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HEARINGS

Before The

SUBCOMMITTEE ON NUCLEAR REGULATION OF THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

UNITED STATES SENATE

THREE MILE ISLAND CLEANUP

WASHINGTON, D.C.

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HEARINGS ON

THREE MILE ISLAND CLEANUP

FRIDAY, NOVEMBER 9, 1979

United States Senate,

Subcommittee on Nuclear

Regulation of the Committee o

Environment and Public Works,

Washington, D. C.

The subcommittee met at 9:37 a.m., in room 4200, Dirksen Senate Office Building, Hon. Gary Hart (chairman of the subcommittee) presiding.

Present: Senators Randolph, Hart and Simpson.

Senator Hart. The hearing will come to order.

Yesterday, this subcommittee ventured into largely uncharted territory. We explored the many unknowns of recovering from a major commercial nuclear accident. The trip into the new regulatory terrain was not exactly a reassuring one.

for example, we learned that nearly eight months after
the Three Mile Island accident there are still no guidelines,
regulations or technical specifications from the Nuclear
Regulatory Commission to guide the cleanup and recovery
operations at Three Mile Island. We also learned that without

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such regulatory guidance the ultimate costs and duration of the operation remain very much in doubt. Further, the utility's ability and willingness to bear these costs, and to assure the continuity of this operation also are in doubt. We became familiar with the intricacies and the hazards of each step of the cleanup operation -- from the initial step of decontaminating the auxiliary building water to the final crucial step of dismantling and removing the highly radioactive core.

The major lesson of yesterday's hearing, for me at least, was the understandable nervousness of the nearby neighbors of the Three Mile Island plant. To quote the Chairman of the Board of Supervisors of Newberry Township: "Met Ed's present piecemeal appraoch," referring to the cleanup process, " is driving Newberry Township residents batty." Chairman Bruce Smith further stated: "A long-range, step-by-step plan could better prepare the community as well as the community leaders with the problems and dangers to be confronted with the cleanup process."

However, testimony yesterday from utility and NRC officials indicated that each side is, at least to some degree waiting for the other to make the first move. It seems that Metropolitan Edison, and its parent utility, General Public Utilities, are waiting for the NRC to provide the specifications for each technical step to be taken, while the

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NRC wants to have the utility's plan in hand before deciding on the step-by-step speicifcations. This kind of hesitancy an uncertainty, in my view, is not in the public interest; surely it is not reassuring from the perspective of those who live in the shadow of the cooling towers of Three Mile Island.

The impact on the costs and the potential health effects of the recovery operation are enormous. For example, the subcommittee investigation staff advises us that the cost of removing the radioactive krypton gas from the containment building can range from zero to \$100 million, depending upon whether the gas is released to the atmosphere a little bit at a time or whether it has to be compressed and carted away in tanks. Thus, there seems to be a basic conflict between the need to proceed with recovery operations swiftly and the need to proceed cautiously, and therefore more slowly, to satisfy public concerns about the safety of each step of the operation

Today we will hear from members of the Nuclear Regulatory Commission, and we will want to explore in particular how they plan to resolve this basic conflict.

For example, is the Commission planning to prepare a full envrionmental impact statement before the cleanup operations can proceed beyond the present stage of decontaminating the auxiliary building water? If so, how long a delay will this involve? And what if there are emergency steps that have to be taken on a timely basis?

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We also will hear today from the Treasurer of General Public Utilities and from members of the Securities and Exchange Commission on matters pertaining to the financial ability of the utility to sustain the costs of the cleanup operations. It turns out that these financial questions are an integral part of the nuclear regulatory process and of our oversight responsibilities with respect to the Nuclear Regulatory Commission. Our investigative staff advises us that, to date, a utility's ability to pay the costs of recover; from a nuclear accident has not been considered part of the financial review by the NRC in granting a utility a license to operate a nuclear power plant. In fact, a member of the NRC testified recently before this committee that the financial review portion of the licensing process was "excess baggage" that the Commission could well be relieved of. It now seems that these financial considerations should be a high priority in the nuclear licensing process.

What if we looked into a utility's ability to finance a nuclear power plant and operate it and it turns out that is sound, but if the plant has a major accident and requires considerable rehabilitation and that utility doesn't have the financial ability to finance that, then what does the public Under existing law, if a utility goes bankrupt before it can complete the cleanup after a nuclear accident, the responsibility for maintaining the plant falls squarely on the

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Is the NRC now prepared and qualified to take on such a responsibility? We will want to explore this issue very close today. I think in light of the fact the Congress is being confronted with the proposition, if not the necessity, of substantial financial assistance to one of the major corporations in America, the role of the Federal government in private financing, particularly under dire circumstances, is becoming an increasingly important one. We are talking here about an industry that runs in the tens of billions of dollars, and the question of who pays when it comes to cleaning up is obviously becoming a much more visible and important one

Senator Simpson.

Senator Simpson. Thank you very much, Mr. Chairman.

Yesterday, we heard expressed the sincere concerns of the residents of the local population around Three Mile Island regarding cleanup and recovery operations at the site. Senator Hart has quoted, we had a most refreshing witness who siad that up there, the piecemeal approach was driving them batty, and everyone understood what he was saying when he said It was certainly precise.

The testimony, on balance, underscored my belief that a new and more candid planning approach is needed by the utili and especially by the NRC to manage the recovery situation. T utility witnesses stated that a general plan for recovery and cleanup was under development, but that much of the detail wou

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have to be developed as the recovery effort proceeded and as new and possibly changing regulatory requirements were imposed The NRC witnesses testified that flexibility was needed to develop regulatory requirements as the recovery process moved forward. To be sure, I think some flexibility on the part of the utility and NRC may be needed to tailor the cleanup program to the situation at the site, particularly as that situation becomes more fully known.

Nevertheless, I feel that a greater sensitivity to the needs of the local community is essential here. We are not dealing, as the Commission normally does, with a new application to built a facility. Rather, we are faced with a severely damaged plant that is now in stable condition but which poses continuing risks to the local population and to the workers at the site. And we are certainly faced with a community which is already anxious as a result of the accident and highly skeptical of the two organizations directl involved in the cleanup; that is, the NRC and the utility. Given this situation, it seems to me prudent, if not essential for the NRC to lay out in detail for full public review the standards it expects the utility to meet and the means it will use to ensure the compliance.

Mr. Chairman, we will have the Commission with us today, and I would be very interested in hearing reasons why the agency cannot say definitively what it is and is not willing

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to allow in terms of releases into the atmosphere and river during the cleanup operation, what the impact of those release is likely to be and what limit should be imposed for the workers and what insurances we should use to ensure the applicable standards are met. I understand that the NRC staff prepared a package of new regulatory requirements somewhat along those lines several months ago and forwarded them to the Commission. I hope that we might know the status of those propose requirements and what the Commission plans to do concerning them. As I see it, such a set of regulatory requirements properly validated through public review and comment, followed by the preparation of detailed recovery plans to meet those requirements, again subject to public scrutiny, would do much to ease the legitimate local concerns.

Mr. Chairman, the second issue of our hearing today, and one we will review carefully, is how the Commission intends to discharge its responsibilities under the National Environmental Policy Act of 1969. Again, the question seems to be whether the Commission plans a piecemeal approach to recovery or whether a more comprehensive approach to consideri environmental impacts is warranted. I think the Council on Environmental Quality will be helpful in that regard.

Finally, and presently, we have this opportunity to explore further with the utility representatives and with witnesses from the Securities and Exchange Commission the

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financial situation concerning the utility and how that affects of will affect its ability to pursue the necessary cleanup operations at the site. I look forward to hearing tho witnesses.

Thank you, Mr. Chairman.

Senator Hart. Thank you, Senator Simpson.

Our first panel of witnesses this morning includes Commissioner Philip Loomis of the Securities and Exchange Commission, accompanied by Mr. Aaron Levy, Director of the Division of Corporate Regulation of the SEC; and also Mr. John Graham, who is Treasurer of General Public Utilities Company.

Gentlemen, we are pleased to have you with us. Mr. Loomi you have a prepared statement, as I understand.

Mr. Loomis. Yes, sir.

Senator Hart. We would be pleased to have you summarize that. These are investigative hearings, and therefore it has been the custom and rules of the committee to swear the witnesses before this committee. So if you gentlemen will stand and be sworn.

In the statements and answers you are to give before this subcommittee, does each of you swear to tell the truth, the whole truth and nothing but the truth so help you God?

Mr. Loomis. I do.

Mr. Levy. I do.

Mr. Graham. I do.

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Mr. Loomis, please proceed.

