NRC PDR

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

February 9, 1981
NRC/TMI-81-011

MEMORANDUM FOR: Harold R. Denton, Director,
Office of Nuclear Reactor Regulation

Bernard J. Snyder, Program Director,
TMI Program Office

FROM: Lake H. Barrett, Acting Deputy Program Director,
TMI Program Office

SUBJECT: NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Enclosed is the status report for the period of February 1-7, 1981.

Lake H. Barrett
Acting Deputy Program Director
TMI Program Office

Enclosure: As stated

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NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Week of February 1-7, 1981

Plant Status

Core Cooling Mode: Heat transfer from the reactor coolant system (RCS) loops to reactor building ambient.

Available Core Cooling Modes: Long-term cooling "B" (once through steam generator-B); decay heat removal systems.

RCS Pressure Control Mode: Standby pressure control (SPC) system.

Backup Pressure Control Mode: One decay heat removal pump to supply pressure in conjunction with variable recirculation back to the borated water storage tank (BWST).

Major Parameters (as of 0500, February 6, 1981) (approximate values)
Average Incore Thermocouples: 122°F
Maximum Incore Thermocouple: 152°F

RCS Loop Temperatures:

	A	B
Hot Leg	119°F	123°F
Cold Leg (1)	67°F	67°F
(2)	67°F	67°F

RCS Pressure: 105 psig

Reactor Building: Temperature: 62°F
Water level: Elevation 290.6 ft. (8.1 ft. from floor) via penetration 401 manometer
Pressure: -0.2 psig (Heise)
Concentration: Kr-85 activity was less than detectable in the sample taken prior to the reactor building entry on 2/3/81. A purge was in progress for the entry.

Effluent and Environmental (Radiological) Information

1. Liquid effluents from TMI site released to the Susquehanna River after processing, were made within the regulatory limits and in accordance with NRC requirements and City of Lancaster Agreement dated February 27, 1980.

   During the period January 30, 1981, to February 5, 1981, the effluents contained no detectable radioactivity at the discharge point although individual effluent sources which originated within Unit 2 contained minute amounts of activity. Calculations indicate that less than one millionth (0.000001) of a curie of cesium-137 was discharged. This represents less than 0.00001% of the permissable total liquid activity as specified in Technical Specifications for operational commercial reactors.

2. EPA Environmental Data. Results from EPA monitoring of the environment around the TMI site were as follows:

-- The EPA measured Krypton-85 (Kr-85) concentrations (pCi/m^3) at several environmental monitoring stations and reported the following results:

Location	January 23 - January 30, 1981 (pCi/m^3)
Bainbridge	23
Goldsboro	32
Observation Center	21
Middletown	28

All of the above levels of Kr-85 are considered to be background levels.

-- No radiation above normally occurring background levels was detected in any of the samples collected from the EPA's air and gamma rate networks during the period from January 30, 1981, through February 4, 1981.

3. NRC Environmental Data. Results from NRC monitoring of the environment around the TMI site were as follows:

-- The following are the NRC air sample analytical results for the onsite continuous air sampler:

Sample	Period	I-131 (uCi/cc)	Cs-137 (uCi/cc)
HP-253	January 28, 1981-February 4, 1981	<9.2 E-14	<9.2 E-14

No reactor related radioactivity was detected.

4. Licensee Radioactive Material and Radwaste Shipments. The following shipments were made:

-- On Monday, February 2, 1981, a 40 ml Unit 2 reactor coolant sample was sent to Babcock and Wilcox (B&W), Lynchburg, Virginia.

-- On Friday, February 6, 1981, a 1,000 ml sample from the Unit 1 Waste Evaporator Condensate storage tank B was sent to Teledyne Isotopes, Westwood, New Jersey.

-- On Friday, February 6, 1981, 13 air sample filters were sent to Teledyne Isotopes, Westwood, New Jersey.

Major Activities

1. Reactor Building Entry. The reactor building (RB) entry scheduled for February 3 and 5, 1981, was completed as planned. A total of 32 persons entered the RB during the two day period. Closed circuit television (CCTV) was installed on two levels of the RB. Additional work was performed on the inoperative source range neutron monitor, and decontamination experiments were continued. Based on preliminary indicators (dosimeters), approximately 12 man rem of exposure were accumulated by the entry personnel. The maximum individual whole body exposure, as recorded by digital dosimeter, was 765 mr. Approximately 11 curies of Kr-85 were released to the environment during the preentry purge.

   A total of eight CCTV cameras were installed inside the RB. Seven of the eight cameras are operable and are producing a detailed and clear image on the monitors. The inoperable camera appears to have a wiring problem and is scheduled for repair in approximately three weeks, during the next RB entry.

