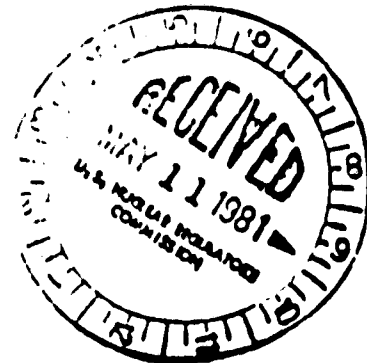


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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20545

May 4, 1981  
NRC/TMI-81-027



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 April 26-May 2, 1981.

*Lake H. Barrett*

Lake H. Barrett  
Acting Deputy Program Director  
TMI Program Office

Enclosure: As stated

cc: EDO  
OGC  
Office Directors  
Commissioner's Technical Assistants  
NRR Division Directors  
NRR A/D's  
Regional Directors  
IE Division Directors  
XOOS  
XOM  
TMI Program Office Staff (15)  
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Projects Br. No. 2 Chief, DPRI, RI  
DPRI Chief, RI  
Public Affairs, RI  
T. Elsasser

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# NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Week of April 26.- May 2, 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 Modes: Mini Decay Heat Removal (MDHR) System.  
Decay Heat Removal (DHR) System.

Major Parameters (as of 0430, May 1, 1981) (approximate values)

Average Incore Thermocouples: 114°F

Maximum Incore Thermocouple: 141°F

### RCS Loop Temperatures:

|              | A     | B     |
|--------------|-------|-------|
| Hot Leg      | 112°F | 115°F |
| Cold Leg (1) | 66°F  | 65°F  |
| (2)          | 66°F  | 65°F  |

RCS Pressure: 99 psig

Reactor Building: Temperature: 64°F

Water level: Elevation 290.7 ft. (8.2 ft. from floor)  
via penetration 401 manometer

Pressure: -.6 psig

Concentration: Less than LLD ( $4.3 \times 10^{-6}$ )  
(sample taken 4/30/81)

## Effluent and Environmental (Radiological) Information

1. Liquid effluents from the 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 April 24, 1981, through April 30, 1981, the effluents contained no detectable radioactivity at the discharge point although individual effluent sources which originated within Unit 2 contained minute amounts of radioactivity. Calculations indicate that less than 2 millionths (0.000002) of a curie was discharged. This represents less than 0.00002% of the permissible total liquid activity as specified in Technical Specifications for operational commercial reactors.

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

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

| <u>Location</u>    | <u>April 17 - April 24, 1981</u><br>( $\text{pCi}/\text{m}^3$ ) |
|--------------------|---|
| Goldsboro          | 22  |
| Observation Center | 25  |
| Middletown         | 33  |
| Yorkhaven          | 25  |

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 April 24, 1981, through April 30, 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:

| <u>Sample</u> | <u>Period</u>                   | <u>I-131</u><br>( $\text{uCi}/\text{cc}$ ) | <u>Cs-137</u><br>( $\text{uCi}/\text{cc}$ ) |
|---------------|---------------------------------|--|---|
| HP-264        | April 15, 1981 - April 22, 1981 | < 8.5 E-14                                 | < 8.5 E-14                                  |
| HP-265        | April 22, 1981 - April 29, 1981 | < 8.6 E-14                                 | < 8.6 E-14                                  |

- Environmental TLD measurements for the period February 5 to March 12, 1981 around TMI, and the Island stations for the period November 28, 1980 to March 13, 1981, indicated gamma radiation to be at the natural background levels. Fifty-eight TLD's registered doses ranging from 0.17 mR/day to 0.32 mR/day. Average dose was 0.24 mR/day. These dose rates are consistent with natural background radiation in the TMI area.

#### 4. Licensee Radioactive Material and Radwaste Shipments

- On Monday, April 27, 1981, a 40 ml Unit 2 reactor coolant sample was sent to Babcock and Wilcox (B&W), Lynchburg, Virginia.
- On Monday, April 27, 1981, one 4' x 4' EPICOR II dewatered resin liner (liner DF-13) from Unit 2 was shipped to U. S. Ecology, Richland, Washington.
- On Tuesday, April 28, 1981, one 4' x 4' EPICOR II dewatered resin liner (liner DF-4) from Unit 2 was shipped to U. S. Ecology, Richland, Washington.
- On Wednesday, April 29, 1981, one 4' x 4' EPICOR II dewatered resin liner (liner DF-7) from Unit 2 was shipped to U. S. Ecology, Richland, Washington.

