

NUCLEAR POWERPLANT SHUTDOWNS— WHO PAYS?

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OF THE
JOINT ECONOMIC COMMITTEE
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NUCLEAR POWERPLANT SHUTDOWNS—WHO PAYS?

THURSDAY, APRIL 5, 1979

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON ENERGY OF THE
JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10 a.m., in room 2228, Dirksen Senate Office Building, Hon. Edward M. Kennedy (chairman of the subcommittee) presiding.

Present: Senators Kennedy, Javits, and Jepsen; and Representatives Heckler and Mitchell.

Also present: Jim Cubie and David Moulton, professional staff members; Mark Borchelt, administrative assistant; Charles H. Bradford, minority counsel; and Stephen J. Entin, minority professional staff member.

OPENING STATEMENT OF SENATOR KENNEDY, CHAIRMAN

Senator KENNEDY. The Subcommittee on Energy will come to order.

The purpose of this hearing is to examine the broad economic implications of safety and accident-related shutdowns of nuclear powerplants.

Tonight, the President of the United States will address the Nation on energy policy, and he is expected to emphasize the dangers that insecure oil supplies pose for the economy.

The Harrisburg accident has caused Americans to ask whether nuclear power is a reliable source of energy. A reliable electricity system is essential to a healthy economy. How should the public weigh the economic implications of powerplant shutdowns on the one hand versus the possible cutoff of oil imports?

Although we will hear testimony from the Department of Energy on the costs of the Harrisburg accident, this incident is not the basic focus of the hearing. The Harrisburg costs will be used to provide a context for two broader issues:

The first, who will pay for these shutdowns?

And, second, what are the implications of these safety-related shutdowns for the reliability of nuclear power and for the function of a sound economy and to protect our national security?

Whenever an accident or a safety order from the Nuclear Regulatory Commission forces a reactor to shut down, someone must pay. Consumers argue that the management made the decisions, so it should pay the costs of its mistakes. The utilities argue that they could be bankrupted—and this would help no one.

This is not an academic issue. Throughout the country poor and moderate-income consumers are barely able to pay their bills, and their bills could skyrocket if \$500 million to \$1 billion in additional costs are added to a local utility's costs.

The second issue we will examine is whether the numerous safety-related shutdowns at nuclear powerplants raise questions about its reliability for electricity supply. In 1975, 23 reactors were shut down because of safety problems. And just last month, five reactors were shut down because they could not withstand earthquakes.

The NRC is considering shutting down the eight other reactors built by the same manufacturer as Three Mile Island.

In March 1975, a fire at Brown's Ferry Reactor disabled the key safety system and cost consumers over \$300 million.

The Duane Arnold, Vermont Yankee, Dresden, and a number of other reactors have been shut down for safety reasons.

Indeed, in the past 2 years, there have been 20 instances in which reactors were shut down at the order of the NRC.

If NRC decides to shut down the eight other Babcock & Wilcox reactors, in nearly 1 out of every 10 operating years, a significant accident or safety-related shutdown has occurred.

Does this mean that the public health risks inherent in nuclear power mean it will not be a reliable electricity source? What if the Three Mile Island reactor had been manufactured by a supplier who provided 20 or 30 of the existing reactors instead of 9 of them? Or are these shutdowns simply problems that plague an industry early in its life, that will not occur as it matures?

I hope these complex issues can be talked about and ventilated this morning.

Finally, I will just say that I imagine that consumers across this country, and particularly in the Harrisburg area, believe that one way or the other that they will end up paying for the costs of these shutdowns. I think that the average family that's hard-pressed today to try and meet the responsibilities of their family are caught in a Catch-22.

On the one hand, for example, they are asked to use less electricity, and their rates go up more. I think we can remember not long ago out in California, when there was the drought and Californians were asked to use less water, and as they used less water, their water bills went up. And then when the rains came their bills did not go down.

On the one hand, the American consumers are asked to use less electricity because of the dependency on imported oil overseas, and their rates go up. If they use more electricity, their rates go up.

And now the question is, when the whole system breaks down and fails, I think most consumers believe that they're going to be stuck with the bill of the cleanup and the replacement of that. I think this is something that we have to examine and we will examine during the course of the hearing.

We recognize on this subcommittee at the outset that legislation to deal with these kinds of issues is going to be coming through Senator Hart's subcommittee that deals with the primary legislative issues and questions, and they will be considering a wide variety of these and other issues. We hope to be of whatever help and assistance that we possibly can.

I welcome Congressman Ertel to the subcommittee and ask if you would like to make any comments.

STATEMENT OF HON. ALLEN EDWARD ERTEL, A U.S. REPRESENTATIVE IN CONGRESS FROM THE 17TH CONGRESSIONAL DISTRICT OF THE STATE OF PENNSYLVANIA

Representative ERTEL. Thankfully, the most immediate dangers from last week's incident at Three Mile Island have passed. My constituents are returning to their homes and picking up their lives. But the events of the past week have left their mark. My constituents are uneasy. They want some assurances from their government.

First: They want to be assured that the risks associated with nuclear power are fully analyzed and truthfully revealed. They want protection from the contradictory information which haunted them during the past week.

Second: My constituents want another kind of protection. As rate-payers, they want their utility bills protected from the devastating effects of bad engineering, bad management, and bad regulation.

Now that we are all breathing a little more easily, we must take the time to deal with a very nuts and bolts question: What are the costs of a nuclear reactor shutdown, and who should bear these costs?

In the event of an accident such as Three Mile Island, should the cleanup costs be borne by the utility's customers? For Three Mile Island, these costs alone could run as high as \$40 million. If the costs are not passed on to the customers, should the stockholders bear the costs? While we do not want to impose regulations to such an extent that we squeeze Met-Ed out of business, but neither do we want to place the entire financial onus of the mishap on the backs of the consumers.

Not only does the cleanup involve costs of its own, but during this time the utility is losing income from the power it sold. This is a very real cost which someone will have to pay. The question is, who shall pay?

In the meantime, what are the utility's customers to do for power? Wheeling in power from other utilities will surely be more costly. Is this an expense the customers can rightly be expected to assume? And what if Met-Ed decides that the cleanup costs are not justified by the value of the plant and they decide not to reopen it? Should the public utility commission allow the company to recoup their new facility construction costs through base rate increases? I would like to note at this point that in cases where replacement is chosen, it need not necessarily mean greater oil usage. Pennsylvania has vast reserves of coal that it can and should call upon for its energy needs.

This accident also has presented us with the problem of dealing with the costs that come with a less dramatic safety-related shutdown, or any shutdown, for that matter, which causes unusual costs to the utility. If the shutdown results from a manufacturing defect in the equipment, does the ability to pass the costs through to the customer inhibit the incentive to recover those costs through tort law, thus relieving the manufacturer of any liability or responsibility? Does the tort law in fact provide for such cases? Should the consumer be saddled with the

price tag of a shutdown caused by operator negligence, or ought the stockholders absorb the consequent losses?

These questions do not admit of easy solutions, but they must be resolved. The ramifications of the options we choose reach far beyond the problem of simply apportioning the costs of this incident. We cannot forget that the effects on the future availability of capital for reinvestment, the loss of income to the utility, and the new perception of risks among insurers, and other considerations are no less removed from the consumer than the costs of providing the power. It is to the broader question of how to protect the consumer of electric power from the hidden costs of poor management or defective manufacturing that we must also address our inquiries.

Thank you, Senator Kennedy.

Senator KENNEDY. Senator Javits.

OPENING STATEMENT OF SENATOR JAVITS

Senator JAVITS. Thank you, Mr. Chairman.

Just again, I am so pleased that the Chair is digging into these questions which are critically important. I think I have just heard a little bit from the Congressman on the question of assessing the costs. And, of course, assessing the fault is something now very deeply ingrained in our effort. But again, I wish to emphasize, Mr. Chairman, the fact that we are dealing with a nuclear option is the critical problem.

Here we are in a very grave crisis, Mr. Chairman. The stocks, for example, of oil, upon which gasoline is based, are 10 percent down from just 1 month ago. And I cannot begin to emphasize to the American people adequately enough the dangerous posture that we are in in terms of employment. Plants may have to shut down, and certainly, in terms of this love affair of the American with his car, the nuclear option remains critical. It's about 13 percent of our power, and if terminated in some precipitated and uncalled-for panic, we are going to be in a lot of trouble—it could breed a very serious recession and/or a depression in this country, let alone other problems.

So I value greatly the objectivity and thoroughness—we certainly don't want to jeopardize a single American in any way—with which these hearings are being conducted. I think my colleagues have shown extraordinary restraint and understanding, notwithstanding the very legitimate public alarm with which we are dealing and which we must give the most serious consideration.

Mr. Chairman, again, I think you are doing a wonderful job in having these hearings and keeping them on track objectively, as they are, bearing in mind the problems which we have—both the human problems and the economic problems.

Thank you.

Senator KENNEDY. Thank you very much, Senator Javits.

We welcome Congressman Atkinson here, who introduced legislation requiring that utilities should bear the costs. He comes from a district where a plant has been shut down, and so we are interested and look forward to your testimony.

We've got a full range of witnesses here this morning. We're going to ask, to the extent possible, that each witness submit his prepared

statement and summarize, because we do have questions and we want to get as much interaction and interchange as possible.

Congressman, we'll ask you to proceed in whichever way you would like.

STATEMENT OF HON. EUGENE VINCENT ATKINSON, A U.S. REPRESENTATIVE IN CONGRESS FROM THE 25TH CONGRESSIONAL DISTRICT OF THE STATE OF PENNSYLVANIA

Representative ATKINSON. Thank you very much, Senator Kennedy. I will read my statement entirely, which will take about 7 minutes, so I hope that will be within the time limits.

Senator Javits, Congressman Ertel, if I may introduce my office staff to you: Bernice Friedlander, Jim Kunder, and Richard DePietress.

Mr. Chairman, I appreciate the opportunity to appear before the subcommittee this morning to discuss my approach to consumer protection during nuclear reactor shutdowns, contained in H.R. 3283, which I introduced last week. I strongly believe that repair costs and substitute energy costs associated with such shutdowns should not be automatically passed on to consumers who played no role in causing the shutdowns.

The Subcommittee on Energy of the Joint Economic Committee is providing an important service in holding these hearings, and I wish to commend the chairman and members for their efforts to develop data on costs associated with reactor shutdowns and on the question of liability and responsibility for costs.

As all the members know, public attention is focused on the safety issue now—public safety must, of course, be our first concern. After we wrestle with public health and safety issues in this and other forums, however, we must turn our attention to cost of reactor repairs and substitute energy costs. The subcommittee is laying valuable groundwork on these topics here today.

My statement is brief, Mr. Chairman. The subcommittee is scheduled to hear from a number of expert witnesses today and I share the members' interest in what these witnesses have to say.

I might add, Mr. Mark Widoff, consumer advocate from Pennsylvania, who is here today, has been very helpful to our office.

The legislation I introduced is a response to the recent mandated shutdown of five nuclear power facilities, one of which, Beaver Valley Unit No. 1, is in Pennsylvania's 25th Congressional District, which I represent. As subcommittee members know, these facilities were closed on the order of the Nuclear Regulatory Commission because of potential design deficiencies that might cause safety problems in the event of an earthquake affecting the facilities.

The facts, as I interpret them, are that nuclear power generation now accounts for a significant portion of this Nation's electrical power supply. Currently, 72 plants are operational in 26 States, and nuclear power facilities are in design or construction phases in 9 additional States. This implies that mandated shutdowns are going to affect an evergrowing number of consumers.

Mr. Harold R. Denton, Director of the NRC's Office of Nuclear Reactor Regulation, recently testified that there have been hundreds of NRC-maintained shutdowns in the past few years. Primarily these shutdowns have been based on suspected design or construction deficiencies. None of these shutdowns occurred as a result of ultimate consumer fault. In my estimation, the fault for these shutdowns must be fixed with a single entity or shared between responsible entities.

I find it disturbing that the consumer is penalized for suspected or real deficiencies through the practice of automatic pass-through surcharges for purchased power and/or reconstruction or rehabilitation costs.

Some argue that the electrical power utility industry is a unique industry and that this automatic surcharging is a "normal" way of doing business. I contend that these automatic surcharges are not conducive to sound, efficient management practices and tend to promote less than efficient operation. Further, these automatic surcharges tend to erode the application of the control function of management.

The power companies—with the exception of the Tennessee Valley Authority—are privately owned and operated entities, the stated goal of which include maximum profits. I do not mean to disparage the profit motive which is the cornerstone of our economic system. I do mean to state, though, that as profit ventures, public utilities, like other regulated industries, must accept the notion that potential losses are a possibility. Where applicable, profit ceilings dictated by State regulatory commissions should be goals, not mandates to be realized through automatic surcharges.

These factors, coupled with the fact that the NRC has the authority to mandate shutdowns when it believes the health and safety of the public may be in jeopardy from radiological harm, lead me to believe that firms must be made to look to the source of the deficiency—to companies that designed, engineered, or constructed these facilities—for the recovery of lost revenues or for extra cost incurred through the purchase of power from outside their own systems.

Court actions may be necessitated to seek redress. If the NRC is responsible for licensing a deficient plant, then the Federal Government, too, must share in the fault and assume its fair share of costs.

The consumer has borne the brunt of energy price increases, either direct or indirect. The percentage of household budget expenditures for energy—gasoline, heating fuels, and electricity—has escalated at an alarming rate. In many of these instances, the fixing of responsibility is a near impossibility or represents situations in which influences outside our borders were responsible. In this matter—the temporary closing of nuclear power facilities—I believe responsibilities can be fixed, and that the consumer need not be burdened with these costs.

The structure of the legislation I have introduced to address this issue is not complex. First: The bill makes it unlawful for power companies to automatically pass through excess power costs in the event of a mandated shutdown.

Second; The bill makes it unlawful to pass through the costs of reconstruction or upgrading following a shutdown.

Third: The legislation provides for relief for power companies through the courts.

Finally: H.R. 3283 establishes a fund to provide for initial underwriting of upgrading, at the discretion of the Secretary of Energy, with subrogation of Federal rights to seek redress in the courts. I am not wedded to a particular legislative solution to this problem and intend to review the structure of H.R. 3283 as more data is developed.

I want to thank you once again, Senator Kennedy, for the opportunity to appear here.

Senator KENNEDY. Thank you very much, Congressman Atkinson. You certainly identified one of the primary interests of this hearing, and that is who eventually is going to end up with paying for this.

We are obviously also interested in the whole issue of reliability and the ability of the interest of this country in being dependent upon different kinds of sources.

I have no questions. I want to thank you for making this presentation and taking the time before the subcommittee. I don't know whether other members have questions. [No response.]

Thank you very much.

Congressman, you're welcome to join with us this morning if you care to. Whatever you like.

Representative ATKINSON. Thank you very much.

Senator KENNEDY. Our next witness will be the Honorable Hazel Rollins, Deputy Administrator of the Economic Regulatory Administration, Department of Energy. Would she be good enough to come forward.

Now, we understood that you didn't have a prepared statement, but you will make some comments. I think, obviously, what I would hope in your opening comments, that you give us at least some kind of a perspective of how you view, given the Three Mile situation and the general track record of the reliability of, and the stoppages in, nuclear powerplants, how you are going to look at it from a general economic situation, the dependency that we have on oil from overseas, the costs and the reliability of nuclear power—how this could impact the economy.

You can give us a bit of an overview, and then what we would like you to do is comment more specifically about the question about who is going to end up paying for the costs.

We welcome you here and we look forward to your testimony.

**STATEMENT OF HON. HAZEL ROLLINS, DEPUTY ADMINISTRATOR,
ECONOMIC REGULATORY ADMINISTRATION, DEPARTMENT OF
ENERGY**

Ms. ROLLINS. Thank you very much, Mr. Chairman and members of the subcommittee.

First of all, I was sort of pressed into duty at the last minute and I apologize for not having a formal statement.

I would like to give you just a bit of the background about the Economic Regulatory Administration, which is part of the Department of Energy. We have, since the shutdown and slowdown in production in Iran, been monitoring oil supplies within the United States with a particularly hard look at how utilities have been coping with the situation.

Our basic concern has been not just one of the impact on the economy of the need or the lack of oil, but more to view the system's reliability. For that reason, we have a monitoring place in Valley Forge, Pa., which is watching daily the transfer of electric energy in the East which has been our basic area for examination. We do have the capability and are tracking exchanges of power between Canada and the United States, and have been watching what's been going on out West.

We have focused in our dealings with the utilities, for the last 3 or 4 months, on the need to displace oil with alternative fuel sources: coal, to the extent that it is available, and natural gas.

