

August 15, 1983  
NRC/TMI-83-051

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  
AUGUST 7 - AUGUST 13, 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 head lift continued. The reactor coolant system has been depressurized and a control rod drive mechanism (CRDM) was removed to allow a partial television inspection of the plenum and upper head structures.

Major activities this week were "A" spent fuel pool refurbishment, procedure review, the beginning of underhead characterization operations, and continued followup of polar crane issues. Decontamination of auxiliary and fuel handling building surfaces has been curtailed because of financial limitations. Five reactor building entries were made in support of miscellaneous tasks. (For more details see appropriate paragraphs below.)

Significant items included in the enclosure are:

- Reactor Building Activities
- Spent Fuel Pool "A" Refurbishment
- Auxiliary and Fuel Handling Activities
- Waste Management Activities
- Respirator Cartridge Testing
- Polar Crane Status
- Public Meeting

Data summary sheets included in this report are:

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

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//signed//  
Lake H. Barrett  
Deputy Program Director  
TMI Program Office

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TMI*

OFFICE					
SURNAME	Enclosure:	As stated			
DATE					

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## ENCLOSURE

### REACTOR BUILDING ACTIVITIES:

Five reactor building entries were completed during the week of August 7, 1983. A control rod drive mechanism (CRDM) was removed from the center of the reactor vessel and on Friday, August 12, 1983, a closed circuit television (CCTV) camera was inserted into the reactor vessel upper plenum area. The CRDM removal and the CCTV inspection are part of the Underhead Characterization Study which is scheduled to continue through September, 1983.

The CRDM removal was completed one day ahead of schedule. Preliminary radiation measurements on the lead screw support tube indicated that maximum radiation levels on contact with the tube were approximately 20 R/hr. Contact radiation levels on the lead screws removed during the "Quick Look" experiment in 1982 were typically in excess of 50 R/hr. A fixed cesium layer on the lead screws raised concerns over the potential for high radiation levels on the stainless steel surfaces in the reactor vessel. A section of the bottom of the lead screw support tube was cut off and will be sent for analysis to determine the magnitude and type of cesium contamination to further characterize conditions inside the reactor vessel.

A partial CCTV inspection was performed of the top surface of the upper plenum. No visual structural damage was evident and the areas inspected appeared relatively free of debris (however some sedimentation appeared present on some horizontal surfaces). The CCTV inspection is scheduled to continue early next week before the upper plenum sampling begins.

Two sampling techniques are scheduled to obtain a sample of material from the plenum surface. The samples will be analyzed for pyrophoric material before the reactor coolant system is lowered below the top of the plenum. After the water is lowered below the top of the plenum, detailed radiation surveys will also be performed inside the reactor vessel to better determine radiation conditions during subsequent head removal activities.

Three reactor building entries are scheduled during the week of August 14, 1983.

### SPENT FUEL POOL "A" REFURBISHMENT:

The removal of concrete shield blocks from around the side of the tank farm began on August 7, 1983, as planned. The blocks will be surveyed for contamination before final disposition is determined. Those blocks that are found to be clean will be kept onsite for future use, contaminated blocks will be shipped offsite as low level waste.

General area radiation levels around the "A" spent fuel pool are presently about 2 mR/hr. These levels could increase by as much as a factor of three after the concrete shield blocks are removed. The shield block removal including storage and/or disposal, is planned to take about 5 months.

Preparations are underway for lifting the concrete slab shielding from above the tank farm. New lifting lugs were welded to a few of the shield slabs to allow their removal. Old lifting lugs had been removed to permit the



installation of pipe shielding. Procedures for tank and piping decontamination and removal, and operation of the SDS with direct feed from the reactor building sump, reactor coolant system or internals indexing fixture are in the review process. The Safety Evaluation Report (SER) for "A" spent fuel pool refurbishment is currently being reviewed for approval by the TMIPO staff prior to concrete slab lifting and tank farm removal activities.

#### AUXILIARY AND FUEL HANDLING BUILDING ACTIVITIES:

Decontamination activities in the auxiliary and fuel handling buildings have been severely curtailed during the past week due to budgetary constraints. No new areas of scabbling were initiated and, although repairs on the remote flushing robot ("Fred") are complete, no cubicles were flushed. Presently, decontamination activities will be confined to maintaining the areas already completed and released. Some of the decontamination personnel have been reassigned to support the stepped-up level of in-containment activities.

Construction of the new decontamination facility addition, which is now approximately 85-90% complete, has also been halted by lack of funding. This facility was originally slated to be completed in late August. If the present budgetary limitations continue, the facility will not be completed this year.

The licensee has completed its review of the supporting procedures governing the use of the decontamination equipment to be installed in the decontamination facility. NRC review of those procedures should begin next week.

