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June 28, 1982
NRC/TMI-82-040

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

Bernard J. Snyder, Program Director
TMI Program Office

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

SUBJECT: NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Enclosed is the status report for the period of June 20, 1982 to June 26,1982. Major items included in this report are:

-- Liquid Effluents

-- EPA and NRC Environmental Data

-- Radioactive Material and Radwaste Shipments

-- Submerged Demineralizer System Status

-- EPICOR II

-- Reactor Coolant System Feed and Bleed

-- Reactor Building Entry

-- Axial Power Shaping Rod Movement

-- Public Meeting

Original signed by
Lake H. Barrett

Lake H. Barrett
Deputy Program Director
TMI Program Office

Enclosure: As stated



| | | | | | | |
|---|---|---|---|---|---|---|
| NAME ▶ | | | | | | |
| DATE ▶ | | | | | | |

cc w/encl:
EDO
OGC
Office Directors
Commissioner's Technical Assistants
NRR Division Directors
NRR A/D's
Regional Administrators
IE Division Directors
TAS
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TMI Program Office Staff (15)
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EPA
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Projects Br. #2 Chief, DPRP, RI
DPRP Chief, RI
Public Affairs, RI
State Liaison, RI

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|---|---|---|---|---|---|---|---|
| OFFICE | TMIPO | TMIPO | TMIPO | TMIPO | TMIPO | TMIPO | |
| NAME | GKalman:js | RConte | MShanbaky | AFasano | RBellamy | LBarrett | |
| DATE | 6/28/82 | 6/28/82 | 6/28/82 | 6/28/82 | 6/28/82 | 6/28/82 | |

NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

June 20, 1982 - June 26, 1982

## Plant Status

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

Available Core Cooling Modes: Decay heat removal (DHR) systems, Mini DHR (MDHR) system.

RCS Pressure Control Mode: Standby pressure control (SPC) system.
NOTE: During Reactor Coolant System feed and bleed, pressure will be maintained with a Reactor Coolant Bleed Tank Pump. Automatic back up pressure control will be provided by the SPC system.

Backup Pressure Control Modes: MDHR and DHR system.

Major Parameters (as of 0600, June 25, 1982) (approximate values)
Average Incore Thermocouples: 102°F
Maximum Incore Thermocouple: 127°F

RCS Loop Temperatures:

| | | A | B |
|---|---|---|---|
| Hot Leg | | 99°F | 99°F |
| Cold Leg | (1) | 86°F | 81°F |
| | (2) | 91°F | 83°F |

Pressure: 66 psig
NOTE: During reactor coolant system feed and bleed, pressure is maintained at approximately 70 psig.

Reactor Building: Temperature: 72°F
Pressure: -0.29 psig
Airborne Radionuclide Concentrations:
1.7 E-7 uCi/cc $H^3$
(sample taken 6/22/82)
9.4 E-6 uCi/cc $Kr^{85}$
(sample taken 6/15/82)
7.7 E-9 uCi/cc particulates
(sample taken 6/22/82)

1. Effluent and Environmental (Radiological) Information

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 June 18, 1982, through June 24, 1982, the effluents contained no detectable radioactivity at the discharge point although individual effluent sources which originated within Unit 2 contained small amounts of radioactivity. Calculations indicate that less than four hundred-thousandths (0.00004) of a curie of tritium was discharged.

2. Environmental Protection Agency (EPA) Environmental Data

-- The EPA Middletown Office has not received the environmental Kr-85 analytical results for the samples which were taken May 21, 1982 through June 25, 1982, from the EPA's Counting Laboratory at Las Vegas, Nevada. These results will be included in a subsequent report.

-- 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 June 16, 1982 through June 24, 1982.

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-324 | June 16, 1982 - June 24, 1982 | <5.8 E-14 | <5.8 E-14 |

4. Licensee Radioactive Material and Radwaste Shipment

-- On Monday, June 21, 1982, one LSA (Low Specific Activity) metal waste container and one Hittman Liner from Unit 1 were shipped to Chem-Nuclear Systems, Inc., Barnwell, South Carolina.

-- On Monday, June 21, 1982, one exclusive use trailer originating from Unit 2 began a three step route to deliver:

1. 12 Unit 2 reactor coolant samples to Oak Ridge National Lab, Oak Ridge, Tennessee.

2. HPR-214, reactor building radiation dome monitor (Unit 2) to Sandia National Lab, Albuquerque, New Mexico.

3. One Unit 2 reactor coolant sample and two reactor building purge filters (Unit 2) to EG&G Idaho National Engineering Laboratory, Scoville, Idaho.

-- On Tuesday, June 22, 1982, one liquid sample (150 ml decay heat removal-A) from Unit 1 was mailed to Radiation Management Corporation, Philadelphia, Pennsylvania.