The shut down of Three Mile Island causes us great concern in terms of our responsibility for insuring that there is an adequate supply of fuel to get us through this year. We have done some very preliminary assessments on both the economic and the power reliability impact of the shut down of Three Mile Island, based on assumptions which it will be necessary to outline to this subcommittee.

First of all, for the spring season, simply because that is not the peak demand season in the United States, there is coal-fired capacity that would be utilized for displacement of a share of the nuclear power. There also is petroleum-fired capacity, both residual and middle distillate, that would see more service.

The portion of the replacement energy from coal we think during the spring would be about 50 percent; from residual fuel oil, about 45 percent; and from distillate, mostly for use during peak demand periods, would be about 5 percent.

I will put our figures in some meaning later in that respect. However, the summer is not encouraging. During the summer high-demand season we do not believe there will be any electricity from coal available for transportation by wire to replace that lost from nuclear electricity so the dependency will basically be on residual oil at about 70 percent and middle distillate at about 30 percent.

Now, these are rough estimates, again, prepared by the ERA and not the entire Department, whose other offices will be representing estimates which we will be happy to share with your staff, Mr. Chairman. It looks about like this to us for the spring, and again, we have assumed the shutdown of the two plants—the cost per day in replacement, with using both coal to the extent it's available and petroleum products, will be about one-half million dollars per day. A portion of these figures are very preliminary and we will be refining them in the weeks to come.

However, when we get to the summer months, the fuel costs leap quite dramatically again, because we don't think there will be coal available, and the figure is about \$900,000 per day in additional costs.

Senator KENNEDY. Why don't you just, for the subcommittee, tell us what you mean by the one-half million dollars and \$900,000? Are you talking about the additional cost of the supply to those within that area?

Ms. ROLLINS. That will be the replacement cost, and we have subtracted the normal cost for nuclear power, and come up with that figure.

Senator KENNEDY. But that isn't the replacement? You're not beginning to amortize the replacement cost of the Three Mile reactor?

Ms. ROLLINS. No; these are just basic daily operating costs.

Senator KENNEDY. I think it's important to the consumer. Have you thought about what that is going to mean to the utility rates up there? What is that going to mean to the people in the community?

Ms. ROLLINS. We have done more than think about it. We have actually had some conversations with the PUC in Pennsylvania.

Senator KENNEDY. What is this going to mean in terms of increased costs?

Ms. ROLLINS. I have some basic figures, which again are not ours, but given to us by the PUC staff.

Senator KENNEDY. What about the average homeowner up there?

Ms. ROLLINS. We have only dealt today with residential customer costs, and the increase for a month, assuming again the two-plant shut-down, is about \$7.50 per month, and that's based upon the average bill in the area for residential consumers of about \$35 or \$40 a month.

Senator KENNEDY. The increase per month for the average family home in the area, what would you say, within 25 or 30 miles?

Ms. ROLLINS. Within the service area?

Senator KENNEDY. The service area would be \$7.50 a month in addition to what they now pay, is that right?

Ms. ROLLINS. Yes. And again, these are very preliminary figures and we have obtained them from the staff of the State PUC.

Representative MITCHELL. Would the chairman yield? I want to make sure I'm clear on this.

Senator KENNEDY. Congressman Mitchell.

Representative MITCHELL. Early on, you indicated two sets of cost figures: One-half million dollars a day for now?

Ms. ROLLINS. That's correct.

Representative MITCHELL. And then \$900,000 a day in the summer months.

Ms. ROLLINS. That is correct.

Representative MITCHELL. Does that \$7.50 relate to the \$900,000 figure or is it the lower one-half million dollar figure?

Ms. ROLLINS. It relates, I believe, to the lower figure, sir.

Representative MITCHELL. In other words, then, it would be much more than this when we hit the peak demand season of the summer months.

Ms. ROLLINS. What I'd like to do, rather than project, I would like to come back to the staff later, when we have worked through these quantifications with the State PUC.

[The following information was subsequently supplied for the record:]

The rate schedules in Pennsylvania are such that energy adjustments pass-through charges, such as these, are reflected in monthly bills based on a "six-month rolling average." This means that it would be October before the full impact of current replacement energy costs are felt by the customer.

Representative ERTEL. Would the chairman yield?

Senator KENNEDY. Yes.

Representative ERTEL. I figure roughly about a 20-percent increase, based on a \$35 or \$40 a month energy bill.

Ms. ROLLINS. That's correct.

Representative ERTEL. Would that 20 percent figure hold if somebody's bill basically was higher than that? Say, an \$80 a month bill, would the same proportion apply?

Ms. ROLLINS. Actually, we would then be into rate structure and it may hold or it may not.

Again, what I'd like to do is have the opportunity to offer a full array of what these charges might be for each block of usage. I think that would benefit the committee a bit more.

Senator KENNEDY. Fair enough. As Congressman Ertel has pointed out, it's a 20- to 30-percent increase in their utility bill. How long will that last?

Ms. ROLLINS. Well, we have not attempted to make those kinds of assumptions, and our conversations with people at the NRC and, of course, in reading the press, and from other industry parties, from the State of Pennsylvania and within the utility industry itself, we realize that perhaps our projections, as we are running them, ought to be for 9 months or a year, perhaps 2 years, depending on exactly what the final results of the studies on just how long a shutdown will be necessary.

Senator KENNEDY. The people up there just got some positive news about being relieved from the health implications, although there are going to be important health issues that are going to be followed up with the cleanup aspect of this situation as well as the environmental health. But they got the news, at least today, that the utility bill is going up 20 to 30 percent.

Why don't you continue?

Ms. ROLLINS. Thank you.

I have just about run through the basic assumptions. The remainder of my remarks, which I will just walk through them very generally and, I hope, very quickly. We have made the assumption, of course, the oil power generation is normally about five to seven times more costly than nuclear generation. Again, we based our estimates on the use of a typical plant, which is about 800 megawatts, and that's just about right for the two plants at the Three Mile Island.

Now I'd like to go further and talk about some oil impact estimates we have run through. First of all, if we assume that the shutdown order from the NRC on the five plants for seismic checking will continue at least until the summer, the increased oil consumption for these five will amount to 100,000 barrels per day. We estimate that a loss of both the Three Mile Island units will increase oil usage for electricity generation by 50,000 barrels per day, bringing the grand total of oil necessary to generate alternate energy to about 150,000 barrels per day.

Your staff asked us also to consider if all pressurized water reactors were closed for some examination, what would be the oil impact. And our figure there, again, on the oil needed to displace that nuclear power would be about 950,000 barrels of oil per day.

These figures do not account for possible load curtailment plans that any appropriate State official, such as PUC, might want to introduce. They assume we generate enough electric energy to meet present projected loads.

There are a few things being done at the Department of Energy which might offer some mitigating effect. As I indicated earlier, we have been seeking to switch off oil where it is possible and substitute

natural gas. Again, in the 3 months since the Iranian shortfall or slow-down, we have identified some 600 billion cubic feet of natural gas which is available for such switching. That offers again some hope that there might be capacity to displace oil. We have been accepting transfers and actual movement of oil from Canada in the amount of about 70,000 or 78,000 barrels per day.

We have done several things in terms of introducing special rules that we think will help this switching from oil to natural gas. There was a special rule introduced by the FERC that permits for emergency certification of needs for any utility who would like to switch now from oil onto natural gas.

Over the past few weeks we have had some success in that area and have actually managed to switch some utilities onto natural gas, where it's available, on an average conserving about 150,000 barrels per day.

Interestingly enough, the figure for this week is about 206,000 barrels of oil displacement with natural gas.

To quantify the figures in terms of the available gas in the interstate market, unused gas potential now which might be brought into the area, it equates to about 33,010 barrels of oil or oil product per day which could be displaced, and that might help to mitigate the impact of increased displacement costs in the PJM area, if some natural gas is found to use with one of these utilities who will be supplying power.

That ends my semiformal remarks, and we will respond to any questions you might have.

Senator KENNEDY. Let me ask you, are you projecting any shortage of electricity as a result of this accident in the area?

Ms. ROLLINS. Well, we have done, again, a very preliminary assessment of what actually the capacity, the reserve capacity, might be in the PJM area as a result of these shutdowns. At summer peakload, as forecast without nuclear shutdowns, reserve capacity in the area is about 30.6 percent. With the outages of these two plants, the reserve capacity—and again, the PJM area—will be about 25.7 percent.

The technical people who work for us at the ERA tell us that the reserve margin when really needed is something in excess of, say, about 20 percent and we start to get concerned when we're about at the 15-percent level in terms of reserve margin.

We will be watching the system very carefully and, of course, we are concerned that there may be some need, first of all, for plant curtailment, or the shutdown of additional nuclear units. Again, the situation gets more tenuous as we move into the summer, and we will be watching it very carefully and sharing that information with your staff.

Senator KENNEDY. Well, how long do you estimate that this plant may not be operational?

Ms. ROLLINS. Well, Mr. Chairman, again, we are not yet estimating. We are taking the best advice from NRC. The people are on the spot from the Nuclear Regulatory Commission in the PJM area and, as I said, we are planning to deal in our analysis with an assumption that it goes for as long as 2 years, but we are not yet capable of giving a definitive answer.

Senator KENNEDY. Can you give us at least what it will cost to replace the plant's power? What will it be over a period of 2 years?

Ms. ROLLINS. In terms of fuel costs?

Senator KENNEDY. Well, I'm talking about bringing the plant back into operation.

Ms. ROLLINS. Senator, I don't believe that, first of all, we are equipped from the Economic Regulatory Administration of the Department of Energy, to provide those figures. Some people in another office within the Department will be working on the figures later in the month, and we will be pleased to provide them for your staff. But I do not feel that our particular office in the Department is qualified to offer up those kinds of figures.

Senator KENNEDY. You're unable to give us any sort of general ballpark figure as to what it might cost to bring this plant back into operation?

Ms. ROLLINS. That's correct.

Senator KENNEDY. Can you tell us what the percentage of oil imports will be affected by the shutdown?

Ms. ROLLINS. Well, again, assuming the figures that I have used in my preliminary remarks—I have to do some computations—it's about 50,000 barrels per day. I'll have to provide that, sir.

[The following information was subsequently supplied for the record:]

Total petroleum imports for 1979 are projected to average between 8.7 and 8.8 million barrels per day. The shutdown therefore represents a little more than one-half of 1 percent.

Senator KENNEDY. Now, what is the position? We have heard this increased cost that will be necessitated by the consumers up there—25- or 30-percent increase in the cost of their utility bill. That, as I understand it, is without including in that cost what will be necessary to reopen the plant; am I correct?

Ms. ROLLINS. You're correct, yes.

Senator KENNEDY. So whatever that figure is, there is a wide divergence of estimates that run into the hundreds of millions of dollars to bring that back on stream. Does the Department have any position about who ought to bear this additional cost; if there is negligence found, the stockholders of the utility?

Ms. ROLLINS. Well, as you might understand, Mr. Chairman, we have just received a copy of the legislation which has been discussed earlier this morning and, of course, in our formal conversations with the deputy and the secretary, we have begun to examine what the appropriate posture might be for the Department on that issue.

However, the secretary has not had an opportunity to reach any final decision. As I indicated, we have discussed the proposed legislation with him on yesterday and we find ourselves quite unprepared to come forward with a position this morning, simply because it's a new question.

Senator KENNEDY. Well, it's not new, the question with regard to the shutdown. We have been having various shutdowns of various reactors over a period. This is not a new issue. You've got a whole series that have been closed for varying reasons. This has been unique because it has exposed America to the potential of the greatest danger since the explosion of the nuclear bomb. But that's a separate issue.

Nonetheless, the issue of the closing down of these nuclear generators is an issue. The reasons for it we'll find out at a future time. But I

was just wondering, as a policy question, given the fact that a number of those have been closed down over a period of time, whether they have reached any position, whether you feel from the Department's point of view that, if there has been negligence, the stockholders will assume it?

Ms. ROLLINS. Mr. Chairman, you must realize that the policy determinations of the Department of Energy are just like all the other Cabinet officers, perhaps just not as swiftly as decisionmaking on the Hill, and for that reason—

Senator KENNEDY. That's not a good example.

Ms. ROLLINS [continuing]. I am unable to offer any further strong policy meaning for the Department.

Senator KENNEDY. I just have a final question.

What has this meant to the Department in terms of the reliability of nuclear energy as compared to where the administration is going, I suppose, this evening to try and limit the import of oil and gas? Can you measure this in terms of reliability? What is it going to mean over any period of time?

The issue of reliability is basic to both our national security and the state of our economy, and I am just wondering if the Department has drawn any kind of conclusions about that issue.

Ms. ROLLINS. Well, Mr. Chairman, as you know, about 12 percent of our electric energy needs come from nuclear power. The plans of the Department and of this administration have been and continue to be to plan on some increased capacity coming from nuclear power. Certainly this is true for the next 5 years. It causes those of us in the ERA with responsibility for seeing that there is a balance of energy resource to provide us the power we need, great concern.

Beyond that, again, because it's so early in our decisionmaking process, I'm afraid I'm unable to offer up anything much more than that. It's a source we had counted on and it's a source we continue to count on, and we can see what the coming days and months bring.

Senator KENNEDY. Congressman Ertel.

Representative ERTEL. Thank you, Senator Kennedy.

I'm a bit curious about the figure. You say it will cost one-half million per day during the spring and \$900,000 during the summer for replacement costs. Now, when you say replacement costs, that's the cost of replacing this power. Now, did you deduct from this the cost of operating the plant?

Ms. ROLLINS. Yes, we did.

Representative ERTEL. So that's the net cost.

Ms. ROLLINS. That's the net cost.

Representative ERTEL. And you also indicated that the cost increase would be \$7.50 per month for the average bill of \$35 or \$40, an increase of about 20-25 percent of the cost to consumers. Did you make any allocation of that to the stockholders or did you reflect all of the increased cost directly to the ratepayer or the consumer?

Ms. ROLLINS. What we used was provided by the Pennsylvania PUC. I have to assume that it accounts for the normal dividends and interest paid to those who have ownership in the corporation.

Representative ERTEL. So in other words, you did not allocate any of the costs of the shutdown to the stockholders of Met-Ed?

Ms. ROLLINS. You must understand again, sir, we don't do any of the allocation. We simply took the figures.

Representative ERTEL. The formula you used did not?

Ms. ROLLINS. That's right. We used information provided us by the Pennsylvania PUC. That's how we arrived at the monthly costs to customers.

Representative ERTEL. You also indicated that you expected that you were planning on a 2-year downtime for this plant, and you also indicated there may be plant curtailments in Pennsylvania as a result of this. What did you project in that regard?

Ms. ROLLINS. No. Actually, what we said was that if one assumed outages, say, of all of the pressurized water reactors, one had to then assume that there was a deficit in terms of power that was needed in the PJM area, and there would be some planned curtailments to handle the load. I have not projected them, but simply assumed that in the normal course of the business this is one of the actions that the PUC would take. I have not yet begun to attempt to quantify whether there would be a need for load curtailment. We will no doubt be doing that in the coming weeks.

Representative ERTEL. Thank you very much.

Thank you, Senator.

Senator KENNEDY. Congressman Mitchell.

Representative MITCHELL. Thank you, Senator Kennedy.

I asked to go on this panel this morning because of the enormity of the problem that we confront. It may be a little outside of your scope, and if it is, please let me know.

The thing that disturbs me the most about the disaster, or the near-disaster, is that it revealed an enormous failure on the part of Energy to do significant planning with regard to this kind of possibility that occurred in Pennsylvania. The very issue we confront today apparently had not been addressed, and now that Energy is groping for some answer after the fact, it was revealed that there was almost an absolute lack of coordination in terms of civil defense authorities and other parties involved.

So it's further revealed under certain conditions the Federal Government couldn't even intervene in a disaster or a near-disaster. More specifically, I'm asking you—maybe I should ask Jim Schlesinger—what is DOE now doing in terms of reviewing all of its policy vis-a-vis nuclear to make up for the shortcomings of not having addressed many, many issues in the past?

Do you know whether such a review is taking place?

Ms. ROLLINS. First of all, I'd like to point out to you the responsibilities that you have outlined really belong to the Nuclear Regulatory Commission, and while this doesn't happen very often, I can say that the steps really, to be properly addressed, to the NRC. I am very unhappy they're not here today.

Representative MITCHELL. I understand your answer, but I disagree. While we have certain groups responsible for safety and regulation of nuclear energy, it seems to me that DOE represents the agency which has the prime responsibility in energy, and therefore it's incumbent on that agency, if not to have addressed these problems in-house, it certainly should have been with the other agencies to make sure that

they were being addressed. Do you know whether that happened at all?

Ms. ROLLINS. Well, I can tell you that we have both informal and formal relationships with the NRC. But again, I would beg to plead to you that I think those responsibilities quite properly rest in the NRC and they do so at the dictate of legislation.