TESTIMONY OF PHILIP A. LOOMIS, JR. COMMISSIONER,

UNITED STATES SECURITIES AND EXCHANGE COMMISSION;

AARON LEVY, DIRECTOR, DIVISION OF CORPORATE

REGULATION, UNITED STATES SECURITIES AND EXCHANGE

COMMISSION; JOHN GRAHAM, TREASURER, GENERAL

PUBLIC UTILITIES COMPANY

Mr. Loomis. Before proceeding with my prepared statement I would like to make an explanatory remark. The subcommittee yesterday asked us two questions: first, what the SEC could do to protect the utility from bankrupty; and second, their authority in case bankruptcy occurs. Our statement provides short answers to these two questions because we did not have time to explore all the implications and possibilities that are implied from your questions, some of which are unsettled, because aside from a new small cases in the 1930s, there have been no bankrusty reorganizations of electric utilities, and obviously the issues would have been different than the bankruptcy of an ordinary industrial corporation, which is simply the closing down and turning off the lights and liquidating its assets and dividing among the creditors. That thing, as a practical matter, could not be done with an electric utility.

So summarizing my prepared statement, GPU, General Public

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Utilities, is a registered holding company under the Holding Company Act, which is a state administered by the Commission GPU and its predecessors have been regulated as such by the Commission since the Act became effective. GPS is a pure holding company which owns all the common stock of its three operating subsidiaries, Metropolitan Edison Compnay, ylvania Electric Compnay and Jersey Central Power & Light GPU has no outstanding securities except common stock, and, in essence, its stock represents the common stock interest in the subsidiaries.

We are submitting as an exhibit financial and operating data prepared by our staff shortly after the accident from the December 31, 1978 filings of GPU and its subsidiaries, to summarize the capital structure and 1978 income of each company, the classification of the utility plant and the source of the electric energy sold.

GPU has \$4.6 billion of consolidated assets, of which Metropolitan Edison accounts for \$1.2 billion, Pennsylvania Eelctric \$1.4 billion and Jersey Central \$1.9 billion. Consolidated common equity was just under \$1.4 billion, the funded debt just over \$2 billion.

Without going further into these financial matters at the moment, one of the purposes of the regulatory provisions of the Act was to require that the members of holding company systems be soundly financed with too high a level of debt.

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The GPU system has only about 50 percent of its capitalization in the form of long-term debt. Its bank loans, at the time of the accident, were only \$100 million, about two percent of its capitalization. Following the accident, it negotiated a recolving credit agreement, for a two-year term, which makes about \$450 million available over that two-year period. The interest rates on that financing were quite comparable to that charged other utilities.

By requiring proper financing, the Act and regulations seek to keep each utility company highly solvent and most unlikely candidates for bankruptcy, except under extraordinary conditions, which may be here. Neverthe less, utility companies depend on reveneus to pay their expenses. If revenues were to become insufficient, the utility company woul become unable to pay its bills and, consequently, unable to operate. Available revenues depend on rates. Neither the Securities and Exchange Commission nor the bankrupty court could protect the utility from such cash deficiency whether it went into bankrupty or not. But as a practical matter, arrangements would have to be made to continue to supply the community with electricity, and unless some external power sources was found -- we don't know of one here -- this would require measure to enable the utility to operate.

You asked if the Securities and Exchange Comission has power to control or approve any reorganization plan necessitat PHONE: (202) 833-3598

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by the current or prospective insolvency of the utility. Section 11 of the 1935 Act -- a copy of the pertinent subsections is attached to my statement -- deals in some detail with that subject.

Section 11(e) of the Act permits a registered holding company or any subsidiary to submit a reorganization plan under the 1935 Act to the Commission. If the Commission finds that the plan is necessary under the Act and is fair and equitable to the persons affected thereby, it approves the pla which is then presented to a Federal District Court for an enforcement order. If a reorganization takes place in bankruptcy, Section 11(f) of the 1935 Act requires that any plan proposed be first approved by the SEC.

Major reorganizations have been effected under each of these procedures.

You asked the SEC's authority in such cases to appoint a trustee for a utility in financial difficulty. Only a Federal court can appoint a trustee under either Section 11(e) or Section 11(f), but the Act gives the Comission the right to be heard on such appointment.

That concludes my prepared statement.

Senator Hart. Thank you very much, Mr. Loomis.

Mr. Graham, did you have any prepared statement?

Mr. Graham. I do not. I would be happy to respond to your inquiries.

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Senator Hart. Thank you very much.

I want to make note also that effort was made to secure the appearance of the Pennsylvania Public Utilities Commission before this subcommittee this morning. The setting of utility rates is, of course, a highly complex and technical area in which each state's procedures present unique intricacies.

Since the ability of the operators of Three Mile Island to finance and conduct cleanup operations on site are directly related to rate making by the Pennsylvania PUC, we did invite members of that body to testify nere this morning to help us understand the difficult issues presented to them. We deeply regret Pennsylvania Public Utilities has refused to allow any of its staff to appear before the subcommittee at this time pending determinations before that commission.

Mr. Loomis, let me ask a few questions to try to understal better the financial situation. Could you tell the subcommitt what degree of freedom the GPU has, the holding company, in obtaining financial resources to assist its three operating utilities? Specifically, would the SEC authorize or be required to authorize an electric utility holding company to issue long-term debt?

Mr. Loomiss. Yes. And, generally speaking, it has been our policy that the holding company should avoid a debt capitalization because its assets are essentially common stock, and to have debt secured by common stock we don't

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approve of. That is why GPU is typical in that it has no significant debt; it just has stock outstanding.

Mr. Levy. Some years ago when GPU was facing stringent cash problems, we did authorize the issuance of long-term debt all of which has since been retired. And the outstanding bank loans today actually were incurred in order to retire the balance of certain long-term debentures then outstanding. So this Commission does have discretion to permit them to issue debt, but usually under extraordinary and unusual conditions.

Senator Hart. Does the data you just presented indicate to you GPU is in sound financial condition overall?

Mr. Loomis. I will leave that to Aaron, but I will make an introductory answer. Its capitalization is appropriate for its operations, we believe, and it seems to me -- and Aaron might not agree, but he will explain -- the particular problem of GPU and Metropolitan Edison is the fact with both of these nuclear plants down and not operating, they have to buy electricity from other sources, and that electricity is very expensive, and the problem is whether or not their revenues will carry the cost of obtaining purchased power. We don't know exactly, I don't think anybody does, what it is going to cost to clean up this plant and what its ultimate phase is going to be. To a considerable degree, there is insurance that covers part of it.

I will ask Aaron to go forward.

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Mr. Levy. The last financial statement we have for GPU's audited balance is December 31, 1978. That balance sheet, the financial data for that year, reflects the fact that the TMI 1 was still then in operation but was withdrawn from service fore refueling in early 1978, and TMI 2 was not in operation by the end of 1978. So that we have a feast of financial results for 1978 with TMI 1 but not with TMI 1. What is going to develop during the year, we are going to get these financial statements and we will have some opportunity to examine as particular proposals and application come before us.

So far as the cleanup costs are concerned, we have no hard data at the present time what the estimated range of Whether or not GPU is able to bear in terms costs may be. of cash resources is also partly a question of time. The estimate we have is about \$100 million for cleanup costs. Over what period of time. Is it six months, or a year? And partly the cash generated by GPU would also depend on the billing it is going to get and its ability to obtain outside sources of loans, all of which must ultimately be adequately appraised. This is something upon which we cannot make a judgment. We don't know.

Senator Hart. Senator Randolph.

Senator Randolph. Thank you very much, Mr. Chairman. I will ask permission to have my statement included in th

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record.

(The statement referred to follows:)

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Senator Randolph. I would like to make a comment. First no overall recovery plant has been presented by Metropolitan Edison, yet the Commission has already approved the processing of contaminated water. Far from representing the kind of deliberate decision making called for by the circumstances, this decision was taken against the backdrop of a diminishing storage capacity.

I understand that the Commission determined that no environmental impact statement was necessary before approving the start of this processing, despite a suit by citizens seeking the preparation of such a statement. It would be my feeling -- and I want us to be very careful, of course, in making just statements -- it would seem that this dispute emphasizes the need for overall impact analysis, Mr. Chairman, once a comprehensive plan is submitted, as well as incremental assessment of the steps as they are contemplated.

Now the step-by-step approach by environmental analysis is plainly inadequate without an overall conception. the record to show that, because we do have to have commitment and the impacts have to be presented in a recovery plan, or the Commission, in my feeling, cannot adequately determine acceptability of particular steps in the process.

I would like to have on the record that the decision making on cleanup at Three Mile Island is environmental by its very nature. To enable the Nuclear Regulatory Commission to

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realistically consider environmental consequences, I would urg the Metropolitan Edison officials to expedite the submission of an overall recovery plan.

Do you feel as I feel, Mr. Chairman, that that is somethi that perhaps has merit? What is your feeling about that?

Senator Hart. Senator Randolph, I certainly think that is one of the issues that came out of our hearings yesterday. We will want to explore that with the NRC commissioners when they appear before us and get their judgment on that. But it is certainly a legitimate concern.

Senator Randolph. Thank you.

Sneator Hart. Thank you for your statement.

