all those hurricanes like that for generations we expected she would go straight up the coast and out to the Atlantic, just like Greyhound buses used to.

But you know how girls are. She got halfway up in New York State and turned around and bang. Well, what can you say about Agnes? Unprecedented, impossible, unbelievable, be damned?

On Saturday, June 12, 1972, in the evening—now, if you have any sense of the theater, let us just suppose you all played shows in school

some places, let us rehearse this for a show. I am the school manager, I am backstage before I go on. To set this, it is on a Saturday night, June 24, 1972, it is 7 o'clock. Are you all set? And the Susquehanna River, you do this to your imagination, rampaged through the whole Wyoming Valley at 40.9 feet. Now, that was the impact of Agnes.

What kind of impact? You can count, you know, the size of this town we are in, 24,000 homes and business places in that valley damaged, 80,000 people. How many people do you have around here? Eighty thousand people were without homes, I mean without homes period. I was talking about millions a few minutes ago; hundreds of millions, \$1½ billion in losses just there locally.

You know about shopping centers shot to pieces. It ruined downtown centers, uptown, downtown. What is the size of your town, 50,000? Fifty thousand men and women were out of jobs. I mean out of jobs. Mud, dirty water, cripes, no power, no nothing, nothing but debris and horror of the first magnitude. And I was sitting there, I know. Now, that was just in the Wyoming Valley that I am talking about. It was true statewide, all that section. The same thing up in Towanda, in Shickshinny, it has come down, Danville, Bloomsburg, Milton—let us hear your neck of the woods—Milton, Harrisburg.

Well, I got word that this thing was going to hurt. I called the Secretary of Defense, Mel Laird, on the Subcommittee of Defense Appropriations. He sent his chopper to pick me up. I got in his chopper to come up. I said let us go over toward Harrisburg and see what it looks like in Harrisburg. You cannot describe it. I saw the whole thing.

Anyhow, because of the towns and places that I mentioned, a number of people—I am not the only pro in this business here. We are all aware and anxious to improve flood control. None of us who are veterans of Agnes can afford to rest because we have, of course, our neighboring States who suffer just as much as we do from storms. Until we are secure from the threat of a sudden catastrophic disaster, which is a major flood—do you hear that word catastrophic—catastrophic—some word are good and some are bad. That is a pistol. Catastrophic, you cannot improve on that, flood disaster. It is a major flood.

Mr. Chairman, that is why I brought us here. It therefore has become our inescapable, inescapable duty in Congress to pass laws that will guarantee that Agnes and disasters like her can never happen again. And that, Mr. Chairman and your committee, that puts the ball in your court. There you are.

Now, there is a bill which I am a sponsor. The bill is H.R. 9495. That is to amend the Flood Control Act of 1970, the famous Flood Control Act of 1970. That bill was drafted by our colleague, my good friend and neighbor, Al Ertel. By the way, Al had some help in drafting that bill.

Now, if ever there was a bill which could help this country, it is that one. If only we could change this darn cost-to-benefit ratio to accurately reflect the needs of the people rather than to artificially distort by a totally inadequate formula the crying need nationwide for more and improved flood control works.

This formula, formula, formula—I hate that idea of that formula. I would have been a Phi Beta Kappa in my junior year if it was not for formula. The current cost—strike that out. Let us say this. The

current cost-to-benefit ratio—there is the phrase, that is the phrase you have to live with—the current cost-to-benefit ratio system is small feed, gone with the wind. There is not another Federal program which so misuses the cost-benefit planning method as the flood control program. After Agnes, it took all my persuasive powers in industries from relocating in my district. Some of them did move. Under all these circumstances, can anyone tell me why, why the subsequent loss of income in the area, loss of jobs, erosion of the tax base—can anyone tell me why that negative economic impact should not be evaluated and considered as part of the process in deciding whether or not to build a dike or levee? Why not? How in the world can you say no to that? Why not?

Are you going to forget about the things that I just mentioned, you are out of your cotton picking mind. The floods did this, not just get your feet wet, certainly not. The failure to take into consideration all of the injurious effects after a flood, after a disaster—now, look, I have sat there, trying to run these things in my command post. This is no Algiers story. I sat up there in that command post, I get in that night, and I was there day and night for 3 weeks. This is no story to me.

They came in to me, businessmen, professional men, any kind you talk about. I look at their faces, I tell you I know them. Mental health problems. I mean mental health problems. I know the lowering of property values. The losses of the educational, recreational, that is important; is it not? You spend enough money on it, recreational, cultural life, cultural life is not important? If you damage it, does it mean anything? What are you talking about?

The flood destroyed cultural life. This—is not this important? The increase in heart and stomach disorders? You mean that fact that the increase in bellyaches went up 1,000 percent does not mean anything for 3 or 4 weeks? Heart disease percentages, oh, this was caused by the flood. You should skip that when you consider damage? All of these and more should be part of the decision on whether or not we should protect a community from disaster. There is no doubt that this will result in—sure, it will, it is going to result in more communities are going to qualify for flood control projects. Sure it is. Sure it is. That is bad? Because more communities are going to qualify if you increase this ratio.

There is something the matter with that? That is precisely what we need. If what I am saying is so. If what I am saying is not so, forget about it. But if it is, listen to me.

Now, remember this—now, remember this, now engrave this in the front of your minds, I have been on the Appropriations Committee since 1945, I am not dreaming this up. This is what is in the back of your head. All right. Brush it out. This does not require additional appropriations. I am not on the Agricultural Committee. I am on the Appropriations Committee. I know what I am talking about. It is not going to require additional appropriations. That would be a concern of mine. That is my job, appropriations. That is a concern of mine.

Mr. Chairman, you heard me cry about that year after year, so he knows. Now, all this bill would do is give the committee more and better information as to which areas could conceivably be hit the worst.

and allow us to make priorities on the Appropriations Committee more accurately. Now, that is the only darn thing that it will do, change the yardstick. And what in the world is the matter with that?

Now, here is another additional aspect of this bill which is very important, too, local participation. You get a lot of that in the last 4 or 5 years, local participation. No matter what you talk any more, let us go to the bathroom, local participation is the big thing. It is the big deal any more, local participation. All right, I am for that. So are you.

Up and down the line through the whole Susquehanna River, small communities, that is our history, loaded with small communities. Oftentimes the most devastated of all if the time of disaster, and they desperately need flood protection obviously.

West Pittston coming down, Shichshinny, Bloomsburg, Fernville, Scottown, and Plains, way up to Wilkes-Barre. Now, there are six which come to my mind alone because they happen to come in my district. They cannot meet the current cost-benefit ratio. They cannot do it, exclamation mark. They cannot do it. No matter how you torture it, they cannot do it. I have tried for 30 years. You cannot do it.

But if the Commonwealth of Pennsylvania were allowed to contribute to make up the difference in that ratio, many of these communities would have that protection that they never had and cannot have and do not get despite that.

Now, that is crucial. Have you got a better word for crucial? You use it. I say that is crucial. A flood in 1975, 1975, Eloise, that was the women's right. I raised the roof about calling these hurricanes after women. Hurricane Eloise. When did she come along, 3 lousy years after Agnes, and there is Eloise, 3 years. Agnes came within 1 foot, 1 lousy foot of topping the dikes at Wilkes-Barre, 3 years after Agnes. Suppose she did? It would have cost hundreds and hundreds of millions of dollars of damage, and we are lucky, just dumb lucky that we missed it by the length of my moustache and no more. I am not kidding you.

But for those communities without a dike, without protection of any kind, Eloise, 3 years later, that morning—bang. They got whacked again. They got whacked again. All the places that I have already just mentioned to you got whacked again.

Now, the States were allowed to contribute to make that cost-benefit ratio 1 to 1 and thus result in your authorization committee, by authorization committee, actually millions of unprotected families. I am not just talking about the Wyoming Valley in Pennsylvania, I am talking about the basic organic law of your committee. Millions would be protected, families across the whole country. This is the United States of America we are talking about. We are members of Congress of the United States, Mr. Chairman. You are chairman of a House committee of the House of Representatives of the United States. I am not just talking about Williamsport or Wilkes-Barre. I am talking about the Nation, millions of families in the Nation would benefit. This is not a local show. We happen to be sitting here—this committee sits all over the country. That is why I am sitting here talking to him.

Now, you heard a great deal of me talking about dikes and levees. Big deal. That is right. I am a firm believer in dams and other flood protection works. If you do not believe that, take a look upstream, upriver. You will see two beauties and they are beauties that I sponsored,

beauties, Tioga-Hammond and Cowanesque. I flew around them a couple of times in choppers. I go regularly around in a chopper. You cannot describe it. I am without words, I cannot try.

Mr. Chairman, I think you have the same thing. Even with a picture you cannot describe them. But dams are often not enough, not when you have a river like the Susquehanna. I can remember the former great mayor of Wilkes-Barre, great dramatist, great guy, he said, with a beautiful baritone voice, "Where the dreamy Susquehanna winds her way."

Not nearly enough. Not nearly when you have a river like the Susquehanna, not nearly enough, not when you are up against a gal like Agnes or even Eloise.

I maintain that if we can spend billions to protect ourselves from enemies from overseas and abroad, I am for it. I have been on the defense appropriations since the committee was set up back in World War II. I am for it.

Mr. Chairman, you know. I am a hawk. We spend that money. We should. If you think I am wrong about that, that is another argument. I can argue that any time you want to, but I know what is going on there. I know we can spend a few million dollars to protect ourselves from the destruction which is in our own backyard, that chicken coop, that old barn, that new back porch, that what—do not tell me. I know we can. You can argue yourself blue in the face—I know we can, and I am telling you we can. If you do not like it, lump it and be done.

Mr. Chairman, permit me to say that I am prayerful. I go to church and I kneel down and I bless myself. And time and again I pray about these things. Future generations will say about those of us who are present here in the schoolroom today, auditorium, that it is our foresight and our sacrifice back in 1977 which kept the flood waters from our homes and our business places for an entire century. We are talking about century. Things have changed from time to time. I am talking about a century. There can be no retreat from that future. You cannot retreat from the future anyhow, but there can be no retreat if you think so, there can be no retreat from that part of your future. We have an obligation to learn the lessons of Agnes and even in disasters you learn lessons. When disasters go on, you learn lessons right then unless you are a half-wit. There they are.

So as for future generations, Mr. Chairman, that we must labor to pass this bill that you are talking about. You know I will be giving you all the help that I can, and I am here today asking for yours.

Thank you very much, and I know I have gone longer than I should have. You have been very gracious.

Mr. ERTEL. Thank you, Mr. Chairman, I should say, because I call you that in the House.

I certainly am appreciative of your comments and I am just sorry that more of our colleagues in the House could not have heard it because you really dramatized the lessons that we should have learned from Eloise and Agnes. And I appreciate that. And I am sure this record will reflect it so that when we get to the Water Resources Committee in markup, I can use your testimony as a springboard to get this bill passed. And I appreciate your help and support on it.

Mr. FLOOD. I appreciate yours because without yours, I would not be here. You cannot say more than that.

Mr. ERTEL. Congressman Rahall.

Mr. RAHALL. Mr. Chairman, as the youngest Member of the House of Representatives—

Mr. FLOOD. I know your district, by the way.

