



POLICY ISSUE
(Notation Vote)

May 31, 1984

SECY-84-221

FOR: The Commissioners

FROM: William J. Dircks, Executive Director
for Operations

SUBJECT: THREE MILE ISLAND, UNIT 1 RESTART PROCEEDING LICENSE
CONDITIONS

PURPOSE: To advise the Commission that on a schedule consistent with restart authorization, unless notified to the contrary, the staff proposes to condition the TMI-1 operating license to reflect Commission, Licensing Board and Appeal Board considerations emanating from the restart proceeding partial initial decisions and orders issued to date.

BACKGROUND: The staff has reviewed the TMI-1 restart proceeding partial initial decisions and orders issued to date by the Commission, Licensing Board and Appeal Board, including the recent Appeal Board decision on management issues (ALAB-772). The staff has determined that the proposed conditions presented in Enclosure 1 should be incorporated into the TMI-1 operating license. The proposed conditions fall into five basic categories as follows: (1) continuing requirements, (2) power escalation test requirements, (3) Cycle 6 (first refueling cycle following restart) requirements, (4) dated requirements, and (5) periodic requirements. The continuing requirements generally pertain to separation of the units, shift manning, management systems, and procedure requirements for specific systems (e.g., dispatching an operator to the emergency feedwater (EFW) station on an EFW demand). The six proposed power escalation test conditions pertain to those restart certification items that require power escalation testing to complete. Cycle 6 requirements address those modifications which the licensee is to complete during the first refueling outage after any restart. The two dated conditions invoke requirements to be fulfilled at given times other than the first

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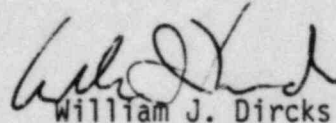
refueling outage. The periodic conditions address certain reporting requirements, operator requalification training, and a periodic systems test program.

There are certain other requirements emanating from the restart proceeding that the staff proposes not to incorporate into the TMI-1 operating license since the licensee has, in all cases, already fulfilled these requirements, as documented in staff letters or inspection reports. This group of restart proceeding requirements, and the basis for exclusion from the TMI-1 operating license, are presented in Enclosure 2.

The staff is aware of the possibility that other restart proceeding conditions may be forthcoming from the Commission's review of ALAB-729/ALAB-744 and the Commission's review on immediate effectiveness. However, the staff proposes to address any forthcoming additional conditions as a future, separate action.

In this regard, the staff also considers issuance of the license conditions in the proposed license amendment permitting the return to operation of the repaired steam generators, currently before the Commission, to be an additional separate action.

RECOMMENDATION: That the Commission: 1) Approve to the issuance by the staff of the TMI-1 restart proceeding license conditions presented in Enclosure 1, and 2) Note that the staff will proceed with issuance of the license conditions presented in Enclosure 1 consistent with restart authorization.



William J. Dircks
Executive Director for Operations

Enclosures:

1. TMI-1 Restart Proceeding License Conditions
2. TMI-1 Restart Proceeding Requirements Which Have Been Fulfilled And Which License Conditions Are Therefore Not Proposed

Commissioners' comments or consent should be provided directly to the Office of the Secretary by c.o.b. Friday, June 15, 1984.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT Friday, June 8, 1984, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

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ENCLOSURE 1

LICENSE CONDITIONSA. Continuing Requirements

1. During any Unit 2 fuel movements in the fuel handling building, the Licensee shall suspend work in the Unit 1 area of that building, unless the Licensee has submitted to the NRC Staff for its review specific written procedures for the planned movements of Unit 2 fuel and an evaluation of the potential impacts of those fuel movements on personnel working in the Unit 1 area of the building and the Staff has agreed that the potential impacts of the planned Unit 2 fuel movements on personnel working in the Unit 1 area of the building do not require that work in the Unit 1 area of the building be suspended. (See LBP-82-27, 15 NRC 747, 755 (1982)).
2. Unit 1 solid waste handling capabilities shall not be relied upon for decontamination or restoration of Unit 2. (See PID #1326(c)).
3. After the restart of Unit 1 and prior to the movement within the Unit 1 fuel handling building of any irradiated Unit 1 fuel, Licensee shall install, and have operable, an engineered safety features (ESF) filtration system for the Unit 1 fuel handling building. The ESF filtration system for Unit 1 shall be operable whenever irradiated Unit 1 fuel is moved within the Unit 1 fuel handling building. (See LBP-82-27, 15 NRC at 756).
4. Isolation of liquid transfer line interconnections between Units 1 and 2 shall be maintained. (See PID 1259 and NUREG-0680 page C4-4 and -5; LBP-82-27, 15 NRC 747 (1982) and Staff's Response to Licensing Board's Directive to Report Details of Its Enforcement Plan in the Form of a Supplemental Initial Decision, February 1, 1982).

