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STATEMENT OF
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DIRECTOR, ENERGY AND MINERALS DIVISION
BEFORE THE
SUBCOMMITTEE ON ENERGY AND
WATER DEVELOPMENT
COMMITTEE ON APPROPRIATIONS
U. S. SENATE

Mr. Chairman, we appreciate the opportunity to testify on the financial and operational aspects of the cleanup effort at the Three Mile Island (TMI) nuclear generating station and the potential impact that Federal research and development funding could have on the total cost. The General Accounting Office (GAO) has had a continuing interest in TMI for quite some time. We have issued three reports over the last 18 months 1/ which addressed the serious financial questions raised by the accident and the actions needed to reach a successful resolution of the problems at TMI. Our reports prompted testimony before the House Subcommittee on Energy Conservation and Power and before a joint hearing held by the Senate Committee on Energy and Natural Resources and the Subcommittee on Nuclear

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1/"Three Mile Island: The Financial Fallout," (EMD-80-89, July 7, 1980); "Greater Commitment Needed to Solve Continuing Problems at Three Mile Island," (EMD-81-106, Aug. 26, 1981); "Impact of Federal R&D Funding on Three Mile Island Cleanup Costs," (EMD-82-28, Jan. 15, 1982).

Regulation, Senate Committee on Environment and Public Works.

We believe the recent initiatives by the Department of Energy (DOE), the State of Pennsylvania, and the investor-owned electric utility companies are positive signs of a willingness by the concerned parties to move forward at TMI. We trust this hearing will provide additional impetus to ensure follow-through on the commitments already made and to ensure further commitments we believe are necessary to expedite the cleanup process at TMI-2.

My testimony today is based on the information obtained during our review of the TMI financial issues and our assessment of the impact that DOE's research and development program and the delays in restarting TMI-1 could have on TMI-2 cleanup costs.

HOW GOOD ARE THE CURRENT COST ESTIMATES FOR TMI-2 CLEANUP?

The General Public Utilities Corp.'s (GPU) latest estimate, based on a revised approach for reaching and extracting the damaged nuclear fuel core, anticipates that about $656 million will be needed during the 1982-87 period to complete the cleanup.

We believe that the $656 million is a reasonable figure for estimating cleanup funding needs. As the cleanup proceeds, however, there will undoubtedly be changes in the specific work tasks within the spectrum of the total cleanup process that could either decrease or increase this total.

Our January 15, 1982, report, for example, noted one such

decrease in total costs. Primarily because of DOE's research activity on processing the radioactive water in the containment building, GPU was able to save about $14.5 million by reducing the scope of work and material requirements for handling the radioactive waste generated by the Submerged Demineralizer System (SDS). DOE has also been involved with GPU in conducting experiments on different ways to remove the radioactive material adhering to the surfaces of the containment building and its component parts. If improved decontamination methods can be successfully employed, additional millions of dollars could be saved, thus reducing the total cost estimate even farther.

These possible reductions, however, may be offset by increased costs in other areas. The relatively unknown condition of the reactor core makes estimating access and removal costs difficult and uncertain. For example, although the need has not been definitely established, special remote-controlled equipment to reduce worker exposure to excessive levels of radiation from the damaged core could be required, which would increase the current cost estimate. Another uncertainty is the disposition of the damaged core once it is extracted from the reactor vessel. Current plans call for DOE to take about 15 percent of the core for off-site R&D, with the remaining 85 percent stored in the on-site spent fuel pool. The Nuclear Regulatory Commission (NRC), however, may require that the entire core be taken off-site. If this occurs, additional costs ranging from $12 million to $30 million could be incurred

by GPU, depending on the storage and disposal method used.

While these kinds of uncertainties exist with regard to the current cost estimate, it is certain that because of inflationary pressures, the estimate will escalate if the process continues to be delayed. Based on the $656 million estimate, each year's extension beyond 1987 for completing the cleanup could add from $50 million to $75 million annually to the total cost.

CURRENT STATUS OF CLEANUP FUNDS

At the time of the TMI-2 accident on March 28, 1979, GPU had the unit insured for $300 million--the maximum available. As of December 31, 1981, about $84 million of the insurance proceeds were still available. At the present time, GPU has no internal source of funds for cleanup other than the insurance money, and it appears unlikely that the company will be able to borrow any money from outside sources. In the past, the Pennsylvania Public Utility Commission (PUC) has denied the GPU companies in Pennsylvania the use of ratepayer operating revenues for cleanup purposes. This action, along with other rate decisions on the TMI units, has adversely affected the companies' credibility in the financial markets. At the present rate of expenditures for cleanup--$40 million per year--the insurance money will be exhausted in late 1983 or early 1984.