Mr. RAHALL [continuing]. And as a first term Member, I have gotten to learn to have quite a bit of respect for you and certainly your presentation here this evening has shown that that respect is well founded as I think you have adequately expressed the problems that face not only central Pennsylvania but certainly southern West Virginia, the district that I represent.

While I am not the pro that you are, I did get my feet very wet in this Congress.

Mr. FLOOD. Very recently.

Mr. RAHALL. Yes, sir. And I can relate to your comments, and it could not have been more well expressed.

Mr. FLOOD. We are very fortunate to have you on this subcommittee and committee at this time because I know your district and your people. You have the same kind of people, same problems. It is amazing. You could have had your district under my architect and mine under yours and you would not know the difference.

Thank you very much.

Mr. ERTEL. Thank you for being with us.

Our next witness is Mr. Robert Yowell, executive director of the Lycoming County Redevelopment Authority, and I want to welcome him. I have known Mr. Yowell for some period of time. I am quite sure he will not be as dramatic as our other speaker, but I am sure he will give us an insight into the problems that we are seeking to solve.

TESTIMONY OF ROBERT C. YOWELL, EXECUTIVE DIRECTOR, LYCOMING COUNTY REDEVELOPMENT AUTHORITY

Mr. YOWELL. Thank you, Mr. Chairman. I, too, got my feet wet with Agnes, and I can relate to what Congressman Flood had to say.

The Lycoming County Redevelopment Authority at its regular meeting yesterday approved this testimony and instructed me, Robert Yowell, the executive director, to present it to this committee.

We wish to thank you for the opportunity to express our opinions on this complicated and controversial subject of flood plain management. Through our work with the many communities in Lycoming County and our implementation of two State disaster projects and four Federal disaster projects in the flood plain, we have had a number of experiences which have helped us formulate our position on this subject.

The attached letter to Senator Heinz during the Senate's recent consideration of the amendments to the flood plain program includes our comprehensive position on the subject of flood plain management and the policies which we feel should be promoted by Congress in their attempt to resolve the many problems of flooding. We wish to make that letter a portion of our official testimony, but we would wish to

stress policy No. 3, which is more directly associated with the subject matter today in Congressman Ertel's proposed H.R. 8061.

[The following was received for the record:]

LYCOMING COUNTY REDEVELOPMENT AUTHORITY,
Williamsport, Pa., August 10, 1977.

HON. H. JOHN HEINZ,
Russell Senate Office Building, Washington, D.C.

DEAR SENATOR HEINZ: During mid June our Director spoke to Mrs. Maffin of your staff concerning the flood insurance program, the Eagleton amendment and others being considered at the time and vaguely indicated our support of that amendment. He relayed to us that you had not supported the amendments to the flood insurance program and that you wished to study the situation more closely before formulating a position. At that time he promised a more detailed input from the Board on our official position concerning the many drastic changes which must be made in the flood insurance program before it will even begin to be a fair, workable solution to our national floodplain management problem. The delay in preparing this letter was due to the time needed for a careful analysis by staff of the current amendments and a thoughtful consideration by the Board of the improvements needed in the program. This letter contains a summary of our experience with the program and our ideas on how it should be overhauled if it is to be effective, reasonable, and fair.

The following "Policies To Promote" were prepared by staff and adopted by this Board after our Director participated in a week long Engineering Foundation conference on floodplain management and floodproofing held in California in March. For a week experts (engineers, administrators, elected officials, and scientists) from all over the United States and Canada discussed the problems of floodplain management. Many of "our" policies are those which were informally adopted by a consensus of the conference attendees at its conclusion.

POLICIES TO PROMOTE

1. Prepare unbiased studies to obtain actual facts on cost of floodproofing (wet and dry) and establish proper insurance rates based on real experienced damages in the past.

2. Continue 100 year flood as base flood.

3. Diversify studies for communities so they consider all forms of flood hazard mitigation (structural measures, floodproofing, land use controls, evacuation, etc.) and programs allowing federal funding of best combination of options available (not just dikes, or else).

4. Publicize available construction methods available to reduce flood damage potential in new homes (architects, engineers, code enforcement officers, national code writers, homebuilders, planners, etc.)

5. Establish active monetary incentives to floodproof now before the next high water! Revise insurance program to use claim payments for such improvements. Allow purchase of lots outright after major damage instead of allowing rebuilding. Encourage tax writeoffs, lower assessments, tax rebates, lower interest loans from government (312 loan program) as incentives to act now.

6. Change FIA program to recognize difference between enforcement in urban vs undeveloped areas. Also acknowledge flooding occurs differently in various parts of United States. Plenty of warning is available in Pennsylvania but not in Iowa. Maybe "wet" floodproofing will work here but not everywhere!

7. Alter the Uniform Relocation Act to exclude amicable purchases of properties in the floodplain. This will drastically reduce cost of such programs and allow many more properties to be purchased with the available funds. Property owners located in the floodplain are often very happy to be purchased at "fair market value" and will sell willingly without the extra incentives offered by the act which are meant for unwilling or disadvantaged sellers.

We are happy that Congress is revising the law concerning the FIA program. We support the Eagleton amendment because it will eliminate the precedent of using local banking institutions to enforce federal regulations on local land use which may well be unconstitutional anyway. We are encouraged further by Senator Williams' amendments which broadened the negotiated purchase section of the program, but we feel this provision should be used more frequently and in a wider range of circumstances. Also, his low interest loan program is moving in

the right direction. However, it is still very limited and we feel it should be made applicable to all existing structures within the 100 year floodplain.

A great deal of valuable developed land in United States is located in the floodplain. The Federal Insurance program as currently constituted does not alleviate the existing problem, but rather is designed to reduce the hazard in the structure by controlling new construction in the floodplain areas, and reducing the burden on all taxpayers by spreading the cost of flood disaster reclamation to all those located in the floodplain via the insurance premiums. The problem still remains as to what to do to permanently reduce the hazard and the cost to those many persons already in the floodplain. The purchase of damaged properties including the lot and the low interest loans to floodproof or elevate existing structures will affect a permanent reduction of public liability in the floodplain. It is in this direction that we feel floodplain management must move.

This is a complicated issue and we hope that this letter will provide you with a comprehensive understanding of our position on the program and most importantly with specifics as to how and why we feel the program must be improved.

Please feel free to contact us or our staff for additional information and reaction to proposed revisions on this issue.

Sincerely,

MELVIN A. GOLDY, Jr.,
Chairman.

Mr. YOWELL. Structural measures are one of the important tools to be used in flood plain management, and certainly we concur that the Corps of Engineers must be directed to consider all of the factors which may result from building or not building the structure that is proposed. Further, some procedure should be established where not only the resultant cost-benefit ratio be made available to the community being studied but, further, that the additional empirical data and analysis be provided so that someone can provide a double check of the corps' work. In the past, this has not occurred, and meeting after meeting, the corps has been know to come up with different and changing cost ratios for the same project, sometimes with no apparent reason. This undermines the public's confidence in the procedures being used and the men doing the work. How then could they have confidence in the final decision?

Our position on this subject goes much further, however. We feel that it is absolutely essential that communities in the flood plain be provided with a diversified study which would include all types of flood hazard mitigation. These studies would include structural measures, wet and dry flood proofing of existing and new structures, enforcement of land use controls, and purchase and relocation of existing properties in the flood plain. The studies should recommend the best combination of the options available, which, in most instances, we would predict would include a little of each alternative.

In our judgment, this would produce an overall savings, reduce the catastrophic potential that exist in the flood plain now, and yet prevent the total disruption of the entire community which is being studied. Lastly, the Federal Government must develop a procedure to fund each and every alternative equally, allowing the community to accept the best combination of options available based on the merits and not on the available funding.

In closing, we wish to express again our appreciation for this opportunity to make an input to the committee and Congress as a whole before decisions are made on this critical issue of flood plain management. We thank you for agreeing to hold this type of hearing in central Pennsylvania which has been immersed in deliberation on this vital subject since the Agnes disaster in 1973. It is not going to be a

simple problem to resolve, and no one bill is going to be the answer. But bills such as Congressman Ertel's are a step in the right direction, and we hope it will lead to a consideration of all the issues and all the problems and all of the alternatives for flood plain management in our country.

Further, Congressman Ertel, if I may, the Authority directed me to add verbally some comments concerning something which has come to our attention just recently, which is that the HUD, FIA, people are considering or have indicated that they are going to take over from the National Flood Insurance Association, which is the private insurance corporation, the whole flood insurance program. For the life of us, we cannot understand how they are going to do this within, I think, the next 90 days. The objective of the flood insurance program, as we understood it, was such that eventually it would be self-sustaining and that private industry would be able to handle it. Now, they are saying that private industry has been inept and that they are going to take it over, and we must strongly and violently object. And in our experience, if private industry cannot handle it, the Federal Government is not likely to do a whole lot better.

Mr. ERTTEL. Thank you for your comments, Mr. Yowell.

We were unaware that you were going to make a statement on the flood insurance, but I might point out that that does not come under this committee. Flood insurance is not the initial prerogative of our committee. It comes out of the Commerce and Banking Committee, and that would be our colleague, Fred Rooney, or Congressman Moorhead of Pennsylvania. But we are aware of the problem and it has come up through our hearings, and we will have some sort of input to try and determine where that is going in the near future.

I might ask you, you have talked in some rather broad statements about overall policy, but we have to, in the Congress, consider the relationship of both State and the Federal Government. When you talk about an overall policy, we sometimes run into the problem that States do have the reservation or rights for the land use planning.

How do you suggest that the Federal Government resolve the conflict which would be entailed? As you are well aware, the statehouse in Pennsylvania has flood management bills before them. Should we, in fact, allow the States to handle their own flood-plain management and only the U.S. Congress be involved in structural alternatives?

Mr. YOWELL. No; I do not think that that would be appropriate. I do not know that I have given that thorough consideration.

You know well that our position would be to allow the local community to make as many decisions as possible. Certainly the State has a role to play. Congressman Flood indicated that, in some instances, under your bill it would allow the State or the local municipality to come up with additional moneys to cover any deficit in the cost-benefit ratio which may exist in existing measures. I think that is a real good idea.

The problem, as I see it, with approaching this problem is that everybody tries to approach it on one subject at a time; structural measures are one, flood insurance is another, and I am not a politician and I do not understand the workings of Congress, but I doubt very much whether that is going to arrive at a solution, as you well know. We might agree to relocate a certain portion of a community, and the

State may be willing to fund that in order to get the community out of the flood plain, but then we run into the problems of the eroding tax base, the school district may be different in Pennsylvania; we have to adopt, I think, a comprehensive approach. I believe the Federal Government could set up minimum standards which they have tried to do in the flood insurance program, and our county redevelopment authority has opposed the State creating an additional umbrella as being too complicated for the communities to deal with, and it being unnecessary if the Federal Government sets up minimum standards. I think that is another problem when we are talking about a rural area that Congressman Ertel comes from and that I work in; we are talking about communities for the most part under 5,000 people, and it is unrealistic to expect an enforcement of a complicated program, land use control, which is what Congressman Ertel asked me about, to be enforced at a local level without some additional appropriation or without keeping it simple.

If you make it more complicated, we just cannot handle it. We have a great deal of difficulty handling it at the county level where we have subdivision control for flood-plain management and, through agencies that are supposed to have professionals, planners to handle the subject. We are unable to do it right now.

MR. ERTEL. I think what we are asking you is, what should be the proper role of the Federal Government?