#### WASTE MANAGEMENT ACTIVITIES:

1. SDS Liner Shipments. The twelfth SDS waste liner (D-20022) (from a group of nineteen) was shipped from TMI to the Rockwell Hanford facility (Richland, Washington) on August 15, 1983. Liner D-20022 has an estimated loading of 6,000 curies and as with previous SDS shipments, this waste liner was loaded with catalytic recombiner pellets to maintain non-combustible gas conditions during the handling and shipment period. Liner D-20029, containing approximately 13,000 curies of radioactivity, is scheduled to be the thirteenth shipment with a tentative shipping date of August 24, 1983.
2. EPICOR Demineralizer Shipments. Planning continues for the shipment of the 31 low level EPICOR demineralizers stored onsite. The four lowest level liners, F-34, F-20, F-32 and F-39 ( $\leq 150$  mR/hr contact) have been dewatered and are being prepared for shipment next week.

The remaining liners will be re-dewatered and, pending on radiation levels, shipped in shielded vans or placed into shipping casks (for > type A quantities) for transport and disposal.

#### RESPIRATOR CARTRIDGES TESTING:

The manufacturer (MSA) the National Institute for Occupational Safety and Health (NIOSH) and the Los Alamos National Laboratory (LANL is under NRC contract) are evaluating the filter deficiencies discovered by GPU in some filter cartridges for respiratory protection devices. (See Weekly Status Report for August 8, 1983.) Preliminary information indicates that the problem

resulted from the failure of the glue bond (seal) between the filter media and the cartridge housing. The use of this glue was apparently discontinued in September 1981. Further NRC actions will depend on the results of the evaluations performed by NIOSH, MSA and LANL.

#### POLAR CRANE STATUS:

The TMI Program Office is continuing its' review of the Safety Evaluation for the Polar Crane Load Test and associated procedures. The staff requested additional information in a July 18, 1983 letter to the licensee. After receipt of the necessary information from GPUNC, the staff will determine the acceptability of the load test as proposed by GPUNC.

The staff has received a response from GPUNC to its' letter dated July 8, 1983, requesting additional information on the head and internals handling indexing fixture (tripod). The licensee must obtain NRC approval of all corrective actions before the tripod can be used for load test and subsequent headlift. Based on discussions with the licensee on August 5, 1983, the NRC staff forwarded a letter dated August 9, 1983, requesting additional information on the tripod load analysis and non-destructive testing of the higher stress welds.

#### PUBLIC MEETING:

The Advisory Panel for the Decontamination of Three Mile Island Unit 2 will meet on August 17, 1983 from 7:00 PM to 10:00 PM in the Holiday Inn, 23 South Second Street, Harrisburg, Pennsylvania. The panel will conduct a work session in an attempt to reach a consensus on a number of cleanup related issues including the schedule for cleanup, the adequacy of funding and worker occupational exposure. The meeting will be open to the public.

## 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 August 5, 1983, through August 11, 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  $1.5 \text{ E-6}$  (0.0000015) of a curie of Cs-137 was discharged.

#### Environmental Protection Agency

Lancaster Water Samples:	7 samples
Period Covered:	July 17 - July 23, 1983
Results:	Gamma Scan Negative
TMI Water Samples:	6 samples
Period Covered:	July 23 - July 30, 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 July 22, 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 August 2, 1983 through August 10, 1983.

#### NRC Environmental Data

Results from NRC monitoring of the environment around the TMI site are 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> <u>(uCi/cc)</u>	<u>Cs-137</u> <u>(uCi/cc)</u>
HP-379	August 3, 1983 - August 10, 1983	<6.2 E-14	<6.2 E-14

### APPENDIX 3

#### SHIPMENTS

##### RADIOACTIVE MATERIALS/RADIOACTIVE WASTE

- On August 10, 1983, one drum containing two CS-137 sources from Unit 2 was sent to Victoreen Instruments, Cleveland, Ohio.
- On August 10, 1983, a drum containing Unit 2 air cooler limit switches, an air cooler level switch and load pack was shipped to EG&G, Scoville, Idaho.
- On August 11, 1983, 90 drums of contaminated laundry from Units 1 and 2 were shipped to Interstate Uniform Service, New Kensington, Pennsylvania.



APPENDIX 4

WATER PROCESSING DATA

Submerged Demineralizer System (SDS)

SDS was shutdown during the week for maintenance.

EPICOR II

EPICOR II was shutdown during the week.

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: Standby Pressure Control System.

Major Parameters (as of 5:00 AM, August 12, 1983) (approximate values)

Average Incore Thermocouples\*: 112°F\*\*

Maximum Incore Thermocouple\*: 133°F

RCS Loop Temperatures:

	A	B
Hot Leg	82°F	83°F
Cold Leg (1)	83°F	83°F
(2)	85°F	84°F

RCS Pressure: 0 psig

Reactor Building: Temperature: 84°F

Pressure: -0.15 psig

Airborne Radionuclide Concentrations:

6.1 E-7 uCi/cc H<sup>3</sup> (Tritium)  
(sample taken 8/11/83)

1.7 E-9 uCi/cc particulates  
(predominately Cs-137)  
(sample taken 8/11/83)

\*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 additional 5°F.