Mr. Loomis, assuming the replacement power costs will be covered by the rate base for the utility, in your judgment, should GPU be able to sustain the estimated \$300 to \$300 mill cost of the TMI cleanup? Mr. Levy.

On the basis of the data we have, and adequate rate relief is granted, I can't see any reason why the system should not be able to absorb whatever the cleanup After all, if they are estimated at \$100 million cost may be. \$50 million would be from Metropolitan Edison and \$25 million by Jersey Central dn \$25 million by Pennsylvania Electric. system itself, you see, is approximate \$4.5 million in asset It certainly has ample earning and revenues, on the basis of the assumption you presented, taht that should not present a

Senator Hart. Mr. Dieckamp yesterday indicated that the assets of the corporation were not that liquid and the ability to liquidate those assets was very restricted and very limited Your answer, in a couple of occasions, referred to the assets of the corporation and the size of those assets. I take it the liquidity of those assets does not affect your answer in any regard.

Mr. Levy. Of course, generally the assets of electric utilities are substantially just its net plant. That is what you have got. The others are items you have, some cash and other noncash items. You have to look at the operating revenues and net income and cash flow that is produced. Of course, it may be necessary, to some extent, to engage in short-term borrowings, but you are going to be paid out of other cash resources and earnings, the operating revenue of 1978, which goes toshow that that would not be any financially significant impact, that it can be taken on the assumption you have made in the question; you have presented, namely that adequate revenues will be applied to cover the additional purchased power costs.

Senator Hart. Mr. Graham, along the same line, I am sure Mr. Dieckamp made reference of allusion in his testimony to the possibility of Federal involvement financially here. First of all, he declined to commit the company to paying for cleanu

costs of Unit 2 if Met Ed went bankrupt. On October 18th, during an interview with our investigative staff, you took, I think, almost exactly the opposite position. Our staff memorandum from that meeting states as follows, and I would make the entire memorandum an exhibit in this proceeding, and understand that this is a staff summary of what you said.

(The memorandum referred to follows:)

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Senator Hart. Quoting from the memorandum, "Mr. Graham committed GPU to clean up TMI 2 no matter what circumstances transpired."

First of all, is that a fair assessment of your position, and if so, how do you square that with what Mr. Dieckamp faile to commit?

Mr. Graham. I think it is very important to understand the context in which the question was put to Mr. Dieckamp with the way in which it was put to me, Senator. The question was put to Mr. Kieckamp if the Metropolitan Edison Company went into receivership, would GPU put the money in to cleanup the plant? As Commissioner Loomis and Mr. Levy pointed out, GPU is really an accumulation of the three operating companies. It does not have a source of reveneus separate and apart from those three companies.

As I recall the context in which we were discussing the issue with your staff, we were talking about the three operating companies' working together outside of a bankruptcy or an insolvency of one of those three companies, and I was saying, and I continue to say, we would take all steps that we can and within our power to do the cleanup job and to protect the health and safety of the people in that area. I don't thi Mr. Dieckamp would disagree with that. I think he was asked a very specific question at a time when he was also being aske some fairly complicated questions of what happens in the event PHONE: (202) 833-3598

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of an insolvency, and I think he was saying we aren't sure of all the ramifications. I would continue to agree with him tha that is a very complicated question, that we are not sure of the ramifications.

Senator Hart. Well, I think at some point, an fairly soon, this subcommittee and the Congress will want an answer squarely and flatly on that question, particularly when the president of the company begins to allude to Federal assistance

Again, I will just quote a paragraph from our staff memorandum, which I have just put in the record, about what yo statements were. If they are incorrect, we want to correct them and we will also want, as I have indicated, to get a flat answer and commitment from the corporation at some point in the future.

"Graham committed GPU to cleaning up TMI 2 no matter what circumstances. He said insurance coverage was being continued to pay for \$300 million in cleanup. He said GPU could absorb the cleanup of TMI even if it went to \$500 million, twice the amount now forecast, with significant backing by the Bechtel Corporation."

So I think the public has a right to know, whether throug this subcommittee or some other means, what the position of th holding company is and what the implications are if the holding company is not willing or able to back up Met Ed in an insolvency position with regard to the costs of cleanup.

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Obviously, given the fact that Mr. Dieckamp Mr. Graham. did not feel yesterday that he was prepared to respond to your inquiry, I don't think that I could today. I would just like to say that I do think that, as I recall, the discussion with the staff, perhaps the paragraph you read was too much a summarization of a fairly involved discussion involving a lot of assumptions and questions as to variables.

Senator Hart. One of the staff members at the meeting with you has handed me his notes from what you said, Mr. Jonathan Cotton of our invest gative staff. His notes on the staff discussion with you on October 18th of this year quote you as saying, "We do not distinguish between Met Ed's or all other obligations to get rid of the water, get the core out and maintain the safe condition of the reactor. No one is going to walk away from that obligation."

I think what we are trying to find out is hwether anyone is going to walk away from that obligation, and if so, what is going to have to meet it. And if you or Mr. Dieckamp at this time areunable to make that commitment, then we will want to pursue that as vigorously as we can and get the official GPU position on that matter on the record. I think the people of this country and certainly the people of Pennsylvania have a right to know that. I think what our concern is if GPU will not stand behind that obligation and Met Ed does go into vinsolvency or receivership, what entity is legally obligated

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to maintain that plant and keep the core cool. As you know, that core is still hot, there is damage to the fuel in there, there is a serious public health and safety risk involved, and we are trying to figure out here whether it is Met Ed's responsibility, GPU's responsibility, the NRC's responsibility, the State of Pennsylvania's responsibility, the Congress' responsibility, or whose responsibility it is. And on the answer to that question, in my judgment, could well rest a large part of the future of that industry, because I just don' think we can have companies operating nuclear generating plants for profit, and then when they have an accident walk away, without having some pretty strict ground rules as to what the implications of that are.

Mr. Graham. If I could respond. Taken by the statement I made to the staff -- and I believe that is an accurate statement of what I said, and we do intend, to the best and fullest of our ability, to deal with the problems at the island I woul just like to state again the question you asked Mr. Dieckamp yesterday was in a very specific context, where you had one of the three operating companies, the one that own: half a plant, in receivership, and I don't think he was able to respond to that because I think it is a very complicated I think also that there would be a responibility of the receiver in bankruptcy, the trustee, as to the cleanup activities. So I think it is a very complicated question and

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not one that one can just answer. But I am sure Mr. Dieckamp would stand by the statement that we intend, GPU and the three operating companies, to the fullest of our financial resources to deal with the problems at the island.

Senator Hart. Well, it is eight months, I guess, almost after the accident. Do you know when GPU will be able to answ that question about its obligations under an insolvency situation, or Met Ed's?

Mr. Graham. We have been looking at that kind of questio We have no reason to believe that Met Ed will become insolvent We will continue to look at it, and I will try to report to the committee or its staff as we are able to get a better view of what it means. I think one of the things that is very relevant is what Commissioner Loomis said, there has neve been an insolvency of a major electric utility in the United States, and it is not a situation where a company can go insolvent and close up shop and go home. As you pointed out, someone has to provide the electricity.

Senator Hart. Someone also has to take care of that core which is perhaps even more important.

Mr. Graham. Yes, sir.

Senator Hart. How many days of working capital does Met Ed have?

Mr. Graham. In the electric industry one doesn't calculate days of working capital. Metropolitan Edison Compan

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is a participant in the revolving credit agreement. revolving credit agreement is for approximately \$412 million, which is available to the GPU system. Metroplitan Edison's limit under that is \$120 million. In my point of view, with that bank credit and with adequate rate relief as regards the recovery of the replacement power costs, Metropolitan Edison Company does not have a limit on the number of days of working capital it has.

Senator Hart. Mr. Dieckamp yesterday, I believe, suggested that Met Ed was suffering from a cash flow problem. Can you tell us why he said that?

Mr. Graham. Yes, sir. In the electric power industry, one does have to rely upon rate making to know what your reveneus will be. Our cash problem is that the replacement power costs which we buy on the interchange is costing Metropolitan Edison Company about \$10 million a month every month. Part of that has already been reflected in our customers' bills as a result of the June rate order. We will have to receive from the Pennsylvania Commission and additiona allowance for that fuel expense for that replacement power cos The cash problem arises out of the fact that we are now paying for that power, but we are not yet recovering all of it from our customers. That is why I in my earl er response said that it was necessary to know that we would have rate making that would allow for the replacement power. That is what produces

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the cash crunch. And we have asked the Pennsylvania Commission to deal with that problem by a filing we made a wee or so ago.

Senator Hart. What if they reject your request, what will that do to the liquidity of Met Ed?

Mr. Graham. There would be a difficult cash position. But we have no reason to believe that that could occur. What is happening is that we are paying for the fuel that is being burned either by us or by someone else to supply the electricity that is needed for our customers. We don't have a reason to believe that the Pennsylvania Commission would not agree, as they have already, that that fuel should be paid for by the people who use that electricity.