Constantly we get the accusation—I should not say “we.” I am new, but the Government has gotten the accusation that they are meddling too much in local matters. How do we reach that proper balance?

My bill would put the Federal Government in more, I suppose, on structural alternatives. Who, in fact, is able to coordinate the best?

Now, some people—we had a suggestion from a representative yesterday, statehouse representative, that we make flood insurance mandatory. Would you endorse that provision?

MR. YOWELL. No, sir. I guess, to sum it up, I believe the position of many of the people that I know in Lycoming County would be the authorization would be a minimum to get the job done, and I do not think flood insurance is required. The arguments that I have heard in the 8 years that I have worked on this subject was that, sure, we do not have to make flood insurance mandatory, but if a community opts out and they are flooded, the political pressure is going to be so great on Congress that they will up and fund the disaster relief anyway.

Now, I am not sure, gentlemen, whether that is a weakness in allowing the community to opt out or a weakness in Congress. I feel that certainly the people in the United States, if they are given a clear understanding of their options and they can have flood insurance and get this protection, or they can refuse to have it, and they will not get any money, that they make that choice, their elected officials make that choice, then we should be strong enough to tell them that if they are flooded that, hey, you made your choice 10, 20, 30 years ago. You do not get any money.

In fact, the representatives from Canada that were at the Engineering Foundation Conference in California discussed this. And I think there was a representative there also from Australia. They are opting to go with programs other than flood insurance, but a one-time acquisition of properties, an offer, not a condemnation, but an offer to ac-

quire property that they delineate. And if the people accept, fine. And if they do not accept and they get flooded, they do not get any money.

In those countries they feel that they have the wherewithal to stick to that conviction. That allows the people a choice.

I think that would be reasonable for us to consider.

Mr. ERTEL. Just as a followup question. That proposal you have made, you make an offer, there is always going to be a contention whether that offer is sufficient, and who makes the judgment.

We have seen here, at least the testimony was yesterday, that the Soil Conservation Service did a survey, a preliminary survey, of the Spring Creek watershed development, and came up with a cost-benefit ratio of 12 to 6.

Subsequently done by an independent engineering firm, and they came up with five alternative proposals which were above 1 to 0. In fact, the one was 3 to 5 cost-benefit ratio, showed a 600-percent error.

So when you talk about giving somebody an ultimatum with a one-shot deal, without any other provisions, the Government is not infallible. In fact, probably more the other way, it is fallible.

I think there has to be some kind of provision where you can have some sort of realism, if you are going to use that kind of approach, and that has been a suggestion along the lines that we do in fact, as we call nonstructural alternative, if there is an area with a low benefit-cost ratio, to in fact have an acquiring of those properties because it is cheaper to acquire, than to provide with flood protection, and probably solve the purpose, and then use that space.

Mr. YOWELL. We would support that as one of the alternatives in the study of the cost-benefit ratio. We also made a suggestion in the letter, as you are aware, that the Uniform Relocation Act should be amended to allow for purchases in the flood plain on an amicable basis, without the relocation benefits which often exceed or equal the cost of acquisition in the first place, and which were designed for taking by the Government, where the individuals were being displaced against their will for the construction of a road or a bridge or commercial complex.

When you are talking about acquiring property in the flood plain, I think you are talking about buying an individual out of a situation which he may be, he may perceive as less than desirable, and if he gets fair market value for his property, he does not perhaps deserve the carrot or the uniform relocation, relocation assistance that others would receive.

I think that that would reduce the cost, and make the cost-benefit ratio in many locations more acceptable. I think you would find, for example, we did two State projects, disaster projects, in Muncy Creek Township and Warsaw Township. So far we have acquired—well, in both projects the occupants were unanimous. They wanted to be bought out, with the exception of one elderly lady, that does not want to be purchased, and we are not going to buy her home.

I think those people would have come to the same decision, and maybe we could have had four disaster projects for the same money, had we not had to pay the \$15,000 relocation.

Mr. ERTEL. I think, to make the record complete, what you are referring to is the condemnation code of the State of Pennsylvania, which requires a relocation allowance on top of fair market value on property, which was applied in the disaster relief area.

So, therefore, instead of getting fair market value for their property, they got fair market value plus their relocation allowance, up to \$15,000, and I believe the discretion of the agency is granted.

Mr. YOWELL. Yes, sir, this is correct.

Mr. ERTEL. This was State law applied, and this was applied to the State act, but I think there was Federal funding behind it.

Mr. YOWELL. Well, in the State funding, it was all State funding, but in the Federal projects it was State and Federal. I believe the provisions of the Uniform Relocation Act also would pertain in the Federal disaster project, which call for the extra money. You make a good point.

If the Federal law were changed, the State law would also have to be changed. If we were going to have it the way we would like to have it, and I think we would get more people out of the flood plain, and those people would be happy. For a lot less money.

Mr. ERTEL. Thank you very much, Mr. Yowell.

Congressman Rahall?

Mr. RAHALL. Mr. Yowell, I appreciate your testimony here today.

I have a question concerning the regulations which you are referred to, a couple of points in your testimony—HUD regulations, specifically.

Was there a problem in the floods here with HUD not allowing local homes, or temporary housing to go in below the flood plain level for people? Has there been that problem in the past, after floods in Pennsylvania?

Mr. YOWELL. After Agnes, HUD came in and established mobile homes in temporary locations for displaced persons.

Mr. RAHALL. Below the flood plain area?

Mr. YOWELL. In some instances, the one I am thinking of, we did in fact build, or restore actually, a mobile home park, with the Corps of Engineers' funds, to allow temporary housing. There was some considerable discussion as to whether that was the right thing to do.

However, in the judgment of the people involved, it was cheaper to restore that, and quicker, because we were looking for homes for these people in a hurry. We would not, and the Corps of Engineers, HUD would not have allowed the construction of a mobile home park in our area, since we had alternatives in the flood plain area.

In some areas that may not be possible. Maybe they did not have any place.

Mr. RAHALL. In my area it was a problem, because it was not possible, and yet HUD would not put in the mobile homes below the flood plain level, which meant many people living out of their cars and trucks for weeks on end. It took some doing to get them to amend that regulation, but they were finally flexible.

I was just wondering because it appears they have done an excellent job, especially in the Johnstown flood, and I wish they were a little more flexible than they were down in southern West Virginia.

Mr. YOWELL. I think they learned a lot from Agnes. When Agnes started, the first day I can recall, there was almost unlimited flexibility. Decisions were being made locally by some HUD officials, corps officials, and you could just feel it happening each day, the flexibility was cut in half.

Mr. RAHALL. Is that true following Johnstown?

Mr. YOWELL. I do not know. I do not know that. But I would predict that it is probably true.

Mr. RAHALL. It was certainly not true in southern West Virginia in April of this year, because the regulations were very strict, and there was no local decisionmaking at all.

Mr. YOWELL. Right from the beginning.

Mr. RAHALL. Right from the very beginning, and I think the situation is quite different up here.

One other question I had. You mentioned diversified studies that you thought were necessary for flood control projects.

Mr. YOWELL. Yes, sir.

Mr. RAHALL. I am just kind of leery of this, because it seems that the corps has done so many studies—study after study, seems to be their usual response, especially after a flood.

Could we not use some of the data that they have already obtained in the past? Could we not more quickly secure the information that you are thinking we should have before we make these decisions on flood control projects?

Mr. YOWELL. Yes, sir. I think our intent, and perhaps we were not clear. We are not asking for some additional elongated studies. We think the data is probably available in most cases.

What we are asking for is consideration of structural, and a variety of nonstructural measures as a remedy. The way I understood the corps studies now, they either analyze the cost-benefit ratio for the establishment of a dike or a dam, or evaluation of the area, and nothing in between, and we are saying that there may be situations, Milton might be a good one, where you would dike around the industrial area. You would relocate a portion, a percentage of the residential area that is most frequently flooded, and you might agree to fund a moderation, some type of flood resistance, to the rest of the residential properties, and by not having to relocate all the residential properties, or not having to dike around the whole area, you might spend less money, and still achieve high degrees of results, and thus lower, or make the cost-benefit ratio acceptable.

I think that this would be the case in Jersey Shore Borough, and I think it would be the case in Lock Haven, where a combination of measures should be taken, not just a dam or a dike, or complete relocation, or leave them there in a flood again. I think there should be some combination of efforts made, and I think that is one of the effects of cost-benefit ratios.

Mr. RAHALL. But you are not talking about years in time?

Mr. YOWELL. No, sir. I think those analyses could be made very quickly with available data. But I think the relocation cost would be a factor there. Right now the corps and FIA, HUD, do not like the idea of wet floodproofing, as we use the term. They either want to prevent water from entering the structure, or they want to move it. They do not see the benefit in partially reducing the damage due to flooding, and the flood insurance program does not give any benefit in reduced rate for that type of measure.

Although you may, in the construction of new buildings especially, be able to obtain considerable reduction in damage through raising electrical-mechanical equipment, using different types of marine grade

plywood, and other materials that are resistant to flooding, and still allow the water to enter the building.

It has been proven, to my satisfaction, meeting with the corps in various instances, that it is not possible or practical to prevent water from entering a residential constructure beyond a very minimal height, 3 feet or so. Even then, what period of time will lapse after you have constructed the building without going back and continuing to monitor what you have already constructed will fail?

Suppose it is not flooded for 10 years. Do you think in the 11th year you are still floodproof? You have a flood, and you find out that the porch that you added on 3 years ago, you breached a portion of the floodproofing, and therefore you lost it all. But you do not find out about it until you are flooded.

With that type of situation the individuals are sitting there watching it flood, thinking they are safe, not moving any furniture upstairs, or anything, the flood hits and they lost it all.

I feel that it would be better to not try to keep the water out in the first place. Let them move their furniture upstairs, but build it of materials that would be resistant to flood damage, and those materials are available, and they are being used in central Pennsylvania right now.

But the Federal Government, the Corps of Engineers, and FIA do not consider that a significant improvement over doing nothing, and we violently disagree over that.

Mr. RAHALL. Thank you.

Mr. ERTEL. Mr. Ashworth?

Mr. ASHWORTH. No.

Mr. ERTEL. Thank you, Mr. Yowell. I appreciate your coming in and spending the time with us. As always, you have been enlightening.

Mr. YOWELL. Thank you.

Mr. ERTEL. Mr. George Garlick?

Mr. McMILLEN. Mr. Garlick was unable to come. If I would be a suitable substitute?

Mr. ERTEL. You will be an excellent substitute.

TESTIMONY OF WILLIAM McMILLEN, REPRESENTATIVE, WEST BRANCH FLOOD CONTROL ASSOCIATION

Mr. McMILLEN. To follow a man like Daniel Flood would be impossible. He is so learned and verbose.

My name is William McMillen, I live in Pine Creek Township, and I am representative of the West Branch Flood Control Association, which consists of 22 communities. We have been asked for an appointed citizen adviser to the U.S. Army Corps of Engineers and to SEDA-COG.

I do not believe it is necessary to read all the names of who we represent.

Mr. ERTEL. You may proceed. We will make your letter and others a part of the record at the conclusion of your presentation. (See page 305.)

Mr. McMILLEN. I will read our letter, if I may:

Congressman Ertel and Subcommittee members, the West Branch Valley Flood Control Association appreciates this opportunity to meet with you to

discuss your legislation and to suggest some additional recommendations for your consideration and possible inclusion in your pending legislation.

