

June 13, 1983
NRC/TMI-83-037

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 5 - 11, 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, continued decon facility construction, "A" spent fuel pool refurbishment, procedure review and continued followup of polar crane issues. Three 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
- EPA Environmental Monitoring Network

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. Barrett for
Lake H. Barrett
Deputy Program Director
TMI Program Office

Enclosure: As stated

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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. Contamination levels on that elevation in some areas are greater than 10,000 dpm/100 cm² (see attached figure 1). Decontamination techniques being used continue to include mechanical concrete surface removal in the corridors, and remote flushing using the robot "Fred" (Weekly Status Report for May 23, 1983) in the highly contaminated make-up and purification pump cubical "B."

Cleaning and decontamination of the floor drains in the diesel generator building have been completed. The cleaning equipment is presently being staged for the decontamination of the auxiliary building drains. This activity will begin next week (June 13, 1983) and continue in subsequent weeks starting on the 328' elevation.

The flush decontamination of the chemical addition and nitrogen systems have also been completed. Evaluation of the decontamination is now in progress, nitrogen system pipe removal may be required, and future phase II decontamination of the chemical addition system (may require chemical decontaminants). These programs will be followed in future weekly status reports.

Expansion of the Decon Facility continued with erection of the shell (adjacent to the present facility) on the 328' elevation of the Auxiliary Building. Supporting procedures governing new decon equipment and its use are presently in the licensee review chain. Facility completion is projected for mid-July.

REACTOR BUILDING ACTIVITIES:

The scope of activities in the reactor building was curtailed during the past week after the high pressure hose, which supplies flush water for decontamination, failed inside its penetration through the reactor building wall. The hose failure reduced the number of tasks which could be carried out inside the building, and the entry schedule was reduced from five to three entries. Procedures to repair the flush water hose have been written, and repairs are expected to be completed early next week. Four reactor building entries have been scheduled for the week of June 12, 1983.

Reactor building flush water is supplied by a high pressure pump located outside the reactor building. High pressure hoses convey the water into the reactor building through a modified pipe penetration. Inside the reactor building flush water eventually drains into the basement and is periodically reprocessed by the submerged demineralizer system (SDS). After SDS processing, the water is staged in tanks for reuse inside the reactor building.

Prior to use, flush water is borated to at least 1700 PPM to meet the criteria developed by the licensee to ensure against criticality in the reactor building sump. Various samples of the reactor building sump have been taken since the 1979 accident, however, there is a question of the representativeness of these samples in determining the fuel content. Efforts are presently underway to devise a method to better ascertain the fuel content in the sump. If the sump

criticality concern is resolved, it may be possible to use boron free flush water inside the reactor building. Contamination redeposition experiments have shown that airborne boron particles are a carrier source of recontamination of reactor building surfaces. Borated flush water, pressurized to several thousand pounds per square inch during application, is a likely source of the airborne boron particles.

POLAR CRANE STATUS:

As previously reported in the Weekly Status Reports, 5 ton hoist procedures are still being reviewed. The NRC staff has not completed review of the Polar Crane Operating Procedure. Other documents expected from the licensee include the revised Polar Crane Load Test Procedure and amended safety evaluation.

The investigation by the NRC's Office of Investigation is ongoing and is not expected to be completed until July 1983. NRC approval for the polar crane load test will not be given until the investigation is complete.

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. Activities centered on radiation characterization studies of the tanks and pool. The fourth 10,000 gallons fill and drain (SDS processed decon water) of the four upper tanks to reduce radiation levels prior to removal is in progress. Present general area radiation levels are 35 mR/hr, down from 450 mR/hr prior to commencement of the fill/drain activities.

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. Due to an increase in time required to develop supporting software, this drain down schedule has slipped to mid July.

The NRC has requested the licensee respond to 14 items needing further clarification in the Safety Evaluation Report (SER) for the Radiation Characterization under the reactor vessel head.

WASTE MANAGEMENT ACTIVITIES:

1. EPICOR II Prefilter (PF) Shipments. One EPICOR II prefilter (PF-41) was shipped from TMI to the Idaho National Engineering Laboratory (INEL) on June 10, 1983. This shipment represents number 41, in a group of 50 liners, that are scheduled for shipment to INEL. Three prefilters are scheduled for shipment next week. The licensee anticipates the remaining prefilters will be shipped off-site by July 5, 1983. The DOE/EG&G burial container qualification and licensing program is continuing. This program utilizes a specially designed High Integrity Container (HIC) which, if licensed for use at commercial burial facilities, could eventually be used to dispose all the EPICOR II prefilter waste.
2. SDS Liner Shipments. No SDS shipments were made this week. Preparations are continuing for the shipment of the tenth and eleventh SDS liner (D20026 and D10011). Currently D20026 has been loaded with a catalytic recombiner and monitored to demonstrate non-combustible gas conditions.