   Additional measurements were conducted on the NI-2 source range neutron monitor and the associated cables. The results of the measurements can not be assessed until the data measuring equipment is decontaminated. However, a previously identified fault in one of the cables may have been repaired and it is possible that reactor neutron activity may be displayed on the NI-2 channel after a preamplifier is attached to the system. A preamplifier which can be installed outside the RB has been ordered from Westinghouse.

   The decontamination experiments using various decontamination solutions and strippable coatings were performed as planned. The experiments were recorded on video tape using the newly installed CCTV system.

   The tasks inside the RB required more time than originally planned. Delays resulted when a technician felt nauseous while connecting CCTV cables, and requested to leave the containment. The February 5, 1981, entry was delayed for approximately one hour after a closing coil in a heater for the purge system failed. Work was performed in the RB for approximately 13 and 1/2 hours during the two day period.

2. Submerged Demineralizer System (SDS). Initial testing of completed portions of the SDS is in progress while construction is ongoing. The testing verifies the proper operation of equipment and does not involve processing radioactive water. The licensee is preparing an update to the Technical Evaluation Report which should be available for NRC review by the end of February.

3. Contaminated Building Expansion Joint. The onsite TMI Program Office has reviewed the licensee's report of the source of the contamination in the building expansion joint. The licensee is being requested to provide additional information so that the Program Office can complete its' analysis of this problem.

4. Ground Water Monitoring Status. The cesium analysis results for monitor well No. 2 have been received for well samples taken on January 21 and 28, 1981. The cesium analysis indicates activity in monitor well No. 2 has decreased from the levels reported in the previous Weekly Status Report. The January 28, 1981, well sample indicates that cesium-134 is less than the lower limit of detection (5.0 picocuries per liter) and cesium-137 is 7.7 picocuries per liter. There was no appreciable change in tritium concentrations and no other radioisotopes identified in the samples taken through December 24, 1980, from the other wells.

5. Solid Waste Staging Facility Sump Contamination (formerly referred to as the Long Term Storage Sump). The licensee has issued a report which addresses the source of the activity found in the sump of the solid waste staging facility. There is concern that the trace quantities of radioactive cesium and tritium which were detected in the sump may indicate that one of the stored EPICOR liners is leaking. The licensee's report concludes that the most probable source of the detected radioactivity is liner external contamination and vapors released through pipe plugs. The NRC staff is reviewing the report.

   After the sump activity was detected, drains from the A and B solid waste staging modules w.re bagged to collect concentrated samples of any leakage. Following the rainfall during the weekend of January 31, 1981, the module A collecting bag filled sufficiently to provide a sample volume of water. This water has been sent off site for analysis. The results of this analysis may provide additional information on the status of liner integrity.

Meetings Attended

1. On Thursday, January 29, 1981, Lake Barrett met with the Mayor of Middletown to discuss the status of TMI-2. Their discussion centered around disposition of TMI waste, transportation of radioactive wastes and decontamination operations.

2. On Wednesday, February 4, 1981, Bernard Snyder and Lake Barrett attended the TMI Advisory Panel meeting held at the Forum in Harrisburg. The Advisory Panel met to develop a working document for the first presentation of recommendations to the NRC.

   The first topic of discussion centered around the Governor Thornburg letter requesting that the three representatives from the State on the panel become official observers, without voting privledges. There was considerable concern that the effectiveness of the panel would be impaired without the State taking positions on various issues. It was decided that Chairman Minnick would try to arrange a meeting with Governor Thornburg before the next meeting to discuss this matter, and recommend that the State leave at least one voting member on the panel.

   The main issue of the evening centered around the various aspects of the water issue, such as, the difference between "accident generated" water and contaminated water generated since the accident. After discussion, the following motions were passed.

   a. The radioactive contaminants (except tritium) in the unprocessed water should be reconcentrated and immobilized as expeditiously as possible consistent within existing regulatory requirements.

   b. To the extent practicable, Met-Ed/GPU should minimize additional water requirements by recycling processed water to the fullest extent practical.

   c. The contaminated water in Unit 2 be processed utilizing the submerged demineralizer system (SDS) provided the NRC finds the system satisfactory.

   d. After the water is processed through the SDS, it should be stored in tanks onsite for accurate assessment prior to the decision for its ultimate disposal.

   e. There will be an annual review of the water issue.

   The next panel meeting, scheduled for February 11, 1981, will finish their discussion of the water issue and then proceed onto ultimate dispostion of TMI radioactive wastes.

Future Meetings

1. On Monday, February 9, 1981, Lake Barrett will meet with the Mayor of York to discuss the current status of TMI Unit 2.

2. The NRC's Advisory Panel for the Decontamination of Three Mile Island, Unit 2, will hold meetings in Harrisburg, on February 11 and 19, 1981. The public is invited to observe the two meetings, which will be held at the Forum of the Education Building on Commonwealth and Walnut Streets. Each of these meetings are scheduled to begin at 7:00 p.m.