

July 11, 1983  
NRC/THI-83-042

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 THI PROGRAM OFFICE WEEKLY STATUS REPORT FOR  
July 3 - July 9, 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 decontamination of drains and systems in the Auxiliary Building, continued decon facility construction, "A" spent fuel pool refurbishment, procedure review, continued followup of polar crane issues, and cutting and removal of lead screws. 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
- Waste Management Activities
- THI Occupational Exposures
- NRC Occupational Exposures
- 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

8307180413 830711  
PDR ADOCK 05000320  
R PDR

*Handwritten signature: W.O. Francis for*  
Lake H. Barrett  
Deputy Program Director  
THI Program Office

*Handwritten: TDR-5  
THI*

Enclosure: As stated

OFFICE						
SURNAME						
DATE						

INTERNAL DISTRIBUTION

EDO

OGC

Office Directors

Commissioner's Technical Assistants

NRR Division Directors

NRR A/D's

Regional Administrators

IE Division Directors

TAS

EIS

TMI Program Office Staff (15)

PHS

EPA

DOE

RI Division Directors

Public Affairs, RI

State Liaison, RI

TMIPO HQ r/f

TMI SITE r/f

CENTRAL FILE

NRC PDR

LOCAL PDR

TMI-2 Project

Section File

OFFICE	TMIPD <i>LB</i>	TMIPD <i>AF</i>	TMIPD <i>PO</i>	TMIPD <i>LA</i>		
SURNAME	KBarr/lmp	AFasano	POham	LAcret		
DATE	7/11/83	7/11/83	7/11/83	7/11/83		

## 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 scabbling activities within the Auxiliary Building are essentially complete. Currently worked areas are receiving a final cleaning prior to release and painting. Scabbling activities will now begin on 282' elevation of the Fuel Handling Building within the next week or two. No remote decontamination was performed since the robot malfunctioned during its last use. Work will resume once the robot is cleaned and repaired. Cleaning of the Auxiliary and Fuel Handling Building floor drains continued this week.

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

Expansion of the decontamination facility continued with the installation of the stainless steel floor and service air. 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 in the licensee's review chain.

Refurbishment and preparation of the "A" spent fuel pool for the eventual staging and temporary storage of core fuel and debris continued this week.

### REACTOR BUILDING ACTIVITIES:

Four reactor building entries were completed during the week of July 3, 1983. In addition to decontamination and housekeeping activities, the task commenced to cut, package and ship the five lead screw segments which had been stored in the reactor building since the closed circuit television inspection of the core ("Quick Look", July 21, 1982, August 4, 1982 and August 12, 1982). Three control rod drive lead screws were removed to allow insertion of the first TV camera inspection of the TMI-2 core. The five lead screw segments will be cut into segments, four feet long and will be sent to EG&G in Idaho for analysis.

Five reactor building entries have been scheduled for the week of July 10, 1983.

### POLAR CRANE STATUS:

The NRC continues to review Reactor Building 5-ton hoist procedures for miscellaneous tasks in containment. The TMIPO staff is also currently reviewing the Polar Crane (PC) Load Test Safety Evaluation Report, the PC Load Test Procedure, and the PC Operating Procedure.

The TMIPO is also continuing to investigate the problem of the undersized welds in the head and internals handling indexing fixtures (tripod). A letter was forwarded to the licensee on Friday, July 8, 1983, requesting inspection results and anticipated corrective actions. The staff will review all corrective actions before the tripod is approved for use.



WASTE MANAGEMENT ACTIVITIES:

1. SDS Liner Shipments. No SDS shipments were made this week. The pool water leakage problem on SDS liner D10011, which was apparently caused by catalyst pellet blockage, has been resolved. Based on a visual inspection near the catalyst insertion/vent line, the licensee and DOE have determined that an additional 8 grams of catalyst pellets need to be added to liner D10011. The vacuum drying (dewatering) pump has been replaced, and currently 30 lbs. of residual water needs to be removed from the liner as a requisite for shipment. This drying process, in conjunction with catalyst addition, should be completed within three days after which the liner will be monitored and sampled for a sufficient period to insure that the catalytic recombiner is operational. This process is performed to assure that non-combustible gas conditions will be maintained during the shipping period. Liner D10011 is tentatively scheduled for shipment on July 15, 1983.
2. EPICOR II Prefilter (PF) Shipments. One EPICOR II prefilter (PF-22) was shipped from TMI to the Idaho National Engineering Laboratory (INEL) this week. This shipment represents number 48, in a group of 50 liners, that have been sent to INEL over the past year. The remaining two prefilters (PF-24 and PF-31) are scheduled to be shipped next week. Shipment of the 50 EPICOR II prefilters generated during processing of the Auxiliary building waste water, represents a significant milestone in the removal of radioactive waste from the the TMI site. The 50 liners contained greater than 60,000 curies.

TMI OCCUPATIONAL EXPOSURE: (Update of July 1, 1983 Weekly Status Report)

Licensee TLD (Thermoluminescent Dosimeter) records indicate the following Unit 2 occupational radiation exposures.

