June 27, 1983
NRC/TMI-83-039

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 FOR
June 19 - 25, 1983

Data from effluent and environmental monitoring systems indicated no plant releases in excess of regulatory limits. Waste shipments and water processing tasks continued on a routine basis. Plant parameters showed no significant changes. General clean-up and preparations for headlift continued.

Major activities this week were ongoing surfaces and drain decontamination in the Auxiliary Building, continued decon facility construction, "A" spent fuel pool refurbishment, procedure review and continued followup of polar crane issues. Four Reactor Building entries supported miscellaneous tasks. (For more details see appropriate paragraphs below.)

Significant items included in the enclosure are:

-- Auxiliary and Fuel Handling Activities
-- Reactor Building Activities
-- Polar Crane Status
-- Defueling Preparation Activities
-- Waste Management Activities
-- Schedule of Future Activities
-- Public Meetings

Data summary sheets included in this report are:

-- Liquid Effluents
-- Environmental Data
-- Radioactive Material/Radwaste Shipment Data
-- Water Processing Data
-- Plant Status Data

signed - W. D. Travers
for/
Lake H. Barrett
Deputy Program Director
TMI Program Office



TDR-5
TMI

Enclosure: As stated

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NRC FORM 318 (10-80) NRCM 0240

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ENCLOSURE

AUXILIARY AND FUEL HANDLING BUILDING ACTIVITIES:

The major ongoing activity in the Auxiliary and Fuel Handling Buildings (AFHB) continues to be the decontamination of the 282' elevation. The scabbing activity is now centering on individual cubicles since most large open areas and hallways are completed. No remote decontamination was performed since the robot (Fred, described in Weely Status Report dated May 23, 1983) experienced maneuverability problems during its last use and is now scheduled to be decontaminated and repaired before reuse. Cleaning of the Auxiliary and Fuel Handling Building floor drains continued this week.

Four chemical decontamination mixtures containing phosphoric acid are to be tested on steel pipes and supports on the 305' elevation in the FHB annulus. These will be evaluated for decontamination effectiveness.

Routine trash compaction and tool separation/decontamination continued in support of other tasks and activities presently in progress.

The FHB crane was returned to service on a periodic basis to permit performance of tasks such as the weighing of SDS liners. The remaining maintenance items on the crane and rails will be completed by July 5, 1983.

Expansion of the decontamination facility continued with the installation of the jib crane in the clean area of the facility. Other work included electrical wiring and continued work on the shell structure. The duct work is in place for the ventilation system.

Supporting procedures governing the operation and use of the newly purchased decontamination equipment are still in the licensee review process.

REACTOR BUILDING ACTIVITIES:

1. Entries. Four Reactor Building entries were completed during the week of June 19, 1983. The high pressure hose which supplies decontamination flush water to the Reactor Building was repaired and decontamination activities resumed inside the building. Decontamination efforts were focused on the interior surfaces of the LOCA ducts and on the open stairway between the 305 and 347 ft. elevations. In both cases a high pressure rotating flush nozzle was used to decontaminate the surfaces remotely. Four reactor building entries have been scheduled for the week of June 26, 1983.

2. Reactor Vessel Underhead Radiation Measurements. The radiation profile taken inside the reactor vessel (Quick Scan One) in December 1982, indicated that the dose rate profile between the reactor vessel head and the plenum ranged from 40 to 600 R/hr. It had been assumed that indicated dose rates were due solely to more highly penetrating gamma radiation instead of a combination of gamma and softer, less penetrating beta. However, an NRC prompted beta response test of the detector used during Quick Scan One revealed that the beta efficiency of the instrument to a 40 mCi Sr-90/Y-90 source was as high as 36%. At the present time the beta

contribution to the Quick Scan One radiation measurements cannot be evaluated. This is due to compounding factors including; unknown beta source terms on the underhead components, water shielding effects and the uncertain distance of the detector relative to the beta sources on the control rod guide and support tube surfaces.