Senator Hart. Therefore, you see no reason, that being the principal question about the future stability of Met Ed's financing, no reason to believe that that stability will be in question or that Met Ed will survive?

Mr. Graham. I can't say there is no question. I have confidence that the Pennsylvania Commission will see that it should deal with that problem in such a way as to maintain the financial viability of Met Ed and Pennsylvania Electric Company. You will recall that in the spring when faced with that very problem, they did respond in a way that made it possible for the banks to feel that they could give us the revolving credit agreement and made it possible for a group of

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institutional investors to respond and invest in long-term I have no securities of the Pennsylvania Electric Company. reason to believe that the Pennsylvania Commission will not continue to pursue that kind of policy. I obviously have to be concerned because, as is always true with an electric utility, you must receive those revenues through rate making in order to have the cash resources to continue the business.

Senator Hart. Let me see if I can try to summarize what I ahve heard you say and perhaps Mr. Dieckamp, and if you will at the conclusion tell me whether I am right or wrong and in what degree.

The officials of General Public Utilities believe they will get the rate increase they have requested from the Pennsylvania Public Utility Commission, and that given that ra increase to cover the costs of replacement power they see no reason to believe that Met Ed will not remain solvent and financially stable and be able to cover the costs of cleanup of the plant and remain as a viable legal entity, responsible for both the cleanup costs and ultimate disposition of the damaged reactor core.

Mr. Graham. My only concern is we will receive the rate relief we requested from the Pennsylvania Commission. would say if we receive adequate and timely rate relief, I believe hat Metropolitan Edison Company and the other two operating companies of GPU will remain financial viable.

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Senator Hart. And the rest of the statement that I made, responsible for the cleanup?

Mr. Graham. Yes, sir. I might point out that, as Mr. Dieckamp pointed out yesterday, we have already spent, I think he used the figure \$100 million, and I think I would have used the figure about \$80 million at the island. We have received \$20 million from our insurers. So we have already financed \$60 million, of which \$30 million has been financed by the Metropolitan Edison Company. And I think that demonstrates both the commitment of the three operating companies and GPU to the cleanup effort and our financial ability at this point to do that.

Senator Hart. Mr. Loomis, again in round numbers, what are GPU's total assets?

Mr. Graham. I think I can help. It is about \$4.6 to \$4.7 billion.

Mr. Loomis. That is right.

Senator Hart. Over \$4.5 billion. Why is GPU negotiating Federal research funds from the Department of Energy to help cleanup this reactor? With a \$4.5 billion corporation, why is the Federal government getting into this? We have a \$30 billion deficit this year.

Mr. Graham. Senator, I think perhaps the participation of the Federal government in that cleanup activity has become a little bit overblown. There are substantial ongoing researc

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programs by various agencies of the Federal government. Over the years, it is my understanding that the Federal government has spent something like half a billion dollars to study nuclear fuel cores and to hypothesize damage to nuclear fuel cores. I don't think that Federal participation in research in the nuclear part of the electric power industry is unusual, and we saw an opportunity for those research activities of the Federal government to continue, dollars that would already have been budgeted, as I understand it, for those activities. To the extent that the Federal government spends money for those research activities, it relieves us in part of money that we would otherwise have to spend, and therefore, we believe, that perhaps a small part of the total cleanup dollars that we are looking at, perhaps \$400 million, would no have to be spend by us because the Federal government would ha spent some research money along the way as part of its ongoing I think that is different from characterising our approach and what Mr. Dieckamp said as our searching out for Federal assistance.

Senator Hart. He is quoted as using the term with regard to the Federal participation as "significant participation." I don't know what that means in dollar terms, but it sounds awfully like the camel's nose in the tent to me. To treat a damaged and dangerous reactor as an important opportunity to add to the Nation's nuclear experience is a rather bizarre

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characterization of the situation as we find it, and also I think putting a burden on the Federal taxpayers that is totall unfounded.

Staff points out GPU's quarterly financial statement dated June 30, 1979, and cites the following language: "Moreover, the subsidiary," presumably Met Ed in this case, "expects to seek financial assistance from the Federal government and/or the utility industry in areas where the technical information should be of wide value and significance Under these circumstance, the amount of loss, if any, suffered by the corporation resulting from the TMI accident is not presently determinable and no provision, therefore, has been made in their accounts."

What this says to me as a non-SEC lawyer is that the holding company is unable to state to its stockholders or the public the amount of loss suffered by this accident because it is unable at this time, namely the end of June of this year, to state how mucc money the Federal government of industry generally may be willing to put up to get "technical information of wide value and significance." I guess I will just restate my question: When do you think GPU will be able to vouch for the long-term stability and survivability of the operating utility here and flatly be able to commit to the American people that it is able to undertake these cleanup costs?

Mr. Graham. Let me say first of all the statement that

you read from the footnotes to our financial statement is part of a very long discussion of how one accounts for a nuclear accident when one cannot yet size the loss, and I am not an accountant and I can't really speak to the entire question of why one does not put a loss on the balance sheet at this time. But that is what that paragraph is intended to deal with. A rather minor part of that is the fact that because we did not know how much of the cleanup activities would be uninsured, would not be allowed for rate making, and might be available to us from other sources is part of the reason why it does not appear in our financial statements.

In response to when we will know for sure that we can deal with all of the financial effects of the accident, I would just like to state I, too, am disappointed there is no representative of the Pennsylvania Commission here today because, as Mr. Levy pointed out, and as I tried to emphasize, the recovery of the replacement fuel expense is a very important part of that question, and the question of how the State regulators will deal with that problem is a very important part of the entire equation.

Senator Hart. I would have to check the record again, and I can't remember right off the top of my head, but I belie my question to Mr. Dieckamp -- and I apologize for pursuing this, but I can't get a straight answer -- assumed that the action before the Pennsylvania PUC was going to be favorably

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acted upon, your request, and then I asked the question about the commitment of GPU. We have two problems: (1) who is going to be legally responsible for cleaning up the mess; and (2) who is going to pay for it. And I want to know when we are going to get an answer from GPU on both those questions.

Mr. Graham. With that hypothetical, favorable action by the Pennsylvania Commission, I believe that the banks will stay with us; Metropolitan Edison will have access to bank credit; GPU can contribute in the form of leaving retained earnings in Metropolitan Edison Company or by GPU using part of the revolving credit agreement to make borrowings at the GPU level and to pit that money into Metropolitan Edison Company as that might be necessary. With adequate, responsive timely rate relief from the Pennsylvania Commission to maintai a kind of cash generation that will be acceptable to short-ter investors, I believe that I can state for Mr. Dieckamp that GPU can do the financing that is necessary to do the cleanup work in the order of magnitude that we have looked at.

Senator Hart. Therefore, Met Ed will stay financially stable and legally responsibility?

Mr. Graham. Yes, sir, with adequate rate making by the State authorities in that.

Senator Hart. But conversely, if your request is rejecte by the PUC, then it is a whole different ball game.

Mr. Graham. If there was an outright rejection, which I

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have no reason to anticipate, and which would be, in my view, quite inconsistent with what the Pennsylvania Commission has done, it would be difficult to know all of the ramifications of where Metropolitan Edison Company would go at that point.

Senator Hart. Mr. Loomis, do you have anything further t add?

Mr. Loomis. I would venture one observation. However this works out, I think that putting Metropolitan Edison into a bankruptcy reorganization would not help. That is not the answer. And it would raise some very difficult, unsettled questions under the new Bankruptcy Act as to who would get whatever revenue comes in; whether it would go to cleanup or whether it goes to paying off bonds is unsettled under the present law. Though this is a brand new law, I think the courts would decide it right, but there would be a lot of litigation. So one hopes for everybody's sake Metropolitan Edison doesn't have to go into bankruptcy.

Senator Hart. But the Federal government doesn't control that, that is a corporate decision, is it not?

Mr. Loomis. Yes, I think that is true, if they want to go into bankruptcy, which I am sure they don't, they can. But any reorganization plan would have to be approved by the Securities and Exchange Commission.

Senator Hart. What are the assets, again in round numbers, of Met Ed?

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Mr. Loomis. The figures we had were 1978 figures. Mr. Levey. \$1.2 billion.

Senator Hart. Broadly defined, or inclusively defined, I believe our investigative staff has determined that the total cleanup costs, including the cost of replacement power, can go to \$1.8 billion. I am just wondering whether the board of directors might decide under some set of circumstance that it is better to go into receivership; the cost of replacement might exceed the assets.

Mr. Graham. Perhaps I can address that, Senator.

I think that it is important that one be very careful in taking that \$1.8 billion figure that comes from the Kemeny Commission report and relating that to the assets of Met Ed. I would like to say in the Kemeny Commission report there were three figures, a low, a median and a high, and the \$1.8 billion figure is the high one of those. It assumes that TMI 1 would stay out until I think 1983 -- we have no reason to see that -- and TMI 2 until 1985.