On July 9, 1981, Governor Thornburgh proposed a plan for sharing the cleanup costs among the utility industry, the Federal Government, GPU and its ratepayers, and the States of

Pennsylvania and New Jersey. This was the first break in a funding impasse that had existed for some time. Thus far, the investor-owned utilities have accepted responsibility for $190 million of the cost. The Reagan administration has committed itself to $123 million for a multi-year R&D program for TMI. The January 7, 1982, PUC rate order for the Metropolitan Edison (Met Ed) and Pennsylvania Electric companies included $37.5 million for cleanup costs. The Jersey Central Power & Light Co. has requested $12.5 million for cleanup from the New Jersey Board of Public Utilities.

These actions and commitments are tangible evidence that the concerned parties have accepted some responsibility for sharing in the cleanup costs. A number of contingencies have yet to be resolved, however, before these funds will actually be available to augment the insurance proceeds. For example, the utility companies have yet to finalize the method by which their $190-million contribution will be assessed, collected, and disbursed to GPU. DOE did not seek multi-year funding for its R&D program as we had recommended in our August 1981 report. Consequently, it only has a 1982 budget approval for $32.75 million. The expenditure of at least some of these funds is contingent on GPU's having funds from other sources to implement work tasks that DOE will be involved in. Furthermore, the $37.5-million increase in rates for cleanup ordered by the PUC is contingent on the restart of TMI-1. NRC's restart order was expected in early 1982 but is now uncertain because

of the recent court ruling requiring NRC to consider the "psychological stress" issue before approving a restart order. 1/

PROGRESS OF CLEANUP ACTIVITIES

The TMI-2 cleanup cost and completion schedule has slipped steadily since the initial estimate was developed in mid-1979. The expected completion date for the cleanup, for example, has slipped from 1982 to 1987. Costs have escalated from $133 million (1981 dollars) to over $1 billion, adjusted for inflation.

The escalation in both time and cost results from a number of problems. After completing the basic decontamination of the auxiliary building in early 1980, GPU planned to remove the 700,000 gallons of radioactive water in the containment building. Based on NRC's perceived need to have a Programmatic Environmental Impact Statement, approval for the use of the SDS was not given until March 1981. Although NRC held out the possibility that the SDS might not be an acceptable method for processing the water, GPU went ahead on its own and developed and installed the system. Originally scheduled to start operations in April 1981, the SDS did not actually begin processing the containment water until September 1981. The SDS has exceeded performnce expectations and some of the lost time has been made

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1/People Against Nuclear Energy vs. U.S. Nuclear Regulatory Commission and the United States of America, U.S. Court of Appeals for the D.C. Circuit, 81-1131.

up. The uncertain regulatory approval was a major factor, however, in the delays in developing the system originally.

Budget constraints imposed by uncertain funding and regulatory requirements have limited GPU's ability to expedite the cleanup work. The lack of firm dollar commitments from outside sources and the resistance of rate regulators to pass any cleanup costs to consumers required that GPU rely almost totally on the insurance proceeds for cleanup funds. The use of the money was further affected by NRC's mandate that regardless of any PUC limitation on the use of its revenues, GPU was responsible for maintaining TMI-2 in a safe condition. As a result, GPU committed most of its $44.8-million cleanup budget for 1981 to maintaining the unit in a safe condition. GPU plans to continue restricting the use of the remaining insurance money so it will have a cash reserve available in case some safety problems develop at the site.

GPU's $656 million budget estimates for 1982-87 anticipated that the following funds would be needed, and could be effectively used, to meet the planned completion date:

Year	1982	1983	1984	1985	1986	1987
Amount (million)	$117.4	177.9	131.4	145.9	80.8	3.2

The effective use of these annual amounts, however, depends on the timely interaction among engineering, design, implementation, regulatory bodies, and funding availability. For example, by not spending even a few million dollars for pre-implementation

design and engineering, lengthy slippages in task implementation can occur. Delays in getting NRC regulatory approval for plans and activities can have similar effects on GPU's ability to use its funds as budgeted. Because the preliminary engineering work planned for 1981 was not started, work tasks originally scheduled for start in early 1982 are being delayed. As a result, it is likely that even if GPU had the $117.4 million available, it could not effectively use it all during 1982. However, if the necessary funding to cover annual budgeted costs were assured, it would remove a major barrier to GPU's ability to expedite the cleanup and give it the flexibility needed to contend with other non-monetary uncertainties that exist.