Representative MITCHELL. Well, with all due respect, I beg to disagree with you. I just don't see how DOE, which is the key agency, can say, OK, we aren't going to plan in this area because somebody else has the responsibility.

Also, I fail to see how DOE, which is the key agency in energy, should not have been monitoring the work of the other agencies to see whether or not all these possible areas of conflict and difficulty had been addressed.

I have no further questions, Mr. Chairman.

Senator KENNEDY. Senator Jepsen.

Senator JEPSEN. I have no comments at this time, sir.

Representative HECKLER. No questions.

Senator KENNEDY. Thank you very much.

Ms. ROLLINS. I would just like to make one correction for the record. The subcommittee did some fast arithmetic and came up with a 25- to 30-percent increase on residential customer bills. Our quantification here is really about 14 to 20 percent. I would just like to correct the record on that one score.

Senator KENNEDY. Well, will you supply how you get those calculations?

Ms. ROLLINS. Yes; I can, Mr. Chairman.

Senator KENNEDY. Thank you very much.

[The following information was subsequently supplied for the record:]

Case A: Assumes 1 TMI plant shutdown: \$5 increased cost, (lower limit) equals 12.5 percent of \$40 (upper range of average bill).

Case B: Assumes 2 TMI plants shutdown: \$7.50, increased cost, (upper limit) equals 21.5 percent of \$35 (lower range of average bill).

Senator KENNEDY. We have a panel now of Gerald Charnoff, of the law firm of Shaw, Pittman, Potts & Trowbridge, representing the public utility companies; Mark Widoff, consumer advocate for the State of Pennsylvania; Alden Meyer from the Environmental Action Foundation; and Brian Lederer, who is legal counsel with the Public Service Commission of the District of Columbia.

Mr. Charnoff, would you begin, please.

**STATEMENT OF GERALD CHARNOFF, PARTNER, LAW FIRM OF
SHAW, PITTMAN, POTTS & TROWBRIDGE, WASHINGTON, D.C.**

Mr. CHARNOFF. Good morning, Senator Kennedy and members of the subcommittee. My name is Gerald Charnoff. I am a partner in the law firm of Shaw, Pittman, Potts & Trowbridge.

We do represent a number of public utilities. I am here at the invitation of Mr. David Moulton of your staff to testify with respect to the allocation of costs arising out of incidents such as that which oc-

occurred in the Three Mile facility and those associated with the NRC-ordered shutdown of facilities.

I have a prepared statement, copies of which have been given to your staff, and I will try to extemporaneously abbreviate that statement this morning, with the request that it be included in the record.

Senator KENNEDY. Without objection, your prepared statement will be made a part of the hearing record.

Mr. CHARNOFF. I have used a number of cost figures which were set out in the Wall Street Journal on Tuesday morning relating to the Three Mile facility. In that newspaper article, which reflects a release from the General Public Utility Corp., which is the parent company of the utility which co-owns the Three Mile facility, it was indicated that the total investment in the unit which was damaged was \$780 million, including the initial core.

In the Washington Post yesterday it was estimated that decontamination costs might amount to \$40 million, and that was an NRC staff estimate. And it was indicated in the paper, too, that there is property damage insurance applicable to damage to the facility up to \$300 million. It was also indicated that the cost of replacement energy for the damaged unit would amount to about \$600,000 a day.

In discussing these matters, of course, we must discuss the different types of costs that might be involved. On the one hand, there might be costs to the public as a result of evacuation or as a result of any contamination. Second, there are direct damage costs to the facility as a result of the contamination within the plant. There might be some costs involving design modifications. Those are called direct damages, and I distinguish those from what we would characterize—lawyers at least—as consequential damages, that is, the cost of replacement energy that would have to be required pending the restoration of the particular facility.

I won't spend any time on the direct public costs. Fortunately, they appear to be small. This Congress, a long time ago, enacted the Price-Anderson, indemnification program, which applies to the offsite harm, and there's nothing yet, to my knowledge, involved in that extent which would indicate that there is any major problem in the area of the Price-Anderson program.

I would also, insofar as I was asked by your staff to discuss this in the larger context of other plants that might be shut down, such as the five units that were shut down a few weeks ago—of course, in that situation there would have been no public harm whatsoever, so that I think that that issue we can set aside for the moment.

Focusing then on the question of direct damages, these could be allocated properly among insurers, suppliers, utility stockholders, utility ratepayers, and, perhaps ultimately, taxpayers.

The utilities, as I indicated, do carry the maximum property damage insurance that's available for the facility, and that is \$300 million. That policy will cover the costs of decontamination, the replacement of damaged parts of the facility. It would not cover costs of any redesigns or modifications that might be required to prevent recurrence, nor would such property damage insurance cover the cost, for example, of the seismic evaluations or any ensuing plant modifications that might be ordered by the NRC in connection with the five-reactor shut-

down that occurred a few weeks back. Of course, there is no insurance to cover the replacement of power.

Insofar as the suppliers or vendors are concerned, their liability will be determined, of course, by the contracts that apply in each of these particular situations, and one would have to evaluate each of the particular contracts.

There are some general trends in those supplier contracts which may be of interest. Typically, those supplier liabilities are limited to the cost of repair or replacement of any component that has to be replaced, and/or to the contract price. It is a general rule that the vendors or suppliers cannot purchase any liability insurance to cover damage to the facility beyond that or to cover the cost of replacement power.

I might point out that the concept of suppliers not being liable for consequential damage such as cost of replacement power is not unique in the nuclear supply situation. I refer you to my prepared statement relating to a decision issued just last September and recently published in the Federal Reports: The U.S. District Court for the Eastern District of Pennsylvania, in a case involving a turbine generator in a coal plant, had a long discussion of the longstanding custom and usage in the power generation industry under which manufacturers paid for defective equipment and so on, but do not pick up the cost of consequential damages.

While this custom is neither universal nor eternal, its proponents, I would submit, argue with some merit that, in the long run, it really benefits consumers. If the custom were otherwise, then vendors, large and small ones, would have to increase their prices for equipment and services to reflect the added risks associated with the contingency of liability for such consequential damages.

And I might add that, because of the uncertainties and unforeseeability of such damages, those risks would not be insurable. So, one would anticipate that if the rule or custom were otherwise, all plants would be higher cost to the utility and ultimately higher cost to the consumer. So there is a consumer interest in that usage.

Nor, might it be argued, I think, that vendors would be more scrupulous in their activities if they were made liable for consequential damages. I think any fair evaluation of the contracts that they enter into with the utilities would demonstrate that they have considerable exposure with defective equipment under warranties and under the standards rules of negligence, in addition to the fact their corporate marketing ambition would certainly be seriously hurt. And all of this provides a considerable incentive to properly design, fabricate and install products.

Further, if I may turn to the section of the paper dealing with replacement power and the matter which you have just discussed with Ms. Rollins of the Department of Energy, I would say that here the difficult question that you posed right at the outset, Senator, is mostly involved and presented to us, and certainly one can understand with a great deal of sympathy the view that if a manager of an enterprise operates it poorly or otherwise makes a poor choice of equipment or otherwise, in the normal course of reaction we would all say, well, let that manager bear that particular cost.

If a manager makes a poor decision, perhaps he ought to bear that particular cost of that poor decision.

There are a number of considerations which I would like to set before you involving consumers, and there have been a number of situations in the past few years involving proper accounting disposition of funds expended in connection with coal or nuclear power station proposals which were aborted or abandoned during the licensing stages. The expenditures in those instances have ranged anywhere from \$5 million to \$100 million.

The general pattern of the public utility commissions has been, upon a determination of the prudence of those expenditures, to authorize the amortization of such expenditures over a number of years. In some cases, the utilities were also permitted to earn interest on the unamortized balance. Under this general pattern the expenditures typically would be recovered from ratepayers, but spread over a number of years. Where no interest was allowed in the yet to be amortized balance, the stockholder, in effect, would lose his interest return on such expenditures, although he would recover his capital. In this way, some utility commissions have found a way to share between the stockholders and ratepayers.

But the fundamental thing is that in all of these cases the commissions implicitly recognized, and sometimes explicitly recognized, that penalizing of stockholder investments which were prudent when made would be, first, inequitable, and second, perhaps of more interest to this subcommittee now, would lead to ultimately higher cost of the capital and higher costs to the consumers.

Beyond this, most of the commissions have also recognized that the allowed rates of return on common equity, which today are in the range of $12\frac{1}{2}$ to $13\frac{1}{2}$ or 14 percent, do not include a component to allow for the risk of stockholder absorption of the costs associated with termination of proposed facilities. Nonregulated industries, as you know, which do take such risks, typically enjoy a much higher rate of return on their common equity, certainly, than the allowed rates of return that utility commissions have permitted over the years.

And I might point out most utilities fall short of earning their allowed rates of return, but those allowed rates do not include the return for the risk associated with a very costly cleanup and modification or with decommission of a disabled plant. And certainly, they do not allow for the risk that consequential damages, such as the cost of replacement power, will be borne by stockholders.

This, I might say, also directly benefits the consumers, and it's the motivating factor. I think, for most of the commission decisions all over the United States. And there must have been about 15 or 20 of them in the last 3 or 4 years. If it were otherwise, allowed rates of return would rise, resulting in higher median real charges for electricity consumption, simply to offset the potential risk of only occasional large charges in the event of an incident such as that at Three Mile Island or the construction of an oil plant and so on.

I might point out in the last several years there was an oil-burning plant up in New York State that was destroyed, and a new one soon after it was installed, and in that particular instance the cost did flow to the consumer.

Certainly, it should not be assumed that if one just mandated that charges were to be borne only by stockholders, that consumers would necessarily benefit. If such a situation or decision were to be made in the Three Mile Island situation, or in any of the cases involving a government-directed shutdown, it is clear that consumers and investors all across the country would feel the impact immediately in the form of higher costs of capital, as investors will quickly realize the new risks they would be asked to bear.

I might point out that situation would not then be limited just to the consumers in the service area of the General Public Utility Co., but in fact would have far-reaching effects all across the country for consumers of all utilities, whether they burn coal or rely on nuclear power.

In a parallel situation involving the proposed Alaska Natural Gas Transportation System, President Carter in his report to Congress and the Federal Energy Regulatory Commission noted that once the delivery system has commenced initial operation, consumer charges would be designed to maintain debt service in the event of some service interruptions. Thus, the stockholders in that situation, or in that venture, would not be asked to bear the risks or the costs of interruptions, such as we have experienced here.

Senator KENNEDY. Mr. Charnoff, we're going to try and keep everything to 10 or 12 minutes, if you will summarize.

Mr. CHARNOFF. One might also inquire into the societal benefits or costs that would result from assigning the costs of replacement power or the loss of investment in a plant to stockholders. Given large enough amounts, it could impoverish or bankrupt the utility. One might ask, how would that benefit the consumer? An impoverished utility would not be able to raise capital to meet the electricity needs of its customers. If it were to purchase power from its neighboring utilities, they would have to raise additional capital at higher costs, which would in turn be passed over to the consumers.

If the neighboring utility did not have sufficient power to sell, then the consumers of the affected utility would pay a still higher cost of insufficient power supply.

In closing, permit me to point out that there is no contention that the investments in these units were imprudent when made. Federal and State agencies generally agreed there was a need for such facilities. The public in fact has already gained substantially in the form of reduced oil imports and a more favorable balance of trade because of nuclear generation.

It is also my understanding—I haven't yet seen figures on this—that if GPU installed baseload oil-fired capacity instead of the Three Mile Island station, its costs would not be too different from the extra cost now contemplated for replacement power purchases. And certainly, over the years the cost of installed nuclear generation has been lower for consumers.

It seems inescapable that, in light of all these things, considerations of fairness and ultimate economic impact on consumers require that the cost of replacement power be flowed through to customers at this time.

Thank you.

[The prepared statement of Mr. Charnoff follows:]

PREPARED STATEMENT OF GERALD CHARNOFF

Good morning, my name is Gerald Charnoff. I am a partner in the law firm of Shaw, Pittman, Potts & Trowbridge, located here in Washington, D.C., at 1800 M Street, Northwest.

Among other clients, my law firm has represented about twenty electric utilities in connection with their procurement of nuclear steam supply systems, and nuclear fuel and in state and federal proceedings seeking permits to construct and operate nuclear power stations. Three such utilities are Metropolitan Edison Company, Jersey Central Power & Light Company, and Pennsylvania Electric Company, the co-owners of the Three Mile Island nuclear station.

On Tuesday afternoon, Mr. David Moulton of your staff invited me to discuss with you today the policy considerations relating to the allocation of costs arising out of incidents such as that which occurred at the Three Mile Island facility last week.

While the "cost" figures which will be used in this discussion are based upon the costs enumerated in the press with respect to the damaged Three Mile Island unit, my discussion will be necessarily general and will focus upon the underlying policy considerations. It does not reflect any detailed evaluation of the specifics of the Three Mile Island situation.

The Wall Street Journal on Tuesday reported that the damaged unit is insured for up to \$300 million. This covers damage to the plant, replacement of the fuel core and costs associated with cleanup and repair.

While the total investment in the damaged unit and the initial core was \$780 million, it is not yet known whether the total costs will exceed \$300 million. In the Washington Post, yesterday morning, it was estimated that decontamination costs might amount to \$40 million. Of course, until access to the containment is obtained, no one can be certain of the amount of such costs or of the downtime required before the reactor may again be placed into operation.

The insurance does not include the cost of design modifications or the cost of replacement energy for the damaged unit, which amounts to \$600,000 a day.

In any discussion of this nature, we must consider both the nature of the costs involved, the available insurance, the parties who might bear the costs, and the social consequences of the cost allocation method selected.

Let me begin with the identification of the costs which could arise out of incidents such as that at Three Mile Island. I will also, as requested by Mr. Moulton, consider the costs which could arise out of NRC directed shutdowns of nuclear units pending further study or design modification, such as the shutdowns ordered three weeks ago of the Beaver Valley, Surry, Fitzpatrick and Maine Yankee units.

A nuclear incident resulting in releases of radioactivity causing bodily injury, sickness, disease or death, or loss of use of, or damage to, property located away from the site of the reactor facility, by definition imposes direct costs on the public. Except for the expenses associated with any ordered, limited evacuation conducted in the Three Mile Island vicinity, it appears, fortunately, that there have been no costs directly suffered by the public from last week's incident. And, of course, there were no direct public costs incurred as a result of the NRC directed shutdown of the five reactors.

To the extent there might be direct public costs resulting from the release of radioactivity, those costs are covered by the nuclear liability insurance and the governmental indemnity provided under the Price-Anderson Act, which is set out in Section 170 of the Atomic Energy Act, as amended. It provides up to \$500,000,000 in funding for any such direct public costs caused by a nuclear incident. Neither the Three Mile Island incident nor the NRC ordered shutdown of the five reactors would suggest that there is any major problem in the adequacy of the Price-Anderson program.

Beyond these direct public costs the Three Mile Island type incident involves the costs of decontamination and the costs of plant modification and restoration, both of which might be termed direct costs. The costs of replacement power pending resumption of plant operation are termed "consequential damages." Similar costs, albeit of different magnitudes, could be involved as a result of NRC ordered shutdowns of reactors for safety evaluations and/or modifications.

These costs will be borne, as appropriate, by insurers, suppliers, utility stockholders, utility ratepayers, and taxpayers.

Soon after the Price-Anderson Act was enacted in 1957, the American insurance industry formed four insurance pools, composed of all the major stock and mutual insurance companies, to provide coverage for the nuclear risk. The Nu-

clear Energy Liability Insurance Association (NELIA) and the Mutual Atomic Energy Liability Underwriters (MAELU) provided \$60 million of public liability insurance per nuclear incident. The Nuclear Energy Property Insurance Association (NEPIA) and the Mutual Atomic Energy Reinsurance Pool (MAERP) provided \$60 million of onsite property damage insurance per facility location. Both pool groups, reflecting the safety record of the nuclear industry, have since increased their exposures to \$160 million per incident and \$300 million per location, respectively. (NELIA and NEPIA, the two stock pools, have merged and now form the American Nuclear Insurers.)

As I said earlier, GPU has reported that it is carrying \$300,000,000 of property damage insurance at the Three Mile Island site. That policy will therefore provide up to that amount to cover the decontamination and replacement of damaged parts of the plant. I do not believe it covers the costs of any redesigns or modifications that may be required to prevent recurrence of the event. Nor would such property damage insurance, which I assume is carried by the owners of the Beaver Valley, Surry, Maine Yankee and Fitzpatrick plants, cover the cost of the seismic evaluations and any ensuing plant modifications ordered by the NRC in these plants.

