

NRC/THI-83-066

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

Bernard J. Snyder, Program Director
THI Program Office

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

SUBJECT: NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT FOR
October 16 - October 22, 1983

Data from effluent and environmental monitoring systems indicated no plant releases in excess of regulatory limits. Waste shipments continued on a routine basis. Plant parameters showed no significant changes. The reactor coolant system is depressurized and RCS level remains at 321'6" as part of underhead characterization studies.

The pace of cleanup activities has been reduced because of 1983 funding limitations (see October 17, 1983, Weekly Status Report). Site activities this week included: AFHB decontamination, "A" spent fuel pool refurbishment and procedure review. One reactor building entry was made in support of miscellaneous tasks. (For more details see appropriate paragraphs below.)

Significant items covered in the enclosure are:

- Reactor Building Activities
- Polar Crane Status
- Spent Fuel Pool "A" Refurbishment
- Auxiliary and Fuel Handling Building Activities
- Waste Management Activities
- Purification and Demineralizer Status
- TMI Occupational Dose
- Public Meetings

Data summary sheets included in this report are:

- ```
-- Liquid Effluent Data
-- Environmental Data
-- Radioactive Material/Radwaste Shipment Data
-- Water Processing Data
-- Plant Status Data
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//signed//

Lake H. Barrett  
Deputy Program Director  
THI Program Office

TDIR-5  
TMI

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|-----------|----------------------|
| OFFICE ▶  | Enclosure: As stated |
| SURNAME ▶ |                      |
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## ENCLOSURE

### REACTOR BUILDING ACTIVITIES:

Leadscrews B-10, C-11, D-12 and E-13 were initially parked during the week of October 9, 1983, in order to evaluate the dose rate increase associated with moving the leadscrews from inside the reactor vessel to a position in the CRDM motor tubes in the reactor service structure. Preliminary dose rate measurements indicate a dose rate increase in the vicinity of the refueling canal seal plate by a factor of approximately three, from approximately 100 mR/hr to approximately 300 mR/hr. There was no significant dose rate increases on the service structure platform. This data is being evaluated to determine whether it would be more manrem effective to completely remove the leadscrews from the reactor vessel/service structure prior to head lift or to leave the leadscrews in the parked position inside the service structure during head removal and subsequent storage.

One reactor building entry was completed during the week of October 16, 1983. Major work activities included reinsertion of three of four control rod drive leadscrews. During the reinsertion evolution, conducted on Tuesday, leadscrew C-11 could not be lowered to its original position. Leadscrew C-11 was placed in the parked position and the problem is being evaluated. The parked lead-screw is not expected to significantly impact work in the reactor building.

Six core debris samples were removed from the reactor building during Tuesday's entry and placed in a 1-13C cask in preparation for shipment to INEL (see Appendix 3, Shipments).

Work force reduction and financial constraints have reduced planned reactor building entries to one per week. Routine plant maintenance and activities to comply with technical specification requirements will be conducted during these entries. The safety significance of a potential long term delay in defueling the reactor is being evaluated by the NRC staff.

### POLAR CRANE STATUS:

The TMIPO staff is continuing the review of all licensee documents related to the reactor building polar crane. GPUN has responded to the NRC's September 28, 1983, letter which requested additional refurbishment information in the area of administrative controls. GPUN's response, dated October 11, 1983, referenced three ECMs of which two have been received. Upon receipt of the third ECM the staff will complete its review of the licensee's safety evaluation.

### SPENT FUEL POOL "A" REFURBISHMENT:

Work on the shield slab lifting lugs is progressing. The load test of the lifting beam has been completed. Lifting of shield slabs could start next week after the decontamination enclosure for the slabs is completed in the truck bay. Decontamination of the tank farm internals could begin next week. The NRC staff has reviewed and approved procedures for decontamination of the shield slabs, the tanks, and structural steel.