THE IMPACT OF FEDERAL FUNDING ON TMI CLEANUP COSTS

The Federal Government has been heavily involved in the TMI-2 problem since the accident occurred. Most of the involvement has been through NRC's regulatory responsibility but several other agencies have also committed resources to resolve the issues and problems that developed after the accident. On September 22, 1981, we reported to the Chairman, Subcommittee on Energy Conservation and Power, House Committee on Energy and Commerce, that five Federal agencies had committed about $275 million during the 1979-81 period for TMI-related matters. Very little of this money, however, has gone to directly offset expenditures that GPU would have made for cleanup activities.

The current administration commitment of $123 million for data acquisition and R&D, if carried out as planned, does have the potential for directly offsetting from $51 million to $54 million of GPU-budgeted expenditures. In addition, DOE research activities to date have already resulted in the $14.5 million reduction in the overall budget, referred to previously.

About $46.7 million, or 90 percent of the potential offset, is expected to result from DOE's involvement in gaining access to and removing the damaged reactor core. DOE expects to develop data on what happened during the accident with respect to the reactor core. The data will serve as a basis for confirming or improving design, operational, and maintenance procedures which will prevent core damage in the event of another accident, thereby limiting both health and safety hazards and recovery costs. DOE also expects that its active participation in the reactor evaluation will enable it to develop and document a methodology for gaining access to, removing, and disposing of a damaged core's components under accident conditions. About $3 million of the $48-million total for data acquisition have already or will offset GPU expenditures, and about $1.7 million of the $19.4 million budgeted for waste immobilization will replace GPU expenditures for that purpose.

The remaining non-offset balance of the $123 million-program will be used to fund DOE work tasks that are of a more generic nature and therefore not directly related to the cleanup budget. These work tasks include the waste immobilization demonstrations,

examination of damaged core elements at DOE laboratories, and various data acquisition projects. Completion of these non-offset tasks, however, will depend heavily on the successful completion of DOE's proposed on-site activities. The effective use of Federal funds for these on-site activities will, in turn, depend on the availability of cleanup funds for GPU to design and implement the various cleanup work tasks in which DOE will be participating.

HOW WILL FAILURE TO RESTART TMI-1 AFFECT THE CLEANUP PROCESS?

It is difficult at this point to accurately assess the effect that not restarting TMI-1 in the near future will have on the progress of the TMI-2 cleanup. We have not had time to evaluate the impact of the court ruling against NRC as it relates to the restart proceedings and can only raise questions that need to be answered.

As the PUC order now stands, the implementation of the second stage of the order--which includes the collection of the $37.5 million for cleanup--could be delayed anywhere from 2 to 10 months or even longer. This leaves GPU with no access to ratepayer revenues to supplement insurance proceeds and other contributions. From the Federal Government's viewpoint, this in turn raises questions about DOE's ability to effectively use its R&D funding. GPU expenditures in 1982 could possibly be a repeat of 1981--completion of the containment water processing and some minor cleanup activities, but principally

maintaining the unit in a safe condition.

Of greater concern than the cleanup, perhaps, are questions that relate to the potential for financial default by Met Ed and the effect that would have on the Corporation as a whole. The financial well-being of Met Ed and its ability to meet its April 1982 tax obligation to Pennsylvania are, to a large degree, dependent on the restart of TMI-1 and the restoration of its fixed costs and return on investment to the base rates. The delayed restart will almost certainly raise questions over its future financial viability. Even if Met Ed meets the April tax obligation, it will have to raise over $50 million in 1983 from internal sources to meet its long-term debt obligations. The continued loss of TMI-1 revenues and earnings, coupled wih the drain on its non-TMI assets to cover its share of the fixed costs for the unit, make it highly unlikely that Met Ed will be able to meet its obligations without significant rate relief because it will be even further removed from access to necessary capital markets.

In summary, Mr. Chairman,

--Funding constraints continue to present difficulties in expediting the cleanup of TMI-2 and threaten the financial viability of Met Ed.

--The response to Governor Thornburgh's proposal for funding the cleanup has been very encouraging and there are positive signs of a willingness by the concerned parties to move forward at TMI. A number

of contingencies have to be resolved, however, before funds committed by these parties will be available.

--We believe there is a role for Federal participation at TMI through a well-planned and executed data acquisition and research and development program. We also believe that DOE's proposed program is a reasonable exercise of its responsibilities and authorities for nuclear R&D. We also see a need, however, for a satisfactory resolution to the utility contribution issue and quick congressional action on legislation to achieve that objective.

--Finally, we see a need for the State regulatory commissions and the State legislatures to address the difficulties confronting the GPU companies and to take the appropriate measures needed to help the companies' meet their financial and regulatory responsibilities.

Mr. Chairman, this concludes my prepared statement. I will be happy to answer any additional questions you might have on this matter.