

See 81-2396



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DOCKETER

Docket No. 50-289

JAN 05 1982

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OFFICE OF SECRETARY
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The Honorable Dick Thornburgh
Governor of Pennsylvania
Harrisburg, Pennsylvania 17120

Dear Governor Thornburgh:

I am providing you with an interim response from the Staff to the questions you posed in your November 20, 1981 letter to the Commission because it would be inappropriate for the Commission to comment on matters pending before it in the Three Mile Island Unit One (TMI-1) Restart proceeding. You will be hearing further from us on the issues you raise after the Commission makes its decision whether to permit the restart of the facility.

You stated that you intend to support restart of TMI-1 if two conditions are met, namely:

- "(1) Development of a consensus for a realistic plan for Unit 2 decontamination.
- (2) Receipt of adequate assurance that Unit 1 can be operated safely."

As to your first condition, I share your concern about the need to assure financial resources to complete the cleanup at TMI-2. At recent Congressional hearings, Chairman Palladino stated that while maintaining the basic independence of nuclear regulation mandated by Congress, the Commission intends to support both Federal and state initiatives to expedite the cleanup. I agree with your assessment that progress in this area has been made and I am hopeful that a plan incorporating the administration's support (see October 19, 1981 letter from Edwin Meese III to you) of government sponsored activities, as well as support from all other affected parties can be finalized very soon.

With regard to the second condition, you have enclosed correspondence from Representative Udall and the Union of Concerned Scientists (UCS) regarding several technical and procedural questions on the TMI-1 restart. The UCS stated in its letter to you a range of concerns regarding the TMI-1 restart hearings. As you know, UCS was a party to the proceedings and had the opportunity to present and defend its positions before the Board. The Atomic Safety and Licensing Board issued its decision on Plant Design and Procedures and Separation Issues on December 14, 1981. That decision deals with several of the UCS concerns. The NRC Staff and the Commission are presently reviewing the Board's findings. Since the Commonwealth of Pennsylvania also participated in the TMI-1 restart proceedings, you will also be receiving these findings for your review.

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The remainder of this letter will summarize Staff positions on the several technical and procedural issues raised.

Inadequate Core Cooling

Congressman Udall in his letter to you dated July 23, 1981, addresses his concern that General Public Utilities (GPU) is not actively pursuing installation of additional instrumentation to detect loss of water from the primary system leading to a condition of inadequate core cooling (ICC). An extensive record on the need for such instrumentation was created in the restart proceeding. The Staff position on this issue is that such instrumentation is necessary to ensure safe operation of pressurized water reactors in the long term and that at the close of the hearing in July 1981, GPU had not yet demonstrated sufficient or "reasonable" progress towards fulfilling this requirement. Since that time, however, GPU has revised its position on this matter and has now committed to installation of a system in the Reactor Collant System (RCS) hot leg piping which will provide an indication of RCS inventory loss. This system is currently being reviewed by the Staff and some design modifications are expected to be required before the system is installed at the next TMI-1 refueling outage.

Hydrogen Control

UCS was specifically concerned regarding the removal of the hydrogen control issue from the hearing by the Board. Since the accident at TMI-2 on March 28, 1979 resulted in hydrogen generation well in excess of the amounts specified in 10 CFR 50.44, it became apparent to NRC that specific design measures are needed for handling larger hydrogen releases, particularly for smaller low-pressure containments. The Commission has issued a new rule published in the Federal Register on December 2, 1981 which amends Part 50 of NRC regulations. Two of the requirements in this rule will affect the TMI-1 plant at its next refueling outage; namely, hydrogen recombiner capability, and high point vents in the reactor coolant system. In addition, the Commission has published in the Federal Register on December 23, 1981, a proposed rule which would require licensees of plants with large dry containments, including TMI-1, to perform certain analyses to show that essential equipment will not be jeopardized by the environment resulting from hydrogen releases from postulated degraded core accidents. However, for plants with large dry containments, such as TMI-1, this proposed rule on hydrogen control is not yet effective and thus no near-term additional hydrogen control requirements apply to TMI-1. Analyses for several large dry containments show that a