Senator Hart. But high can also be in business terms conservative.

Mr. Graham. I recognize that. Of the \$1.8 billion, hal of that belongs to Met Ed, or approximately half because it is a 50 percent owner of the plant. So in the first place, if yo want ot use the \$1.8 billion number, it ought to be \$900 million related to capitalization.

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Second of all, most of that figure would come from two sources: one is the billing to our customers for fuel for the energy expense, and the Pennsylvania Commission has already allowed us to re er a substantial part of that. We are askin for essentially the rest of it now. So that over the years sented by that estimate, that fuel cost would be recovered and would be paid for by the customers. Second of all, the cleanup expense, if it is \$400 million, \$300 millio would come from our insurers.

So when you look at that \$900 million figure, I think you have to distinguish between the fuel part of it that could be incurred over a long period of time and recovered from customers through billings and the cleanup part of it, most of which will come from our insurers.

Senator Hart. Oen final question, Mr. Graham, and I think it is a repetition of the question I have asked you over and over again. Pennsylvania Electric and Jersey Power & Light each own 25 percent of the TMI 2. If Met Ed were to go into bankruptcy, would the other owners, the two I have stated, still remain liable for the cleanup cost connected with TMI 2?

Mr. Graham. I don't know the answer to that question. We have asked our counsel to begin looking at it. It is a complex question relating to license, our bond indentures, our debenture indentures. I might also say, though, if Metropolit Edison Company went into receivership, I see no reason why

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the receiver would not, as part of the revenues that he receives, contribute a substantial portion of the cleanup cost. So I don't think you can just say would it come from Penn Electric and Jersey Central.

Senator Hart. Mr. Loomis, any further thoughts? Mr. Loomis. No, sir.

Senator Hart. Thank you, Commissioner Loomis, Mr. Levy. Thank you, Mr. Graham. I think we will want to get back to this subject in due time.

Our second panel of witnesses this morning includes Chairman Joseph Hendrie of the NRC; Commissioner Ahearne, Commissioner Gilinsky; Leonard Bickwit, General Counsel of the NRC; and Nicholas Yost, General Counsel of the Council on Envrionmental Quality.

Mr. Chairman, gentlemen, welcome once again. We are pleased to have you here. I think, Mr. Chairman, you were here for at least part of our hearings yesterday and this morning. So we will look forward to hearing your comments.

Once again, these are investigative hearings. The rules of the committee provide for swearing witnesses. So I will ask you to stand and raise your right hand.

Does each of you swear that the testimony you are about to give before this committee will be the truth, the whole truth and nothing but the truth, so help you God.

Mr. Hendrie. I do.

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I do. Mr. Gilinsky.

Mr. Ahearne. I do.

Mr. Bickwit. I do.

Mr. Yost. I do.

Thank you. Please be seated. Senator Hart.

Mr. Chairman, I don't know that you have a prepared statement. Do you have any preliminary remarks that you wish to provide us?

> TESTIMONY OF JOSEPH HENDRIE, CHAIRMAN, UNITED STATES NUCLEAR REGULATORY COMMISSION; JOHN AHEARNE, COMMISSIONER, NUCLEAR REGULATORY COMMISSION; VICTOR GILINSKY, COMMISSIONER, NUCLEAR REGULATORY COMMISSION; LEONARD BICKWIT, GENERAL COUNSEL, NUCLEAR REGULATORY COMMISSION; NICHOLAS YOST, GENERAL COUNSEL, COUNCIL ON ENVIRONMENTAL QUALITY

Mr. Hendrie. The general counsel has suggested that I make briefly one of those helpful remarks with regard to orgoin proceedings under the Commission rules, and so on. Just a note that there are formal adjudicatory proceedings which have been requested and are under way for Unit 2 on the EPICOR-II system. This was a request just this week, so that has just started. Then for Unit 1 at Three Mile Island there has been a Commission order for a proceeding now for some time. So we have noted before on these occasions that ex parte rules and the government

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Sunshine Act impose some constraints on members of the Commission in making comments on these matters. I understand your staff has been informed of these constraints. We would like to avoid getting into the situation that Chairman Pertschuk got into recently, since we all feel an obligation to vote on these things and wouldn't want to be disqualified.

I don't want to belabor the point. I will stop there.

Senator Hart. We will take those matters into consideration and do our best to operate within your legal constraints.

Mr. Chairman, what has been the level of Commission involvement in establishing the regulatory framework for the recovery operations?

Mr. Hendrie. The Commission has met a number of times with the staff at various stages in connection with actions by the staff. I would say there is a tolerable level of acquaintance among the commissioners with the situation.

Senator Hart. Can you be a little more specific than just meeting a number of times? Into what detail have you gone in establishing the framework and the time tables and so on?

Mr. Hendrie. In terms of the meetings of the Commission, we have been briefed at various stages and discussed with staf the actions which have been proposed. There were a number of meetings in connection with the Commission's action to authorize operation of the EPICOR-II system. I have talked

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to members of the staff about the recovery operations at Several months ago I was at Three Mile specifically to review the progress, look at the equipment and see how everything was going with regard to cleanup operations down there. I have talked to members of the staff at various times in some moderate detail about the various steps that are involved, and particularly about how we managed to move in a manner which is consistent with the Envrionmental Policy Act provisions from where we are now to getting on through the steps in the cleanup of the damaged unit.

I have had some concern, and I think other members of the Commission have had some concern, that we try to look through that maze and not find ourselves tangled up in procedural steps that might impede some needed further decontamination steps at the site.

I don't know how much further along this line you would like me to go, but that may indicate somewhat better.

Senator Hart. What is the Commission's position with regard to the desirability or requirement of an environmental impact statement?

Mr. Hendrie. Well, certainly the cleanup of Three Mile Unit 2 has to be agreed to by the NRC, by Federal authorities. It is clearly a major action in the way that term is used in connection with NEPA, and it needs an impact statement. have talked this past week to Chairman Speth and CEQ officers

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and I see we have Mr. Yost with us this morning -- about going through that environmental analysis process in a way which fully satisfies the intent of the legislation but also is consistent with the time scales and need for action in the decontamination program, and we are still at a fairly preliminary stage in terms of mapping out that course of action

I guess we are back to where we were Senator Hart. yesterday in terms of how much time we have for some of these things, and I would like to get your judgment on public and workers' health and safety implications of various time frames Let me just run through a series of them. and various delays. First of all, your judgment on the risks of delaying the resolution of the radioactive atmosphere presently contained in the reactor building and how soon you think that is going to have to be done to protect the public health.

I think the sooner that it is done, the Mr. Hendrie. I don't think there is any pressing danger or urgent risk. That containment has stood the test well, and I have no On the other hand, the longer doubt it will continue to do so. these materials are allowed to remain in gaseous or liquid forms, simply loose in the containment building, the more chance there is that somebody will open the wrong valve or something else will happen and some of it will get out. It a concern of this kind in connection with the tank in the auxiliary building and the fact that it was just filling up and

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the prospect was for having to start filling tanks in the other unit that led me to become this concerned back before we started the EPICOR stay to begin to pound on the table and say we have got to move, it is going to the dimension of an emergency situation.

Now the materials within the containment, the krypton in the atmosphere and material there in the watr., I think I certainly wouldn't classify it as an emergency situation. As I say, I think that containment will kep them in there in good shape for a good long time in necessary. But it just adds some increment, however small it may be, to the public risk to go for extended periods of time without processing. We need to get on with it.

Senator Hart. On the one hand this, but on the other hand that. We heard testimony yesterday from the people in the area who feel that they haven't been dealt with as candidly as possible. I understand on the one hand this, but on the other hand that. But what we have got to know and provide to the people is a sense of when. So I guess what I am asking is a little more specific question.

Mr. Hendrie. A schedule hasn't been developed. Senator Hart. When will it be developed?

Mr. Hendrie. I expected Met Ed is due to come in with their layout of where they hope to go and some approximate scale of time they would hope to accomplish it; I judge from

the discussion yesterday that that was pretty close in.

Senator Hart. Well, it was late as hell, frankly, and it is awfully hard to pin anybody down on this. Everybody says they are waiting for somebody else. Frank-ly, I am on the side of that second panel yesterday. I don't live there, but if I did I would want the Government of the United States and the State of Pennsylvania and the utility to begin to give me a little more specific answers instead of they are going to move and then we are going to move, and on the one hand this, but on the other hand that. I think what people want is a sense of certainty, and I guess what I want is a sense of when they are going to have a sense of certainty. Are we talking about a month? Three months? Six months? Or a year?

Mr. Hendrie. There ought to be a reasonable layout, I would think, available on a preliminary basis in several month Senator Hart. Several months.