We agree, in principle, to all of the inclusions in your legislation except for including additional secondary economic effects into an already swollen benefit base. Under this provision, every project simply increases its benefit-cost ratio proportionately, all other things being equal. The net result might be that one project might take precedence over a more justifiable one, depending upon the interest and power of the Congressman involved.

The U.S. Army Corps of Engineers is presently using imaginary or mythical development now to justify favored projects (Lock Haven, \$464,000 of non-existent housing and light commercial development that, at the present, does not, and may never exist). This is included in the benefit ratio, and there are no buildings there, and it is my understanding these could not be any buildings there, because it would be on the flood plain.

This, of course, raises the benefit side of the formula. If they can do this, they can literally justify any project they wish to by utilizing this crystal ball technique in their benefit base calculations.

In short, the U.S. Army Corps of Engineers has become the judge, jury and executioners with the life and death power over any project. In this regard, the Corps is actually establishing policy which in reality is usurping the power and role of Congress, and in particular, that of your Subcommittee and Full Committee.

We are, therefore, opposed to this provision of your legislation that compounds the problem by adding an even greater economic potential to the already unbelievable benefit provisions available to the Corps to justify projects under present legislative enactments.

We suggest that you consider the following for inclusion in your legislation:

1. That the U.S. Army Corps of Engineers, as an agent of the Federal Government, be held legally and economically liable for their projects. In particular, the safety of their design, construction and maintenance, and for any project's effect on other citizens and communities.

2. That the U.S. Army Corps of Engineers must appoint a "regional" citizens advisory group to work with, and must abide by the input of that group, regarding all of the projects of the region. Under present conditions, the region is ignored, and communities are taken on by the Corps one by one. Citizen advisory groups are ignored.

In spite of the fact that we are appointed advisors of the Corps, we have never been called upon to meet with them in over a year and a half.

Under these conditions, it is no wonder that the Government has lost credibility with the people, and the Corps is called "Public Enemy No. 2." These two proposals we extend for your consideration would do much to restore the credibility and faith of the American people.

Thank you for this opportunity to meet and discuss these recommendations with you.

That is the content of the letter which we are submitting.

Mr. ERTEL. Thank you. I would like to ask you a couple of questions.

It is my understanding that none of the dams or projects that have failed have been corps' projects. The dams that have failed have been private projects, or Bureau of Reclamation, or somebody else, but the corps' projects have not failed, and I think they are being held accountable for the safety of their projects.

Now, I wonder what you mean by "legally" and "economically liable" for their projects?

Mr. McMILLEN. Well, it seems to be a matter of communication, or integrating the feeling that there seems to be, when the Army Corps of Engineers recommends a project, it is apparent, to us at least, that it is accepted by the Basin Commission verbatim, and the Congress more or less, committee, I suppose, because they do not have time for anybody to audit, or anybody to—they accept it, and such things as this Lock Haven makes us wonder if there should not be some audit made.

I do not think that an Army corpsman wants to be held accountable.

I do not think that spending \$40 million ought to be in one man's hands, and I do not think that—we do not think that he would want that responsibility.

Mr. ERTEL. Pardon me, I am sorry to interrupt you, but you say \$40 million spending is in one man's hands.

Mr. McMILLEN. In the Lock Haven project.

Mr. ERTEL. May I advise you of the procedure that I am aware of for corps' projects? For Corps' project, first a preliminary estimate is made to determine whether the cost-benefit ratio, under the existing legislation, comes to 1.0. If it comes to 1.0, then it goes through, probably the Baltimore district, to the north Atlantic division, and then to the Corps of Engineers on a review basis. Not until that is done can it actually be authorized by the U.S. Congress.

Even if it does come to 1.0, the U.S. Congress may decide not to offer. They have that choice. They then may authorize it, but they generally will not authorize a project that does not come to 1.0. So the decision is not made by the corps as to whether that project is authorized.

Once there has been an authorization, assuming that the subcommittee of which I am a member, and chairman of today, decides to authorize it, and goes to the full committee, and they decide to authorize it, and it goes to the Congress, the House, and then to the Senate, if it is authorized, then it has to go back, and the House again, through the Appropriations Committee, must appropriate the money for that.

So when you say that one man is spending \$40 million, I wonder where that statement comes from.

Mr. McMILLEN. I will give you an example. The Lock Haven project was determined to be 1.45 to 1. The benefits are \$2 million. The cost, top figure, is \$40 million. Now, they mentioned this morning money cost 6⅔%, I believe, was the figure. No, the benefits of \$2 million, if you multiply your \$40 million by 6⅔%, you come to \$2.5 million or more.

How are you going—how will that ever pay the project? You do not have enough benefits, and yet they show it as 1.45 to 1.0 benefit.

Mr. ERTEL. I do not follow your figures fast enough to be able to analyze that, but we certainly—

Mr. McMILLEN. See, that is my point. We cannot see where anybody audits these. Does the General Accounting audit these?

See, we wrote a letter, the chamber of commerce wrote a letter to Dr. Goddard and asked him how they could use \$464,000 of nonexistent benefits, which probably never will exist because the industrial park at Lock Haven is located at McElhattan, has water, has sewage, four-lane highway, and it is approved by the bulk of the businessmen in Lock Haven. In fact, they put money in to build a shell building.

So the chances of this \$464,000 benefit ever coming to fruition is nonexistent, and yet every year, after you build that project, we are saying that we are getting \$646,000 worth of benefits out of it. See? That knocks your cost-benefit ratio into a hogtie.

Mr. ERTEL. Well, we are not here arguing whether or not a specific project should or should not be funded. We are here trying to determine whether this legislation, which I have proposed, is appropriate, and what the advantages or disadvantages might be.

Obviously, we are not here either defending or condemning the corps. And I think it would be improper because we do not have the information at our fingertips to do it.

Mr. McMILLEN. Well, the figures are sound.

Mr. ERTEL. But I am curious about a couple of the other statements.

You had suggested that in the legislation that we provide that the U.S. Army Corps of Engineers must appoint a Regional Citizens Advisory Group and must abide by the input. Now, that suggests to me a system which gives me great hesitation.

No. 1, you are giving to an appointed agency, an executive branch agency, the right to appoint a committee which then can tell them what to do. I think that is part of representative democracy, and that is what we have the Congress of the United States for.

Mr. McMILLEN. If the bulk of the people in the valley are desirous of certain projects, we feel they should be—have a say in—if they are sound justifiable projects, we feel they should be—that they should be obligated—

Mr. ERTEL. I understand that. I certainly am appreciative of that opinion. But I question when you say must, and you have it underlined, that to me smacks not of democracy but something other than democracy.

Mr. McMILLEN. It has been our experience with the corps that—as I said, we have been appointed at their request, but they have not contacted us in a year and a half. And in the meantime they are holding a meeting in Lock Haven and they do not even ask us to go. They asked three or four people who are favorable to the dike. The only time that a vote was ever taken in Lock Haven on a dike, only 21 percent of the people that voted approved it. They have not been allowed to vote since that time.

Mr. ERTEL. I am afraid we are getting off the picture because we are trying to talk about legislation.

Mr. McMILLEN. Yes.

Mr. ERTEL. And you are talking about us mandating a regional appointed body by the corps. We are allowing basically the fox to appoint the chicken, or the chicken to appoint the fox, and then the fox to take over the chicken. I am not so sure.

I want to know what your thoughts are in adding that to the present legislation, and it concerns me a great deal.

Mr. McMILLEN. We think that the people in the area should have input. That is what we really mean.

Mr. ERTEL. I appreciate that.

Mr. McMILLEN. Maybe the letter was not properly worded. I will agree with you on that.

Mr. ERTEL. I think I have got the gist of what you are saying.

The other thing, you made a comment in your letter that by expanding the benefits or taking into account 8061, that all projects would become more justifiable. I wonder if that necessarily follows because all projects would not necessarily have industries within their project borders so, therefore, would not be—maybe it would be excluding some and making others higher on the priority list because the criteria which is incorporated in the suggested bill may, in fact, increase the benefits for some projects over and above other projects.

And is it not true that this would make a more realistic tool to make a judgment by taking more appropriate criteria into consideration? I would like to have your comment on it.

Mr. McMILLEN. Well, I think you are probably correct in that. The weakness, as we see it, is in the determination of the cost-benefit ratio. Somebody says to the commission the cost-benefit ratio is 1, 2 to 1, and they accept it. There seemingly is no audit or nobody goes back and checks to see whether it is really 1, 2 to 1, or 1, 8 to 1, whatever it is.

The cost-benefit ratio in the Lock Haven projects have been changed three or four times in the last 3 or 4 years and, in the meantime, 400 some buildings have been torn down, houses and commercials, which should lower the benefit. But, instead of that, it has gone up. Those are the mysterious things that—that is why we would like to have everybody—we would like to have more input. We would like to have some way to audit that so that you fellows will know it is a fact.

In this case I was going to say we wrote to Dr. Goddard, the chamber of commerce wrote to him, about this situation in Lock Haven. He said we have forwarded a letter to the Army Engineers in Baltimore, and we got a letter back, signed by the man that made the cost-benefit ratio. So there comes your one man deal. Why not somebody else?

We would like to have—maybe the General Accounting Office or somebody; see what I mean? Then the figures that you get may be correct. They may not be correct but there is no audit. I do not think they even want that. I do not think I would want the responsibility of building a \$40 million project solely on my say-so.

Mr. ERTEL. I think the people of the United States would like to have that authority, but I do not think the Congress of the United States is going to give it to them.

Mr. McMILLEN. I hope not.

Mr. ERTEL. I appreciate your comments.
Congressman Rahall?

Mr. RAHALL. Thank you, Mr. Chairman.

I do not have any questions except in regard to the last point that you have been discussing. I do not think to ask the Corps of Engineers to appoint regional citizens groups and requiring that they abide by the input of that group is the best mechanism to follow in regard to flood projects. And I do not mean this as a condemnation of the corps or defense of the corps. With all due respect for their expertise and technical abilities, I do feel that they were set up as the engineering arm of the Congress in recognition of that ability. It is up to us in the Congress to take the input from these regional citizen advisory groups. It is up to us, the Congress, I feel, to examine the audit—to require the corps to submit to us audits and which we, in turn, relate to the people, to the citizen advisory groups, to insure that it is not one man making the decision to insure that it is not the same man that is doing the cost-benefit analysis.

So I think that purpose could best be served by us in the Congress, and if we have been lax in that regard, then it is our responsibility.

Mr. McMILLEN. That is the only point that we have, that we would like to see more input and more scrutinization of the actual cost and the actual benefits. So everybody understands clearly, concisely, exactly what we want.

Mr. RAHALL. I think we in the Congress share that concern, too.

Mr. McMILLEN. You know, Senator Kury's picture is very imposing and convincing picture. I would like to see him have the picture of the four dams upstream which also, in connection with the dikes, saved Sunbury and Williamsport from being flooded.

Mr. ERTEL. I think that is true. I think the containment of water upstream was very instrumental in saving many of the things downstream because they did bring the crest down. I think that has been proven scientifically, at least by most of the studies that I have seen.

Mr. Ashworth.

Mr. ASHWORTH. No, sir.

Mr. ERTEL. Thank you very much, Mr. McMillen. I appreciate your coming in and giving us your time and effort.