#### Major Events

1. Reactor Building Entry. The ninth entry into the Unit II reactor building (RB) was completed on Thursday, April 30, 1981. During this entry preparations were completed for a decontamination experiment which will be performed on the next entry. Additionally, a floating pump was placed in the RB sump water. This pump will be used to pump sump water to the submerged demineralizer system. Eight persons entered the RB during the entry and based on preliminary indicators (dosimeters), the maximum individual exposure was 618 millirem. The next RB entry is tentatively scheduled for May 14, 1981. The RB was purged prior to the entry to reduce airborne Krypton concentrations. Air samples taken before and after the purge indicate that approximately three curies of Krypton-85 were released to the environment.
2. Ground Water Monitoring. Test boring two was placed on an accelerated sample analysis schedule when minute amounts of radioactive cesium were detected in the water samples taken during the months of December through March. The cesium activity subsequently decreased to below the lower limit of detection (LLD) on the most recent analysis results available from test boring two from samples taken on April 22, 1981.

Tritium activity in the test borings has remained in the same range as previously reported. An exception has been test boring nine. Samples taken from test boring nine on February 25, 1981, indicated an increase in tritium activity to 6310 picocuries per liter (pCi/L). Samples taken on March 4, 11, and 18, 1981, indicated 3660, 2940 and 3310 pCi/L of tritium respectively. Test boring nine is located adjacent to the borated water storage tank (BWST). During the time when tritium activity increased in test boring nine, excavation work was in progress around the BWST. The excavation may have altered the normal flow paths of the ground water.

Leaks from the BWST associated valves and fittings may have been the source of the ground water contamination. The licensee has constructed a trough and a rain cover around the potentially leaky BWST components. The weekly monitoring of the ground water activity will continue.

3. Submerged Demineralizer System (SDS). Preparation of the Safety Evaluation Report (SER) by the TMI Program Office is in progress although some necessary information has not yet been received. On April 30, 1981, the licensee submitted a revised schedule for providing the needed information.

The licensee is performing functional tests of the SDS components to verify that the equipment will operate as designed. The testing does not involve processing of contaminated water. The licensee has pumped approximately 112,000 gallons of EPICOR II processed water into the fuel pool. The fuel pool will be completely filled when the functional testing allows and concerns raised about airborne tritium concentrations are resolved (this item is discussed in the next paragraph).

4. Elevated Tritium Levels in Fuel Handling Building. At approximately 10:00 p.m. on April 29, 1981, licensee representatives obtained analytical results for an airborne concentration of  $3.1 \times 10^{-5}$  uCi/cc (tritium, H-3) for a grab sample taken between 2:00 p.m. to 7:00 p.m. earlier in the day. The sampling process was performed while EPICOR II processed water, which contained 0.22 uCi/ml of H-3, was transferred to partially fill the "B" Spent Fuel Pool, which will be used to shield the Submerged Demineralizer System during its operation. The sample was taken inside the pool. Subsequent samples were immediately taken at the 347' elevation (working area) of the Fuel Handling Building (FHB) adjacent to the "B" pool.

The second sample results became available at 4:45 a.m., April 30, 1981, and showed  $2.2 \times 10^{-5}$  uCi/cc (H-3). The 347' elevation was subsequently declared an airborne radioactivity area. The transfer process was secured at 2:30 a.m., April 30, 1981.

At approximately 10:00 a.m., a sample analysis indicated  $1.2 \times 10^{-6}$  uCi/cc, (H-3) and personnel entry into the area was resumed since the airborne (H-3) concentration was reduced to below 25 percent of MPC (occupational maximum permissible concentration per 10 CFR 20).

Licensee analytical results of a grab sample taken at 0553 to 0740 on April 30, 1981, from the FHB exhaust indicated an H-3 concentration of less than the Lower Limit for Detection (LLD  $< 4.5 \times 10^{-9}$  uCi/cc). The NRC resident staff have compared the monthly H-3 effluent and determined that the H-3 airborne releases during April (2.8 Ci) were essentially the same as March (2.7 Ci). Based on the monthly effluent data it appears that the slightly elevated and localized H-3 concentrations in the FHB during April 29 and 30, 1981, has not contributed to any significant increase in the plant monthly H-3 effluent.

Further, the licensee initiated a bioassay for selected personnel present at the 347' elevation area of the FHB during the period of the apparent increase in H-3 airborne concentrations. The source of the apparent localized H-3 concentrations is still being examined by the onsite staff.

Meeting Held

On Thursday, April 30, 1981, Harold Denton and Lake Barrett attended the annual convention of the Pennsylvania Osteopathic Medical Association at the Host Farm in Lancaster. Mr. Denton addressed the convention at its opening session followed by an open question session. The majority of the questions centered around general issues regarding the cleanup program of TMI Unit 2, and the recent Japanese event at Tsuruga Nuclear Power Plant.

Future Meetings

1. On Tuesday, May 5, 1981, Lake Barrett will conduct a plant tour for area mothers.
2. On Wednesday, May 13, 1981, Lake Barrett and Oliver Lynch will participate in a meeting with the Susquehanna Valley Alliance on the Programmatic Environmental Impact Statement. The meeting will be held at 7:30 p.m., in the Friends Meeting House in Lancaster at 110 Tulane Terrace.