AUXILIARY AND FUEL HANDLING BUILDING ACTIVITIES:

Work on the 328 ft. elevation decontamination facility continued this week. Limited operation of the facility could begin next week.

All supporting procedures governing operation of the decontamination facility and its equipment have been reviewed and are in effect. Full operation of the new facility is scheduled to commence in November.

WASTE MANAGEMENT ACTIVITIES:

1. SDS Liner Shipments. Preparations for the shipment of SDS zeolite liner (D20031) are ongoing. Shipment of the liner is tentatively planned for the week of November 1.
2. EPICOR Demineralizer Shipments. No demineralizers were shipped from TMI this week. Demineralizers F-42, F-47 and K-8 have been dewatered and are being prepared for shipment.

PURIFICATION AND DEMINERALIZER STATUS:

Plans and preparations continue for the removal of the radioactive resins from the AFHB makeup and purification demineralizers (MU-K-1A & -B).

Recent gas sampling indicated no significant buildup of hydrogen in the vessels. Plans are being formulated for adding water to, and removing a resin sample from, the 'A' vessel by insertion of a sample probe through the resin fill valve (MU-V-111A).

TMI OCCUPATIONAL DOSE:

Licensee TLD (Thermoluminescent Dosimeter) records indicate the following station occupational radiation doses for the period September 1 - September 30, 1983:

Unit 1 and Unit 2 Combined Dose Ranges

| <u>Category in Rem</u>                       | <u>Number of Station Personnel</u> |
|----------------------------------------------|------------------------------------|
| No Measurable Dose                           | 1,316                              |
| Dose Less Than 0.1                           | 234                                |
| 0.1 to 0.25                                  | 73                                 |
| 0.25 to 0.5                                  | 38                                 |
| 0.5 to 0.75                                  | 7                                  |
| 0.75 to 1                                    | 6                                  |
| 1 to 2                                       | 1                                  |
| 2 to 3                                       | 0                                  |
| <u>Total Plant (Unit 1 and Unit 2) Dose:</u> | <u>43.274 manrem*</u>              |
| <u>Total Unit 2 Dose:</u>                    | <u>39.9 manrem</u>                 |

Total cumulative Unit 2 dose for 1983 (January - September 1983): 325.1 manrem

\*Manrem is an expression for the summation of whole body doses to individuals in a group. Thus, if each member of a population group of 1,000 people were to receive a dose of 0.001 rem (1 millirem), or if two people were to receive a dose of 0.5 rem (500 millirem) each, the total manrem dose in each case would be one manrem.

#### PUBLIC MEETINGS:

##### Past Meeting:

On October 17, 1983, Dr. B. J. Snyder, Director, TMIPO met with Maryland Senator Cathy Riley to provide an update of the status and progress in the TMI-2 cleanup. Senator Riley, who represents that part of Maryland along the Susquehanna River nearest to TMI, expressed serious reservations about cleanup progress this year. Senator Riley also indicated concern about future work, considering the uncertainty of long term funding sources.

Dr. Snyder reviewed the status of the processed water at TMI. He indicated that the TMI-2 license prohibits disposing of this water. Furthermore, it was noted that the cleanup involves reuse and recycling of this water at least until the fuel is removed from the reactor and, therefore, no disposition proposal has been made by the licensee.

##### Future Meeting:

On November 17, 1983, at 11:00 AM, Lake Barrett will speak on NRC issues at a Lancaster County ELANCO meeting to be held at the Trinity Lutheran Church, 221 East Main Street, New Holland, Pennsylvania.

## APPENDIX 1

### LIQUID EFFLUENT DATA

#### GPU Nuclear

Based on sampling and monitoring, liquid effluents from the TMI site released to the Susquehanna River were determined to be within regulatory limits and in accordance with NRC requirements and the City of Lancaster Agreement.

