

August 6, 1984  
NRC/THI-84-058

MEMORANDUM FOR: Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
Bernard J. Snyder, Program Director  
THI Program Office

FROM: Philip J. Grant, Acting Deputy Program Director  
THI Program Office

SUBJECT: NRC THI PROGRAM OFFICE WEEKLY STATUS REPORT FOR  
July 29, 1984 - August 6, 1984

Data from effluent and environmental monitoring systems indicated no plant release in excess of regulatory limits. Plant parameters showed no significant changes. The reactor coolant system is open, with the internals indexing fixture and cover in place.

Site activities this period included: floor scabbling, repositioning equipment after head lift, and decontamination of the auxiliary and fuel handling buildings. Five reactor building entries were made this week in support of technical specification requirements. (For more details see appropriate paragraphs below.)

Significant items covered in the enclosure are:

- Appointment of Deputy Program Director
- Reactor Building Activities
- Auxiliary and Fuel Handling Building Activities
- Radioactive Shipments and Reporting Frequency
- Public Meeting

Data summary sheets included in this report are:

- Liquid Effluent Data
- Environmental Data
- Radioactive Material/Radwaste Shipment Data
- Plant Status Data
- Reactor Building Radiation Dose Rates

ORIGINAL SIGNED BY:  
Philip J. Grant  
Acting Deputy Program Director  
THI Program Office

*TD/R-5*  
*TMI*

Enclosure: As stated

OFFICE	8408090555 840806				
SURNAME	PDR ADDCK 05000320				
DATE	R PDR				

INTERNAL DISTRIBUTION

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OFFICE	TMIPD <i>DR</i>	TMIPD <i>AC</i>	TMIPD	TMIPD		
SURNAME	DCollins/Imp	RCook	T.S. Chief	PGrant		
DATE	8/6/84	8/6/84	8/6/84	8/6/84		

## ENCLOSURE

### APPOINTMENT OF DEPUTY PROGRAM DIRECTOR, TMI PROGRAM OFFICE:

William D. Travers has been selected for the position of Deputy Program Director of the Three Mile Island Program Office, Office of Nuclear Reactor Regulation (NRR). Pending certification by the U.S. Office of Personnel Management, Dr. Travers will be functioning in an acting capacity. Dr. Travers joined the NRC in November 1976 and has served the Office of NRR in the Effluent Treatment Systems Branch, the Radiological Assessment Branch and in the Three Mile Island Program Office (Bethesda, Maryland). He also served as a Nuclear Engineer/Policy Analyst in the Office of Policy Evaluation. He is a current participant in the agency's SES Candidate Development Program. His most recent assignment was Technical Assistant to the Executive Director for Operations.

Dr. Travers completed his graduate work in Health Physics and Nuclear Engineering and holds a Ph.D. in Health Physics from Purdue University. He will be stationed at the NRC's office at Three Mile Island.

### REACTOR BUILDING ACTIVITIES:

Work in the reactor building this week was focused on repositioning equipment after the head removal and on general housekeeping. Scabbling (mechanical removal of paint from the upper 1/8 in. layer of concrete) of floor surfaces also commenced late in the week. Head removal did not appreciably change the dose rates in the reactor building (see Appendix 5 for current dose rate figures).

Based on measured dose reductions following the scabbling of an 800 ft<sup>2</sup> test area on the 347 ft. elevation prior to head lift, it is anticipated that dose rates will decrease measurably after all horizontal surfaces are scabbled. Dose rates decreased from 75 mR/hr to 43 mR/hr in the scabble test area. Scabbling of the 305 ft. and 347 ft. elevations of the reactor building will continue next week.

It is expected that reactor coolant system (RCS) water processing will also commence next week. A submersible processing pump, installed within the internals indexing fixture (IIF), will transfer RCS water from the reactor vessel through the submerged demineralizer system to a reactor coolant bleed tank. Simultaneously, processed water from a second bleed tank will be pumped into the reactor vessel to maintain a constant water inventory in the RCS. A separate water sampling pump was installed with the IIF assembly. Post head lift samples indicate that primary water cesium 137 activity, the predominant gamma emitter, is 0.74 uCi/ml. It is expected that the processing system will decrease the cesium activity to 0.1 uCi/ml.