Mr. Hendrie. I think that that will not become sort of a semi-firm schedule for a longer time than that simply because it becomes involves in the analysis requirements under NEPA; it is part of making those decisions. I will point but when the staff publishes its environmental impact statement, which is inevitably going to take some time, that that still doesn't fix the schedule in an absolute, concrete way, because as you take each of these steps, you then learn a further piece of information, and after we have done whatever is necessary to

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do with the containment atmosphere, the radioactive material in the containment atmosphere, good, now we can start processing the water. But the schedule on the processing of the containment water will be contingent on how the gas processing goes. The entry to the containment will be contingent on the processing of water. Any extended entry to the containment will be contingent on how well the cleanup of the residual materials on the wall of the containment go. And all of these affect how soon you might get down to the primary system and talk about opening the vessel and getting the core out.

So people are simply going to have to recognize there are certain variabilities in these schedules. I think the point your are punching, and I must say with, I regard, good justification, is here we are some seven months or so on down the line after we collected ourselves after the accident and there is not that at least preliminary laying out of how do we get from here to there, "there" being decontamination.

Senator Hart. Not even a ball park. And apparently nobody is even giving the people up there in the area the information you have just stated about contingencies. I think it is very frustrating, and I think very, very frightening, when you are saying is we don't know when all these things can be done because we don't know how long each step is going to take, and until we know that we can't really issue anything

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publicly, and we have an EIS to do here, but at the same time we can't wait too long because the longer you wait, somebody can operate a valve and something may leak and we can cause ourselves more problems. Somehow this committee and the people in the area are going to have to get a much better sense of the low side and high side of time tables. First of all, we are going to have to get a sense on when the low side and high side will be estimated and available. You said several months now. But then it could be longer because of the Then as we undertake each step of the process it could be longer than that, and the people up there are going to have to get used to it. Well, I think they have gotten used to a lot of things. They could get used to more if they had more specifics than if the NRC or utility have to hedge about with uncertainties here. They have just got to get more information than they have gotten, and so do we.

I don't the the EIS are the saviors of the world, and I certainly don't think so when they are used to delay things. If an EIS is necessary to help us do our job, we ought to get on with the EIS so we can get under way with thing. other hand, if it is not necessary but it is just a delaying tactic that just slows down the whole process, then we ought to just throw it out the window. Mr. Yost might want to comment on that.

(Laughter.)

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Mr. Hendrie. Senator, I would like to applaud your last remark.

Mr. Yost. Mr. Chairman, I am Nicholas Yost, General Counsel of the CEQ. The Council has had disucssions going on between CEQ and the NRC, including between Chairman Speth and Chairman Hendrie, on this particular subject. It has been our purpose, for several reasons, to press for the preparation of an comprehensive EIS, while ensuring that that be a device for properly analyzing the potential effects for involving the public but not involving any delay. It was, in fact, on an issue of delay which we first got into the problem with the NRC, which was the question of the disposal of the TMI Unit 2 intermediate low-level waste, which the EPICOR system was finally used. We emphasized while we believe the environmental impact statement system is both legally required and useful, extremely useful toward focusing on issues and alternatives, that the provisions within our regulations provide for emergency actions to take place, with consultation with the CEQ, in the interim. So if something had to be done, we did not want any obligation of paperwork to stand in front of handling a real problem.

There was an exchange of correspondence between the respective chairmen on that issues, which I might submit for the record.

(The correspondence referred to follows:)

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Our basic point was that in that case, we Mr. Yost. were convinced that this amounted to an emergency, that things had to be done in the interim to deal with the problem of the disposal of that waste, and we, in writing, gave our view that the NRC could properly proceed, in the absence of a final EIS, to deal with that problem.

Nevertheless, we have said that a comprehensive EIS is something which is appropriate for several reasons:

First, it does see that the environmental effects are appropriately considered by all involved. Secondly, it focuses on alternatives, and alternatives here on, for instance, how to dispose of contaminated water by an EPICOR system or by shipping or by evaporation or by release are the kinds of things that should be focused on.

Thirdly, the EIS system involves the public, makes the alternatives known to the public, in particular the affected public, in a way which they can make their views known.

Fouth, NEPA places obligations on Federal agencies, and an EIS has a function of ensuring that the NRC itself, as the responsible Federal agency, focuses on what the options are going to be early, rather than be placed in the position of accepting what Met Ed presents to them without sufficient time to review that.

Senator Hart. Mr. Yost, who is going to do the environmental impact statement, as briefly as you can tell us, PHONE: (202) 833-3598

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and how long will it take? If it is the NRC, won't that be taking them away from the actual solving of the problem?

Mr. Yost. I understand Chairman Hendrie's reluctance to speak definitively in light of his position as one of five members of a commission. Nevertheless, in discussions between him and Chairman Speth, we had understood that Chairman Hendrie was convinced of the necessity and desirabilit of preparing a comprehensive environmental impact statement. We talked in terms of a time of somewhere between six months and a year for the entire process to be completed. understood at the time that this EIS might be prepared by a contractor selected by the NRC, which would have the effect of keeping NRC responsibility but not taking needed staff away away from other functions; and simultaneously, we agreed with them to continue discussions so that should other sorts of emergency situations arise where the public health or safety was at issue, that that could be dealt with immediately without waiting.

Senator Hart. Who makes that decision?

Mr. Yost. That would be basically the NRC's decision. And if they are to consult with us, if there is time to consult with us before, to do so before; if it is an emergency of an immediate nature, to go ahead and discuss it with us as soon as possible.

Senator Hart. Short of an emergency, what do either or

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both of you contemplate will happen to deal with containment water and trapped waste? What is an emergency and isn't? How much is going to be helped by an EIS and how much is not going to be in terms of cleaning this operation in the next six months to a year?

I think the place that we are going to Mr. Hendrie. have a pinch is in dealing with the atmoshere of the containmen building as a necessary preliminary step to getting on to processing the water in the base of the containment, or a step that has to go along with the processing of the water in Now what I would like to do is to avoid the containment. the need for emergency action in the sense that we just stop the envrionmental review processes and say never mind, we have got to do something, and this is as good a thing as we can see to do, so we do it. We went, in effect, through that with the CEQ on EPICOR-II because things had just dragged on and there was argument about whether we -- there are always people who want you to do five more analyses.

Senator Hart. Exactly.

I agree that we ought to get out to the Mr. Hendrie. people around that area and explain what we plan to do and whe we reasonably can get to it and what the pros and cons are. Nick says the environmental impact statement is the ideal vehicle for doing this. But there are also people out there who, no matter what you submit, are going to be suing because

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we haven't done 40 more analyses to EPICOR effects to the environment. There was a great list of comments, "You haven't analyzed this and that and you haven't ananlyzed the other," and I guess we are in court over that matter now. There is a hearing that has been requested on the matter. But you are sort of in a sense fighting uphill against people who are saying, "Wait a minute, you are going too fast." What that tends to od is put a pressure on the system to go into more and more detail in these analyses. The difficulty that I have seen is that when we do an environmental impact statement on a reactor case, the applicant spends years preparing environmental reports, and it is a bookcase, and we study and grind on it and prepare our environmental impact statement, and that takes a year and a half, or something like that. And we have sort of gotten into a mode of operating in our NEPA analyses which are so massive and clumsy that they seem to me to present some real problems in getting on and doing what needs to be done and Three Mile Island.

There is no question the Congress is going to take care of that very shortly.

Mr. Hendrie. Let me say because of that concern we are working with CEQ. I am convinced that the concept of the envrionmental impact statement was not meant to be one that just paralyzes action, and that certainly isn't CEQ's view of things either. They feel that the regulations that we have

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which guide us in how to go about these things have ample And one of the things we are going to be flexibility in them. consulting with them about is reasonable truncations; that is, we can't just analyze this thing forever. And their help in setting scope for us in how far we go in the overall programmatic statement and then how much detail each step has to take up as we go along has to be important to us. I think we can do it, and I have some hope we can crank it in a good deal less than a year.

I think the lawsuits are one problem. If Senator Hart. I heard the mayor of Lancaster and Mr. Smith yesterday, it was that they want the government and utility to tell them as quickly as possible how many steps there are, what the likelihood of those steps being taken within a specific time frame are, and how you intend to go about it, as much as you know step-by-step. Now if you get sued by somebody, that is not your fault, and they will understand that and they will deal with whoever sues you in their own way. But what I am saying to you is that this committee and those people want as soon as possible your best estimates. And if you want give them to us straight without consulting with the CEQ, that We will deal with the CEQ. Don't wait around is fine with me. for this bureaucratic clash that constantly goes on. let us know your best judgment. CEQ can do the same thing if You are responsible to this committee and we want

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to deal with you. Forget about the lawsuits. Just give us the low side and high side, step-by-step, when you think both things can be done and when you think they have to be done, and we will work with you on the EIS and 'CEQ and all the rest When this self-described conservative supervisor states that he and his people are being driven batty by the situation, I take them seriously. I must say I am being driven batty by it.