During the period October 14, 1983 through October 20, 1983 the effluents contained no detectable radioactivity at the discharge point. Individual effluent sources originating within Unit 2 contained minute amounts of radioactivity. Calculations indicate that less than  $6.0 \text{ E-8}$  (0.00000006) of a curie of Cs-137 was discharged.

#### Environmental Protection Agency

|                          |                             |
|--------------------------|-----------------------------|
| Lancaster Water Samples: | 7 samples                   |
| Period Covered:          | October 2 - October 8, 1983 |
| Results:                 | Gamma Scan Negative         |
| TMI Water Samples:       | 5 samples                   |
| Period Covered:          | October 1 - October 7, 1983 |
| Results:                 | Gamma Scan Negative         |

## APPENDIX 2

### ENVIRONMENTAL DATA

#### EPA Environmental Data

The EPA measures Kr-85 concentrations at several environmental monitoring stations and reported the following results:

| <u>Location</u>        | <u>September 16 - September 30, 1983</u><br>(pCi/m <sup>3</sup> ) |
|------------------------|-------------------------------------------------------------------|
| Goldsboro              | 20                                                                |
| Middletown             | 22                                                                |
| Yorkhaven              | 23                                                                |
| TMI Observation Center | 20                                                                |

- 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 October 11, 1983 through October 19, 1983.

#### NRC Environmental Data

Results from the NRC continuous air sampler monitoring of the TMI site environment are as follows:

| <u>Sample</u> | <u>Period</u>                       | <u>I-131</u><br>(uCi/cc) | <u>Cs-137</u><br>(uCi/cc) |
|---------------|-------------------------------------|--------------------------|---------------------------|
| HP-389        | October 13, 1983 - October 20, 1983 | <7.4 E-14                | <7.4 E-14                 |

### APPENDIX 3

#### RADIOACTIVE MATERIALS/RADWASTE SHIPMENT DATA

- On October 17, 1983, a NU PAC 14/190M cask containing solidified resin from TMI-1 was shipped to Chem-Nuclear Systems, Inc., Barnwell Waste Management Facility, Barnwell, South Carolina.
- On October 18, 1983, seven liquid samples from TMI-1 were shipped to NWT Corporation, San Jose, California.
- On October 18, 1983, a NU PAC 14/190M cask containing solidified resin from TMI-1 was shipped to Chem-Nuclear Systems, Inc., Barnwell Waste Management Facility, Barnwell, South Carolina.
- On October 20, 1983, a 1-13C-II Type B shipping cask containing six core debris samples from TMI-2 was shipped to EG&G Idaho, Inc., Scoville, Idaho.
- On October 20, 1983, a NU PAC 14/190M cask containing solidified resin from TMI-1 was shipped to U.S. Ecology, Hanford Burial Site, Richland, Washington.
- On October 21, 1983, a NU PAC 14/190M cask containing noncompacted trash from TMI-1 was shipped to U.S. Ecology, Hanford Burial Site, Richland, Washington.

## APPENDIX 4

### WATER PROCESSING DATA

#### Submerged Demineralizer System (SDS)

SDS was shutdown during the week.

#### EPICOR II

EPICOR II processing of Batch 189 (3,996 gallons from the miscellaneous waste hold-up tank) was completed on October 19, 1983. Batch 190 (1,278 gallons from the miscellaneous waste holdup tank) was processed on October 22, 1983 after installation of new liners in the 1K and 2K (second and third liners in train) positions.

## APPENDIX 5

### PLANT STATUS

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

Available Core Cooling Mode: Mini Decay Heat Removal (MDHR) system.

RCS Pressure Control Mode: N/A

Major Parameters (as of 5:00 AM, October 21, 1983) (approximate values)

Average Incore Thermocouples\*: 100°F

Maximum Incore Thermocouple\*: 129°F

#### RCS Loop Temperatures:

|              | A    | B    |
|--------------|------|------|
| Hot Leg**    | 72°F | 80°F |
| Cold Leg (1) | 64°F | 74°F |
| (2)          | 64°F | 74°F |

RCS Pressure: 0 psig

Reactor Building: Temperature: 67°F

Pressure: -0.16 psig

Airborne Radionuclide Concentrations:

1.9 E-7 uCi/cc H<sup>3</sup> (Tritium)  
(sample taken 10/18/83)

9.1 E-10 uCi/cc particulates  
(predominately Cs-137)  
(sample taken 10/18/83)

\*Uncertainties exist as to the exact location and accuracy of these readings.

\*\*Since the RCS draindown, hot leg temperature detectors are above water level.