5. At all times when the plant temperature is above 200°F (cold shutdown), licensee will man all shifts at TMI-1 with a minimum of one NRC-licensed SRO, who will act as Shift Supervisor, a second individual, either NRC-licensed as an SRO or NRC-licensed as an RO and trained as an SRO, who will act as Shift Foreman, and a minimum of two NRC-licensed ROs who will act as Control Room Operators. (See PID ¶583.9(a)).^{*/}

6. Licensee shall employ all reasonable efforts to ensure personnel will be scheduled on a six-shift rotation, so long as there is a sufficient number of qualified individuals who normally stand shift watches to man six shifts, each of which meets license condition A.5 above (6 SROs and 18 ROs, recognizing that SROs may act as either SROs or ROs). (See PID ¶583.9(b)).^{*/}

7. In the event there is an insufficient number of qualified personnel who normally stand shift watches available to meet license condition (L.C.) A.6, above, licensee shall schedule its normally on-shift plant operating personnel on a five-shift schedule, each of which meets (L.C. A.5), above, unless additional relief is granted pursuant to L.C. A.9), below. (See PID ¶583.9 (c)).^{*/}

^{*/} L.C. A.5, A.6, A.7, A.8, A.9 and A.10 are minimum conditions imposed by the Licensing Board based on the evidentiary record. The requirements of NRC regulations on shift manning, which in some respects are more restrictive than L.C.A.5 - A.10, are also applicable.

8. In the event there is an insufficient number of qualified operators who normally stand shift watches available to meet (L.C. A.7), above, licensee may employ on shift qualified and licensed individuals from its organizations who do not normally stand shift watches, in addition to those operators who do normally stand shift watches, to meet (L.C. A.7), above. (See PID ¶583.9(d)).^{*/}

9. In the event there is an insufficient number of qualified operators in licensee's organization to meet (L.C. A.8), above, for any period longer than ten consecutive days, licensee shall inform the Commonwealth and the NRC staff and seek from the staff their concurrence to man TMI-1 shifts and operate TMI-1 for a limited period of time with available qualified and licensed personnel, specifically bearing in mind the then-current and applicable NRC criteria or guidance on overtime policies. (See PID ¶583.9(e)).^{*/}

10. At all times when TMI-1 is operating at power levels above 20% rated power and there is only one licensed SRO on shift, the SRO-licensed individual on shift shall remain within the control room (including the shift supervisor's office) or within the plant at a location from which the control room is accessible in less than five minutes. Further, at all times when TMI-1 is operating at power levels above 20% rated power and the SRO-licensed individual on shift is not in the control room (including the shift supervisor's office), Licensee

^{*/} L.C. A.5, A.6, A.7, A.8, A.9 and A.10 are minimum conditions imposed by the Licensing Board based on the evidentiary record. The requirements of NRC regulations on shift manning, which in some respects are more restrictive than L.C.A.5 - A.10, are also applicable.

shall ensure that the control room (including the shift supervisor's office) is manned by a minimum of two ROs, acting as Control Room Operators, a third individual with an RO license and SRO-trained, and by the on-shift Shift Technical Advisor (STA). (See PID #583.9(f)).^{*/}

11. Licensee shall employ all reasonable efforts to maintain at all times sufficient numbers of individuals in training to become licensed operators in order to account for possible future attrition of licensed operators. To this end, Licensee shall employ all reasonable efforts to maintain in training at all times that number of trainees which, when combined with the actual number of NRC-licensed SROs and ROs in Licensee's organization, will total at least 30. Licensee shall report to the Commonwealth and the Staff at least annually whenever this condition is not met, and shall describe to the staff the corrective actions being employed by Licensee to achieve compliance. (See PID #583.9(g)).
12. At the time of restart the Licensee shall provide and shall thereafter maintain a management system to perform the following functions (See PID #533.10):

^{*/} L.C. A.5, A.6, A.7, A.8, A.9 and A.10 are minimum conditions imposed by the Licensing Board based on the evidentiary record. The requirements of NRC regulations on shift manning, which in some respects are more restrictive than L.C.A.5 - A.10, are also applicable.