Now on the reactor, that is the ultimate goal, we have got a problem, as I understand, of boron concentration, in maintaining that in the reactor to keep it subcritical. need two bits of information. What happens if that concentration decreases, for whatever reason, and what happens to the degree of criticality, or recriticality I guess is now the phrase, and how long can we maintain that reactor in this sort of limbo state, and what are the risks of human error, and when do you think we are going to have to handle that reactor, how long do we have?

Mr. Hendrie. Let me go back and start at the beginning with the boron.

I am not very concerned about losing boron out of that reactor water. They keep a chart on the analysis and it just isn't that much of a problem. We have to keep the boron concentration amply high. What happens if it comes down, if we lose it? As the boron concentration comes down, the

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reactivity of the core configuration will increase. trying to think if I could remember boron concentrations for cold start of life, a couple thousand ppm, pounds per million, of boron are required, as I recall it, to offset the reactivit of a normal start of life cold core. This one can be classed for these purposes as cold core, which is a more reactive The geometry has changed some. We know there configuration. has been a fair amount of fuel damage. The core geometry has probably moved the configuration, my guess is, to a less, slightly less reactive geometry. So maybe we would need a new hundred parts per million less boron. Nevertheless, get the concentration down far enough, you get a chain reaction going, and it will go until the fuel and coolant around it heat up, which heating induces a negative reactivity until there become a balance, until that negative reactivity from the chain reaction and heat generated there balances the initial reactivity situation, and it will equilibriate and it will sit there bubbling or murmuring because the after heat level is fairly low at this point.

I have no reason to believe that will occur. That is an extraordinary like circumstance, because keeping boron in the reactor water is just not that much of a problem and, secondly if it did go, the configuration I think would just settle out and run along at some moderate low procedure or void formation from moderate boiling will pose reactivity, and you just sit

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there until you crank the boron up again and shut it down. So I don't regard it as a particularly perilous situation at all.

You asked how long do we have and what are the risks of human error. I think in view of what has happened and the care which we believe everybody is taking with this machine, the risk of human error is pretty small. I say that in full humility, recognizing this is the precise machine in which human error was exercised to put us in the situation.

Senator Hart. The last part of the situation was how long do we have? Can you keep it a year? Five years? Ten years?

Mr. Hendrie. I think all of those time scales -- I would think that times like five to ten years would just be unconscionable. It is not necessary from an engineering and health physics standpoint. To have that just sitting there wi a damaged core endlessly would be unspeakable. But in terms of some technological driving point which says it is seven years, we are really getting to the point where the remaining cladding is all going to fall down.

Senator Hart. So somewhere between one and five years is the level of unconscionability and unspeakability.

Mr. Hendrie. Well, it seems to me getting anywhere near in less than a year is practically out of the question, and if we haven't got it out of there in five years, why that really will be pretty poor performance.

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Senator Hart. So one to five years.

Mr. Hendrie. Yes.

Senator Hart. Do we know what we are going to do with it when we get it out?

Mr. Hendrie. The core debris, the radioactive core debris will be placed in heavy shielded casks, and then we will look around and say, goo, now what do we do with the casks? It is good to get it in the shielded casks, that is the right thin to do, it is a lot less likely to be harmful there than elsewhere. But that still isn't the full answer. Then there are about two options in the time frame we are talking about. One of them is to keep the casks on site for some period that I can't estimate for you, and the other one would be for one of the major government processing centers to accept those casks, where they would reamin, again for a time I can't estimate for you, until we finally get on to solving the high-level waste problem in this country.

Senator Hart. All right, back to the principal purpose of the hearings, which is the legal and financial accountabili question and who is financially in charge here. Mr. Bickwit may want to join in on this.

Section 186(c) of the Atomic Energy Act states, "In cases found by the Commission to be of extreme importance to the health and safety of the public, the Commission may recapture any special nuclear material held by the licensee or ma, enter

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upon and operate the facility prior to any of the procedures provided under the Administrative Procedures Act." Doesn't this, when read with Section 201(f) of the Energy Reorganizatio Act, give the NRC the power to run TMI 2?

Mr. Hendrie. Sounds like it to me, but let me talk to my lawyer, Mr. Chairman.

Mr. Bickwit. I think it does, Mr. Chairman. I don't think there is any doubt about that.

Senator Hart. If Metropolitan Edison were to go into receivership or become insolvent, and for one reason or another GPU were unable or unwilling to assume responsibility, what would be your recommendation to the Commission in this regard?

Mr. Bickwit. You want to look at the options, but at this point I would advise them, if it happened tomorrow, I would advise them to take it over, and if the expertise of the Commission was not up to the problem, contract with those who could assist.

Senator Hart. Do you think legally the Federal governmen has any responsibility for the cleanup costs?

Mr. Bickwit. For the costs?

Senator Hart. Of cleanup.

Mr. Bickwit. I don't see it.

Mr. Hendrie. I don't, unless we get to some situation where it is an urgent public safety matter and there simply isn't any other institution around that is able to take action

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But short of that, which I don't see being the case, it is not a Federal responsibility, in a financial sense, I wouldn't think.

Senator Hart. Do you agree with Mr. Dieckamps statement that this, being the accident, is an important opportunity to add to the Nation's nuclear expertise or experience, and if so, what is it worth to the federal government to add to this expertise?

Mr. Hendrie. Well, it is certainly worth a good many million dollars, and I have written John Deutsch in the Department of Energy and recommended very strongly that the Department of Energy plan on a core examination program. We have, over the years, going back in fact a good many years, done assorted fuel performance experiments, some of it directed toward normal operation and some of it pressing the experimental fuel pins very hard to try to see what they would so in accident situations. That research is not cheap because a lot of careful preparation is necessary and you are working in pile with the radiations and so on. And over the years, I would hate to estimate how much money we have spent on that, and it is still going on and it is still importance.

What has happened in the accident at Three Mile Island is we have a full core, an honest to God power reactor full core subjected to a set of conditions that just go very substantial farther than what we would have anticipated a core to take and

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And to not use every resource that we have to understand fully the things that went on in there in detail in order to have that knowledge available to us for safety uses, for better fuel design, better reactor design, and all kinds of things, it just would be a great mistake. I think it is in this light that it is very worthwhile for the Department of Energy to add to its nuclear research and development programs, this section on examinations, after we can get to it.

Well, it is one thing to spend a few Senator Hart. million to learn the kinds of things you need to learn. It is another thing to take what I perceive to be Mr. Dieckamps position, this is an opening for a substantial Federal commitment to the cleanup cost, the cost of cleaning up it seems is what he is talking about. In fact, he uses the phrase "substantial." Again, I am relying on press accounts. But it seemed to me at one point he left the strong inference that GPU might be using this so-called DOE research application as a means of getting substantial Federal participation in the That is another thing, in your judgment. cost of cleanup.

Mr. Hendrie. I think that is quite a different thing. Look, if I had Mr. Dieckamp's job, why I guess I would be glad to have any Federal money that I could get my hands on for whatever purpose.

Senator Hart. You would have to stand in line behind

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Mr. Hendrie. Yes, indeed. I think clearly from the utility standpoint it can't be anything but a help to them. But what I have been talking about is the opportunity in terms of scientific and engineering knowledge that is very important. And I certainly hope we don't have that many opportunities to do this kind of research.

Senator Hart. I understand. I am just trying to draw a distinction.

Mr. Hendrie. There is a clear distinction, and it is the research I am interested in.

Senator Hart. On the question of takeover, if you will, to use a bad term, last month, a couple weeks ago, at a meeting of the NRC, while discussing delicensing of Unit 2, I believe you said something to the following effect: "the licensee has the responsibility for it. I don't propose to discover, take some action and then discover that we, or my God, let alone I, have discovered that my name is the first name at the bottom of the place that the buck stops for Unit 2. Not knowing the context in which that statement was made, I would be interested in whether your views are that under no set of circumstances would you exercise your authority under the law to take over that plant given the kind of financial things that may happen?

Mr. Hendrie. No, obviously if there is a need to do it t

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protect the public safety, why I guess I conceivably could end up, in principle, a plant superintendent, Mr. Chairman. the context in which that remark was made -- and I guess parenthetically I would point out I guess that is one of the benefits of Sunshine, these materials are freely available at appropriate times -- the context there was I was arguing with my colleagues against the revocation of the TMI 2 licenses Now we have suspended their operating rights, so they can't operate. But some of my colleagues wanted to pull the license, and one of my concerns was if you pull the license, why, it wasn't clear to me what the legal instrument was by which NRC retained formal control over that facility, and that is hwat I was saying: you pull that license and I may discove when we sort out the legalities we own it. So I was arguing that I didn't want that to happen.

But obvioulsy if there is an urgent need because Met Ed for some reason just withdraws from the site, although I find that hard to envision, but if there is an urgent need, we do what we have to do.

Senator Hart. I would be interested in the views of any or all commissioners on the question of the financial qualification of utility licensees. For example, Mr. Gilinsky in June of this year, in his nomination hearing, I think used the phrase "excess baggage" with regard to too much attention being paid by NRC to certain categories of information.