-- On Friday, June 25, 1982, three Unit 1 and five Unit 2 LSA metal containers of waste, and three EPICOR II 4x4 liners were shipped to U.S. Ecology Inc., Richland, Washington.

Major Activities

1. Submerged Demineralizer System (SDS). Processing of the third batch (approximately 50,000 gallons) of reactor coolant system (RCS) water began June 19, 1982. Batch three is scheduled for completion by June 26, 1982. SDS processing parameters will be available upon completion of the batch. Zeolite vessel change out is anticipated before processing batch four.

2. EPICOR II. The EPICOR II system is currently shutdown on a standby status.

3. Reactor Coolant System (RCS) Feed and Bleed. The fourth feed and bleed cycle of the RCS water (approximately 50,000 gallons) is scheduled to begin Monday, June 28, 1982, after completion of the axial power shaping rod insertion and SDS processing of batch three. It is tentatively planned that the fourth RCS batch will include feed and bleed of the RCS through the pressurizer. The NRC has approved procedures for this operation which will allow cleanup of the stagnant RCS water which remains in the pressurizer.

4. Reactor Building Entry. Two reactor building entries were completed during the week. On Tuesday, June 22, 1982, technicians placed "TLD trees" (strings of thermoluminescent dosimeters) below the 305 ft. elevation floor to map the radiation fields in the basement. Additional work included electrical maintenance on the spider lift, and installation of a portable power supply on the 347 ft. elevation.

   On Wednesday, June 23, 1982, a radiochemist and health physics technician successfully descended the open stairwell to within a few feet of the 282 ft. basement elevation and obtained a scrape sludge sample, radiation readings and photographs of the RB basement floor.

   The team completed its tasks in two minutes and fifty-eight seconds with a total radiation dose of 0.664 man-rem. The average dose rate at waist level for sludge sample collection was 19 R/hr gamma and 50 Rad/hr beta.

   Other technicians completed water flushes from the 305 ft. elevation of the containment walls below and attached acoustic monitors (microphones) to the reactor vessel in preparation for the APSR insertion test.

   One reactor building entry is scheduled for next week on Wednesday, June 30, 1982.

6. Axial Power Shaping Rod (APSR) Movement. The APSR movement began June 23, 1982. A reactor building entry was made, during which acoustic monitors (microphones) were installed on the APSR drive mechanisms to monitor noise during the rod movement test.

Subsequently, the first of eight APSR's (No. 62) was withdrawn 3/16 of an inch in 1/32 of an inch increments, in accordance with the prepared test procedure. The rod movement direction was reversed and then the rod was reinserted into the reactor core: the plan was to drive the APSR's into their "full-in" position so that normal uncoupling of the APSR can be accomplished before the reactor vessel head is removed. However, increased resistance to rod insertion was observed when the APSR reached within 5% of its "full-in" position (seven inches from the bottom). The APSR test was stopped at this point, since the 30 minute elapsed time limit had been reached for APSR motor energization.

The APSR test on No. 62 was resumed on June 24, 1982. However, no further inward movement was possible at the maximum permissible electrical current (14 amps) which could be applied to the drive mechanism. APSR testing was continued on three more rods (Nos. 63, 65, and 66). These rods, like rod No. 62, were first withdrawn 3/16 of an inch. Then, their direction was reversed and attempts were made to drive them into their "full-in" position. Only rod No. 65 reached its approximate "full-in" position.

APSR testing was completed on the final four rods (Nos. 64, 67, 68, and 69) on June 25, 1982. One of these rods reached its approximate "full-in" position (No. 67); two of the rods (Nos. 64 and 69) could not be moved inward.

The "as left" rod positions are summarized as follows:

| Rod No. | Core Location# | "As Left" Position* |
|---|---|---|
| 62 | F-4 | 5.5% |
| 63 | L-4 | 18.8% |
| 64 | N-6 | 25.0% |
| 65 | W-10 | 0.1% |
| 66 | L-12 | 4.2% |
| 67 | F-12 | 1.1% |
| 68 | D-10 | 22.9% |
| 69 | D-6 | 26.1% |

#Refer to attached map of core location.

*The distance from full rod removal (100%) to full rod insertion (0%) is 144 inches. A 5.5% "as left" position means a rod is approximately seven inches from the reactor core bottom.

The licensee determined after reviewing the data from the two neutron monitors, that there was no change in the neutron population as a result of the APSR testing.

The entire series of APSR tests was monitored by the NRC TMI Program Office (J. Wiebe) which maintained test surveillance on a continuous basis.