April 1983	24 man-rem
May 1983	40 man-rem

Total 1983 (January-May) 198 man-rem

During the period May 1 - May 31, 1983 licensee TLD records indicated the following station occupational radiation exposure ranges:

Unit 1 and Unit 2 Exposure Range

<u>Category in Rem</u>	<u>Number of Station Personnel</u>
No Measurable Exposure	1,202
Exposure Less Than 0.1	385
0.1 to 0.25	106
0.25 to 0.5	77
0.5 to 0.75	22
0.75 to 1	7
1 to 2	1
2 to 3	0

Total Cumulative Plant Exposure (May 1983) - 79 Man-Rem

Man-rem 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 man-rem dose in each case would be one man-rem.

Unit 2 Reactor Building Entries (TLD Data) During May 1983

Number of Personnel:	237
Highest Whole Body TLD Reading (REM):	0.398
Total Man-Rem	31.250

EXPOSURE TO NRC PERSONNEL ASSIGNED TO TMI

At the request of the TMIPO, the licensee recently reported total man-rem for all NRC personnel assigned duty at TMI (March 28, 1979 through May 12, 1983).

- (1) NRC total - 10.168 man-rem  
(3/28/79 - 5/12/83)
- (2) Number of personnel where monitoring was required - 203
- (3) Number of personnel where monitoring was provided - 384
- (4) Total number of personnel - 587

(5) Exposure Range

<u>Rem</u>	<u>Number of Personnel</u>
No measurable exposure	427
Exposure less than 0.1	131
0.1 to 0.25	24
0.25 to 0.5	2
0.5 to 0.75	2
1.0 to 2.0	1

PUBLIC MEETING:

The Advisory Panel for the Decontamination of Three Mile Island Unit 2 will meet on July 28, 1983 from 7:00 p.m. to 10.00 p.m. in the Holiday Inn, 23 South Second Street, Harrisburg, Pennsylvania. The meeting will be open to the public.

The Panel will discuss TMI-2 cleanup activities. The licensee of the facility and Federal agencies involved in the cleanup will provide a status report. The Advisory Panel will also entertain public comment regarding the cleanup of TMI-2. Persons or organizations desiring to comment during the Advisory Panel Meeting are asked to write to Mr. Joel Roth, 4705 Carlisle Pike, Mechanicsburg, PA 17055.

## 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 July 1, 1983, through July 7, 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:	7 samples
Covering Period:	June 9 - June 15, 1983
Results:	Gamma Scan Negative
TMI Water Samples:	6 samples
Covering Period:	June 18 - June 25, 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 June 10, 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 June 29, 1983, through July 6, 1983.

#### 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:

<u>Sample</u>	<u>Period</u>	<u>I-131</u> <u>(uCi/cc)</u>	<u>Cs-137</u> <u>(uCi/cc)</u>
HP-374	June 27, 1983 - July 6, 1983	<4.5 E-14	<4.5 E-14

### APPENDIX 3

#### SHIPMENTS

##### RADIOACTIVE MATERIALS/RADIOACTIVE WASTE

- On July 1, 1983, 20 boxes of non-compacted trash from Units 1 and 2 were shipped to U. S. Ecology, Hanford, Washington.
- On July 6, 1983, one box containing a 500 ml water sample from the Saxton station sump was mailed to Teledyne Isotopes, Westwood, New Jersey.
- On July 6, 1986, one HN-200 cask (type B) containing EPICOR II prefilter liner No. 22 was shipped to EG&G, Scoville, Idaho.
- On July 7, 1983, 92 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 completed processing batch number 13 of Reactor Coolant System (RCS) water on July 7, 1983. This batch comprised approximately 44,600 gallons and had been staged to the "C" reactor coolant bleed tank by the RCS "feed and bleed" process. Performance parameters are given below.

#### SDS Performance Parameters

June 30, 1983 to July 7, 1983

<u>Radionuclide</u>	<u>Average Influent (uc/ml)</u>	<u>Average Effluent (uc/ml)</u>	<u>Percent Removed</u>
Cesium 137	$1.8 \times 10^{-1}$	$4.7 \times 10^{-4}$	99.7
Strontium 90	2.7	$5.9 \times 10^{-3}$	99.8

#### EPICOR II

EPICOR II Processed approximately 19,200 gallons of SDS effluents during the week; the performance parameters are included in the table below.

#### EPICOR Performance Parameters

July 5, 1983 to July 7, 1983

<u>Radionuclide</u>	<u>Average Influent (uc/ml)</u>	<u>Average Effluent (uc/ml)</u>	<u>Percent Removed</u>
Cesium 137	$6.8 \times 10^{-6}$	$2.3 \times 10^{-7}$	96.6
Strontium 90	$2.9 \times 10^{-3}$	$6.3 \times 10^{-6}$	99.8
Antimony 125	$1.2 \times 10^{-3}$	$2.7 \times 10^{-7}$	>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, July 8, 1983) (approximate values)

Average Incore Thermocouples\*: 102°F\*\*  
Maximum Incore Thermocouple\*: 120°F

RCS Loop Temperatures:

	A	B
Hot Leg	85°F	85°F
Cold Leg (1)	77°F	83°F
(2)	77°F	83°F

RCS Pressure: 64 psig

Reactor Building: Temperature: 79°F

Pressure: -0.1 psig

Airborne Radionuclide Concentrations:

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

6.6 E-9 uCi/cc particulates  
(predominately Cs-137)  
(sample taken 7/7/83)

\*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.