Insofar as the costs of cleanup of the facility and the restoration of damaged components might exceed \$300 million—and there is no such indication as of this time—those excess costs might be borne in part by the vendors if their warranties remain applicable and perhaps if there was some negligence in the design and manufacture of a faulty component. This depends upon an evaluation of the applicable contracts. In some contracts, the vendor's liability might be limited to the cost of repair or replacement of the component and/or to the contract price. It should be noted that the vendors cannot purchase liability insurance to cover damage to the facility.

Thus, to the extent the damages to a nuclear plant from a nuclear occurrence exceed the insured amount, i.e., \$300 million, the costs generally would be borne by the utility stockbrokers or its ratepayers and/or the taxpayer. This, of course, is also generally true for consequential damages, such as the cost of replacement power, which GPU has reported approximates \$600,000 a day. Such damages are typically not made the risk of suppliers. This is not unique to the nuclear industry. In a recently published decision, the United States District Court for the Eastern District of Pennsylvania discussed the "long-standing custom and usage" in the power generation industry:

" * * * that manufacturers or suppliers of equipment warranted that their equipment would be free of defects in design, manufacture and operation; that the equipment would meet designated specifications; and that the limit of the supplier's liability would be to repair or replace defects at its expense. Put differently, under the traditional custom and usage, manufacturers or suppliers were understood not to be liable for any form of consequential damages—more specifically, for loss of profits or cost of replacement power—as applied to all legal theories of recovery.

"Ebasco Services, Inc. v. Pennsylvania Power & Light Company, 460 F. Supp. 163 (1978) at 184."

While this custom and usage is neither universal nor eternal, its proponents argue with some merit that, in the long run, it benefits consumers. If the custom were otherwise, vendors, large and small, would increase their prices to reflect the added risks associated with the contingency of liability for consequential damages. I might add that because of the uncertainties and unforeseeability of such damages, it is not clear that such risks would be insurable.

Nor can it be argued that vendors would be more scrupulous in their activities if they were made liable for consequential damages. After all, their exposures under the normally negotiated warranties, and the risk of poor performance to their corporate marketing ambitions, provide considerable incentive to properly design, fabricate and install their products.

Let me turn now to the allocation of the costs of uninsured plant damage and of replacement power as between utility stockholders and ratepayers or customers.

There have been a number of situations in the past few years involving the proper accounting disposition of funds expended in connection with proposed coal and nuclear stations which have been abandoned during the pre-licensing stages. These amounts have ranged from five to close to 100 million dollars. The general pattern of the public utility commissions has been, upon a determination of prudence of the expenditures, to authorize the amortization of such expenditures over a number of years. In some cases, the utilities were also permitted

to earn interest on the unamortized balances. Under this general pattern, the expenditures typically would be recovered from ratepayers but spread over a number of years. Where no interest was allowed on the yet to be amortized balance, the stockholder, in effect, would lose his interest return on such expenditures. In this way, some sharing between stockholders and ratepayers was achieved. In all these cases, the commissions implicitly recognized that the penalizing of stockholder investments, which were prudent when made, would be inequitable and would lead ultimately to higher costs of capital.

Beyond this, most commissions implicitly recognize that the allowed rates of return on common equity, which today hover in the 12½% to 14% range, do not include a component to allow for the risk of stockholder absorption of the costs associated with the termination of proposed facilities. (Non-regulated industries, by way, which do take such risks, typically enjoy a higher rate of return on their common equity.) Certainly the allowed rates of return do not include a return for the risk associated either with a costly cleanup and modification or decommissioning of a disabled plant. Nor, of course, do they allow for the risk that any consequential damage, such as the cost of replacement power, would be borne by stockholders. (I might also add that, typically, utilities fall far short of earning their allowed rates of return.)

This, I might say, benefits the consumer. Otherwise, allowed rates of return would rise, resulting in higher real charges for electricity consumption simply to offset the potential risk of only occasional large charges in the event of an incident such as that at Three Mile Island or a Government directed temporary shutdown for safety review or modifications.

Certainly, it should not be assumed that, if such charges were borne only by stockholders, consumers necessarily would benefit. If such a decision were to be made in the Three Mile Island situation or in any of the cases involving a Government directed shutdown, consumers and investors all across the country would feel the impact in the form of higher cost of capital almost immediately, as investors will quickly realize the new risks they would be asked to bear. There is also a question of fundamental fairness involved in asking existing investors, who have been allowed no return for such a risk, to bear that risk.

In a parallel situation involving the proposed Alaska Natural Gas Transportation System, the President, in his Report to the Congress, dated September 22, 1977, and the Federal Energy Regulatory Commission in its comments thereon, noted that "once the delivery system has commenced initial operation, consumer charges would be designed to maintain debt service in the event of some service interruptions." Thus, the stockholders in that venture would not be asked to bear the risk or the cost of such interruptions.

One might also inquire into the societal benefits or costs that would result from assigning the costs of replacement power or the loss of investment in a plant to stockholders. Given large enough amounts, it could impoverish or bankrupt even an electric utility. How would that benefit the consumer? An impoverished utility would not be able to raise capital to meet the electricity needs of its customers. If it were to purchase power from its neighboring utilities, they would have to raise additional capital at higher cost to provide the generating and transmission costs. Ultimately, the consumer would pay these higher costs. If the neighboring utilities did not have sufficient power to sell, the consumers of the affected utility would pay the still higher costs of insufficient power supply.

In closing, permit me to point out that there is no contention that the investments in Three Mile Island, Beaver Valley, Fitzpatrick, Surrey, and Maine Yankee were imprudent when made. Federal and state agencies generally agreed there was a need for such facilities. The public has already gained substantially in the form of reduced oil imports and a more favorable balance of trade because of nuclear generation. It is my understanding that had GPU installed base load oil fired capacity instead of the Three Mile Island station, its costs would not be too different from that extra cost now contemplated for replacement power purchases. And, certainly over the years, the cost of installed nuclear generation has been lower than that of alternate forms of generation.

In conclusion, it seems to me inescapable that considerations of fairness and ultimate economic impact require that the cost of replacement power be flowed through to customers.

Senator KENNEDY. It's a very difficult assumption, I would think, for elderly people that live up there in the Harrisburg area, with respect to your last comment that you brought up, Mr. Charnoff, about

flow-through in terms of consumers. You pointed out your stockholders on the utilities are getting 13 percent return on investment and you're asking them at this time to be effectively guaranteed that return. You pointed out that if you have to get more insurance, then the consumers are going to pay for it; if they're going to have to go to the capital market for replacement, the consumers are going to have to pay for it.

It seems consumers are paying for it all the way along the line. And still, what you are doing here is, you have a 13-percent return for the stockholders. I mean, I imagine the consumers are saying, why should they be getting 13 percent on it when we're taking all the risks on it. We get it in terms of utility rates, and then something goes wrong and we're the ones who are asked to, as you put it in your own words, to pass this through.

And passing through means it goes into the consumer's back side. And I think for elderly people who are trying to heat their homes up there and already are going to see a significant increase in the costs, even at the present time, over these next several months, when you talk about replacing the plant at hundreds of millions of dollars, the consumer has to say, what good is it to have it as a private utility when we're bearing all of the burden in every aspect along the way?

Mr. CHARNOFF. Let me point out, Senator, I think it was a statement made earlier this morning by Congressman Atkinson that the question of public versus private power is really not at issue here. When TVA suffered the Brown's Ferry incident, the customers bore the cost of that plant being down. I don't think it's a private versus public power issue.

I do believe that no one can quarrel with the disheartening effect of rate going up for the elderly and other people. No one could also quarrel with the fact that most of the customers or the stockholders of GPU are elderly people, too. We're not talking about populations that are not overlapping. They are.

But there is a problem in assuming that costs do not ultimately flow-through for any product in our society to the ultimate customer. The question is, which is the best mechanism for assuring that it is the lowest possible flow-through.

Senator KENNEDY. But if managers or business managers make business decisions in just about every other aspect of business and it's a wrong one, they go bankrupt. They're not able to say, well, I made a bad business decision, a bad judgment, and therefore I'm going to pass it on to the consumers.

You open up a big airline and serve communities and there are no passengers, you go bankrupt. You open up a new shopping center and there are no customers, you go bankrupt.

Mr. CHARNOFF. I have no difficulty with that.

Senator KENNEDY. And what you're saying here is, when you open up a utility and you make some important mistake, you are saying to the consumer they're going to have to still protect that 13 percent.

Mr. CHARNOFF. But the reason for the incentive is—excuse me—as I mentioned, there are really fundamental differences in the levels of return that are allowed utilities and whoever operates the airline or the steel mill.

Senator KENNEDY. Not any more in the airlines. That's one of the things we have just been attempting to do is deregulate the airlines.

Mr. CHARNOFF. But they will be entitled to a higher rate of return.

Senator KENNEDY. And they're doing it, because they're lowering the cost. That's the competitive market. That's what we're trying to do, just find out where the competitive market is here. There doesn't seem to be any.

Mr. CHARNOFF. The competitive market would be applicable to the utility system—the results might well be the same. Let me point out that the rate of return is fundamentally different, and what has happened over the years is, by having a lower rate of return, the consumers have, in effect, been sharing the benefit of that lower rate of return by assuming some risks.

It is clearly disheartening to say to anybody, your rates are going to go up 15 to 20 percent, or whatever it is. There's no question we all have to be concerned and that we ought to do something about it.

Senator KENNEDY. But to basically follow your argument to its logical end is that there's a business decision made by business managers that are running a utility and consumers look out, consumers beware. That, essentially, is what you are saying, because we're effectively insulating them from what would happen in other aspects of the American economic system.

All of us understand the difference between the grocery store and the utility. We understand that. But there is a common—and there should be a common—theme, and that is that if business judgments are being made which are deficient, then the consumer shouldn't be asked to pay for it.

Congressman Mitchell.

Representative MITCHELL. I'm recognized out of order, and I appreciate the Chair and my colleagues indulging me. I do have to go to another meeting.

I won't address any questions to you right now, Mr. Widoff, is it?

Mr. WIDOFF. Yes, sir.

Representative MITCHELL. In your testimony you make some very damaging statements against the utility companies. Now, having heard that, I want to ask you three questions:

No. 1, did anyone attempt to shape your testimony?

Mr. WIDOFF. No, sir.

Representative MITCHELL. Did anyone attempt to censor your testimony?

Mr. WIDOFF. No, sir.

Representative MITCHELL. Did anybody attempt to prevent you from coming here to testify, or dissuade you from coming here to testify?

Mr. WIDOFF. I would only say there was a certain amount of concern expressed about my coming here, in light of the emergency that is presently existing in Pennsylvania and whether my testimony might affect the ongoing emergency efforts in Pennsylvania.

Representative MITCHELL. Then, in effect, you are telling me that someone attempted to dissuade you, or someone or somewhat. Who was the someone or who were the somewhats?

Mr. WIDOFF. Congressman Mitchell, I don't think it would be appropriate for me to point an accusing finger except to say, in my opinion, sir, and sincerely, I think, the motives those who were concerned about my testimony today were honorable in the sense that I think they were sincerely concerned about the situation up in Pennsyl-

vania. And I just don't believe it would be useful, given the emergency we have up there, to start pointing an accusing finger.

Representative MITCHELL. Well, thank you, Mr. Chairman.

I get disturbed when you get some testimony that almost nails the utility companies to the cross, and there is some intervention to prevent you from, or dissuade you from testifying. I accept your explanation, but I still—that does not erase my concern.

Mr. WIDOFF. I think the important thing here is that I am here and my testimony has been filed and has not been censored, and I think that's the only thing that matters.

Representative MITCHELL. Thank you, Mr. Chairman.

Representative ERTEL. Thank you, Mr. Chairman.

I am curious. From your testimony, I gather it's a Catch-22 situation, and the Catch-22 is the consumer always pays the tab, because, regardless of what we do in Congress or whatever the utility does, it reflects to the consumer.

Let me give you an example and ask you how you would handle this. Met-Ed's predecessor entered into a contract with a community in my district, which is immediately adjacent to this nuclear power plant. They agreed to provide power at 1 cent per kilowatt-hour for an extended period of time, and that contract has been litigated, and I'm well aware of it, and that's been held up in that community and they pay 1 cent a kilowatt-hour.

As a result of that, some other community is paying more because they're paying less, and that continues and will continue.

Now, I'm happy that that community got that break in my district. I'm very happy about that. But on the other hand, how do we, under your theory of how we handle these situations, which is a bad management decision probably made 50 years ago, how do we ever tell management, you made a bad decision here? How do they get any impact from that decision? Because they just continue on. They pass it on to the consumer.

Now, let's assume for a moment—you talked about prudent investment. It may have been prudent to set up Three Mile Island as a nuclear power plant, and I don't think anyone here is disputing that. But the running of that plant, the decision when to put it on line, the decision to continue running that plant, if in fact reports are true that three pumps were out of operation, was a management decision.

How do we say to those managers, you did a bad job? Are we going to leave it to the stockholders? And we full well know the stock is well diversified and there has been very little control over management. Management has controlled the company.

What would you suggest we do, as legislators, because we have given them a monopoly in this area, to do something that may be considered bad judgment.

Mr. CHARNOFF. Let me take a crack at that, although I'm not familiar with what you represented.

Representative ERTEL. You represent GPU. They have been litigating that in the Third Circuit Court of Appeals.

Mr. CHARNOFF. I represent GPU in some narrow areas. I'm not their general counsel.

Representative ERTEL. I don't want the specific contract; I want the concept.

Mr. CHARNOFF. The question you raise—let me say, even in answer to Senator Kennedy's last statement, I think it's a question of degree. I'm not saying that every cost that a utility bears because of mistakes that it makes is passed immediately through. I think it is a question of the size and magnitude.

Some of the Commission decisions that I referred to in my statement do, in fact, shown that where the costs are not overwhelming and would not destroy the financial viability of the company, they have, in fact, imposed penalties on the company's stockholders. Where, however, the costs is of the magnitude we're talking about here, where the only impact would be the increase of the financial vulnerability of the company with resulting higher costs to the company, and in turn higher costs to the consumer, simply recognizing what you and the Senator have identified, perhaps correctly, it is a Catch-22 situation.

The specific answer to your question, Mr. Ertel, is—and I'm not familiar with the details yet of just what went on in the situation at Three Mile—the NRC does have penalty provisions that it can impose if and when the utility misperforms.

Senator KENNEDY. When is the last time they have employed it, do you know?

Mr. CHARNOFF. There have been some financial penalties. They have not been large in magnitude. I think the Commission has gone forward—

Representative ERTEL. Is \$25,000 the maximum penalty?

Mr. CHARNOFF. They have not been large. They are—let me tell you that utility companies that I know are extremely sensitive and want to avoid any penalty of any sort, including \$25,000 or even \$5,000.

Representative ERTEL. Let me interrupt a moment. What you're saying is that maybe the utility will absorb a bad management decision which is small, but the really major bad decisions, they pass on to stockholders.

Mr. CHARNOFF. That really, in the long run over time, reflects the allocation of risk between consumers and stockholders that results in the lower rate of return to people investing in utilities as compared with other types of investments. And if I can understand completely the Catch-22 description that is troubling you here, I think it is in fact, a result of the way in which we have allowed returns to remain low in one case in return for some sharing of risks by others than just the stockholders.

Representative ERTEL. May I interrupt you for a moment? You address the company as a unit. The stockholder of the company is basically a bondholder, you can call it a variable rate of return. But what about the management? The management is the one that makes the decision. You keep avoiding that. What do we do to make responsible management of these utilities? It may have been a bad management decision to put this plant on line prior to the beginning of the year, just so they could have gotten a rate increase. And that may have been a management decision that led to it. It might have been a bad management decision to run this plant with three pumps inoperative. In fact, the NRC says it is.

Now, what do we do to management to make sure this doesn't recur?

Mr. CHARNOFF. Our system allows, for example—

Senator KENNEDY. Not just recur, but just a decision to allocate the burden at the present time. I mean, we're already facing increases. They are facing increases in their rates. We are interested and aware we are going down the road in the future. But I would think every consumer, every elderly person, every worker, when he finds out that they're going to see a 15-percent increase in the utility rates and perhaps even more, is asking why them?

Mr. CHARNOFF. All I can say to that, Senator, is, as indicated, if we had built an oil-fired plant, they would have been saying, why them, for the last 10 years. And I think we have to recognize, over the last 10 years, in looking at GPU, they have operated the Oyster Creek plant in New Jersey, which has benefited consumers in New Jersey and Pennsylvania, and those folks have had the benefit of that much lower cost operation at Oyster Creek than they would have had if we were operating a coal or oil-fired plant. So there has been some savings, and I think it's not so easy to just say, suddenly we're going to have a penalty. We are. But there have been savings from some of these very decisions that we now are reconsidering and looking at again with the benefit of some hindsight, and in the context of very specific, limited, but large and somewhat scary events.