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think, Commissioner, you mentioned financial qualification is a part of that excess baggage. The staff time required is a good deal, little is done with it, essentially it never bears on the outcome of any decision. Then you mentioned one minor In light of what has happened and in light of this possibly tenuous situation with regard to the liquidity of Met Ed, do you have any reconsideration on that?

Mr. Chairman, I would draw a distinction Mr. Gilinsky. between the financial qualification inquiry that was conducted and still is conducted by NRC and more specific sorts of inquiries directed to the question of decommissioning and now cerhaps the ability of a utility to withstand the results of an accident. The financial qualifications inquiry was largely directed to determining whether a utility had enough money to build the plant, and it was a concern if they were short of money then there would be a certain amount of corner cutting and unsafe practices while the plant was constructed. There really wasn't any evidence that there was a tie in between, you might say, the bond rating and the manner in which the plant was constructed. And in the absence of any real showing that there was a connection between the utility's financial qualification, as it was determined in their process which reviewed their standing with Wall Street and so on, and its ability to build the plant safely I felt that that was something that was excess baggage and could be abandoned.

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In a note on the subject to my fellow commissioners, because we are in the process of trying to revise our rules on financial qua'ifications reviews, I drew a distinction between t was conducted and a review connected with that review as the ability of a utility to decommission a plant, which everyone is going to have to do at some point. What this accident suggests is that we may well have to have a requiremen which is conncected with the ability of a utility to cope with the effects of an accident, and that would probably be in the nature of requiring a certain amount of insurance rather than looking at their bond ratings.

I think it is in the kind of situation post-accident that Met Ed finds itself in. I think when you are reviewing an application, there hasn't been an accident; people certainly hope there won't be one. I think it is very, very difficult to try to look through the financial data on a utility and perceive what its situation might be in the So I think the comments that Vic has event of an accident. made about the financial qualifications review done on normal application processing has considerable merit, and really the accident financial situation, I think, is something that has to be looked at in a little different way to get a decent handle on it.

Senator Hart. Are you saying that the Commission will the future and with regard to the pending applications look

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at applicant's ability to handle the costs of a major accident in the licensing process or not? I am not sure what I have heard you say here.

Mr. Hendrie. It is certainly an element. We have been looking at it more from the standpoint of we think of higher pressure to ensure there is intrinsic management capability to organize for an accident in the event of an accident in the post-accident situation. So it has been more in the sense of utility organization to deal with the situation rather than the financial side. I guess the financial side does have an interest here. You would want to have reasonable confidence that you weren't licensing a plant or a utility that was in such shakey condition they would just go into bankruptcy and there would be some question about their survivability as an operating entity to take care of the site. Yes, I think we have to look. I an not quite sure how we treat or how well you could do any analyses, but I think we need to look at it.

How about given the complicated holding of Senator Hart. some subsidiaries in this country, what about a licensing requirement that, in effect, required the holding company or parent company to commit its assets to cleanup of an accident at a subsidiary? That requirement would have clarified the situation here enormouly, GPU required by law, in effect as a condition of receiving its license, to stand behind, in the interest of public health and safety, the costs of cleaning

up a mess by one of its subsidiaries.

Mr. Hendrie. It may be a practical thing to do. I just don't know. What I found is that sometimes these things appear to be very sensible and reasonable things to do, and by the time you get through learning about all the complicated interrelations, state law and detail, bond and share, and corporate law complications, sometimes you wish you never would have started the whole thing. So there may be some complications down there in the details that would make one what to think differently about it.

Senator Hart. As a matter of public policy, if I may say so, it sounds like a dynamite idea to me.

Mr. Gilinsky. As I understand it, Mr. Chairman, Met Ed had \$3 million of insurance for the plant itself. That is something I don't believe we ever looked into before the accident or at any particular requirements on it. We have come to appreciate how expensive an accident of this sort can be, and it may well be we may have to impose a requirement for a higher level of insurance on each plant.

Senator Hart. I think you could accomplish that again by imposing a restriction I have suggested. Then if GPU wants to go out and get the insurance to cover itself, then it can so.

Commissioner Ahearne.

Mr. Ahearne. There is one aspect that I think we have

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to try to understand and I would suspect the industry has to see, and that is what the action of, in this particular case, the Pennsylvania Utility Commission is going to be. As you know, as large part of the cost of any kind of an accident, whether it is this kind of a very serious one or one that takes a plnt out for a month or two, is replacement power costs. I think the Pennsylvania Commission and other commissions will be going through and establishing -- they are breaking new ground just as all of us are, and I think that is going to have a significant impact on the question of insurance and responsibility.

Senator Hart. That is right, and if they reject the application for a rate increase, that seems to me that Met Ed is in a very, very difficult position. Everybody says it is not going to happen, it would be unprecedented and so on.

Mr. Hendrie. Unprecedented things have happened.

Senator Hart. Unprecedented things have happened. All I am saying is I would hope the Commission would allow a backup situation, to see the assets of the holdings companies are on line, and then if somebody wants to go out and get insurance they could do so.

We have had these two days of hearings for two purposes: (1) to look at this question of legal and financial responsibility and (2) to get a time frame nailed down. In conclusion, Mr. Chairman, let me ask you and any other panel

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members here on the second issue as specifically as we can. Let me restate once again that it will take six to 12 months to do an EIS; that any steps that have to be taken of an emergency nature in the interim will be taken; that for all practical purposes an EIS will represent at least the government's side of the comprehensive plan; it is a little unclear how you weld the other half of the coin, particularly the utility's comprehensive plan; there is the chicken and egg problem we faced yesterday, and I don't think we have resolved as to who moves when before the other one moves; that, finally, the NRC will do everything it can with the utility as soon as possible -- and I want to find out when you think that is -- to get a near term and long term, high side and low side, for taking the steps of cleanup at that site.

I hink we ought to write you a letter in 30 days and lay out our best judgment on that. I would like to have that long to have a chance for some interactions with We will recognize that it will be a best effort estimate, but it will go on down the line and cover the whole recovery, later analysis and obviously when one should get The actual events, as they go on, may change that. But the message I hear is that we haven't settled down to make our best effort estimate, and the lack of that is a concern, and I So let us get back to you in 30 days. think I agree with that.

Senator Hart. No later than. Not only on what your best

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estimate on time table of cleanup, but also how you expect to relate that to the planning of the company; that is to say, do you have to provide guidelines before they take the cleanup steps or do they propose the cleanup steps to you and then That is still a problem that hasn't been you approve it? resolved here.

Mr. Hendrie. We will attempt to speak to it in the letter It is a close-coupled process. in addition to schedules. There is little point in us, without having any idea where they think they ought to go in terms of these steps, there is little point in us trying to lay out a whole set of criteria that cover every conceivable thing you might do. The initial thing is you find out from them what directions they think they would want to go, whether we think they are sensible, and try saying if you are going this way, we would want you to conform to the following. Then when we shake out the EIS process, that becomes the more normal setting down of the arguments and alternatives and is the context in which the final decision is made. We indicate what kind of criteria, they can look at that and see how badly that pinches in one place or another. We refine and carry on the analyses. So it is a close-coupled things, and I think part of the reason you have a terrible time getting clear action on who does what first so we can find out what step one has to do with what aspect. Let us see if we can talk to that in the 30-day letter.

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Let me just make a couple of philosophical Mr. Ahearne. I expect one of the difficulties we will be having in putting the letter together -- and I concur with the chairman we should do that -- is that along with this unprecedented situation there are a couple of aspects of it that are every difficult in the environmental area. I am not talking about the technological questions or what what system, nor the great uncertainty of what you are going to find when you go in, but the kind of questions that have already come up in dealing with EPICOR, that when you get the water treated from EPICOR, the water treated from the containment, when you look at the atmosphere in the containment, do you require it to meet the current EPA/NRC type regulations? In which case if those are the limits, then you run into the situation which led, I believe, to the suit that was already filed against us, the concern that the water coming out of EPICOR might meet all of the existing regulations which would then allow, in the absense of already having told the company not to do it, it might have allowed the company to just dump the water into the river, or it might allow the venting of gas into the atmosphere because it might meet existing requirements. So another very difficult situation is what requirements should you end up requiring the system to meet? That gets back to the situation you have a highly stressed population and they

deserve to know not only what is going to be done, but have to be involved in the discussions of these sets of alternatives.

Senator Hart. We heard very clearly yesterday that the public, at least through some of its elected representatives, doesn't believe practically anybody feels that concerned.

Mr. Yost. I think, first, your statement admirably summarizes that. I just want to assure you for the CEQ we will work with the NRC to ensure that NEPA causes no delay in any process, but rather that it is used to constructively help plan, select alternatives and get the public into the process so that this cleanup can move as rapidly as possible.

Senator Hart. Thank you. That is very reassuring. Thank you all very much.

The hearing is adjourned.

(Whereupon, at 11:45 a.m., the subcommittee recessed, to reconvene subject to call of the chair.)