Past Meetings

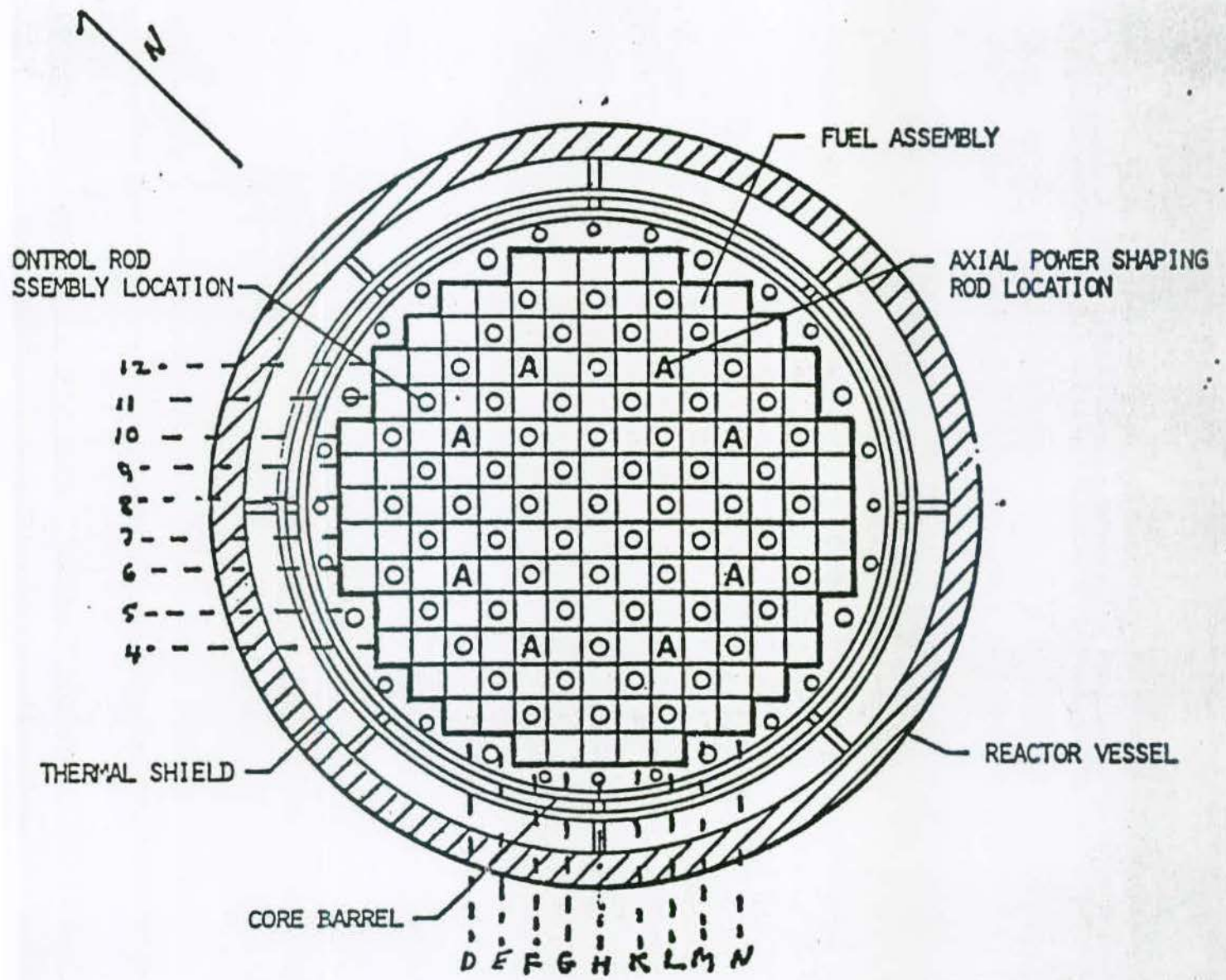
1. On Tuesday, June 22, 1982, Lake Barrett taped a segment for a local radio documentary about the TMI Unit 2 accident and its socio-economic consequences.

2. On Thursday, June 24, 1982, Lake Barrett discussed various TMI issues with State Liaison Officers from the Northeast States in the NRC's Region I Office, King of Prussia, Pennsylvania.

Future Meetings

On Wednesday, June 30, 1982, Lake Barrett and Carol Ramsey (NRC Office of Research) will discuss sociology aspects of emergency planning with a group of Middletown residents.

# UNIT II REACTOR VESSEL and INTERNALS CROSS SECTION




The eight Axial Power Shaping Rods (A), used to shape power output of the reactor during operation, are the control rods involved in the June, 1982 testing. The remaining control rods were inserted into the core when the TMI-2 reactor shut down automatically on March 28, 1979.