Representative ERTEL. But you still have not—

Mr. CHARNOFF. I haven't answered your question.

Representative ERTEL. What about the management decisions? You're saying the stockholders ought to pay or you're saying the company ought to pay, but there are individual judgments made here by people in management—managers.

Mr. CHARNOFF. I'm not sure that our system has a clear way of penalizing that manager. The Senator knows in the antitrust area there have been increasingly new enforcement mechanisms applied, such as managers are made personally liable, criminally or otherwise.

Representative ERTEL. Would you suggest that here?

Mr. CHARNOFF. No, I'm not ready to say that. I'm saying, as we look at—

Senator KENNEDY. Well, you know, there's obviously the higher standard in the areas of public health and safety.

Mr. CHARNOFF. Well, again, maybe we ought to have—

Senator KENNEDY. We're talking about health and safety in this instance.

Mr. CHARNOFF. Maybe we ought to have a financial penalty mechanism for some of the people who make decisions that are wrong.

Senator KENNEDY. Will you help us with that?

Mr. CHARNOFF. I have no choice but to.

Representative ERTEL. I think that's something we have to think about, because management doesn't get ousted; they don't go bankrupt, because they reflect it through to the consumer. That's what management does when they make a bad decision in your scenario—if it's a really bad decision.

Mr. CHARNOFF. It's not clear to me. I might say that managers of airlines, for example, make bad decisions and allow a plane to go up in bad weather. And God knows I fly enough and take some risks and I don't know that the managers there take any individual responsibility.

Or maybe what we're talking about is a very profound question you're raising.

Representative ERTEL. But in the airlines, the company would go out of business and he would at least lose his job if he makes a very drastic decision.

Mr. CHARNOFF. I don't know that he would lose his job any more than—

Representative ERTEL. If it goes down he would.

Mr. CHARNOFF. But if the company stays in business, I don't know that the manager loses his job any more or less than in any other industry.

Representative ERTEL. But he doesn't in the utility.

I have no further questions.

Mr. CHARNOFF. It's not clear either that that bad decision wouldn't be punished by the board of directors or otherwise, with the loss of the job.

Senator KENNEDY. Senator Jepsen, do you have any questions?

Senator JEPSEN. Not at this time.

Representative ATKINSON. I just want to mention, Senator, you cited the violation of \$5,000 per occurrence or a maximum of \$25,000 for separate periods of time. But in any event, in the steel industry, if they fail to comply with EPA guidelines, there's a potential \$25,000 per day cost.

So, if the penalties are at this level, and if, in this particular instance of the Three Mile Island facility, they received millions of dollars to their benefit because of a quick startup, my only question is, if the cost doesn't go to the utility and it's put on the consumer, what is the incentive to have a quick startup or a quick repair of a problem area such as we are seeing?

Mr. CHARNOFF. I guess if we saw everything strictly in terms of balance sheets and profit and loss statements, I would have to agree with you that that's a fair question. I have to tell you that the heartache that goes with one of these events provides a lot of incentive to do a lot of things properly for a lot of people.

However, I think that the management has always urged getting these plants back on as soon as they prudently can. In fact, we won't want them to have too much incentive to put on plants too quickly. That goes the other way, it seems to me.

But I do think in general, if one looks at the history of the nuclear industry and based on the safety record, you will find basically those plants have been operating safely. This is the first major event that has really troubled everybody. The Brown's Ferry incident and this. But by and large, these plants have operated quite well.

Senator JEPSEN. Mr. Chairman, listening to the conversation here, it sounds as though we have forgotten that the public utility commission in Pennsylvania is still in business, I think that they're still empowered to oversee the utility rates and impose penalties, and will, presumably, for the Three Mile incident, as they see fit. There's no question whether the costs will be passed through. In other words, it's hardly automatic.

We have been talking about the company just laying it on the consumer, and we have public utility commissions in most States and they

do regulate rates. The fact is, they have held down utility rates in some instances below the rate of return that would allow companies to pay higher insurance premiums.

I see you're nodding your head. Is that correct?

Mr. CHARNOFF. Yes.

Senator JEPSEN. So it's a government decision that consumers are to bear some of these risks, given that incident, and if breakdowns happen, the costs have to be borne by the consumer—to pay insurance premiums or just those higher bills they pay during the shutdown.

So, if the risk is put on the shareholders, people will lend less to utilities, at higher interest rates, and then the premium will be paid in every bill to cover the increased interest cost. So, I think we need to keep it in proper perspective for the companies who don't have the latitude to pass on costs to the consumers, because they're very highly regulated.

And I have some other comments about the government's involvement which I will hold until the appropriate time, later on.

Senator KENNEDY. Am I right, Mr. Charnoff, that the replacement costs of a plant does go through the State utility commission?

Mr. CHARNOFF. It depends upon the State. Where there is a fuel adjustment clause, there may be an automatic provision. But I think what the Senator indicated was exactly correct: A number of States, for example, have provided for a range of allowable rates of return to reward or penalize good management performance.

There was just a recent decision in the Wisconsin Public Service Commission where this was identified in a range where good performance, good decisionmaking, will be rewarded with a higher rate of return than the other situation.

Senator KENNEDY. What do you think they will do in Pennsylvania?

Mr. CHARNOFF. I have no idea. I hope they will balance things in full perspective.

Representative HECKLER. Thank you, Mr. Chairman.

It seems to me, in terms of nuclear power, there seems to have been concern over the question of the disposition of wastes which has preoccupied congressional attention in the subject. In other areas of nuclear power we—rather, the Congress—lived in a never-never land. It would never, never fail; never ever happen, or ever go wrong; there would never be any crisis, and we would never have a situation such as we have just experienced at Three Mile Island.

Now, this I think was built on scientific statements, the reinsurance, and certainly the valid experience of nuclear power in other parts of the world and in our own country. But we also see that there were cracks in the foundation of our assumptions, and now we are coming to grips with these cracks.

But it seems to me one of the other cracks is in this whole concept of a limit of liability, of nuclear liability as passed by Congress under the Price-Anderson Act. Now, obviously the management of the utilities were very, very active in lobbying for the Price-Anderson liability limits, and now I can see why. It certainly imposes limitations on them.

Obviously, in this case there would be coverage if there were the tragic results of release of radioactivity and actual physical harm, which fortunately did not occur. However, there was not coverage for

the kinds of imposition of costs of reconstruction and refueling, which are the current problems.

So isn't there a tremendous gap in the coverage of the Price-Anderson Act, and would it not be an answer in terms of insurance, to change the liability structure?

Mr. CHARNOFF. Well, in effect, Congresswoman Heckler, Congressman Atkinson's bill, which needs a lot of fleshing out, but it's an interesting start, begins to suggest that maybe there ought to be more Federal involvement in that sort of thing. I'm not advocating that, but it does seem to me, while this situation has certainly raised quite understandable concern, it is not the first time that we have had the loss of a facility and the replacement type of problem.

In my own judgment, it is quite appropriate to have a Price-Anderson Act. I think that, while some statements have been too optimistic on nuclear power, I think the very request for Price-Anderson reflects the fact that people didn't say things would never happen. We are concerned about the remote risks that might happen, and Price-Anderson was the response to that. And it seemed to me it was the appropriate congressional response to the direct public harm that might occur from a large event.

Representative HECKLER. That was carefully drafted to include direct public harm, and yet I think if anyone in the business had been drafting that legislation, they could easily, and more easily than a Member of Congress, have anticipated that direct public harm—a very sizeable portion, such as we are witnessing in this particular case.

Mr. CHARNOFF. Well, part of the problem is, of course, in the last half-dozen years, as you know as well as anybody else in this room, we have had such large increases in all forms of energy costs, which make the cost of the replacement power so large. When Price-Anderson was originally established in 1957 and renewed again in 1966, we had a very stable or declining area of energy costs in this country, and the issue of replacement energy was not a paramount matter. It now is apparently a large problem, at least for a short period of time, and it may well be worth looking at, as you suggest.

My own view is that, again in the long run, this ends up being a taxpayer rather than a consumer type of bearing of the risk. But the cost is nevertheless going to be there, and the question is which is the cheapest way for it to be there.

Representative HECKLER. It just seems totally unfair to have the individuals who, by virtue of a geographic accident, happen to reside in the radius of the Three Mile Island facility, bear the brunt of what was a decision in no way initiated by their own incompetence and totally related to the decision or the competence of the management or NRC.

Mr. CHARNOFF. I agree with you for another reason. The whole nuclear energy program was fundamentally a national energy program, pushed and motivated by the Federal Government to start with in the 1950's. There have been national advantages from the balance of payments point of view. We burn less oil, for example. And we have reduced environmental pollution from coal by virtue of nuclear energy consumption. And to that extent, there are national benefits from this program, and you might have a point in suggesting that these costs, when they occur—and hopefully they won't occur again, and certainly

not very soon—should be borne by the national society or the taxpayers, rather than the particular consumers.

Representative HECKLER. Well, what about the liability of management—is management itself responsible for mistakes?

Mr. CHARNOFF. Well, I do think that corporations do have ways of responding to ineffective management. If you wish to intrude in that area, I think the problem is larger than utility management or nuclear management. It really goes to the fundamental question of how we're going to approach the responsibilities of individuals in all corporate enterprises for mistakes that may affect the public health, as Senator Kennedy referred to it, or other legislative social concerns. And that matter, I think, should be approached, but approached very cautiously.

Representative HECKLER. It would seem to me that you have three groups who would eventually pick up the tab: consumers, stockholders, or taxpayers.

My final question, Mr. Charnoff, is simply this: Would you tell me something about the desirability of public utility investments? How desirable are they? Is their return greater than other returns on Wall Street? What would increasing the burden of risk on the stockholder do to the potential for capital formation in the utilities? Is this a highly desirable stock to hold, or how would you classify it?

Mr. CHARNOFF. I hate to disclose my investment portfolio. It's been such a crummy experience the last 10 years, that I don't really want to answer that question from the standpoint of what would be a good or bad investment.

But I think it is clear—

Representative HECKLER. But it is competitive?

Mr. CHARNOFF. Well, it is perfectly clear that investors in stocks in the utility companies the last half-dozen years have not seen any capital gain in anything they have seen. They have had high dividends, but they have had either stable or decreasing values of their investments. New shares are being sold at below book value, which dilutes their investment in the market. And there are a lot of reasons for that. There have certainly been far more attractive investments to the public and to the investment houses during the last half-dozen years than the utility industry.

Representative HECKLER. Thank you.

Senator KENNEDY. Of course, one of the features of it is that there has been overbuilding, as well. The other question is competition.

We'll hear from the rest of our panel, hopefully without interruption, including myself, and I'll ask each of you for 10 minutes, and then we'll come back.

Mr. Lederer.

STATEMENT OF BRIAN LEDERER, PEOPLE'S COUNSEL FOR THE DISTRICT OF COLUMBIA

Mr. LEDERER. Thank you, Senator Kennedy.

I have no prepared statement, but I have organized some notes, and I would like to speak on those, as well as present supporting documents for the record.

Senator KENNEDY. Without objection, we will include any relevant material in the record and we ask you to proceed as you wish.

Mr. LEDERER. One of the documents that I refer to is a speech I made before a District of Columbia Conference on Energy a few days ago; it does address the issue.

I am the People's Counsel for the District of Columbia. I was nominated by the Mayor, with the advice and consent of the City Council. I represent, by law what the Congress passed, the people of this city.

Senator KENNEDY. This is on the Public Service Commission, is that correct?

Mr. LEDERER. Well, it's particularly within the Public Service Commission, but I am the independent statutory officer, and I represent the interests of all the ratepayers of this city, from the business community to the commercial community to the residential people.

We have recently completed perhaps one of the most extensive rate cases in my experience as a lawyer representing the public, involving a substantial independent examination of the planning process of a utility, the one in this jurisdiction of Washington, D.C. We had independent people examine their load forecast, their reliability analysis, and that reliability analysis includes the PJM power pool, of which the owner of the Three Mile Island plant is a member. I say this to give a context to my comments, because we have been looking at the question of utility planning in my office, with independent expertise for quite a while.

The incident at the Three Mile Island plant raises a very basic issue in my view, which is how the failure of utility company leadership to perform coordinated systemwide planning on the front end has exposed both their investors and their ratepayers to an extraordinary and avoidable financial risk. The questions are: Whether those who have to pay will be brought into this planning process; whether there will be some leadership shown by utilities; and whether the costs and the design of our utility systems can be made a matter of public influence, or whether they continue to be within the mere domain of utilities and the technical experts; and whether or not we will ever get the utilities to accept responsibility for what are long-term planning decisions that have a profound impact on the economy of the people of their service territories.

This issue is not limited to nuclear plants, but the nuclear plants, of which the Three Mile Island plant is an example, highlights the problem. They are so expensive, there are so many engineering problems; the companies should not commit their future to them. A good example of what happens when a company does commit its future to the nuclear plants is the Virginia Electric Power Co., which has literally mortgaged its economic future to construct plants similar to the Three Mile Island plant—plants which are not producing electricity and are producing costs.

The question that comes out—and it always seems to get down to this—is who is going to pay whenever the systems don't perform? Is it going to be charged against the earnings or is it going to be charged against the ratepayer? And in this regard, I do not believe that sufficient consideration is given to the economic impact of these decisions.

I think, Senator Kennedy, you have asked the appropriate questions: What are senior citizens supposed to do when the costs of these mistakes are passed on? We have addressed the issue in the District.

of Columbia, and it's the same issue that we have to face everywhere. It affects every aspect of our economy. In this city, Metrorail pays a significant percentage of its operating expense for electricity.

And remember, the Potomac Electric Power Co., which serves this city, is a member of the same pool, the same interconnection that the General Public Utility Co., that owns the Three Mile Island plant, is a member of. Metro is struggling along to stabilize its operating deficit without substantial price increases. What is going to happen if we get price increases passed through?

Government is the major energy user, and what is supposed to happen to the budget of government if these costs are passed on? The welfare budget may go up if the price of electricity goes up. Rent and housing costs go up. Senior citizens, those on fixed incomes, business expansion and job development, all are sufferers. Of course, the issue that we all have been fighting to openly for years is economic opportunities for women and minorities. They, who are just starting to enter the economic mainstream, may find that if the price of utilities goes up, that they do not get a job and can't find decent housing and can't afford the proper food and clothing for their children.

I think these things have to be given consideration as we face the issue of who pays for something like the problem of the Three Mile Island.

Senator KENNEDY. I'll give you a couple more minutes.

Mr. LEDERER. There are two aspects that relate to this: One of losses per se—capital losses—and who should carry them; and the second is the change in the operating efficiencies of the system.

Most of these companies, when they have plants that go down, pass on those increased inefficiencies through the fuel adjustment clause, which has nothing to do with the price of fuel. And this is one of the significant components of the cost the consumer has to pay with the Three Mile Island plant.

If one makes the proper interconnection—and the General Public Utility Co. is a contract signatory to the Pennsylvania-New Jersey-Maryland power pool, which has substantial capacity—and these interconnections, I point out, are not effectively regulated—if we make the full use of interconnections with the proper front-end planning so that the risk, the very foreseeable risk, of that type of forced outage can be spread among a much larger group of persons than we currently do and if we take into effect, furthermore, the very real conservation of electricity, then we might be able to deal with this kind of forced outage without having to face the very hard questions of whether or not we're going to write off against the earnings of a particular company sums that could range as high as \$1 billion, or whether or not we're going to have to ask the ratepayers, with all the consequent problems that will cause, to "eat" that kind of loss.

This is not the way we should go. If we don't find a solution to this problem; if we don't find a better answer than we hear proposed by the utilities, then we're going to find that every Three Mile Island situation, every operating inefficiency is passed through; every management mistake that's passed through is going to contribute to the raging inflation which is devastating the economy of the country. I think we have to realize that's behind it.

Thank you very much.

[The speech of Mr. Lederer, together with supporting documents, follows:]

SPEECH BY BRIAN LEDERER BEFORE A DISTRICT OF COLUMBIA CONFERENCE ON ENERGY

Honored Guests, Ladies and Gentlemen of the City, Public Officials who are here :

I very much appreciate each of you taking time from your busy schedules on this beautiful Saturday to spend some time together so that we may finally be able to assert some control over the constant, relentless inflation of utility prices. Ironically, although the utility companies do not wish to acknowledge it, this same process of asserting control would benefit them.

