



UNITED STATES
NUCLEAR REGULATORY COMMISSION
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December 12, 1980
NRC/TMI-80-152

MEMORANDUM FOR: Harold R. Denton, Director,
Office of Nuclear Reactor Regulation
Bernard J. Snyder, Program Director,
TMI Program Office

FROM: John T. Collins, Deputy Program Director,
TMI Program Office

SUBJECT: NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Enclosed is the status report for the period of December 7-13, 1980.

John T. Collins
John T. Collins
Deputy Program Director
TMI Program Office

Enclosure: As stated

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T. Elsasser

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NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Week of December 7-13, 1980

Plant Status

Core Cooling Mode: Cyclic natural circulation in the "A" reactor coolant system (RCS) loop via the "A" once through steam generator (OTSG), steaming to the main condenser, and RCS loop-A and B cyclic natural circulation to reactor building ambient.

Available Core Cooling Modes: OTSG "B" steaming to the main condenser; long-term cooling "B" (OTSG-B); decay heat removal.

RCS Pressure Control Mode: Standby Pressure Control (SPC) System.

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

Major Parameters (As of 0500, December 12, 1980) (approximate values)

Average Incore Thermocouples: 124°F

Maximum Incore Thermocouple: 159°F

RCS Loop Temperatures:

	A	B
Hot Leg	120°F	124°F
Cold Leg (1)	35°F	58°F
(2)	37°F	55°F

RCS Pressure: 94 psig (DVM)

Pressurizer Temperature: 70°F

Reactor Building: Temperature: 67°F

Water level: Elevation 290.5 ft. (8.0 ft. from floor)
via penetration 401 manometer

Pressure: -0.3 psig (Heise)

Concentration: 6.5×10^{-5} uCi/cc (Kr-85) (sample taken 12/11/80)

Environmental & Effluent Information

1. Liquid effluents from TMI-1 released to the Susquehanna River, after processing, were within the limits specified in Technical Specifications.
2. No liquid effluents were discharged from TMI-2.

3. 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/m³) at several environmental monitoring stations and reported the following results:

<u>Location</u>	<u>December 1 - December 8, 1980</u> (pCi/m ³)
Bainbridge	25
Goldsboro	25
Observation Center	22
Middletown	*

*Equipment malfunction

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

- No radiation above normally occurring background levels were detected in any of the samples collected from the EPA's air and gamma rate networks during the period from December 3 through December 11, 1980.
4. 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:

<u>Sample</u>	<u>Period</u>	<u>I-131</u> (uCi/cc)	<u>Cs-137</u> (uCi/cc)
HP-245	December 3 - December 10, 1980	<8.2 E-14	<8.2 E-14

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

- On Friday, December 5, 1980, 142 drums of Unit 1 compacted LSA waste were shipped to the Nuclear Engineering Company's (NECO) burial site in Richland, Washington.
- On Monday, December 8, 1980, a 40 ml Unit 2 reactor coolant sample was sent to Babcock and Wilcox (B&W), Lynchburg, Virginia.

Major Activities

1. Reactor Decay Heat Cooling. The loss of Decay Heat to Ambient Test (transfer of reactor decay heat to reactor building ambient) was completed on December 9, 1980, with the reopening of the

turbine bypass valves. This action caused a return to cyclic natural circulation in the reactor coolant system reducing steady state plant temperatures approximately 10°F.

The licensee has submitted a proposal justifying the loss to ambient mode as a viable means of decay heat removal based on test data. The TMI Program Office staff is reviewing the test data and the licensee's proposed procedures for utilizing this cooling mode.

2. Contamination of Building Expansion Joints. Samples of cork from the expansion joints were obtained three feet below floor level. The samples show that the cork is more highly contaminated in the deeper levels and towards the seal injection room. The most highly contaminated sample was three feet below floor level, a short distance away from the seal injection room. The radiation contact with the sample was 25 mr/hr gamma and 432 mrad/hr beta. The licensee has sent samples of the cork to a contractor for a complete isotope analysis of the activity since the cesium activity masks the isotopes of lower activity in some of the samples. The complete isotope analysis should help determine the source of the activity.

Additional work in this area is continuing in order to verify the integrity of water stops in the expansion joints and to determine if any of the activity has reached the environment. The onsite NRC staff will continue to closely monitor the licensee's actions in this area.

3. Reactor Building Entry. The fifth entry into the Unit 2 reactor building occurred on Thursday, December 11, 1980. J. Collins, Deputy Program Director, TMI Program Office, was one of the fourteen men who participated in the entry. Based on preliminary indicators (dosimeters), the maximum total body exposure for any member of the entry team was approximately 650 mr. The maximum exposure was accumulated during a radiation survey of "hot spots" on the 305' elevation. The ambient radiation levels on the 305' elevation are between 400 and 600 mr/hr. "Hot spots" on this elevation reached 20 R/hr.

Other tasks completed during the entry include a survey of the reactor head from inside the refueling pool. The ambient gamma readings in the vicinity of the reactor head were 400 mr/hr. The maximum gamma radiation detected during the head survey was 800 mr/hr. Radiation levels between 100 and 200 mr/hr were recorded during a climb to the polar crane. The crane cab was not entered, however visual observations from the platform immediately below the cab revealed considerable heat damage to electrical components.

A decontamination experiment was performed on the 347' elevation. It appeared that detergent scrubbing and hot water flush were both effective in removing visible surface crud. Results of swipes taken before and after the decontamination experiment are not available at this time. The neutron source range preamplifier was not replaced during the entry. Licensee engineers and manufacturer's

representatives have been unable to solve problems which surfaced during the testing of two preamplifiers which were available on site and an additional preamplifier which was obtained from the Oconee Nuclear Power Station.

Meeting Attended

On Thursday, December 11, 1980, L. Barrett and R. Bellamy attended a public briefing in Harrisburg sponsored by the Department of Environmental Resources on the status of decontamination at Three Mile Island. Representatives from General Public Utilities (GPU) and the U.S. Environmental Protection Agency also participated in the presentation.

Future Meetings

1. On Thursday, December 18, 1980, the TMI Advisory Panel will meet at the William Penn Museum, Third and North Streets, Harrisburg, to discuss radioactive waste management issues pertinent to the decontamination of TMI-2.
2. On Friday, December 19, 1980, L. Barrett, R. Bellamy and G. Kalman will hold a seminar on the Three Mile Island containment in Bethesda, MD, for the NRC staff.