[Mr. McMillen's submissions for the record follow:]

WEST BRANCH VALLEY
FLOOD CONTROL ASSOCIATION,
Lock Haven, Pa., November 14, 1977.

CONGRESSMAN ERTEL AND SUBCOMMITTEE MEMBERS: The West Branch Valley Flood Control Association appreciates this opportunity to meet with you to discuss your legislation and to suggest some additional recommendations for your consideration and possible inclusion in your pending legislation. We agree, in principle, to all of the inclusions in your legislation except for including additional secondary economic effects into an already swollen benefit base. Under this provision, every project simply increases its benefit cost ratio proportionately, all other things being equal. The net result might be that one project might take precedence over a more justifiable one, depending upon the interest and power of the congressman involved. The U.S. Army Corps of Engineers is presently using imaginary or mythical development now to justify favored projects (Lock Haven; \$464,000 of nonexistent industrial and light commercial development that, at the present, doesn't and may never exist). If they can do this, they can literally justify any project they wish to by utilizing this crystal ball technique in their benefit base calculations.

In short, the U.S. Army Corps of Engineers has become the judge, jury, and executioner with the life and death power over any project. In this regard, the Corps is actually establishing policy which in reality is usurping the power and role of Congress and in particular that of your subcommittee and full committee. We are, therefore, opposed to this provision of your legislation that compounds the problem by adding an even greater economic potential to the already unbelievable benefit provisions available to the Corps to justify projects under present legislative enactments.

We suggest that you consider the following for inclusion in your legislation:

1. That the U.S. Army Corps of Engineers, as an agent of the federal government, be held legally and economically liable for their projects. In particular, the safety of their design, construction and maintenance and for any project's effect on other citizens and communities.

2. That the U.S. Corps of Engineers must appoint a "regional" citizens advisory group to work with and must abide by the input of the group regarding all of the projects of the region. Under present conditions, the region is ignored and communities are taken on by the Corps one by one. Citizen Advisory groups are ignored.

Under these conditions, it is no wonder that the government has lost credibility with the people and the Corps is called "Public Enemy No. 2." These two proposals we extend for your consideration would do much to restore the credibility and faith of the American people.

Thank you for this opportunity to meet and discuss these recommendations with you.

Sincerely yours,

GEORGE GARLICK, *Chairman.*

COMMONWEALTH BANK AND TRUST Co.,
Williamsport, Pa., November 14, 1977.

CONGRESSIONAL COMMITTEE ON WATER RESOURCES,
Sunbury, Pa.

GENTLEMEN: We appreciate your time and effort to study the potential of the Susquehanna Valley and its needs to be a productive resource to the best of its ability. The Susquehanna Valley produces beauty throughout the year surpassed by none. It has fertile soil as productive as any in the United States. It claims a hunting and fishing area that gives great delight to thousands upon thousands

of people. It is in this capacity it sometimes becomes overtaxed and without help of constraint must dispatch its overabundance of energy, and cause much destruction and suffering in its wake. It is in this containment that we ask your aid.

The potential of the valley is unbounded. By use of land management and conservation it can produce recreation and game of vast quantity. Farms in the valley under good management has tripled the productivity of the land. Controlling of the never ending water resource offers the potential need of manufacturing growth—water and energy. I propose you look at the valley as a whole to seek your solution for the betterment of its people and the country it serves.

Our institution has a number of offices in the Northcentral Pennsylvania area. A number are on high ground, two behind dikes, one protected by a complex of dams and one in a flood area. During the heavy rains of 1972 those offices in higher elevations received little damage, mostly in the cellar area as did the office in the drainage complex. Of the two offices with water dike protection, one received no damage while the other received extensive damage as the water impoundment proved insufficient. The office with dam protection sustained no damage. The office subject to flood received extensive damage. Some of this damage could have been prevented had the forecasting been more timely and accurate.

After the water subsided, the question then arose "should the two offices be repaired or moved to higher ground". As a considerable amount of funds provided by the government were used to redevelop these flood stricken areas, we renovated the offices in an effort to show confidence in the future for these places of business and residence. For all to move to higher ground displaces the natural habitat of that ground. We have seen hillside developments that had a reasonable drainage of rain water before development. The rains now simply run off in torrents causing flood prone tributaries. Enough of this type of development could, in time, change the present adequate dike heights to inadequate. This increase in flow has also brought additional ground into the streams making the river channel less adequate for water flow.

We would like the committee to carefully consider those avenues that will allow the development of the Susquehanna Valley as a whole. Any water control effort should not open new dangers for areas already protected nor should it be uncertain as to the ultimate effect this construction will have on unprotected areas.

The resilience of the people affected by its floor has been outstanding. Farmers withstood total crop losses in 1972 and with little or no government help have rebuilt their lands because it is their life. Sometimes this recovery lessens the effort to prevent another holocaust. Some people not affected cannot appreciate the anguish. Two months after the 1972 flood, with floors still warped and furniture not relocated on the first floor which had 2 feet of water, the Lycoming County assessor came to our home and said "the flood has increased the value of your home". This was his answer to a request which later the Jersey Shore School Board forced the county to allow.

We ask your careful study of the economic value of the valley. Not only as it is today but the potential if offers for enrichment of both economic and recreational value to the states populace.

Sincerely yours,

W. ROBERT CAMERER, Jr.,
Senior Vice President and Chief Operating Officer.

GENERAL INTERIORS CORP.,
PENNSYLVANIA HOUSE,
Lewisburg, Pa., November 11, 1977.

Congressman ALLEN E. ERTEL,
*Longworth House Office Building,
Washington, D.C.*

DEAR CONGRESSMAN ERTEL: We at Pennsylvania House of General Interiors Corporation are very concerned about the flood control plans for the Susquehanna River. Our Plant No. 2 is located on the West bank in Lewisburg with Plant No. 1 just West of Route 15. Along with our neighbors in Lewisburg, we have experienced the floods of 1936, 1972 and 1975. The 1972 flood which subjected 75 percent of Lewisburg to flood water, resulted in over one-quarter million of material loss, plus an unrecorded figure for work loss, schedule interruptions, etc.

These figures would have been much greater if the water would have risen an additional six inches. That modest increase would have resulted in a major loss of in-process and finished good inventories at the case goods plant. We employ over 800 people with an annual payroll in excess of eight million dollars. This would represent a sizeable loss for a community of our size.

For the past three years we have been active with the West Branch Valley Flood Control Association, P.O. Box 515, Lock Haven, Pa., 17745, in addition to direct participation at called meetings and conferences. Among these was the meeting at the Temperance House, during the time you were campaigning for Congress.

We feel strongly that individual dikes or walls are not the primary interest. Upstream dams prior to Lock Haven, Pa., would have the advantage in that, through that approach the total water quantity would be reduced, lowering the level all along the river. Dikes at Lock Haven and/or Milton, in advance of additional upstream dams would not serve the advantages of all along the river, but would in fact be detrimental to communities such as Lewisburg in that the water would certainly rise in Lewisburg as a result of a wall in Milton, since we are only 4 miles South of Milton. Such a wall, had it existed in 1972, would surely have raised the river the 6 inches additional which would have resulted in a major cost at our Plant No. 1 and a much longer work interruption.

As was stated during the conversations summer before last, we need your help and that of your committee. Your kind of consideration for affirmative action on Dam construction, to control flood waters of the Susquehanna River, as the primary step, as opposed to individual walls or dikes, would be appreciated.

Sincerely yours,

JAY E. ENDRES,
Vice President of Manufacturing.

DOEBLER'S PENNSYLVANIA HYBRIDS, INC.,
Jersey Shore, Pa., November 14, 1977.

To Congressional Committee on Water Resources:

Ours is a seed corn growing firm that farms and distributes hybrid seed corn in 6 eastern states. Due to our location in the Susquehanna Valley flood plain we are vitally interested in a change in method of determining the cost benefit ratio by the Army Engineers.

Floods here are definitely increasing in frequency and height. We have had 2 so called "100 year floods" in the last 42 years, plus a number of major floods. To use long past history to determine 100 year floods is wrong as the thousands of acres paved in the watershed in relation to years past and a definite weather pattern change makes old procedures unworkable.

In order for our people to live and work here in the valley we must have up river impoundments to hold back water during periods of unusual rainfall. Ideal locations are available on the West Branch for this purpose. Also the present smaller dry dams have done an excellent job as impoundments but a major sized dam is needed to give adequate protection.

In regard to the loss figure compiled by the Army Engineers following the 1972 flood for agriculture here in Clinton County, it should be known that their figures were ridiculously low and did not compare with actual losses. This is another area that needs improvement.

May we suggest the complete cost benefit ratio procedure be completely overhauled to allow all viable benefits rather than just a few. I'm sure if this is done—we will have some hope of relief.

Very truly yours,

T. A. DOEBLER, Jr., *President.*

EAST BUFFALO TOWNSHIP SUPERVISORS,
Lewisburg, Pa.

Congressman ALLEN E. ERTEL.

We the Supervisors of East Buffalo Township wish to take this opportunity to bring to your attention the problem of frequent flooding of the Susquehanna

River Basin. With the ever increasing building of homes, roads, and large shopping centers, etc. the waters have no place to soak into the ground when it rains.

Over the years our area has been flooded by the Susquehanna River, 1936, 1946, 1972, 1975. These are just dates in our time. These floods have caused millions of dollars of damage to homes, businesses and industry. One more foot of water in 1972 would have put out of work almost 1,000 people and caused a million dollars of additional damage to our main two industries, General Interiors Corp. and Moore Business Forms. General Interiors did suffer several hundred thousands of dollars in damage in 1972.

We feel that the only way to a real solution is the placing of dams in the upper river to hold back the water during periods of high rainfall. We are certain that a favorable cost benefit ratio will be found if all benefits are included in the benefit side of the Cost-Benefit Ratio.

We feel that this will give you an idea of some of the problems our area has with the frequent flooding of the Susquehanna River. We hope that you can help us to correct this situation.

Sincerely,

JOHN F. SMITH, *Chairman.*

COMMISSIONERS OF UNION COUNTY,
Lewisburg, Pa., November 14, 1977.

We, the Commissioners of Union County hereby endorse the installation of up river impoundments on the Susquehanna River.

We feel this is the real solution to major flooding which has caused untold losses in the area.

W. SHERMAN DOEBLER,
Chairman.

THELMA J. SHOWALTER,
JOHN R. SHOWERS,
Union County Commissioners.

POINT TOWNSHIP, NORTHUMBERLAND COUNTY, PA.,
Northumberland, Pa., November 12, 1977.

Congressional Committee of Water Resources.

GENTLEMEN: The Point Township Supervisors are in favor and request the committee to aid in the controlling of flash flooding by the erecting of upstream dams to retard the flow of high waters.

Yours truly,

NEIL MERTZ, *Chairman.*
IRA A. GEISE, *Secretary.*

JERSEY SHORE AREA CHAMBER OF COMMERCE,
Jersey Shore, Pa., November 10, 1977.

COMMISSION ON WATER RESOURCES,
House Office Building,
Washington, D.C.

DEAR SIR: We the Members of the Jersey Shore Chamber of Commerce welcome this opportunity to bring to your attention the most pressing problem facing the Susquehanna River Basin. The problem is an increase in frequency and height of Floods. The problem is compounded by paving over large areas in the watershed, dual laned highways, parking lots, schools and streets are examples of installations which cause immediate runoff of rainfall which formerly was absorbed at least in part by the soil.