The purpose of this conference is to face the reality of what's happening to our pocketbooks and to our utility prices. The purpose of this conference is to find out from each of you what sort of agenda this office and this city should be following on utility issues. The purpose of this conference is to facilitate citizens, people who pay for everything the utility companies do, having something to say about the cost and design of our utility system, and hence some control over our economic future.

We face a utility crisis in this city now. Despite crushing utility increases over the last five years, despite major conservation, the utility companies forecast major increases in the price of gas and electricity over the next ten years. Frankly, we are at a crossroad. Together, we can establish dialogue. Together, we can establish some policies to alter the course that will produce devastating price increases; or we can accept the programs currently in place at the price of our pocketbooks.

In polite circles, one is not supposed to use the term "ripoff." Obviously, the utility companies do not wish to have their rates described as a "ripoff." However, we cannot escape the reality that the word is on everybody's minds.

What has been our experience in recent years? Why is the term "ripoff" on everybody's minds? Year after year since 1972 people have been conserving. In 1977 alone, people consumed less natural gas than they did in 1972 and only slightly more electricity than they did in 1972. What happened? Year after year after year the price kept increasing. 18 percent a year compounded for electricity: Seventeen and one-half percent a year for natural gas for total increases over the 5-year period of over 200 percent. Well, everyone says that was just the turmoil caused by the Arabs—the quadrupling of oil prices, the embargo, or that was the shortage of natural gas; but do these experiences explain all of the price increases, notwithstanding massive conservation?

Well, perhaps we don't have the answer to that question. Certainly the companies can claim that they were caught by surprise and that they, too, suffered and had earnings to protect.

Maybe they are right; maybe they are wrong; who knows? However, after our recent experience of substantial conservation, combined with major and unremitting price increases, should it be a surprise that people feel that they have no control over what happens and that efforts to conserve make no difference to their pocketbooks?

The real question is, is the future going to be any different? Frankly, from the forecasts of the company, the answer is "no." The gas company continues to forecast significant uncertainties in its earnings picture. It has just received a rate increase; it plans to file another one as soon as it can.

The electric company has indicated that it plans to seek higher rates in eight of the next nine years, which is as far as the forecast goes which I have in my possession. These are increases after they have already requested six increases in the past eight years.

Specifically, they predict, between now and 1982, that the money you pay on the "fuel adjustment charge" is going to go up 71 percent, and that the other charges that you pay are going to go up 50 percent. Overall, your bills will go up 57 percent. Only 12 percent of those increases are going to occur because you will consume more electricity.

The companies tell us that all this is just the price we must pay to have reliable service! They tell us that the increases are inevitable! All this suggests that the companies are mere victims of inflation—just as we are. But is this really true? Are the programs of the utilities the only way to meet our energy needs?

I am concerned about what will happen to this city, to your pocketbooks, and to the environment in which the companies must operate if in fact we go in the direction that they forecast.

I believe that we need to start a process now in which not only do we have dialogue between those who pay and those who provide the service, but that we actually discuss what the public can do and what the companies can do to change the long-term programs of the companies so that the price increases they forecast can be stabilized.

This means that we would have some control over the cost and design of our system. This means that conservation would save money as well as energy. The purpose of this conference is to start this process going.

Now, the Office of the People's Counsel represents those who pay. This office is committed to fighting with every ounce of its strength to protect the interests of the people of this city. This office will do everything within its authority to carry forth that interest in the proceedings before the Public Service Commission and in the rate cases. This office will use its lawful mandate to the hilt to demonstrate that the financial programs, as presented by the companies in those cases, are neither in the best interests of the ratepayers nor, in fact, of the companies. If the companies do not offer leadership in developing the reasonable alternatives which exist, this office will use its own resources to show that there are feasible solutions to meeting our energy needs—solutions which are cheaper and equally reliable.

The consequence of failing to alter the utility programs as planned is devastating to both ourselves and the utilities. The utilities are among the largest business in the metropolitan area. The electric company—a \$2 billion corporation—may be the largest. Its 57 percent increase represents \$410 million, almost 90 percent of which will leave the area.

Here's the impact: Metrorail pays a significant percentage of its operating expenses for electricity. It is already struggling to stabilize its operating deficit without substantial price increases. Our District of Columbia Government is a major energy user. If the price that it pays for energy increases significantly, it comes out of our pockets—our taxpayers' pockets. Furthermore, if the price of electricity increases significantly, the welfare budget will have to go up. We all have to live in some dwelling. Many of us rent. The price of utilities is already a major factor in rising housing costs and increasing rents. Think about senior citizens and those persons on fixed incomes, what are they to do when the price of utilities increase? Think about business expansion and job development, how much money can we put into the city if it's always going out of the city in the form of increasingly high utility prices? What about women, and what about minorities who are just starting to enter the economic mainstream? What are they supposed to do if the price of utilities goes up and they don't get a job, can't find decent housing, can't afford to properly feed their children?

Failure to realize that decisions are being made today by the utilities that will affect the price we pay 10–15 years from now could cause us to lose our opportunity to regain control. Failure to start a dialogue now about alternatives could devastate our pocketbooks and expose the companies to serious financial harm.

The Office of the People's Counsel has already been working on this approach for a year. Under a Federal grant to the office, a citizen group called the Consumers Utility Board has organized with the support of experts to produce citizen recommendations on systematic alternatives to meeting our electric energy needs. The alternatives are conservation and other non-generating options in lieu of new and very expensive generating plants.

So let us pull together and see if we can find a better course.

This conference is organized to give the public officials of this city an opportunity to participate. In this regard, we will have the Chairman of the City Council speak following me; we will have the Chairperson of the Public Services and Consumer Affairs Committee speak at lunch, and we will have the Mayor of this city speak and hear your comments at the end of this conference.

Following the Chairman of the City Council's remarks, we have a panel in which questions are asked of people from the utilities and other persons knowledgeable on the issues to try to give us some information. Following the panel, we will then go into two workshops; one on citizen participation and the other on which issue should we address and what agenda should this office and this city be following in the next year in trying to deal with the question of utilities.

[Excerpts from "Planning for Energy Self-Reliance: A Case Study of the District of Columbia," by the Institute for Local Self-Reliance]

CHART I.—TOTAL ENERGY CONSUMPTION

[In trillion Btu's]

Energy source	1972	1975	1977
Electricity	19.5	19.8	21.4
Natural gas ²	28.4	24.8	25.6
Fuel oil ³	45.8	33.1	24.2
Gasoline ⁴	31.6	30.6	32.2
Coal ⁵	5.3	3.9	5.6
Total	130.6	112.2	109.0

¹ Kilowatt-hour=3,413 Btu's (based on end-use consumption, not primary energy use).

² Therm=100,000 Btu's.

³ Gallon=145,190 Btu's.

⁴ Gallon=120,000 Btu's.

⁵ Bituminous coal, ton=24,580,000 Btu's.

CHART II.—ANNUAL AVERAGE CHANGE IN CONSUMPTION

[In trillion Btu's]

Energy source	Percent		
	1972-77	1972-75	1975-77
Electricity	1.88	0.51	3.96
Natural gas ²	-2.05	-4.42	1.60
Fuel oil ³	-11.98	-10.26	-14.49
Gasoline ⁴ .....	.38	-1.07	2.58
Coal ⁵	-1.11	-9.72	19.83
Total	-3.55	-4.93	.95

¹ Kilowatt-hour=3,413 Btu's (based on end-use consumption, not primary energy use).

² Therm=100,000 Btu's.

³ Gallon=145,190 Btu's.

⁴ Gallon=120,000 Btu's.

⁵ Bituminous coal, ton=24,580,000 Btu's.

CHART III.—ENERGY USE BY SECTOR BY FUEL SOURCE

[10¹² Btu]

	Electricity		Natural gas		Fuel oil		Coal		NA	Total Btu	Percent, total District of Columbia
	Btu	Per-cent	Btu	Per-cent	Btu	Per-cent	Btu	Per-cent			
Residential	4.8	23.0	18.2	70.8	9.4	40.2	-----	-----	-----	32.4	42.2
Commercial/industrial/institutional	8.2	39.2	5.4	21.0	3.7	15.8	-----	-----	-----	17.3	22.5
U.S. Government	6.1	29.2	.8	3.1	6.8	29.1	5.6	100	-----	19.3	25.1
District of Columbia government	1.8	8.6	1.3	5.1	3.5	15.0	-----	-----	-----	6.6	8.6
Not accounted for	-----	-----	-----	-----	-----	-----	-----	-----	1.2	1.2	1.6
Total	20.9	-----	25.7	-----	23.4	-----	5.6	-----	1.2	76.8	100
Percent, total District of Columbia	27.2	-----	33.5	-----	30.5	-----	7.2	-----	1.6	-----	-----

CHART VIII.—DISTRICT OF COLUMBIA ENERGY-RELATED AND DOLLAR FLOWS
(EXCLUDING U.S. GOVERNMENT)

	Electricity	Gas	Fuel oil	Gasoline	Coal	Total ¹
Amount spent.....	202,270,688	75,439,474	50,019,285	155,615,180	.....	483,344,627
District of Columbia wages.....	4,554,271	3,430,069	347,716	7,253,243	.....	15,585,299
District of Columbia employ income tax.....	153,794	145,969	15,011	198,818	.....	513,592
Dividends.....	1,029,740	367,684	.....	.....	.....	1,397,424
Goods and services.....	1,217,720	683,145	.....	.....	.....	1,900,865
Proprietors net income.....	.....	.....	884,432	1,280,326	.....	2,164,758
District of Columbia taxes.....	14,535,259	4,773,682	1,278,584	23,435,375	.....	44,022,900
Total retained.....	21,490,784	9,400,549	2,525,743	32,167,762	.....	65,584,838

CHART IX.—ENERGY PRICES

(In cents)

Energy source	1972	1975	1977	Percent ¹
Electricity (per kilowatt-hour).....	2.03	3.51	4.61	227
Natural gas (per therm).....	13.6	21.9	30.4	224
Gasoline (per gallon).....	40	58	65	163
Fuel oil (per gallon).....	19	36	47	247
Coal (per ton).....	1,900	4,100	4,800	.....

CHART X.—ANNUAL AVERAGE COMPOUNDED PRICE INCREASE

(In percent)

Energy source	1972-77	1972-75	1975-77 ¹
Electricity (per kilowatt-hour).....	17.83	20.02	14.60
Natural gas (per therm).....	17.45	17.21	17.82
Gasoline (per gallon).....	10.20	13.9	5.86
Fuel oil.....	19.85	23.74	14.26
Coal (per ton).....	20.36	29.22	8.20

[Pepco Filing With Virginia Corporation Commission]

10-YR FORECASTS
[Percent increase in rates

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	Compound rate of increase
Virginia jurisdictional sales (millions of kilowatt-hours).	396	412	415	416	420	424	428	432	437	442	1.2
Percent increase in rates (average cents per kilowatt-hour):											
1. Attributable to rate relief necessary to attain 10 percent rate of return of cost of capital based on latest authorized return on equity --	12.8	8.5	2.0	4.8	6.4	4.9	7.7	3.6	-----	7.7	5.6
2. Attributable to fuel adjustment clause -----	3.2	5.6	11.1	11.1	10.9	12.4	3.0	2.6	8.3	5.6	7.3
3. Total base rates and fuel adjustment clause -----	9.3	7.2	5.5	7.2	8.2	7.7	5.6	3.0	3.2	6.4	6.3
4. Attributable to item 5 on p. 3A of 6 ¹ -----											
5. Total increase each year -----	9.3	7.2	5.5	7.2	8.2	7.7	5.6	3.0	3.2	6.4	6.3
6. Assumed rate of inflation -----	7.0	7.0	7.0	7.0	6.0	6.0	6.0	6.0	6.0	6.0	6.4
7. Real rate of increase (decrease) -----	2.3	.2	(1.5)	.2	2.2	1.7	(.4)	(3.0)	(2.8)	.4	(.1)

¹ Show the separate effect of each item.

Source: State Corporation Commission of Virginia, Pursuant to Sec. 56-234.3, Code of Virginia.

Senator KENNEDY. Our next witness will be Mr. Widoff.

**STATEMENT OF MARK P. WIDOFF, CONSUMER ADVOCATE FOR
THE STATE OF PENNSYLVANIA, HARRISBURG, PA.**

Mr. WIDOFF. Mr. Chairman, members of the Subcommittee on Energy of the Joint Economic Committee: My name is Mark P. Widoff and I serve as the consumer advocate for the State of Pennsylvania, Harrisburg, Pa.

Before I begin my testimony, I would like to briefly comment on two matters that came before you earlier that I think need to be brought to your attention.

First of all, the spokesperson from the Department of Energy, when discussing the costs that the ratepayers will face, I think it is more important for you to realize that the ratepayers of Metropolitan Edison have, just in the past 2 weeks, been hit with a 19-percent increase, mostly to cover the cost of the construction of Three Mile Island No. 2. So what we are talking about is a 19-percent increase in bills which are scheduled to go into effect any day, in addition to the emergency power costs that you heard described this morning.

The disaster at Three Mile Island has raised a whole spectrum of questions and problems—many of which this subcommittee has begun to address. One of these problems relates to the issue of whether the utility consumers of the companies which own the plant will have to bear the costs associated with the plant's shutdown.

Our office was established by the Pennsylvania State Legislature in order to represent Pennsylvania utility consumers in utility regulatory proceedings. We have become increasingly concerned with the fact that, by and large, utility customers are asked to pick up the tab when expensive nuclear facilities are shut down. Thus, the issue regarding Three Mile Island is simply the most dramatic and most serious example to date of this ongoing consumer problem.

I will read my entire statement as it is a general and short one; short, primarily because of time limitations in preparing it. I am ready to provide data that is available to us at a future time, if you wish a more detailed presentation.

When nuclear generation of electric power was being sold to the American people, it was sold on the grounds that the extremely low costs of the electricity produced would outweigh potential risks—risks which were described as small. Over a period of the last 2½ years, and after analyzing many major rate increase filings by electric utility companies I have become convinced that nuclear generated electric power is not nearly as good a buy for the consumer as he has been led to believe by the industry. When one considers all the costs associated with nuclear power and when one combines this with the serious risks to public health and safety involved, nuclear power is simply not the bargain it has been advertised to be.

The total costs facing the public—not all of which are reflected in present electric bills—include construction costs, depreciation costs, fuel costs, waste disposal, plant dismantling costs, and increased operating and maintenance costs related to plant shutdowns.

With specific regard to the costs of downtime, such as shutdown time of nuclear plants, our experience in Pennsylvania has shown that

dent in U.S. history, and some informed observers believe its \$780 million nuclear facility may have to be totally scrapped.

The main reason the Wall Street analyst is optimistic about GPU's prospects as an investment vehicle is his assumption that all costs associated with the Three Mile Island accident will be passed through to the company's ratepayers. As the New York Times reports:

Mr. Luftig said he felt that there was a precedent for writing off cost over a period of years in the event the plant was closed down. On the other hand, the plant would no longer be an earning asset. Mr. Luftig said that he thought the utility commissions involved would allow a rate of return equal to prior years. That would mean permitting higher revenues to cover the added writeoffs. In a regulated industry, the risk has to be offset that way, the analyst said, or shareholders could not be induced to invest.

Wall Street apparently sees this as the bottom line at Three Mile Island: in a regulated industry, the risk has to be offset.

A fundamental principle of investment is the relationship between risk and return. A riskier investment should offer a higher return than a more stable one.

Investment in electric utility common stock is certainly not held up as risk-free, although it is often portrayed as less risky than some alternative investments. On the contrary, utilities frequently cite the increasing riskiness of investment in their stock as one justification for their frequent requests that commissions allow them a higher rate of return.

General Public Utilities stockholders are currently allowed to earn about 13.5 percent on their investment. This is a higher return than on many other investments, supposedly to compensate for a perceived higher level of risk.

Yet when the risk materializes, as it has at Three Mile Island, the rules of the game suddenly change, and it is the company's customers who are expected to assume the risk. We do not believe this is fair.

Many companies obtain insurance to guard against catastrophic loss. In fact, we learn that GPU does have property insurance on its Three Mile Island unit, from American Nuclear Insurers, a pool of private insurance companies. But there is a catch: The insurance pool has set a ceiling of \$300 million on its coverage, leaving a substantial portion of GPU's \$780 million investment unprotected.

If private insurers are unwilling to cover the full property value of nuclear plants, why didn't the many utilities with nuclear investments decide to pool coverage for the remaining amount among themselves? Unfortunately for GPU, it seems Wall Street's basic assumption also prevails among private electric companies: the ratepayer will pay.

This assumption may be facing a serious challenge as a result of the Three Mile Island accident; ratepayers may not be willing to pay when costs are so huge.

There is clearly much uncertainty as to what the final costs of the Three Mile Island accident will be. Much of what GPU faces over the coming years will serve as a very expensive learning experience for the entire nuclear industry, irrespective of whether unit 2 ever produces another kilowatt-hour.