- (a) Review operating experience information originating both within and outside the facility;
 - (b) Promptly supply information pertinent to plant safety, including proposed procedural changes and plant modifications, to operators and other appropriate plant personnel; and
 - (c) Assure that such information is incorporated into training and requalification programs.
13. Any participation of Gary P. Miller in the start-up, testing or operation of TMI-1 shall be under the direct supervision of an appropriately qualified official of GPU Nuclear Corporation (See PID ¶2421 (5)).
14. The Licensee shall preserve all records pertaining to the investigation recommended at PID 2312-14. (See PID ¶2422).
15. Licensee shall not permit Charles Husted to have any supervisory responsibilities insofar as the training of non-licensed personnel is concerned. (See ALAB-772, III.B.3).
16. Until the backup display system for the incore thermocouples is made fully safety-grade (including environmental qualification), the TMI-1 emergency procedures shall direct that operators rely on the redundant indication closest to saturation in determining if the criteria to permit throttling of HPI have been met. (See ALAB-729, 17 NRC 814, 894, V.3 (1932)).

17. Until the EFW system is made fully safety-grade, an auxiliary operator shall be dispatched to the EFW flow control valve area, upon any EFW auto-start condition, in order to take normal control of the valves, if needed; that person shall not be required to perform any other duties until the control room operators verify that EFW flow is being delivered to the steam generators and the EFW system is controlled by the ICS or through the manual station in the control room. (See ALAB-729, 17 NRC at 894, V.1).

18. Before the pressurizer heaters are connected to the emergency power supply at TMI-1, the reactor shall be subcritical or in a hot standby condition. (See ALAB-729, 17 NRC at 894, V.2)

19. The licensee shall modify its emergency plan to address changing capabilities of plant instrumentation (See CLI-79-8, 10 NRC 141, 145; PID ¶200Z).

B. Power Escalation Test Requirements

1. Prior to operation above 5% power, the licensee shall complete the Special Low Power Test Program in accordance with licensee's Restart Test Specification (letter of April 5, 1983 or NRC-approved later submittal) and Item I.G.1 of NUREG-0694. (See PID #1132).
2. Prior to operation above 48% power, demonstrate automatic initiation of EFW pumps upon loss of both feedwater pumps. (See NUREG-0680, page C1-1).
3. Prior to operation above 5% power, demonstrate that EFW system initiation and operation is assured independent of any AC source for at least two hours. (See NUREG-0680, page C1-9).
4. Prior to completion of the Power Escalation Test program, demonstrate safety-grade automatic anticipatory reactor scram on loss of feedwater and upon turbine trip. (See NUREG-0680, page C2-12).
5. Prior to completion of the Power Escalation Test program, demonstrate performance of the saturation meter, the incore thermocouples, and the wide range hot leg temperature instrumentation systems installed to recognize inadequate core cooling. (See NUREG-0680, page C8-14 and ff).
6. Prior to completion of the Power Escalation Test program, demonstrate EFW initiation on loss of all four RC pumps. (See NUREG-0680, page C1-1).

C. Cycle 6 Requirements

1. Prior to startup following Cycle 6 refueling, the Licensee shall upgrade the emergency feedwater system (EFW) to provide safety grade automatic control and to provide other system improvements to include redundant control and block valves, automatic start on OTSG low level, and upgrades of the main steam rupture detection system and the condensate storage tank low-low level alarm to safety grade. (See PID ¶1036, 1037 and 1059; NUREG-0680, page C8-36; and Supplement 3 to NUREG-0680, page 36-38; LBP-82-27, 15 NRC 747 (1982) and Staff's Response to Licensing Board's Directive to Report Details of its Enforcement Plan in the Form of a Supplemental Initial Decision, February 1, 1982.)
2. The Licensee shall correct the human factors deficiency in TMI-1 control room design that is identified in Item 4c of NUREG-0752 and its Supplement 1 prior to startup following Cycle 6 refueling, and the Licensee shall address final resolution of the human factors design deficiencies that are identified in Items 3b, 3e, 3g and 10b of NUREG-0752 and/or its Supplement 1 in its detailed control room design review (DCRDR) report for TMI-1. (See PID ¶913 and LBP-82-27, 15 NRC at 751-52).