During the last 42 years we have had 4 major floods and 2 catastrophic flood (so called 100 year floods) which are occurring now at 35 or 40 year intervals. Losses in the major floods were in the Millions and in the two highest floods were in the Billions.

The only real solutions as we see it is to construct up river impoundments to hold back the water during periods of high rainfall and then release it after the danger is past. We have many locations up river suitable for installations. These areas have little or no economic value and population density is very low.

We feel certain a favorable cost benefit ratio will be found if all benefits are included in the benefit side of the Cost-Benefit Ratio. We hope this will give you a picture of our problem and we sincerely hope you can help us with the solution.

Very truly yours,

RALPH SPINNEY, *President.*

CENTRAL SUSQUEHANNA VALLEY CHAMBER OF COMMERCE,

November 11, 1977.

Re flood control for Susquehanna Valley.

Hon. ALLEN ERTEL,
House of Representatives,
Washington, D.C.

DEAR MR. ERTEL: On behalf of the Central Susquehanna Valley business community, we would like to state formally that we favor upstream impoundments as a first line of defense against severe flooding of the Susquehanna River. After the impoundments are in place, then flood walls, revetments, and dikes would be the next step for individual flood prone communities. The dams of course could serve multiple purposes such as for hydroelectric power, municipal drinking water supply, forest and field irrigation source, and recreation.

As you face the issue of cost; benefit ratio with the Corps of Engineers, any of the above mentioned auxiliary purposes still must hold a back seat position to the savings in lives, property, and irreplaceable soil that the upstream impoundments would provide.

Our hopes and feelings on this subject are much the same as those of the volunteer organization we support and hold membership in the West Branch Valley Flood Control Association. Their testimony and efforts are also representative of this Chamber of Commerce and the community it serves.

Thank you for your concern and attention.

Sincerely,

ROBERT C. STRAUB,
(For Truman Purdy, Chairman,
Flood Control Task Force).

BOROUGH OF JERSEY SHORE,
Jersey Shore, Pa., November 9, 1977.

Congressman ALLEN E. ERTEL,
Longworth House Office Building,
Washington, D.C.

DEAR CONGRESSMAN ERTEL: The Borough of Jersey Shore, County of Lycoming, has suffered many devastating floods in the past. Increases in frequency, and height of water on our streets tells us we must expect many more floods in the future. This problem can only be corrected by building dams upstream, which will hold excess water until the river has fallen to normal stage.

It has been brought to our attention that the State of Pennsylvania has contributed, many millions of dollars to Western and Southern States to build flood control, and power dams. Since we have received very little in this respect, we feel it is our right to have Federal help in solving the problem.

We have heard much discussion about the cost benefit ratio on all Federal Installations built by the United States. If all the benefits in the way of flood control, recreation, stream flow maintenance, water purity, and possible water power production, are included in the benefits derived we are certain a favorable cost-benefit ratio will result. We hope that we can count on members of your committee to assist us in every way possible to solve this, the most urgent problem in the Susquehanna Basin.

Sincerely,

JAMES MERCURY, *Mayor.*

PORTER TOWNSHIP, LYCOMING COUNTY,
Jersey Shore, Pa., November 16, 1977.

To Congressional Committee on Water Resources.
Subject: Cost benefit ratio.

We welcome this opportunity to discuss one of our most pressing problems which is an ever increasing number of floods. We have hundreds of acres of

farmland producing high yields which our farms sorely need protected. We also have Commercial and Industrial Development in the Township to protect as well as many residential properties.

It is evident that the benefit side of a cost benefit ratio has not been keeping up with the greatly increased value of the production of these farms and value of these home and Industries.

We believe a corrected Cost Benefit Ratio will show ample benefits to cover the cost of up river impoundments needed to control floods which are certain to occur in the future.

Since Pennsylvania has contributed millions of tax dollars to Southern and Western Water Projects we feel Pennsylvania is entitled to a share of these taxes to protect our own citizens.

Sincerely,

MARGARET D. GUNTER,
Secretary, Porter Township Board of Supervisors.

Mr. ERTEL. Our next witness is Mr. Jerry Walls, executive director, Lycoming County Planning Commission.

Nice to have you with us, Mr. Walls, and we do have a copy of your testimony and, without objection, it will be incorporated in the record. You may proceed. You may either summarize the written testimony or read it as prepared, as you so desire.

**TESTIMONY OF JERRY S. WALLS, EXECUTIVE DIRECTOR,
LYCOMING COUNTY PLANNING COMMISSION**

Mr. WALLS. Thank you. I will do a little bit of both. In order to save time, I will not read all of it. Some of it, I think, will be well said by the written word.

The Lycoming County Planning Commission wants to thank the Water Resources Subcommittee for the opportunity to present testimony at this hearing. My name is Jerry S. Walls. I am the executive director of the planning commission. The commission directed me at their meeting on November 1 to represent them at this hearing.

The county planning commission, since its inception in 1966, has been concerned with the flood-plains of our county and the rest of the Nation. We have continually worked towards and supported activities and programs that would help minimize and alleviate some of the flood hazards in our county, State, and Nation. For example, the county planning commission coordinated the establishment of a countywide flood warning system, one of the first of its kind in the Commonwealth.

Through this system, much more accurate and timely flood height predictions can be made, thus helping to save lives and possessions from destruction. Our system is presently being refined to monitor dams within our county, particularly the Little Pine Dam and the Frank E. Heller Dam, keeping constant watch on their structural stability during a flood. We do not want a Johnstown or Toccoa, Ga., here.

The county planning commission also did extensive mapping after the Agnes flood in order to have this information available for municipality and, in some cases, used by other agencies, the State and the Corps of Engineers. It has proved invaluable as a historical reference.

It was also after the Agnes flood that we embarked on an extensive program of assistance to help in the assessment of flood damage and to identify continuing hazards, and there were many, and to conceive and design a program of Federal recovery planning. That program was undertaken and completed.

Our county commissioners have recently adopted a comprehensive plan for the county, and our open space plan of 1974, both are policy documents that establish firm flood plain management proposals and policies, particularly in regard to the land use and future growth in the flood plain.

We have recognized in these policies the need to encourage leaving the undeveloped flood plain open. We have drawn up educational materials, including a brochure, a slide show, and a number of other materials, which discuss the merits of controlling future development in the flood plain. We find in our educational program and in the feedback that the people in our county really do not want to take the lower cost approach to flood protection rather than building expensive structures.

The commission since 1972 has been actively involved in assisting local municipalities with understanding, applying for, and maintaining eligibility in the national flood insurance program. I am proud to say at the present time 47 of 52 municipalities in Lycoming County are in development and all have survived. The remaining, they have very minor damage.

The commission has also provided these municipalities with proposed ordinances and samples and technical materials to help them in the amendment of their grouping ordinances in order to insure their eligibility and help them comply with those requirements.

In addition, because of our extensive experience with that program, we have made our experience available to the Federal Insurance Administration and to subcommittees of the Congress as improvements have been contemplated in the flood insurance program. The welfare of our people, our land, and our economic resources has always been a prime concern of the Lycoming Commission. I am bringing all these things out because I would like you to understand that it is in its entirety that this whole issue must be addressed, and it is certainly incumbent upon Congress and upon agencies like my own to be concerned about economic, not just in dollar terms but in human terms, and we certainly see this firsthand and have a definite familiarity with the problem.

Out of this kind of perspective and background we have reviewed Congressman Ertel's bill, H.R. 8061, and we are very pleased to find that there is an attempt to modernize a somewhat antiquated formula and approach to the establishment of costs and benefits. We recognize that it must be changed. We feel as it is presently constituted that it is somewhat too narrow and we would suggest some broadening to be incorporated into the language of the bill. There is a need to look at both sides of the ledger, the benefit and the cost side, in an equal degree of consideration. We feel that a number of types of costs need to be taken into account.

We can see some of these costs. I refer to an article from Science, volume 197, September 16, 1977, which provides a rather technical suggestion of some of the methods of calculating costs.

Mr. ERTEL. Without objection, the article referred to will be retained in the subcommittee files.

Mr. WALLS. This article by Mark and Stuart Alexander looks at the cost of potential catastrophes, the failures of structures such as the breaking of dams or the breaching of other crest works, or the over-

topping of dikes, and it looks at the increased failure potential as we move beyond the life expectancy of that structure or as we move closer to the designed life expectancy of a structure, and I am not—I am under the impression and understanding that the existing cost-benefit ratio does not have that kind of factor weighted into it, what is the increasing probability of malfunction or failure as you move later on toward the life expectancy of that facility or beyond. But certainly these structures do remain in place well beyond design life in many instances. In fact, I suppose in most instances.

In addition, on the cost side of the ledger we would suggest that the social and psychological trauma of living below these structures or behind the dikes need to be appropriately costed. I think that Congressman Flood was more dramatic and to the point, perhaps, in specific terms on just what is this trauma or this mental distress and physiological distress that is a very definite part of being captive in such a situation.

I would feel that while he asks what is wrong with including the negative economic impact in the cost-benefit ratio, I would answer certainly nothing, so long as an equal degree of consideration is given to factors on the other side of the ledger and so long as we all remember that the promise of flood control structures is not that flooding can always be prevented. Unfortunately, many of us, and perhaps the public in general, do not remember that. This leads to a false sense of security and leads to rebuilding in the flood plain which then leads to economic and social disaster.

On the cost side of the ledger, I suggest that we should take into account the domino effect of the increased need for more flood control structures. For example, it is quite frequent, and it is certainly the case in the present concerns in our SEDA region in Milton and Lewisburg facilities, that as you move toward the implementation of a floodwall, or a dike, you do create hydrologic effect downstream, and perhaps in the near upstream, or across the river.

And as we do move toward individual structural approaches, we may create or induce the need for additional structural measures, and this leads in turn to a kind of cost relationship that is not now reflected in the ratio, in the formula of computing it.

It is very difficult to put a numeric or quantitative value on it, but this additional development which is induced through this false sense of security with structural protection, at some point in time, frequently it leads to an increased economic loss.

And we have seen, in the communities in our county, the tendency to waive those requirements of the—that are suggested by the Corps of Engineers for keeping areas behind dikes undeveloped in order to allow for internal ponding area.

We have seen those waived time after time. We have seen them, and the Corps of Engineers, Colonel Withers' predecessor and I, have talked about this, it has been a great concern to the Corps of Engineers, and I presume it continues to be a great concern to them, because that is a natural function. Not all rainfall falls on the stream side of the dike. You do have interior runoff, which can equally damage as well as the water flowing between the walls of the dike.

There is a loss which is created in the backwater, it is an economic loss, when you do build a dam, because you do take certain lands out

of the—what might otherwise be productive economic activity, so that this must be taken into account, as well.

In returning to the text of our comments, the Commission also recommends that the bill be broadened to amend the entire approach taken on local flood control projects. Essentially, the Commission feels that the Corps of Engineers, and agencies, such as the Soil Conservation Service, should be encouraged to study not only structural but nonstructural alternatives for a community, including the possible use of a combination of the two.

Now, this is presently done to a degree, but is not emphasized enough or carried far enough. The Corps of Engineers should be empowered to take the benefit-cost ratio for the best alternative, and request funding for those equally, or exceeding a 1-to-1 ratio, regardless of whether it is a structural or nonstructural alternative.