Fortunately, GPU's customers face no prospect of power shortages this summer. The PJM pool, of which GPU is a member, has significantly excess generating capacity over projected summer peakloads, as

do virtually all regions of the country. With Three Mile Island unit 2 in service, PJM was projecting a reserve margin of 30.6 percent. Without the plant, their reserve margin only drops to 28 percent.

But the costs of GPU will be high.

I'm going to skip over parts of this testimony. It's in my prepared statement.

Another very expensive outcome of the Three Mile Island accident for GPU, and particularly its Metropolitan Edison subsidiary, is the need to obtain replacement power for the unit. GPU has cited a cost of \$600,000 per day for this power. We believe that use of a reasonable capacity factor estimate would place this cost nearer to \$300,000 to \$350,000 per day, on average, over the next year. GPU's number assumes that the plant is performing on a full capacity. However, the Babcock & Wilcox plants in service around the country have averaged less than 60 percent on an annual basis for their first 2 years of operation.

However, even our lower estimate results in replacement power costs of about \$110 million a year.

The Environmental Action Foundation firmly maintains that all responsibility for the financial consequences of the Three Mile Island accident belongs with General Public Utilities. GPU can file insurance claims, sue Babcock & Wilcox if it believes that company is liable, or take other responsible action to minimize the impact of this accident on its stockholders. But it should not be allowed in any way to shift its financial burden to its ratepayers.

GPU's customers did not choose to build the Three Mile Island plant; they did not select Babcock & Wilcox as the vendor; they were not responsible for the design or quality of the plant, nor the hiring or training of its operators. Most important, GPU's ratepayers did not choose to risk investing their money in the plant in return for compensation for that risk. To make them pay for the mistakes or errors in judgment of GPU management or other parties is simply unacceptable.

There are three regulatory bodies which have jurisdiction over this issue: the Pennsylvania Public Utility Commission; the New Jersey Board of Public Utility Commissioners, which regulates GPU's Jersey Central Power & Light subsidiary; and the Federal Energy Regulatory Commission, which regulates GPU's wholesale sales.

If these three bodies fail to take immediate action, GPU customers will automatically find themselves picking up the tab for this accident, because as matters now stand they are being charged for their electricity twice. They are paying carrying charges upwards of \$300,000 per day on the disabled Three Mile Island plant, since the unit has not yet been removed from the rate base; and they are paying for replacement power, the charges for which will soon inflate their utility bills.

This situation is inherently inequitable. The three regulatory bodies involved should either disallow recovery by GPU of its replacement power costs or they should remove the Three Mile Island unit 2 from the rate base and disallow all expenses associated with it.

The action taken by these commissions will be closely watched around the country, since it may largely determine if utilities and the

nuclear industry industry will ever be held accountable for their mistakes.

There are precedents for the action we recommend. They don't involve such astronomical costs, but then, there has never been such a costly nuclear mistake. I will just mention now one of those examples, which is contained in my prepared statement.

Ironically, the Pennsylvania Public Utility Commission in 1976 prohibited Metropolitan Edison and Pennsylvania Electric from including in their rate bases a \$9 million construction error involving a faulty concrete pour at the Three Mile Island unit 1.

And then I give three other examples in my testimony, which I will skip here.

We urge the three regulatory commissions with jurisdiction over General Public Utilities to follow the equitable course demonstrated by these precedents by placing full financial responsibility for the Three Mile Island accident on those responsible, and not on ratepayers.

Three Mile Island unit 2 is not an isolated instance of the inherent risk of nuclear generation, though it is certainly the most compelling example to date. Other accidents, such as those at Brown's Ferry or at Fermi 1 come to mind. I'm sure you're all aware that several other nuclear units are presently experiencing unscheduled outages, including the five units shut down 2 weeks ago by the NRC for design errors in their ability to withstand earthquakes. This NRC action generated numerous cries of regulatory overkill and overcaution from pronuclear advocates.

No doubt many of the same people would also have protested loudly if the NRC had shut down Three Mile Island for a check of its cooling system, although such an action might have spared the country a nightmarish week and could have saved GPU as much as \$1 billion.

In the wake of this accident, the already high forced outage rate of nuclear units will go even higher, as regulators and the public re-examine their concepts of nuclear safety and demand more stringent standards. Such a reexamination may reduce, but can never eliminate, the inherent potential in nuclear power generation for accidents such as that at Three Mile Island—or worse. It is crucial that it be made clear that the financial risks—although not the health and safety risks—of decisions to continue to construct and operate nuclear plants are squarely on the shoulders of those who make the decisions.

Consumers must no longer be forced to bear all the risks of poor design, operator error, or other shortcomings for which utility management is primarily responsible. It just may be that the power companies won't be quite so eager to gamble on nuclear power when their own money is at stake.

Thank you.

Senator KENNEDY. Thank you, Mr. Meyer.

[The prepared statement of Mr. Meyer follows:]

PREPARED STATEMENT OF ALDEN M. MEYER

Senator Kennedy and members of the subcommittee:

You may be surprised to learn that a noted Wall Street utility analyst is currently recommending that investors buy stock in General Public Utilities, the holding company whose subsidiaries own the crippled Three Mile Island nuclear plant.

How can this be? GPU is presently faced with massive clean-up costs resulting from the most serious nuclear accident in U.S. history, and some informed observers believe its \$780 million nuclear facility may have to be scrapped.

The main reason the Wall Street analyst is optimistic about GPU's prospects as an investment vehicle is his assumption that all costs associated with the Three Mile Island accident will be passed through to the company's ratepayers. As the New York Times reports:

"Mr. Luftig said he felt that there was a precedent for writing off cost over a period of years in the event the plant was closed down * * * On the other hand, the plant would no longer be an earning asset. Mr. Luftig said that he thought the utility commissions involved * * * would allow a rate of return equal to prior years. That would mean permitting higher revenues to cover the added write-offs. In a regulated industry, the risk has to be offset that way, the analyst said, or shareholders could not be induced to invest."¹

Wall Street apparently sees this as the bottom line at Three Mile Island: in a regulated industry, the risk has to be offset.

THE CONCEPT OF RISK

A fundamental principle of investment is the relationship between risk and return; a riskier investment should offer a higher return than a more stable investment. No investment is seen to be totally risk-free; theoretically, even the United States Government could default on its obligations.

Investment in electric utility common stock is certainly not held up as risk-free, although it is often portrayed as less risky than some alternative investments. On the contrary, utilities frequently cite the increasing riskiness of investment in their stock as one justification for their requests that commissions allow them a higher rate of return.

General Public Utilities stockholders are currently allowed to earn about 13.5% on their investment.² This is a higher return than on many other investments, supposedly to compensate for a perceived higher level of risk.

Yet when the risk materializes, as it has at Three Mile Island, the rules of the game suddenly change, and it is the company's customers who are expected to assume the risk associated with GPU's decision to invest in nuclear energy generation. We do not believe this is fair.

Many companies obtain insurance to guard against catastrophic loss. In fact, we learn that GPU does have property insurance on its Three Mile Island unit, from American Nuclear Insurers, a pool of private insurance companies. But there is a catch—the insurance pool has set a ceiling of \$300 million on its coverage, leaving a substantial portion of GPU's \$780 million investment unprotected. Liability resulting from potential accidents at nuclear facilities, of course, has a similar coverage ceiling set by Congress under the Price-Anderson Act. Many would argue that the ceiling on liability claims covers a far smaller portion of potential damages from a major nuclear accident than does GPU's property insurance.

If private insurers are unwilling to cover the full property value of nuclear plants, why didn't the many utilities with nuclear investments decide to pool coverage for the remaining amount among themselves? Unfortunately for GPU, it seems Wall Street's basic assumption also prevails among private electric companies: the ratepayer will pay.

This assumption may be facing a serious challenge as a result of the Three Mile Island accident: ratepayers may not be willing to pay when the costs are so huge.

WHAT ARE THE COSTS?

There is clearly much uncertainty as to what the final costs of the Three Mile Island accident will be. Much of what GPU faces over the coming years will serve as a very expensive learning experience for the entire nuclear industry, irrespective of whether Unit II ever produces another kilowatt-hour.

Fortunately, GPU's customers face no prospect of power shortages this summer. The PJM pool, of which GPU is a member, has significant excess generating capacity over projected summer peak loads (as do virtually all regions of the

¹ New York Times, Apr. 4, 1979, p. D-6.

² Conversations with Pennsylvania Consumer Counsel and New Jersey Office of Public Advocate.

country). With Three Mile Island Unit II in service, PJM was projecting a reserve margin of 30.6 percent. Without the plant, their reserve margin only drops to 23.0 percent.³

But the costs to GPU will be high. The NRC's assistant director for material safety standards, Robert Barnero, has offered his opinion that decontamination and repair procedures will take at least one or two years, and perhaps as long as four years. He has also offered a ballpark figure of \$150 million in costs for such a procedure, including \$100 million for a new core. Or course, such estimates are highly speculative, since it may be months before the reactor containment can safely be entered for inspection.

If repair and continued operation of Unit II proves to be unviable, either technologically or economically, then the reactor must be decommissioned. Here again cost estimates vary widely, but a few relevant examples should suffice. In a 1976 rate case, GPU's expert witness on this issue, Mr. W. A. Verrochi, estimated a cost of \$40 million, in 1974 dollars, for entombment of Three Mile Island Unit I. Dismantlement, a more thorough decommissioning method, would cost on the order of \$100 million, in his opinion. In another instance involving a GPU subsidiary, *Electrical World* reported last year that "At Oyster Creek, Jersey Central Power and Light estimated dismantlement cost of \$100 million—more than 150 percent of the 65 million construction cost (figures in 1976 dollars)." ⁴ Clearly, disposal of a useless nuclear reactor does not come cheap.

Another very expensive outcome of the Three Mile Island accident for GPU, and particularly its Metropolitan Edison subsidiary, is the need to obtain replacement power for the unit. GPU has cited a cost of \$600,000 per day for this power. We believe that use of a reasonable capacity factor estimates would place this cost nearer to \$300,000 to \$350,000 per day, on average, over the next year.⁵ However, even our lower estimate results in replacement power costs of almost \$110 million a year.

WHO SHOULD PAY?

The Environmental Action Foundation firmly maintains that all responsibility for the financial consequences of the Three Mile Island accident belongs with General Public Utilities. GPU can file insurance claims, sue Babcock and Wilcox if it believes that company is liable, or take other responsible action to minimize the impact of this accident on its stockholders. But it should not be allowed in any way to shift its financial burden to its ratepayers.

GPU's customers did not choose to build the Three Mile Island plant, they did not select Babcock and Wilcox as the vendor, they were not responsible for the design or quality of the plant, nor the hiring or training of its operators. Most important, GPU's ratepayers did not choose to risk investing their money in the plant in return for compensation for that risk. To make them pay for the mistakes or errors in judgment of GPU management or other parties is imply unacceptable.

There are three regulatory bodies which have jurisdiction over this issue: the Pennsylvania Public Utility Commission; the New Jersey Board of Public Utility Commissioners, which regulate GPU's Jersey Central Power and Light subsidiary; and the Federal Energy Regulatory Commission, which regulates GPU's wholesale sales.

If these three bodies fail to take immediate action, GPU customers will automatically find themselves picking up the tab for this accident, because as matters now stand, they are being charged for their electricity *twice*. They are paying carrying charges upwards of \$300,000 per day on the disabled Three Mile Island plant,⁶ since the unit has not yet been removed from the rate base; and they are paying for replacement power, the charges for which will soon inflate their utility bills; Metropolitan Edison customers can expect to see increases on the order of 15 percent.

³ From a report to DOE by the Mid-Atlantic Area Coordination Group, Apr. 1, 1979, via phone conversation with Tony Como, DOE/ERA.

⁴ *Electrical World*, July 15, 1978, p. 20.

⁵ The \$600,000 per day figure results from an assumption of full power output. Using a capacity factor of 60 percent, which experience has shown to be conservative for Babcock and Wilcox reactors in their first years of operations, we obtain a figure of \$360,000 per day. If part of the power loss can be replaced by coal-fired generation, the cost could be \$300,000 per day or less.

⁶ The figure of \$300,000 per day results from applying a very conservative 15 percent carrying charge to GPU's \$780,000,000 investment in Three Mile Island Unit II. The actual rate is likely closer to 20 percent, or \$400,000 per day.

This situation is inherently inequitable; the three regulatory bodies involved should either disallow recovery by GPU of its replacement power costs, or they should remove the Three Mile Island Unit II from the rate base and disallow all expenses associated with it. The action taken by these commissions will be closely watched around the country, since it may largely determine if utilities and the nuclear industry will ever be held accountable for their mistakes.

There are precedents for the action we recommend; they don't involve such astronomical costs, but then, there has never been such a costly nuclear mistake.

Ironically, the Pennsylvania Public Utility Commission in 1976 prohibited Metropolitan Edison and Pennsylvania Electric from including in their rate bases a \$9 million construction error involving a faulty concrete pour at the Three Mile Island Unit I.⁷ That same year, a citizen group in Maine got that State's commission to force Central Maine Power to make refunds of nearly \$3 million of fuel adjustment overcharges that resulted from leaking nuclear fuel rods supplied by Combustion Engineering.⁸

Late last year, Oregon Public Utility Commissioner Charles Davis denied a request by Portland General Electric for a 20 percent residential surcharge to cover purchases of replacement power necessitated by the outage of that company's troubled Trojan nuclear unit.⁹ Finally, just this January, the New York Public Service Commission ordered distribution of \$16.8 million by Consolidated Edison to its customers. The NYPSC determined that Con Ed should pay for part of a six-month refueling outage at its Indian Point Unit II reactor, since the refueling should only have taken about two months.¹⁰

We urge the three regulatory commissions with jurisdiction over General Public Utilities to follow the equitable course demonstrated by these precedents by placing full financial responsibility for the Three Mile Island accident on those responsible, and not on ratepayers.

THE RISKS OF INHERENT UNRELIABILITY

Three Mile Island Unit II is not an isolated instance of the inherent risk of nuclear generation, though it is certainly the most compelling example to date. Other accidents, such as those at Brown's Ferry or at Fermi I come to mind. I'm sure you're all aware that several other nuclear units are presently experiencing unscheduled outages, including the 5 units shut down two weeks ago by the NRC for design errors in their ability to withstand earthquakes. This NRC action generated numerous cries of regulatory overkill and overcaution from pro-nuclear advocates.

No doubt many of the same people would also have protested loudly if the NRC had shut down Three Mile Island for a check of its cooling system; such action might have spared the country a nightmarish week and could have saved GPU as much as \$1 billion. In the wake of this accident, the already high forced outage rate of nuclear units will go even higher, as regulators and the public re-examine their concepts of nuclear safety, and demand more stringent standards.

Such a re-examination may reduce, but can never eliminate, the inherent potential in nuclear power generation for accidents such as that at Three Mile Island—or worse. It is crucial that it be made clear that the financial risks (although not the health and safety risks) of decisions to continue to construct and operate nuclear plants, are squarely on the shoulders of those who make the decisions.

Consumers must no longer be forced to bear all of the risks of poor design, operator error, or other shortcomings for which utility management is primarily responsible. It just may be that the power companies won't be quite so eager to gamble on nuclear power when their own money is at stake.

Senator KENNEDY. Now, let me ask you, the members of the panel, all of you made a strong case about allocating the costs, the risks, and the burdens of this. But really, does it make much difference in the long term whether you're going to allocate the cost now to the stock

⁷ Penn. P.U.C., Orders in Case No. RID-170, 171, June 22, 1976, and RID 172, 173, June 2, 1976.

⁸ Letter from Seward Brewster, Secretary, Central Main Power, to L. H. Stanley, Chairman, Maine P.U.C., Oct. 29, 1976.

⁹ Reported in *Electrical World*, Nov. 1, 1978.

¹⁰ N.Y. P.S.C., Opinion No. 79-1, Case 27123, issued Jan. 19, 1979.

holders, for the reasons that Mr. Charnoff has made in his presentation, that if you penalize the stockholders and penalize the management, through putting pressure on the stockholders, it's going to be more difficult for them to go out and get new capital. They're going to have to pay higher rates of interest on that new capital. They will be able to justify those increased rates to the public service commission, and bump that onto the backs of the consumers in any event.

So really, does it really make much of a difference in terms of the allocation? Aren't the consumers basically going to end up with the burden in the end, even following what the panel has suggested here?

Mr. MEYER. Senator, I think over the short term these effects may occur. For example, now in the bond market we see Virginia Electric Power paying higher premiums for its long-term bonds because of its nuclear capability, reacting to these conditions.