D. Dated Requirements

1. Within the first two years after any restart authorization, the licensee's qualification and requalification testing and training program shall be subjected to an in-depth audit by independent auditors, approved by the Director of NRR, such auditors to have had no role in the TMI-1 restart proceedings. (See PID ¶2421(1)).
2. Licensee shall conduct training of all of its operators in Abnormal Transient Operating Guidelines (ATOG) prior to ATOG implementation. (See PID ¶583.8).

E. Periodic Requirements

1. Annually, in October of each year, Licensee shall provide to the NRC reports on progress toward installation of a TMI-1 exact replica simulator. Licensee shall make reasonable and diligent efforts to have such simulator installed by 1985. (See PID ¶583.5).
2. Following availability of a basic principles trainer, licensee shall provide for each operator as a part of annual requalification training at least one week training per year on this trainer in addition to the week each year at B&W's simulator, at least until Licensee's exact replica simulator is available. (See PID ¶583.6).
3. A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident shall be implemented and maintained. (See PID ¶844, 1285, and NUREG-0680, Supplement 3, page 35; LBP-82-27, 15 NRC 747 (1982) and Staff's Response to Licensing Board's Directive to Report Details of Its Enforcement Plan in the Form of a Supplemental Initial Decision, February 1, 1982).

ENCLOSURE 2

TMI-1 RESTART PROCEEDING REQUIREMENTS WHICH HAVE BEEN
FULFILLED AND WHICH LICENSE CONDITIONS THEREFORE ARE NOT PROPOSED^{*/}

1. Requirement

Prior to operation above 5% power, the licensee shall upgrade the pressurizer level instrumentation such that power can be supplied from redundant vital power supplies. The design should also assure that failure of the ICS/NNI power supply would not cause a loss of all pressurizer level instruments. (See PID ¶1001).

Basis for Excluding from License

Required modification is complete. (See Region I Inspection Report 82-26).

2. Requirement

Prior to operation above 5% power, the licensee shall install a backup incore thermocouple display system that is powered independent of the primary display system. The backup system shall be capable of displaying a minimum of 16 incore thermocouple readings (four from each quadrant). (See PID ¶867 and 914 and NUREG-0752, Supplement 1, pages 10-12).

Basis for Excluding from License

Required modification is complete. (See Region I Inspection Reports 81-10, 81-28, 82-14, 82-15, 82-26 and 83-32).

^{*/}By order dated April 5, 1982 (LBP-82-27, 15 NRC 747 (1982)), the Licensing Board modified and, as modified, approved the staff's Reponse to Licensing Board's Directive to Report Details of its Enforcement Plan in the Form of a Supplemental Initial Decision dated February 1, 1982. These requirements, for which license conditions are not required, are those non-certification items which were intended by the Licensing Board to be license conditions but which already have been fulfilled.

3. Requirement

Prior to operation above 5% power, the licensee shall complete certain environmental qualification actions described in Items 4, 5 and 6 of Paragraph 1163 of the Licensing Board's Partial Initial Decision dated December 14, 1981.

Basis for Excluding from License

Required actions are complete. (See Region I Inspection Report 83-02, and NRC letter dated October 8, 1982).

4. Requirement

Within two years of restart, licensee shall develop and implement an internal auditing procedure, based on unscheduled ("surprise") direct observation of the training and testing program at the point of delivery, such audits to be conducted by the Manager of Training and the Supervisor and Operator Training and not delegated. (See PID ¶2421(3)).

Basis for Excluding from License

Required procedure has been developed and implemented. (See Region I Inspection Report 83-02).

5. Requirement

Within two years of restart, licensee shall develop and implement a procedure for routine sampling and review of examination answers for evidence of cheating, using a review process approved by the NRC staff. (See PID ¶2421(4)).

Basis for Excluding from License

Required procedure has been developed and implemented. (See NRC letters dated March 25, 1983 and July 13, 1983).