Quick Scan Two, the next phase of underhead radiation measurements, will incorporate a beta shield over the detector to obtain gamma dose rates inside the reactor vessel. The center control rod drive opening will be used during the Quick Scan Two experiment and radiation measurements will be taken from the top of the reactor vessel to the top of the core debris. These measurements are scheduled to be collected in August 1983.

POLAR CRANE STATUS:

The NRC continues to review Reactor Building 5-ton hoist procedures for miscellaneous tasks in containment. Addendum I to the Polar Crane Load Test Safety Evaluation Report (SER), dated June 17, 1983, was received by the staff for review and approval. The Load Test Procedure for the Polar Crane was also received by the staff on June 20, 1983, for approval. It is anticipated that the Load Test Procedure and Operating Procedure will not be formally approved by the staff until the NRC approves the licensee's SER. None of the above approvals will occur until the NRC's Office of Investigation's review of the polar crane allegations is completed.

The licensee is continuing to analyze the significance of undersized welds that have been discovered on the Head and Internals Handling Fixture. The NRC staff will review the licensee's findings and determinations.

DEFUELING PREPARATION ACTIVITIES:

Refurbishment and preparation of the "A" spent fuel pool for the eventual staging and temporary storage of core fuel and debris continued this week. The upper tank fill and drain flushing process is presently on hold with 3 feet of water retained in the tanks for shielding purposes. General area radiation levels remain at 35 mR/hr. The fill and drain process will continue as water inventories permit.

Lift lug welds on the shield blocks covering the tanks are presently being inspected and will be load tested soon. The SER covering the heavy load drop and tank removal (presently being prepared by GPU) is scheduled for NRC review beginning in early August.

In support of the eventual underhead characterization and headlift, the NRC is presently reviewing numerous operating procedures related to RCS drain down and underhead characterization tasks. NRC is awaiting licensee response to 14 items needing further clarification with respect to the SER submitted for underhead characterization. The licensee intends to complete all software related to underhead characterization prior to starting RCS drain down. It now appears that drain down will be initiated sometime in mid-July.

WASTE MANAGEMENT ACTIVITIES:

1. SDS Liner Shipments. No SDS shipments were made this week. The pool water inleakage problem identified last week on SDS liner D20026 has also occurred on liner D10011. The inleakage was attributed to catalyst pellet blockage of both the Hansen check valve and mechanical plug on the catalyst insertion vent line. The mechanical plug was removed and the liner vent tool was reinstalled in order to clear the pellets. The liner will be redewatered and vacuum dryed. This drying process will take approximately 10 days. Liner D10011, which contains approximately 88,000 curies, is not scheduled to be shipped until July 5, 1983. As with previous SDS shipments preparations, liner D10011 will be monitored to assure against combustible gas mixtures during handling and shipment.

2. EPICOR II Prefilter (PF) Shipments. One EPICOR II prefilter (PF-12) was shipped from TMI to the Idaho National Engineering Laboratory (INEL) on June 23, 1983. This shipment represents 45, in a group of 50 liners, that have been sent to INEL over the past year. Three prefilters (PF-4, PF-21 and PF-22) are scheduled for shipment next week. The prototype gas sampler, which is used to sample and inert each liner prior to shipment, was modified to compensate for the raised vent plugs on the final four EPICOR II prefilters. This repair was completed and the sample chamber was satisfactorily leaked tested prior to sampling PF-21. The licensee anticipates the last EPICOR prefilter will be shipped offsite by July 13, 1983.

SCHEDULE OF FUTURE ACTIVITIES:

1. Primary system depressurization and draindown is tentatively scheduled for mid-July.

2. Plans to sample the reactor coolant drain tank sludge will begin, at the earliest, in six weeks. Characterization and removal of this material will follow.

3. Plans to sample and characterize the Reactor Building sump sludge are also under consideration for this summer.

4. GPU is presently considering use of a specially developed remote sludge removal system which could be used to eventually remove and dispose of the sludge in the Reactor Building basement.