Software preparations are currently in progress to perform inspections of the plenum assembly inside the reactor vessel. Plenum removal from the vessel is scheduled for early 1985. The plenum will be stored under water in the deep end of the refueling canal. Prior to flooding the deep end of the canal, the fuel transfer mechanisms (between the reactor building and the "A" fuel pool) will be modified in preparation for the transfer of debris-filled fuel canisters. The first phase of fuel removal from the reactor vessel is expected to commence in July 1985.

AUXILIARY AND FUEL HANDLING BUILDING ACTIVITIES:

Work continued on installation of the makeup and purification demineralizer resin elution system. This system will be utilized to remove about 90% of the cesium in the demineralizers. Hardware installation should be complete in about two weeks. A safety evaluation report on the elution process has been submitted and is under review by the TMIPO staff. A supplemental safety evaluation report (SER) providing information on additional filter testing is in preparation by the licensee. No schedule for commencement of the resin elution process has been projected.

Work continued on preparation for solidification of waste in the fuel handling truck bay. A portable cement solidification system will be installed in the truck bay on August 6, 1984 with solidification operations to begin by the end of the week. Spent resin from the Submerged Demineralizer System (SDS) leakage containment ion exchangers and resin from the EPICOR system used for initial processing of the miscellaneous waste holdup tank, spent fuel pool cleanup, and once through steam generator cleanup will be solidified. Additionally, water from the concentrated waste storage tank and the decay heat vault sumps will be solidified. The wastes will be processed to meet the stability requirements for shallow land burial.

RADIOACTIVE SHIPMENTS AND REPORTING FREQUENCY:

Because of the decreased number of shipments of radioactive materials and waste from Three Mile Island, and their routine nature, the data will be listed on a monthly schedule. When warranted, special shipment information may be included in the Weekly Status Report at other times.

PUBLIC MEETING:

On August 9, 1984, the Advisory Panel for the Decontamination of Three Mile Island Unit 2 will meet from 7:00 PM to 10:00 PM in the Holiday Inn, 23 South Second Street, Harrisburg, Pennsylvania. The topics for discussion will be TMI-2 head lift, occupational exposures, and the Panel will comment on EPA's changes to area monitoring. The meeting will be open to the public. Persons that have questions pertaining to the TMI-2 cleanup that would like to have them considered or addressed by the Advisory Panel are asked to contact, in writing, Mayor Arthur Morris, 120 Duke Street, Lancaster, PA 17602. Persons desiring the opportunity to speak before the panel are asked to contact Mr. Thomas Smithgall at 2122 Marietta Avenue, Lancaster, PA 17603 (telephone 717-291-1041).

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 27 through August 2, 1984, there were no radioactive effluent releases from Unit 2.

Environmental Protection Agency

Lancaster Water Samples:	7 samples
Period Covered:	July 15 - 21, 1984
Results:	Gamma Scan Negative
TMI Water Samples:	7 samples
Period Covered:	July 14 - 21, 1984
Results:	Gamma Scan Negative

APPENDIX 2

ENVIRONMENTAL DATA

NRC Environmental Data

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

<u>Location</u>	<u>5/11/84 - 5/25/84</u> (pCi/m <sup>3</sup> )	<u>5/25/84 - 6/8/84</u> (pCi/m <sup>3</sup> )	<u>6/8/84 - 6/22/84</u> (pCi/m <sup>3</sup> )
Goldsboro	23	26	25
Middletown	25	25	22
Yorkhaven	26	30	23
TMI Observation Center	26	28	25

-- The EPA gamma radiation detection system continuously monitors for increased above naturally occurring radioactivity and residual fallout radioactivity at 13 stations in the TMI area. During this period the EPA has attributed the measurements to naturally occurring radioactivity and/or residual fallout radioactivity.

Period Covered: June 1 - July 1, 1984

<u>Location</u>	<u>Direction</u> (degrees)	<u>Distance</u> (miles)	<u>Average</u> (millirem)	<u>Integrated Dose</u> (millirem)
03 Harrisburg International Airport, Middletown	325	3.5	.008	5.3
05 Londonderry Township Bldg	040	2.6	.007	5.1
09 Newville	100	3.0	.009	6.9
11 Falmouth	130	2.9	.010	7.4
13 Falmouth	150	3.0	.006	4.5
17 York Haven	180	3.0	.008	6.0
20 Woodside	205	2.5	.006	4.5
31 Goldsboro	270	1.5	.011	7.8
34 Plainfield	305	2.7	.006	4.6
35 Royalton	068	3.5	.009	6.8
36 TMI Observation Center	095	0.5	.007	5.5
39 EPA TMI Field Station, Middletown	356	2.8	.006	4.2
40 Newberrytown	136	3.0	.007	5.1
41 Yocumtown	275	4.0	.007	5.3

-- EPA results of airborne particulate samples collected at the same locations as the gamma radioactivity monitors (above) during the period June 1 - July 1, 1984 were all less than 0.2 picocuries per cubic meter of air, the minimum detectable concentrations for EPA's analytical instruments.