I would like to add to the text, in some work with the Corps of Engineers, we have learned that the Corps of Engineers is not really empowered to look at those kinds of flood protection measures which they would not ultimately have jurisdiction or responsibility to implement. They are therefore unable to figure them into the alternative approaches within what a community might implement themselves, or what might be done through State action, or what might be done through a joint municipal action.

These are very valuable techniques, and can lead to a lower overall cost of protection, and it is not protection that we are against. We are taking the position that we have to try to achieve this in as low a cost manner as possible.

I do not believe that we really have the money to buy or build all of the backlog of projects that the Corps of Engineers has now done some preliminary investigation of, and there is nothing to cause me to think that we are going to be in a greatly increased position to build more of them proportionate to what we have been able to achieve in the past years.

So that this being the case, we have to stretch the amount of appropriations as far as we can, to maximize the effectiveness. I think that it is exemplified here, as I explained in the text, that the corps might find a proposal to dike an entire community as not being feasible according to the customary application of the cost-benefit ratio.

However, it might be cost effective to dike a certain portion of a community. For example, an industrial area, or certain high residential areas, or commercial. And then provide other complementing nonstructural assistance and approaches to the flood-prone parts of the community.

This nonstructural assistance could take many forms, and could prove to be less costly than the structural approach. What are some of those nonstructural techniques?

For example, I think that the—a kind of technique that has been discussed by some of the persons testifying ahead of me involves floodproofing. I believe that the Congress should undertake the consideration of empowering a set of incentives to be applied where there are efforts to floodproof.

For example, existing structures that are floodproofed by the private owners might then make, or become eligible, for a kind of tax incentive if the Congress so determines. By this I mean that you might

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apply this as a taxable income type of deduction, and I would concur in some of the ideas that Bob Yowell has spoken to just recently, because there are in the existing structures, a number of techniques that can be applied to older homes, and existing in factories and commercial buildings.

Now, a part of this problem does derive from the actuarial rates applied in the Federal insurance program. I know this is not a part of your jurisdiction, but it does impact on the kinds of things you are trying to consider.

I would suggest that lower flood insurance actuarial rates should be allowed for those individuals who floodproof their structures, and in this way it will cause an incentive to occur. What are some of those suggestions?

Well, Mr. Yowell referred to some things like the marine plywood. I would suggest that in some cases a poured integral floor that has a glazed surface, or suitable surface, that will provide the function for wearing, and normal activity, but would allow for minimized duration of damage, sprinkler systems which could be used to help flush and clean after the damage has occurred, realignment of the wiring system to provide for elevation out of the predicted flood level, changing of some heating systems, and changing of insulation and wall covering systems.

In addition, a type of nonstructural technique could be developed through the use of an appropriations bill to implement section 1362 of the National Flood Insurance Act of 1968, which was amended by the Housing Community Development Act, to broaden those eligible for the sale of structures.

This section actually allows the sale of structures severely damaged by floods, but there are no moneys appropriated to carry it out.

Other techniques that might be considered would be the raising of existing structures, and I am not talking about the demolition. I am talking about the elevation of existing structures. The relocation, and I think that the kinds of redevelopment of authority did have some good ideas about how to handle this Uniform Relocation Act.

Of course, the flood warning systems. Now, in our case, we have seen where purchasing of structures, sold voluntarily, are well received. I think Bob Yowell did testify to that fact. They were received almost unanimously, and this is a very direct way to ease the mental trauma involved in being captive in a flood plain.

Small tributary flood warning systems are needed, and these do affect the total context of your problem that you must deal with, and yet there are no moneys available to help set up some of the communication systems that do—that are necessary, in order to make this work.

We have found that we have gone a considerable distance down the road toward a vastly improved warning system, but we are frail to the extent that it depends on landlocked communications, through telephone, and, of course, when you are in a weather condition which leads to a flood, most normally in our area, you have problems, such as landslides, trees falling across power and phone lines, and you are knocked out from this kind of communication technique.

So we do feel that this is a kind of nonstructural approach that can help.

Now, all these, of course, are specific approaches that can be implemented locally, with some degree of effectiveness. But they are not accounted for in the cost-benefit ratio, and I have not even gone into the more traditional planning techniques that involve regulation of uses in the flood plain, respecting what is the natural and inherent right of bodies or streams of water to accommodate increased runoff during soil conditions, but I take it as granting, or take it as very obvious that it is incumbent upon local governments to continue and work harder at doing this job, and we are certainly dedicated to doing that.

We found a desire to—of the people in our area, to try to be self-reliant, and to the degree that they can. These techniques, if recognized as having some degree of impact, with some associated cost and benefit, or values placed on them, will then give further incentive to the actual utilization of those approaches, and help cause these communities to mobilize themselves and go further.

Now, the reverse side of that, which is probably one of the most important points I am trying to make here, is that if these things are not encouraged directly, there is a kind of false promise held out, or a false security that develops, that—oh, we are going to have a project.

Even a failure to realize it in some cases, these projects may take 10 years to move through the consideration, and appropriations process, and perhaps much longer for actual construction, with 12 to 20 years not uncommon for flood control projects as a construction time.

Although I understand the limits of jurisdiction of your committee, if you could take it as being companion to your concerns, that you encourage the Congress in its entirety, to make broader considerations possible within the total of flood plain management and flood protection planning, we think that is the best possible approach to be taken.

I would like to give a couple of specific examples of some experience we have had in our county.

We had an industry, and Congressman Ertel knows the corporation, that was very interested in giving assistance, this is about 2 years ago, I believe, in helping to do their own kind of self-help flood protection, a limited kind of diking and floodproofing, and we were willing to pay for it, but needed technical assistance. We contacted, on their behalf, the Corps of Engineers, and were promised help, and the corps did in fact provide its customary help, but had to stop at the point where their limits of authorization ceased.

It was most unfortunate, because a community—

Mr. ERTEL. May I interrupt you a minute, Mr. Walls?

Are you referring to Spring Garden area?

Mr. WALLS. No; Borough of Montgomery. A community which I was just about to name, Montgomery which was hard hit by the departure of industries in their community, some for other kinds of economic reasons, who are very excited about the prospects of the Brodac Corp. which had a facility there, had pulled its operations out of the community, and was willing to come back to the community at increased cost of floodproofing, and this would have been a shot in the arm that the Borough of Montgomery needed at that moment.

The community leaders were quite committed to helping them doing this, with some incentives to help, and pledging all their resources,

only to find that for the lack of the authorization to go further, through the technical analysis, and help in designing the solution, the thing fell apart, and in fact, a large meeting of all the community leaders was mobilized by us, and there was such great expectation, and it was really quite a bit of a comedown.

Now, in this respect, we would suggest, we are not criticizing the Corps of Engineers, we are saying they went as far as they were allowed to go, but let us make use of the resources of the Corps of Engineers in a much better way.

I think that this is where the Congress can intervene. I for one believe that the Corps of Engineers have much to offer, and it does identify, for me, the answer to a question that you asked an earlier person, testifying—

Mr. ERTEL. Pardon me, Mr. Walls. I do not want to interrupt you, but some of the committee have to leave by 4 o'clock, and I am sure there are some questions that have to be asked.

Mr. WALLS. I think this is my last point.

Mr. ERTEL. If you would summarize it.

Mr. WALLS. This is my last point.

I was in the process of saying that it does help address the question you asked Bob Yowell, about what should be the role of the Federal Government.

I see that this is a legitimate part of the role of the Federal Government because of the vast computerized, and other technical resources necessary, the expertise necessary to comprehensively evaluate the hydrologic impact of some of these projects, or some of these small incremental localized projects, is often not resident at any level below the Corps of Engineers.

The Susquehanna River Basin Commission has some resources, but at the present time cannot provide that degree of assistance. We think it would be excellent use of a Federal resource, and one that would be a low-cost technique, if they could be empowered to go further than what was in the case in Montgomery.

We would like to thank you for being allowed to testify, and I hope I have not overstayed my welcome, and I would be glad to try to answer questions on our position, and I would close by saying that this is a vitally important area that you have chosen to be concerned about.

We are delighted that Congressman Ertel has the sincere concerns of our communities at heart, and we hope that we have kept that perspective, which reaches many, many individuals in an overwhelming and devastating way.

Thank you.

Mr. ERTEL. Thank you for your statement, Mr. Walls. I do have a couple of questions.

Maybe a couple of comments first.

I note that you suggested that the bill be enlarged to include consideration of nonstructural possibilities, and I would like to—possibly you may have overlooked it, but in 1974 the Water Resources Development Act was amended, and in section 73 it provides, just for your information, it provides as follows:

In a survey, planning or designed by any Federal agency, of any project involving flood protection, consideration shall be given to nonstructural alter-

natives, to prevent or reduce flood damages, including, but not limited to flood-proofing of structures, flood plain regulation, acquisition of flood plains for recreational fish and wildlife, and other public purposes, and relocation with a view toward formulating the most economical, social, environmentally acceptable means of preventing flood damages.

Where nonstructural alternatives are recommended, non-Federal participation shall be comparable to the value of lands, easements and rights-of-way, which would have been required non-Federal interests under Section 3 of the Act.

And shall not exceed 20 percent.

I abbreviated. So when you consider—when we consider the bill which is before us, to go back and read, and act, what is already there, I think it takes care of your problems with this legislation.

I just wanted to point out to you that that is done, and in addition, I think it should be fair to say that the corps does, and has been, at least in some areas, looking at combinations of structural and non-structural implementation, and they also recommended it in the study for the Harrisburg study, which we were there yesterday, in their recommendations, at the end, they have recommended that the local municipality enforce regulations, and encroachments on channels.

At least annually inform the attached interests, affecting the regulation by the attached projects. In other words, they have said you, as the municipality of Harrisburg, must advise people of the limitations of the project annually. That was one of the recommendations.

So I appreciate your input. I think it is being done. I am not sure of the exact date of this study, but it was within the last year. Probably within the last month, I guess, so I think the corps, and your thoughts, are running at least in the same vein, and I do not know which preceded which, but they are coming to the same conclusions.

Mr. WALLS. Pride of authorship is not the problem here with me.

I would like to say I do feel encouraged in the dozen or so years of my professional practice, in what I have seen evolving. I do feel maybe a little bit impatient, and would like to see it move a little faster and further in that direction, and I am not—not in connection with my official duties of Lycoming County, but I have been a part of the—to help the village of Nelson, and Nelson Township County in the development relocation approach that would be in the impoundment area of the Tyoga-Hammond, and I have also been aware of the concern of the borough of Tyoga, downstream from the Tyoga-Hammond Dam, and I can see where these kinds of attitudes are now becoming operative, and I was aware of the legislation to which you refer, and I perhaps should have indicated such an awareness.

I guess what I am asking is, it might be in order for the Congress to reaffirm its concern and its value or importance that it places on such policies and approach, and that is, I guess, what we are asking.

Mr. ERTEL. I guess I just have to say, my own personal commitment, that I do not want to reenact something that was enacted in 1964, to maybe muddy up my bill. I have enough problems, without adding a few more problems.

Mr. WALLS. It does go to the concern that it is certainly difficult for the citizens, as an individual, and for local agencies to foresee what is the logic and consistency of policy overall, and particularly when you do see the tendency for any major disaster to be followed by an outpouring of funds, to help, when in some cases a community did not

choose to try to guard itself against such disasters, or protect itself through the flood insurance program, and I guess consistency between agencies at the Federal Government, and within the actions of Congress is vitally important.