5. The remaining two and one-half leadscrews are scheduled to be shipped from TMI in July to Idaho National Engineering Laboratory (INEL). Gamma scans and some fission product characterization are planned.

PUBLIC MEETINGS:

Future Meeting

On June 28, 1983, William D. Travers will meet with the Concerned Mothers of Middletown to discuss TMI related issues.

## APPENDIX 1

## LIQUID EFFLUENT DATA

### GPU Nuclear

Liquid effluents from the TMI site released to the Susquehanna River, after sampling and monitoring, were within regulatory limits and in accordance with NRC requirements and the City of Lancaster Agreement.

During the period June 17, 1983, through June 23, 1983, the effluents contained no detectable radioactivity at the discharge point and individual effluent sources originating within Unit 2 contained no detectable radioactivity.

### Environmental Protection Agency

| | |
|---|---|
| Lancaster Water Samples: | 6 samples |
| Covering Period: | May 18 - May 23, 1983 |
| Results: | Gamma Scan Negative |
| TMI Water Samples: | 6 samples |
| Covering Period: | June 4 - June 11, 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:

| Location | May 27, 1983 - June 10, 1983 ($pCi/m^3$) |
|---|---|
| Goldsboro | 23 |
| Middletown | 25 |
| Yorkhaven | 25 |
| TMI Observation Center | 22 |

-- 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 14, 1983, through June 22, 1983.

### NRC Environmental Data

The NRC continuous air sampler was taken out of service on June 17, 1983, for periodic maintenance and repairs. Results will be reported as soon as work is completed and the sampler is returned to service.

## APPENDIX 3

## SHIPMENTS

### RADIOACTIVE MATERIALS/RADIOACTIVE WASTE

-- On June 22, 1983, 49 drums of contaminated laundry from Unit 1 and 2 were shipped to Interstate Uniform, New Kensington, Pennsylvania.

-- One June 23, 1983, one box containing Babcock and Wilcox tools and equipment from Unit 2 was shipped to Babcock and Wilcox, Lynchburg, Viriginia.

-- On June 23, 1983, one HN-200 cask containing EPICOR II prefilter liner No. 12 was shipped to EG&G, Scoville, Idaho.

## APPENDIX 4

## WATER PROCESSING DATA

### Submerged Demineralizer System (SDS)

SDS completed processing of approximately 83,100 gallons of Reactor Building sump water on June 14, 1983. This water had been processed in a previous batch and was used for flushing in the ongoing decontamination of the Reactor Building. The preformance parameters are given below.

### SDS Performance Parameters

June 3, 1983 to June 14, 1983

| Radionuclide | Average Influent (uc/ml) | Average Effluent (uc/ml) | Percent Removed |
|---|---|---|---|
| Cesium 137 | 2.7 | $1.0 \times 10^{-5}$ | >99.99 |
| Strontium 90 | 1.8 | $8.1 \times 10^{-4}$ | 99.96 |

### EPICOR II

EPICOR II was shutdown during this week.

## APPENDIX 5

## PLANT PARAMETERS

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: Standby Pressure Control System.

Major Parameters (as of 4:30 AM, June 24, 1983) (approximate values)

Average Incore Thermocouples*: 101°F**
Maximum Incore Thermocouple*: 121°F

RCS Loop Temperatures:

| | A | B |
|---|---|---|
| Hot Leg | 82°F | 82°F |
| Cold Leg (1) | 72°F | 83°F |
| (2) | 72°F | 83°F |

RCS Pressure: 64 psig

Reactor Building: Temperature: 80°F
Pressure: -0.3 psig
Airborne Radionuclide Concentrations:

3.6 E-7 uCi/cc $H^3$ (Tritium)
(sample taken 6/23/83)

6.4 E-9 uCi/cc particulates
(predominately Cs-137)
(sample taken 6/23/83)

*Uncertainties exist as to the exact location and accuracy of these readings.
**Due to a computer outage, the calculation was performed by hand and therefore includes an addition of 5°F.