NRC Environmental Data

The NRC operated continuous outdoor air sampler at the TMI site did not detect any reactor related radioactivity. The air sampler analysis results are listed below and.

<u>Sample</u>	<u>Period</u>	<u>Volume</u>	<u>I-131&amp;Cs-137</u> <u>(uCi/cc)</u>
HP-430	July 27 - August 1, 1984	178.5 m <sup>3</sup>	<2.0 E-13

### APPENDIX 3

#### RADIOACTIVE MATERIALS/RADWASTE SHIPMENT DATA

(NOTE: See Radioactive Shipments and Reporting Frequency paragraph in the Enclosure to this Weekly Status Report.)

- On August 1, 1984, a combined (Units 1 and 2) shipment of contaminated laundry in steel boxes and barrels was sent to Interstate Industrial Services at Royersford, Pennsylvania.
- On August 1, 1984, a Unit 2 shipment consisting of reactor building samples in a steel drum was sent to Oak Ridge, Tennessee.
- On August 2, 1984, two Unit 1 shipments consisting of four solidified radioactive waste evaporator bottoms were sent to U.S. Ecology at Hanford, Washington.



APPENDIX 4

PLANT STATUS

Reactor Vessel Configuration: Head removed July 24, 1984, internals indexing fixture placed July 26, 1984

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

Available Core Cooling/Makeup Sources:

Standby pressure control (SPC) system  
Reactor coolant bleed tank (RCBT) water transfer system  
Mini decay heat removal (MDHR) system

Major Parameters as of 5:00 AM, August 3, 1984 (approximate values):

Reactor Coolant System:

Loop Temperatures:

	A	B
Hot Leg*	70°F	75°F
Cold Leg (1)	68°F	70°F
(2)	69°F	70°F

Pressure:\*\* Open to reactor building atmosphere

Reactor Core:

Average Incore Thermocouples:\*\*\* 105°F  
Maximum Incore Thermocouple:\*\*\* 134°F  
Decay Heat: 16.5 kilowatts

Reactor building: Temperature: 64°F  
Pressure: -0.05 psig

Airborne Radionuclide Concentrations:

Tritium: 2.4 E-7 uCi/cc H<sup>3</sup> (sample 7/27/84)  
Particulates: 5.5 E-9 uCi/cc (sample 8/2/84)  
predominately Cs-137

\*Since the RCS is drained down below these temperature detectors, they no longer are indicative of RCS temperatures.