However, over over the long term, I think that allowing them to escape responsibility is what is going to place pressure on the consumers. I think if the responsibility is at least shared through rate-payers and stockholders, that there will be greater pressure in the long run for stockholders to make sure that management is making the right kind of decisions and engaging in the proper planning, and not making the kind of mistakes that frequently occur around the country.

I think on the long run, that will be the situation.

Senator KENNEDY. What do the other members of the panel say?

Mr. WIDOFF. Senator, I would agree with Mr. Meyer's statement. As I indicated in my testimony, if we want to see rational economic decisions made, there has to be a penalty for mistakes. If the consumer sits as the insurer for all of the errors or mistakes that are made by the utility companies, we will never expect to see a change in their approach to their investment policy, because they are completely insulated to the consequences of their decisions.

And generally, as I tried to review in my testimony, in my opinion they have been all too insulated by the utility commissions around the country. So I think that there will be costs—I don't see how anyone can deny that—and the consumer will wind up picking up the additional costs of the utility business as the utility business becomes more risky. But I do believe it is important to make the industry more accountable before they invest billions and billions of dollars more without any real concept of the consequences to everyone concerned.

Senator KENNEDY. Mr. Lederer.

Mr. LEDERER. Senator Kennedy, I think that probably in the short run it won't make any difference—

Senator KENNEDY. What do you mean, it won't make any difference? You mean the consumer does end up paying for it?

Mr. LEDERER. In the short run, because the money has already been committed. But where it will make a difference is in the long run, that is over the next 5, 10, or 15 years. What we have learned about regulation is that rate hearings and the decisions about who is to pay is always made in the short run, while the utilities have already committed themselves to those programs over the long run. So it becomes an after-the-fact kind of allocation; whereas the utilities make their decisions now, that take into account their ability to pass on the risks for the next 10 or 15 years. And I know that it is the case with the utility companies that I have to deal with in this city that they have made

financial commitments every year for the next 10 years, and they have already planned rate increases every year.

We have this in this record, evidence of a proposed rate increase every year for 8 of the next 10 years. So, as a result, that somebody at some point has to get the point across that these risks are planned for, and I think that's what we're really talking about. These risks have to be assessed openly on the front end, and the utilities have to be made aware that the purpose of the regulation is to put a little burden and self-discipline on them and not to provide risk insurance for any management errors.

Senator KENNEDY. We're talking about several hundred million dollars for loss or replacement, or whatever. Several hundred million.

Mr. LEDERER. More.

Senator KENNEDY. Pardon.

Mr. LEDERER. More.

Senator KENNEDY. That's the low side. It's been estimated in excess of 1 billion. Let's call it in the several hundred millions. That's enough to boggle the minds even of the Members of Congress. [Laughter.]

The fact of the matter is that it would effectively bankrupt, I would imagine, the stockholders. Wouldn't we come pretty close to bankrupting that utility? Does that serve any kind of public service?

Mr. WIDOFF. I think it obviously would depend on how the costs are shared. And there are, obviously, all kinds of possibilities that can be considered. Obviously, if all the costs were forced upon the shareholders of the company, you might very well have the situation you're describing.

But I think what we are concerned about, we have seen time and time again a general lack of accountability. I think that's what we're concerned about.

Senator KENNEDY. Mr. Meyer.

Mr. MEYER. I would just like to point out one thing. It may not be a pleasant prospect, but bankruptcy does happen in this country every day. It's supposedly one of the risks of our economic system. And although we don't want to see these customers without electricity there are alternative methods of financing and managing utility systems that could be employed.

If the General Public Utility system does experience these kinds of liabilities, it could be taken over by one of the stronger utilities in Pennsylvania, after liquidation of its plant and reevaluation of it. As well, the citizens and towns affected might decide to form a public utility district. There are many such areas around the country, including Los Angeles and Seattle. You could buy this plant from GPU and the stockholders and make partial repayment for the cost of their investment.

The State of Pennsylvania might decide to set up a power authority like the State of New York has to take control of these assets, compensating GPU stockholders and running the utility. So I don't think bankruptcy is the only alternative.

Senator KENNEDY. You mean that the accountability can be there without endangering the interest of the consumers in terms of providing the service?

Mr. MEYER. I think it's quite possible. I think we don't want to jump in and do it in the next week. I think we have to look at all the alter-

natives. But I think there are ways to work this out, presenting the viability of the system, and when utility managers at GPU, as an example to other management around the country, begin to find out that not all the risks are going to be taken by ratepayers.

Senator KENNEDY. Mr. Lederer.

Mr. LEDERER. Senator, I think the problem is that right now we have an enormous amount of money that may have to be written off, and there is no easy solution. It's going to be very, very painful to either the company or to the ratepayers, and I think that what we're trying to say is that while we go through that painful process, let's try to have this be the last time we have to face this kind of agonizing decision—the bankruptcy of ratepayers or the bankruptcy of companies—and let's see if we can have them do much more effective systemwide planning so these kind of risks will be shared among all the companies in the region, instead of having to be borne by one particular company, so they can change the way they plan in the future.

I think that may be the most important thing to come out of this hearing: How we deal with it in a regulatory fashion.

Senator KENNEDY. Mr. Charnoff, would you like to—

Mr. CHARNOFF. Let me say, I assume if one would institute some new system of punishment, that that would be a system of reward as well. And what should be recognized, for example, as Mr. Widoff mentioned a statement of the Connecticut Utility Commissioner, my understanding of these two utilities in Connecticut is it is generating 50 percent nuclear and 40 percent oil and 5 percent other. And I would hope the system that Mr. Widoff and others would propose will also recognize and reward those managements that have provided to their consumers the savings that are obviously flowing to the consumers in Connecticut and in general from the nuclear choices they made years back, as compared to what the costs might otherwise be if they had gone on with their normal oil-burning capacity.

Mr. Widoff also mentioned the Pennsylvania Power & Light Co., as being a company that has had no new base rate increases. He forgot to tell you that P.P. & L., that same company, is building two very large nuclear plants that are to be installed in 1981 and 1983. It was that same company that built the coal plant which was the subject of the case I mentioned in my testimony, because it was out for a considerable period of time.

What I'm saying is that managers make decisions all the time and some turn out to be unfortunate and many turn out to be fortunate. And the system, if we are to unregulate the utility commissions, might well be a good thing to do, but we ought to be looking at it from the standpoint of the consumer, and we may find that higher risk, which also brings higher rewards, may turn out to be far more costly to the consumer than the present system we now have.

I'm not saying the present system is perfect, by any means. But let's not just focus on this specific unhappy event and determine national policy on that basis.

Representative ERTEL. Thank you, Senator

I appreciate your comment, Mr. Charnoff, that we not determine national policy on just this one incident. But I take it from your prepared statement you believe that if somebody makes what you call a fortunate decision—we would call it a good decision, and a bad deci-

sion—one who has made a bad decision must suffer and not the consumer in the area?

Mr. CHARNOFF. I think the whole thrust of my prepared statement was that if you would allow investors in utilities, as have investors in steel plants or oil plants or whatever it is, earn the normal rate of return that investors in those industries obtain, which provides them with higher rewards when their managements perform well, and poorer rewards when the management doesn't, then we have a system of reward and punishment. What we now have, however, is a system which provides a restricted rate of return, and under a restricted rate of return there is automatically a sharing when the consumers are the investors.

Representative ERTEL. You forget one thing, do you not: With the restricted rate of return, we also give them a market which we restrict other people from entering.

Mr. CHARNOFF. And in return for giving them that market and depriving others of that market, the whole basis for that restricted market is that we won't compel unnecessary construction of plants that we don't need in this country or in any particular area. That's the concept of public utility monopoly authorization, and that is, as Senator Jepsen mentioned—that's why we have State utility commissions, which determine not only rewards and punishment within their little limited system, but which also determine the need for the plant. And sometimes they underbuild and sometimes they overbuild.

Senator Kennedy said we now have excess capacity. That's true. That's because of the long lead time for plant construction, which makes it inevitable that decisions are made many years before the need arises. We were able to project the needs very easily until 1973 and 1974. A lot has happened in this country since then, one of which has been a decrease in demand. We automatically have higher capacity as of now.

Perhaps the major concern is our ability to pace to 1985-88.

Representative ERTEL. I think what we're saying is we trade off one thing for another. We give them a monopoly; they have that market. It's there for them with no competition, and in exchange for that we limit their ability to make excess profits.

But what we haven't put in this equation is the responsibility. We have to put responsibility in there somewhere.

Mr. CHARNOFF. You have raised a profound question. I will readily concede that my only point with respect to this, sir, is that I think it goes well beyond the utility industry in this country.

Representative ERTEL. I would agree with you. It goes in any regulated industry, I think, which has somewhat of a fixed rate of return.

Mr. CHARNOFF. It may even go beyond the regulated industries. You raise a very serious, profound question, that obviously is not easily answerable.

Representative ERTEL. Thank you very much, Senator Kennedy.

We have a vote in the House, and I have to leave.

Senator KENNEDY. Senator Jepsen.

Senator JEPSEN. Thank you.

I would like to ask the three gentlemen who last testified to answer either yes or no.

Representative ERTEL. Pardon me. Would the gentleman yield for a moment?

Senator JEPSEN. Yes.

Representative ERTEL. I would just like to thank Mr. Widoff for coming down from Pennsylvania. I am from Pennsylvania and I appreciate his coming.

Mr. WIDOFF. Thank you, sir.

Senator JEPSEN. Mr. Meyer, do you support nuclear power as a source of energy? Yes or no?

Mr. MEYER. I would say I have severe doubts, after the events of the past few months.

Senator JEPSEN. Mr. Widoff, do you support nuclear power as a source of energy?

Mr. WIDOFF. I don't support its development at the level that is presently projected; no.

Senator JEPSEN. Mr. Lederer, do you support nuclear power as a source of energy?

Mr. LEDERER. I think it's proved to be extremely costly and unreliable, and I would not encourage utilities to look at nuclear generation as an option.

Senator JEPSEN. Well, I share the compassionate concern for the general health and safety of the public, with all America. I would remind those here this morning, and those in the last 10 days, who have been participating in this, that critics can kill a play, but they write very few. And if there is a mismanaged company, whether it be in the utility business or in any other business, shareholders should be upset and consumers. It adds to their economic burden. They should be upset.

But in our democratic society, there are avenues of redress.

I think we should identify what the big picture is here and put it on what I consider to be a commonsense, positive basis. And there hasn't been very much of that, in my opinion, as I read and view the scenario that has unfolded here in the past couple of weeks in regard to the area of the Three Mile Island.

As you know, the Government of the United States has been waffling on nuclear power for years. How much do we need? Are we really going to get serious about generating a large percentage of our electricity from nuclear power? Or are we going to give in to fears and misunderstandings and bury the program?

More than one President has tried to put forward proposals to streamline the nuclear regulatory process and to standardize safe designs of nuclear powerplants so that redtape and construction costs can be held down. The emotional opposition to such a program has so far kept them from being enacted.

I'd like to make the following suggestion. Surely it must be possible to design a thoroughly safe powerplant. Why don't we do that? When we have safe designs on paper, we can tell any company that wants to build a plant that these designs will get past all the licensing requirements promptly and automatically.

This rapid processing by the bureaucracy would save any electric company far more in construction costs than the safety features could possibly cost, even if we had quadruple backup systems for any eventuality.

Now, I would remind you that in spite of the high drama scenario of the Three Mile Island power station, no one was hurt. Mr. Widoff mentioned the disaster, which is a typical emotional word used all through this scenario. I would remind you that in 25 years of experience with nuclear power, no member of the general public—and very few utility workers—have suffered any injury from it.

Finally, I need not remind you we have an energy crisis in this country, largely because of government interference with the oil and gas industries.

Now, we see the result of government indecision and public emotionalism in the nuclear power industry. We should have had all of these design and regulatory problems resolved over the past 25 years. Then maybe this whole mess could have been avoided.

One thing we must not do is give up on the future of nuclear power. We can make that a safe and productive future if we get serious and we don't panic. What we need is commonsense leadership. We need to get a clear commitment from the Department of Energy and the President that: One, nuclear power is necessary; two, it is possible to design a thoroughly safe plant, and that a variety of safe designs can and should be set down and standardized, and then get about doing it.

And finally, once these designs have been standardized, the assurance that firms wish to use a standard design should be free of bureaucratic delays and court challenges, which would reduce costs by enough to pay for any needed additions to safety systems, and thereby not generate any additional and unnecessary costs to be passed on to consumers.

I just felt, Mr. Chairman, a perspective was needed at least to be injected into this, and I would ask that the statement in these questions be presented by some staff member to the Department of Energy.

Senator KENNEDY. Fine. They will be so sent.

The purpose of this hearing today is really not to debate the pros and cons of nuclear energy. But I think, as millions of Americans and I think every family who during the period of these last 10 days has watched television and read the papers, have thought very deeply about families in the Three Mile area, concerned about their children, concerned about senior citizens, concerned about the young people, the most vulnerable people in our society. And what I think the Three Mile shutdown has meant is that once again the technology is not fail-safe. Mankind is not clever enough to devise technology that at somewhere along the line is going to be perfect. It just has never been done and it is not going to be done in nuclear energy.

What we have to do is ask our society for an assessment of the costs of the development of nuclear energy, the shutdowns, the real dangers of the nuclear accidents that we came close to—and all of us are thankful that we didn't come any closer—we have to think of the alternative sources of energy: Of oil, of the interruption of oil; the availability of gas and the shortage of that, the flow line of what it's going to mean in terms of availability to the United States, its national security, its economy; the cost of the development of coal resources more effectively; of tar sands or oil shale, or what it is going to mean in terms of, on the one hand, risks to either miners or the people that

will inhale the fumes, or in their availability to our economy and to our security.

We must measure these tradeoffs and have the American people measure them in making fundamental choices on their sources of energy. That has to be done.

It hasn't been done by the Congress. It hasn't been done by the Department of Energy. It hasn't been done by the Nuclear Regulatory Agency. It just has not been done.

As we once again face a President attempting to come to grips with national energy policy, it still will not have been done by the agencies of Government. The American people are entitled to that discussion and they're entitled to a debate on those alternatives. And they are going to make various kinds of judgments, and they have to take the assumptions of certain types of risks, and I think we are constantly assuming risks and benefits in our society every single day.

But we have failed to at least assemble those in a definable way in the energy area. That's what I think part of our important responsibility of this subcommittee is, to try and help the Congress. And we welcome the Senator's involvement on it, and we are going to instruct the staff and interested Members of the Senate in working with the Department of Energy and other agencies to try and present such an assessment of the economic implications, primarily, which we have as members of the Joint Economic Committee and as the Subcommittee on Energy.

Beyond this, I would just say, as we here ran through the course of our hearing this morning, it basically is bad news for the consumers of Harrisburg and the Three Mile community. They are going to see important increases in their utility bills; they are going to see important increases over the longer range, either in the shutdown, in the containment of this facility or its restoration. We are talking in the hundreds of millions of dollars. It's been estimated over a billion.

But whatever costs we're talking about and whether we like it or not, our system and our structure, whether it's local, State or Federal, has not established itself to provide the kind of accountability which I think the witnesses that appeared here this morning felt there should be.

The fact of the matter is, whatever mistakes were made, whether they were technical in nature or human in nature, are going to be paid for by the consumers in increased utility rates. Senior citizens, working people, and small businesses alike, in that area, are going to bear the heavy brunt of whatever mistakes were made.

I feel that that's a serious injustice, and it's something that has to challenge those of us in the Congress and in the States. It has to challenge those in the Congress to work with the States and local communities for a solution.

But on this particular issue they, I think, are going to experience those kinds of increases unjustifiably.

As I mentioned at the outset, it's really a Catch-22. People cannot help but wonder about the mood of the American people and their sense of frustration. They reduce their rate of utilization of electricity and costs go up because the utility has to have an increase in order

to meet the 13-percent rate of return. And if there's a shutdown, they end up the ones that take the burden on this.

So in any way around, it is the consumers in this instance who have borne the extraordinary burden. They have borne this initially and the potential for real danger from low-level radiation. I think, as we saw in our hearings yesterday, those risks are minimal. We are going to work closely with the relevant agencies of Government to insure the kinds of monitoring and followup that the people are entitled to. But they are going to be faced with increases in utility costs, and I think part of the challenge to this subcommittee and to others shaping energy policy is to bring more accountability and be more responsive to the very tight budgets of the families in the Three Mile area. This subcommittee sees these increases going up ad infinitum and without very much voice or very much control over those policies.

I want to thank our witnesses who have appeared today on the panel. The subcommittee is adjourned.

[Whereupon, at 12:30 p.m., the subcommittee adjourned, subject to the call of the Chair.]