D10011 has also been vacuum dried, loaded with a catalytic recombiner, and monitored for combustible gas generation. The D10011 liner is currently being considered for special installation of a pressure transducer and temperature sensing thermocouples. If performed on-site this will require a licensee submittal and safety evaluation. Because of delays in repairs and maintenance on the fuel handling building crane, the next SDS shipment is scheduled to occur in early July.

SCHEDULE OF FUTURE ACTIVITIES:

1. Primary system depressurization and draindown for the next phase of overhead data acquisition have been delayed to mid July 1983 at the earliest. Initially this activity had been scheduled for March 1983. Delays were incurred after safety issues were raised concerning the refurbishment of the reactor building polar crane. Use of the polar crane was a prerequisite for most of the overhead data acquisition activities.

In an attempt to continue activities in the post accident cleanup, the licensee is modifying data acquisition procedures to permit the work to be performed without relying on the polar crane. The procedure modifications, with their supporting safety evaluations, are not expected to be completed until July 1983.

2. Work has commenced to devise techniques to obtain sludge samples from the reactor building sump and the reactor coolant drain tank.
3. Preparations have commenced to construct a five ton gantry crane over the refueling canal in the reactor building. The gantry crane is expected to be used during reactor vessel disassembly and defueling.

EPA ENVIRONMENTAL MONITORING NETWORK:

The Environmental Protection Agency is in the process of installing and activating its new "Sentry" pressurized ionization chamber gamma monitoring equipment at all sampling sites surrounding TMI. Improved sensitivity and calibration procedures should result in reported gamma levels somewhat lower than values which have been reported for respective sampling sites in the past.

A complete system description, with accompanying location map, will be included in a future weekly status report once the system is fully operational.

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 3, 1983, through June 9, 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 7 - May 12, 1983
Results:	Gamma Scan Negative
TMI Water Samples:	6 samples
Covering Period:	May 7 - May 14, 1983
Results:	Gamma Scan Negative

APPENDIX 2

ENVIRONMENTAL DATA

EPA Environmental Data

- The EPA Middletown Office has not received the environmental Kr-85 analytical results for the samples which were taken subsequent to May 13, 1983, 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 May 31, 1983, through June 8, 1983.

NRC Environmental Data

The following are the results from the NRC continuous air samplers which monitors the environment around the TMI site.

<u>Sample</u>	<u>Period</u>	<u>I-131</u> <u>(uCi/cc)</u>	<u>Cs-137</u> <u>(uCi/cc)</u>
HP-373	June 2, 1983 - June 9, 1983	<7.5 E-14	<7.5 E-14

APPENDIX 3

SHIPMENTS

RADIOACTIVE MATERIALS/RADIOACTIVE WASTE

- On June 8, 1983, one box containing the Unit 2 reactor coolant bleed tank "A" manway cover was shipped to Battelle Northwest Labs, Richland, Washington.
- On June 9, 1983, four boxes containing Unit 1 roll plug equipment were shipped to Westinghouse, Madison, Pennsylvania.
- On June 10, 1983, 112 drums of contaminated laundry from Unit 1 and 2 were shipped to Interstate Uniform, New Kensington, Pennsylvania.
- On June 10, 1983, one drum containing parts from Unit 2 polar crane was shipped to Idaho National Engineering Labs (INEL), Scoville, Idaho.
- On June 10, 1983, one HN-200 (type B) shipping cask containing EPICOR Prefilter No. PF-41 was shipped to EG&G, Scoville, Idaho.

APPENDIX 4

WATER PROCESSING DATA

Submerged Demineralizer System (SDS)

SDS began processing of reactor building sump water on June 3, 1983. This batch will consist of approximately 90,000 gallons. Performance parameters will be included in the weekly status report upon completion of the batch.

EPICOR II

EPICOR II processed approximately 20,800 gallons of SDS effluents during the week; the performance parameters are included in the table below.

EPICOR Performance Parameters

June 6, 1983 to June 9, 1983

<u>Radionuclide</u>	<u>Average Influent (uc/ml)</u>	<u>Average Effluent (uc/ml)</u>	<u>Percent Removed</u>
Cesium 137	6.0×10^{-6}	1.5×10^{-7}	97.5
Strontium 90	4.6×10^{-4}	1.1×10^{-5}	97.6
Antimony 125	1.8×10^{-3}	2.8×10^{-7}	99.9

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 5:00 AM, June 10, 1983) (approximate values)

Average Incore Thermocouples*: 99°F**

Maximum Incore Thermocouple*: 123°F

RCS Loop Temperatures:

	A	B
Hot Leg	82°F	83°F
Cold Leg (1)	71°F	80°F
(2)	72°F	80°F

RCS Pressure: 64 psig

Reactor Building: Temperature: 76°F

Pressure: -0.3 psig

Airborne Radionuclide Concentrations:

3.8 E-7 uCi/cc H³ (Tritium)
(sample taken 6/9/83)

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

*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.