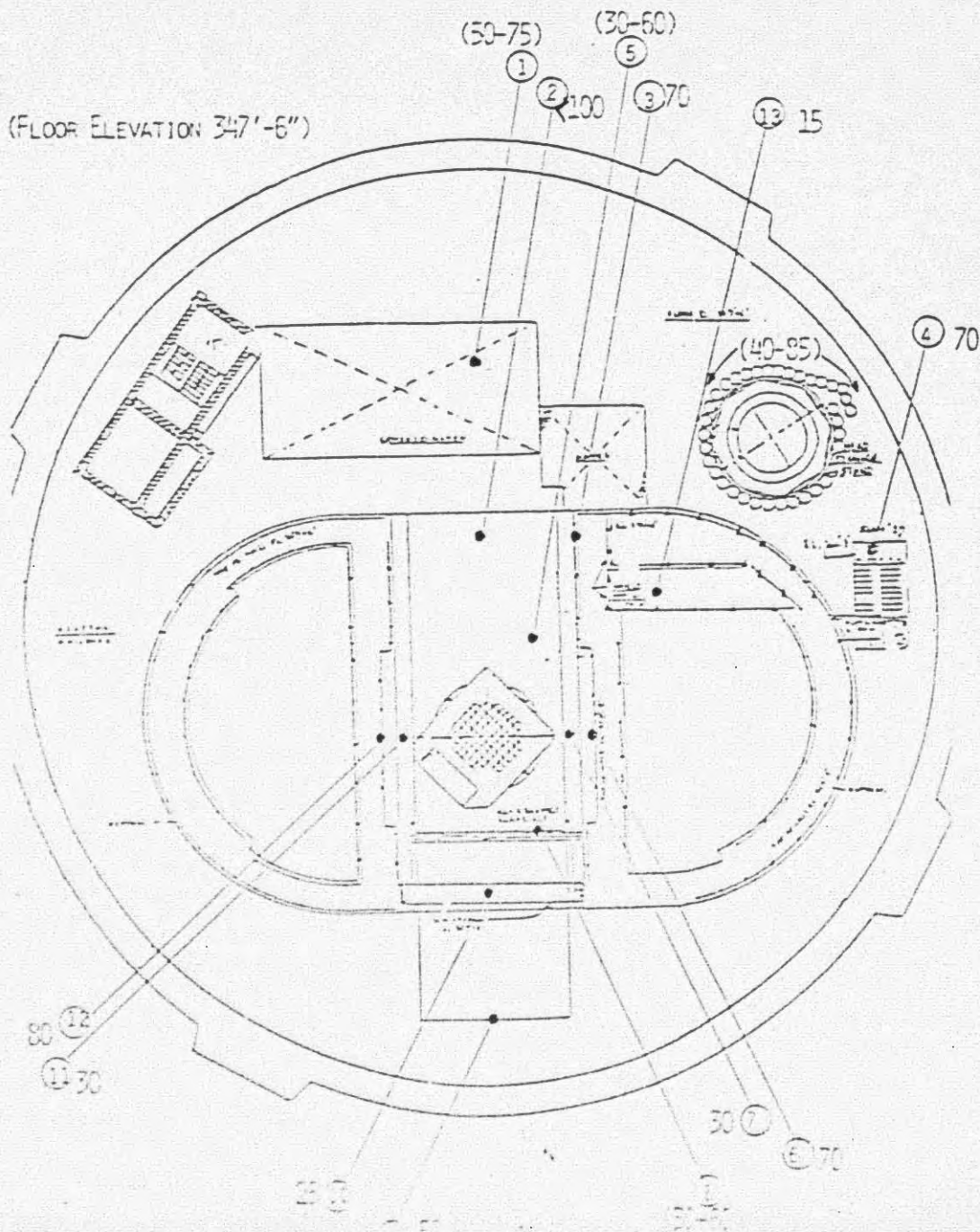
\*\*With the reactor vessel head removed, the internals indexing fixture and cover installed, there is no significance to reactor coolant system pressure, which will no longer be indicated.

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

APPENDIX 5

RADIATION MONITOR READINGS

Below are radiation readings taken from various monitors located in the Reactor Building. Readings represent conditions in the Reactor Building after Head Lift and Internals Indexing Fixture (IIF) Installation. Values in parentheses are from a radiation survey rather than from a monitor. All values are in units of millirem/hour. See Page 5.2 for monitor locations.



AREA GAMMA MONITORING EQUIPMENT

<u>DETECTOR NUMBER</u>	<u>DETECTOR LOCATION</u>	<u>DETECTOR RANGE, R/Hr</u>	<u>PURPOSE OF DETECTOR</u>
1.	South of Canal on Floor	.01 - 100R	General Area Monitoring
2.	South End of Canal, 3 ft. above floor	.1 - 1000R	Access Control
3.	Top of D-Ring	.01 - 100R	Access Control
4.	Stairwell, Second Landing	.01 - 100R	Access Control
5.	Canal, South of Head, approximately 8' from Reactor Vessel Flange	.1 - 1000R	Head Lift Monitoring
6.	"A" D-Ring Railing	.01 - 100R	Access Control
7.	Canal Walkway (on deck)	.01 - 100R	Access Control
8.	Canal, North of Head, approximately 8' from Reactor Vessel Flange	.1 - 1000R	Head Lift Monitoring
9.	North End of Canal, Waist Height	.01 - 100R	Access Control
10.	D-Ring Catwalk (El. 367'4")	.01 - 100R	Access Control
11.	Canal Walkway (on handrail)	.01 - 100R	Access Control
12.	"B" D-Ring Railing	.01 - 100R	Access Control
13.	Inside Shielded Personnel Cubicle at Shoulder Height	.01 - 100R	Personnel Monitoring