Mr. ERTEL. May I turn to another subject at this point?

You talked about designing and considering on the cost side of this formula the possibility of failure. That puzzles me somewhat, because it seems to me that if you are doing an engineering of a project, you design in safety, and the reason for designing in safety is because you are concerned with failure, and you put in a safety factor.

Now, if you are talking about overtopping of the structure, by that I mean water flowing over the top of a dike, or something like that, again that is considered in the planning phase, because we design, and maybe wrongly so, based upon a projected flood level, or probability of a 100-year flood, or 400-year flood.

In the Harrisburg area, somewhat tough to imagine, but they are designing for the possibility of a 400-year flood, which is one possibility in every 400 years that that would happen. So they are considering, with the stage level of the flooding, they are taking into account the basic failure system, if you are talking over the top, but then to try to put some other factor into consideration on the cost side, I am wondering how you do that, when in fact you—your best engineers tell you that you have safety factors that would account for that.

Now, we have had structural failures of dams, but none of those dams has been a Corps of Engineers' project. They have been either private dams, Bureau of Reclamation, and I am not so sure that we want to—and I would be interested in your views to increase the cost side of this factor, which would then probably prevent a lot of communities from getting the protection which they need, and we would be overdesigning, and possibly wasting resources of the United States.

I am curious as to your view on that.

Mr. WALLS. I would like to express it this way. I do not disagree at all with the fact that the Corps of Engineers has had a pretty successful record, I guess better than pretty successful. Because we have not had any failures.

I have been in design of a number of public works, that any time you are working on the design of a public work structure, you are faced with a certain judgment which must be applied, as to what degree of protection, or what design standards do you build it to.

So that at certain points along that design process, you do opt for design of that protection, or opting to take the risk to whatever degree might be the case, and not build a structure to that higher degree of design or protection.

So that, for that amount of risk, that was not built into the design, then you should actuarially factor that, not necessarily on a one-to-one, you know, dollar-for-dollar basis, but using complex actuarial techniques, factor in the probability, and figure that on the cost side.

I think that is what we were trying to address. We are not saying that this should lead to overdesign of structures, and therefore higher cost of structures, because then that would be counterproductive to the avowed purpose of these comments.

That is, that you have the increased protection for more people through the use of lower cost structural approaches, and lower cost,

nonstructural approaches. This is where the logic is, or at least where we are coming from.

Mr. ERTEL. If I may turn to just a couple of other areas which your written testimony has raised.

You talk about monitoring the dams within Lycoming County. Frank Hiller Dam. That has become an issue that keeps surfacing in our hearings in the last 2 days, in dam safety.

What have you done in regard to the monitoring of those dams? Are you looking at the structural integrity of the dams? What exactly do you do? Do you have statutory authority which you operate under, and in addition to that, do you have teeth, statutory authority, if you found something wrong.

That is probably something we are going to be talking at the national level.

Mr. WALLS. We are relying on the Federal Defense statutes basically to allow a system that would be essentially a warning system, not necessarily a physical change to the structure. It does not have that kind of jurisdiction.

Mr. ERTAL. How do you know the plan is going to fail? What tests are you doing to attempt to find that, how do you determine that it is going to fail? What kind of testing are you doing?

Mr. WALLS. I trust that you will accept our intent there not to mean that we were necessarily the agency having jurisdiction. We are doing our work as a refinement to our flood warning system, and in some cases that involves relying upon, for example, Department of Environmental Resources of the Commonwealth of Pennsylvania, to work with them, giving them encouragement, and pressure to go further in developing an alarm system for that dam, or to keep current in their monitoring of the structural integrity of the dam through different kinds of technologies.

There are several types of instruments available to help monitor vibration noise, and other things, as indicators of structural integrity.

In addition, if we were to find that an agency did not have an intent, or appropriation to do its job, where it has jurisdiction for such a structure, one of the things we would do is to mobilize concern and support for that, and then go to whomever is appropriate for providing those appropriations, and get them convinced to do the job, to keep their facility safe.

So it is an indirect and secondary type of role, except as it relates to our flood warning system, and there we would directly work with the development of a duty roster, and designation of persons responsible for the kind of conditions leading to disaster, so that you would have some amount of lead time, even though a structure may be found to be structurally stable, prior to such an occurrence, and we have a network of observers throughout the watershed that flow into and through Lycoming County.

So this is more the sense in which our system is being refined.

Mr. ERTEL. One thing you talked about, flood management, and that has been another issue which has surfaced in these hearings, and you indicate in your testimony, the county claiming ties, that the Congress needs to look at the entire flood plain program.

Are you suggesting by that, that we have a Federal flood plain program which would amend mandatory requirements on land use

planning, or how do you envision? We have a problem with Federal-State relationships, and I think you are probably well aware of the consequences of Senate bill 1, that passed in the State Senate last year, and was defeated later.

Are you testifying that the Federal Government get into the total concept of flood management?

Mr. WALLS. I am going to, by necessity, have to go beyond, in order to answer your questions, some of what has been formally enacted policy of the county planning commission, applying planning principles there.

Mr. ERTEL. May I stop you for 1 minute?

Has the flood plain management been enacted as law in Lycoming County, or are they still proposing it?

Mr. WALLS. The county commissioners have officially adopted the plan, which does establish, in general, strong policies that are intended to reinforce and build upon the municipal ordinances and actions, and in the case of the county ordinances we just held a hearing last month on revisions to the county land development ordinance, which puts real teeth into it.

Mr. ERTEL. Has that been enacted at this point?

Mr. WALLS. It will be by September 1. All we are doing is making minor changes.

Mr. ERTEL. So until this point, it is my recollection that there were recommendations with—

Mr. WALLS. No, sir, not in all respects. We have some moderately strong language in the past, but this goes further.

Mr. ERTEL. How about turning to my question about Federal flood plain management?

Mr. WALLS. Now, the Federal role, it seems to me, should be one of a rather heavy hand in certain approaches. A heavy hand in the flood insurance approach. I was dismayed to see that the provisions relating to loans, and the financing of development in the flood plain were removed from the flood insurance bill, in that it removed the necessary—the mandatory aspects of flood insurance coverage before a leading institution can provide a loan.

Mr. ERTEL. You are talking about the Taylor-Eagleton amendment?

Mr. WALLS. Yes; that did not work very well, admittedly, but it could have been changed to make it work better than the approach that was taken.

I think there needs to be a heavy hand there from the Federal Government, and there is policy to that effect from the county planning commission, as to what we suggest.

In addition to that, the Federal Government can be very effective in all of its grant programs requiring such planning and design measures that are necessary to observe the objectives and policies of the Federal Government in respect to flood management. That is a very major incentive, to have those observed.

We do take the point of view that local land use controls can be very effective, but there are municipalities who chose not to go along, and this is where I think the State, rather than the Federal Government, should come in. I believe the State can, and perhaps the Federal Government, should come in. I believe the State can, and perhaps the Federal Government might be able to withhold, suspend those funds that would flow to the municipalities, whether they be revenue sharing

funds, or whether in the State, it might be liquid fuels money, or any such funds that the municipality needs, and regularly counts on in its budget, in order to encourage or force that municipality to come into compliance with the flood insurance program, and such other policy as the Federal Government might establish.

I am not advocating that the Federal Government do land use controls, and land use planning of a very extensive and broad sweeping nature. Because that is the province of local government, and is best done at the local government level.

Mr. ERTEL. I appreciate your views.

I do not know whether it is appropriate for me to comment, but I think that is a bit heavyhanded, what you are suggesting. It might be a bit further than that which I would want to go.

I cannot speak for the committee, but to blackjack local communities like that, I am not sure that is the proper Federal role. That is just a comment.

I will yield to my colleague, Congressman Rahall, for a question.

Mr. RAHALL. I have just a question, Jerry.

You are talking about taxes and industries located in the flood plain level, who take measures to floodproof their present structures.

Have you given any further thought to what type of tax incentive you are referring to? Whether it be deductions, credit, and should it be up to the Federal Government?

Mr. WALLS. I think it should be the State as well as the Federal Government level, and it could take the form of taxes.

In other words, you could take taxable income and use it as a deduction, or apply it as a credit, toward taxes due, but not in—in other words, you would not, obviously, take the same dollar value necessarily, the specific formula I have not attempted to design, because it is just too complex, and goes beyond our jurisdiction.

Mr. RAHALL. Do you think it should come from both the Federal and the State?

Mr. WALLS. I believe it well could. Yes; I think it would be legitimate. I believe that it has been discussed by the General Assembly in Pennsylvania, but it has not been definitively proposed, the legislation that I can recall.

Mr. RAHALL. I have no further questions.

Mr. ERTEL. Thank you. Mr. Ashworth?

Mr. ASHWORTH. No, sir.

Mr. ERTEL. Thank you, Mr. Walls, for your testimony, and this is one of the few congressional hearings that has come to a close at a relatively close time to the time that it was projected to do so.

I certainly appreciate everyone's cooperation who has been here, and I appreciate the testimony.

The subcommittee will stand adjourned.

[Whereupon, at 4:05 p.m., the subcommittee adjourned, subject to the call of the Chair.]

[The following were received for the record:]

STATEMENT OF HON. JOSEPH V. GRIECO, MEMBER, COMMONWEALTH OF
PENNSYLVANIA HOUSE OF REPRESENTATIVES

Thank you for the opportunity to offer some thoughts from the people of the 84th Legislative District concerning flood control.

They feel there are two different ways to control future flooding in the floodplain areas of our State. One is the use of dams and locks at strategic points in

order to effectively eliminate the "out-of-hand" rise in water tables along streams and rivers. The second is to limit development in flood-plain areas through reasonable flood-plain zoning laws.

We don't want the Federal Government to dictate to our local governments about what we can and can't do with land and property rights in these areas.

However, I believe a combination of the following could be the basis of determining a final solution which would be fair, equitable, and less costly in the long run to all taxpayers.

Local governments would enact flood-plain controls with the assistance of the State government. In conjunction with the Federal Government, the State government would underwrite the cost of loss of revenue to local municipalities who are charged with the responsibility of limiting private as well as commercial development in the flood-plain zones.

The result would be the Federal Government provides the financial backing for reimbursement. The State Government sets the general standards for the flood-plain control program. And, the local government enacts the necessary laws to insure the maximum safety for individuals against loss of life and property.

I do not want to preclude the use of locks and dams in flood-control management. One plan would complement the other in reaching our goals.

Perhaps this is considered too simplistic a solution. But, it has the seeds for an innovative and cost-effective approach. Thank you.

JERSEY SHORE STATE BANK,
Jersey Shore, Pa., November 17, 1977.

Congressman ALLEN E. ERTEL,
Longworth House Office Building,
Washington, D.C.

DEAR CONGRESSMAN ERTEL: We at Jersey Shore State Bank would like to go on record in support of upstream improvements as a defense against severe flooding of the Susquehanna River.

We realize that the Federal Government is using a cost/benefit ratio when deciding matters such as this, and the ratio as conceived by Government does not justify the investment. We differ with the cost/benefit ratio when all benefits of the dams, such as hydroelectric power, drinking water, recreation, saving of lives, soil conservation, and others are considered.

We hope you and members of your committee can assist in solving this pressing problem.

Very truly yours,

THEODORE H. REICH,
President.

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