substantial structural margin exists for the containment vessel to accommodate the hydrogen that would be released from a degraded core condition such as that following the accident at TMI-2. Also, the accident at TMI-2 serves to demonstrate the inherent resistance of large dry containments and safety equipment to hydrogen burning. Finally, at TMI-1, the implementation of our short-term lessons learned and other post-TMI actions will reduce the likelihood of accidents that could lead to a degraded core condition. It is for these reasons that we conclude that there is no present need for any additional hydrogen control measures required beyond the present regulatory requirements noted above.

Environmental Qualification

UCS was also concerned that the restart proceedings restricted consideration of the question of whether the equipment needed to safely shutdown the plant in an accident has not been shown to be fully qualified to survive the accident environment. The NRC Staff's testimony was directed to the ability of equipment to function following a small break loss of coolant accident (SBLOCA) not involving core damage as a criterion for restart considering appropriate implementation of the short-term lessons learned and other post-TMI actions that will reduce the likelihood of accidents that could lead to a degraded core. This was the Staff's judgment for allowing interim operation until the licensee could complete the actions required for all operating plants under the Commission's Memorandum and Order CLI-80-21 dated May 27, 1980 to demonstrate that all safety-related electrical equipment will be qualified to withstand accident environments.

Safety-related electrical equipment at TMI-1 has been evaluated by the licensee to determine its ability to function in accident environments. The NRC Staff has reviewed the licensee's evaluation. Although qualification of all of the equipment has not been fully demonstrated, many of the inabilityes to fully demonstrate compliance involve a lack of documentation of confirmatory test results to support a finding that the equipment is qualified.

This issue was litigated in the TMI-1 restart proceeding. The Board has provided a detailed discussion and findings on this issue in its December 14, 1981 partial initial decision.

Safety Standards

UCS also presents concerns about appropriate safety classifications that should be applied to the TMI-1 design. These were among the issues litigated in the restart proceedings that UCS believes have not been adequately addressed by the NRC staff and GPU. For example, UCS argued for stricter safety requirements at the hearing for the Power Operated Relief Valve (PORV), the pressurizer heaters, and valve position

cation in safety systems. The NRC has evaluated each of these areas and has mandated improvements to enhance the reliability of the PORV and minimize the consequences of its failure, to enhance the reliability of pressurizer heaters and to help ensure correct valve lineups in safety systems. UCS argued for stricter safety requirements at the hearing. A complete discussion and findings are provided on these issues in the Board's decision issued on December 14, 1981.

NRC Deadlines and GPU Commitments

UCS also expressed concerns about possible extension by the Commission of schedules then currently established for completion of post-TMI requirements should those schedules not be achievable. In an order issued on March 23, 1981 (CLI-81-3, 13 NRC 291 (1981) the Commission stated that it would consider, on a case-by-case basis, licensee's requests for schedule extensions where developments occur that affect licensee's ability to comply with requirements recommended by the Licensing Board or proposed to be imposed by the Commission. The Commission will be reviewing TMI-1 as noted above with respect to revised schedules for post-TMI requirements before its decision on restart. To put this issue in perspective, of the 64 post-TMI requirements which had deadlines prior to January 1, 1982, GPU is in compliance with all items with the following exceptions: Six items require modifications which are near completion and will be completed prior to the NRC authorizing restart; five additional items involve submittals which are currently under staff review and only one item has been significantly delayed. This last item involves further upgrading of the Emergency Feedwater System and reasons for the delay of this modification and compensatory measures are discussed in the Board's December 14, 1981 decision.

Sincerely,
(Signed) William J. Dircks

William J. Dircks
Executive Director for
Operations

pp 1 & 2 retyped in OEDO - see previous version.(1/4/82)

(*See previous 318 for concurrences)

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