

May 7, 1984
NRC/TMI-84-030

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
April 30, 1984 - May 6, 1984

Data from effluent and environmental monitoring systems indicated no plant releases in excess of regulatory limits. Waste processing continued on a routine basis. Plant parameters have shown no significant changes. The reactor coolant system pressure is 60 psig.

Other site activities this period included: preparations for head lift in late summer, reactor building air cooling system work and auxiliary and fuel handling building decontamination and tank removal. (For more details see appropriate paragraphs below.)

Significant items covered in the enclosure are:

- Reactor Building Activities Prior to Head Lift Removal
- Reactor Coolant System Boron Concentration Increase
- Decay Heat Removal System Back In Service
- Auxiliary and Fuel Handling Building Activities
- Waste Management Activities
- Public Meeting

Data summary sheets included in this report are:

- Liquid Effluent Data
- Environmental Data
- Radioactive Material/Radwaste Shipment Data
- Plant Status Data

ORIGINAL SIGNED BY:
Lake H. Barrett
Deputy Program Director
TMI Program Office

Enclosure: As stated

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TMI*

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ENCLOSURE

REACTOR BUILDING ACTIVITIES:

Reactor vessel head lift preparations are continuing in the reactor building. The primary work effort is focused on modifying the auxiliary fuel handling bridge to serve as a defueling work platform. Prior to head lift, the auxiliary fuel handling bridge will be transferred, using the polar crane, to the north side of the reactor vessel. The bridge transfer is necessary to clear a load path for the reactor vessel head during head transfer to the head storage stand on the 347 ft. elevation.

REACTOR COOLANT SYSTEM BORON CONCENTRATION

TMI-2 Technical Specifications (TS) have been changed to expand the range of permissible boron concentration in the reactor coolant system (RCS). The permissible TS boron concentration range was expanded from 3000 - 4500 ppm to 3000 - 6000 ppm. The higher upper limit was requested by the licensee following defueling safety reviews which concluded that a 4750 - 5000 ppm concentration of boron in the reactor vessel would maintain the core subcritical under any conceivable fuel configuration.

The boron concentration in the RCS is being increased from approximately 3700 ppm to 5000 ppm. RCS Boron will remain in solution in excess of a concentration of 6000 ppm as long as RCS temperature remains above 40°F and pH remains below 8.4. The RCS temperature is presently greater than 68°F and the pH is 7.81 (see Appendix 4).

DECAY HEAT REMOVAL SYSTEM BACK IN SERVICE

One train of the Unit 2 decay heat removal system was tested and declared operable on Friday, April 27, 1984. The decay heat removal system was contaminated during the 1979 accident. Due to system internal contamination and high dose rates in the vicinity of decay heat removal system components, the system had not operated for more than five years. The licensee performed an extensive decontamination of the decay heat removal system over the past several weeks. Once the area was accessible, maintenance personnel changed component oil, adjusted valve limit switches, and rotated the decay heat pump internals by hand. The system was activated in the pump recirculation mode and appeared to operate normally. Leakage from packing glands was minimal. The operable train of the decay heat removal system will be tested monthly as per the Technical Specification surveillance requirements. Decontamination of the other decay heat removal train is in progress.

There are no plans to operate the decay heat removal system in the core cooling mode since the remaining core heat (17.5 kilowatts) is being adequately dissipated to the reactor building environment. The decay heat system is addressed in several emergency procedures. In some accident scenarios, the system could be brought into service for reactor vessel refill in the event of unisolable coolant system leaks. In the refill mode several low capacity refill systems would normally be activated before the decay heat system would be utilized.

AUXILIARY AND FUEL HANDLING BUILDING ACTIVITIES:

As noted above, one train of the decay heat removal system has been declared operable by the licensee. Removal of piping connected to tanks in the "A" fuel pool began this week. This is in preparation for the scheduled mid-May removal of tanks from the "A" fuel pool.

Steady progress continues on the installation of the reactor building cooling (chiller) system. Completed this week were installation of underground wiring, and final preparations for pouring the concrete support pad. A portion of the system is to be located in the west plant yard adjacent to the fuel handling building, between the reactor building equipment hatch and the emergency diesel generator building.

WASTE MANAGEMENT ACTIVITIES:

The submerged demineralizer system (SDS) began processing batch S-086 (reactor coolant letdown batch R-022) on May 1, 1984. The batch contains 34,355 gallons. The EPICOR II system remained shutdown during this period.

PUBLIC MEETING:

On May 30, 1984, the Advisory Panel for the Decontamination of Three Mile Island, Unit 2, will meet with the Nuclear Regulatory Commission at 11:00 AM in the Commission's offices at 1717 H Street, NW, Washington, DC. The public may observe the meeting.

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 April 26 through May 4, 1984, 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 the releases totaled less than:

- 1.0 E-5 (0.000010) of a curie of Cs-137;
- 1.1 E-5 (0.000011) of a curie of gross beta radioactivity; and,
- 2.7 E-3 (0.0027) of a curie of Tc-99m;

The Tc-99m released is believed to be from a medical administration to an as yet unidentified individual. This isotope is short-lived and no longer present in detectable quantities within the TMI-2 plant.

TMIPO is evaluating the representativeness of a sample of a waste water batch discharged during the period April 20 through April 26, 1984. GPU Nuclear is reviewing data and will submit a corrected discharge report if necessary. TMIPO will review and report the evaluation results when they become available. Preliminary evaluation of EPA's composite liquid sample taken at the site discharge point during the period indicated no detectable reactor related radioactivity.

Environmental Protection Agency

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

APPENDIX 2

ENVIRONMENTAL DATA

Environmental Protection Agency

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

<u>Location</u>	<u>March 16 to March 30, 1984</u> (pCi/m ³)	<u>March 30 to April 13, 1984</u> (pCi/m ³)
Goldsboro	26	26
Middletown	24	27
Yorkhaven	25	27
TMI Observation Center	26	29

- The EPA gamma radiation detection system continuously monitors for increases above naturally occurring radioactivity and residual fallout radioactivity at 14 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: April 1 - April 30, 1984

<u>Location</u>	<u>Direction (degrees)</u>	<u>Distance (miles)</u>	<u>Average (millirem)</u>	<u>Integrated Dose (millirem)</u>
03 Harrisburg International Airport, Middletown	325	3.5	no data available	
05 Londonderry Township Bldg	040	2.6	.007	4.97
09 Newville	100	0	.009	6.48
11 Falmouth	130	2.9	.008	5.40
13 Falmouth	150	3.0	.008	5.40
17 York Haven	180	3.0	.007	4.82
20 Woodside	205	2.5	.006	4.39
31 Goldsboro	270	1.5	.010	7.34
34 Plainfield	305	2.7	.006	4.61
35 Royalton	068	3.5	.009	6.55
36 TMI Observation Center	095	0.5	.007	5.32
39 EPA TMI Field Station, Middletown	356	2.8	.006	4.61
40 Newberrytown	136	3.0	.008	5.47
41 Yocumtown	275	4.0	.008	5.47

- EPA results of airborne particulate samples collected at the same locations as the gamma radioactivity monitors (above) during the period April 1 - April 30, 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

Results from the NRC continuous air sampler monitoring of the TMI site environment, containing no reactor related radioactivity, are as follows:

<u>Sample</u>	<u>Period</u>	<u>I-131 (uCi/cc)</u>	<u>Cs-137 (uCi/cc)</u>
HP-417	April 26, 1984 - May 3, 1984	<1.1 E-13	<1.1 E-13

APPENDIX 3

RADIOACTIVE MATERIALS/RADWASTE SHIPMENT DATA

- On May 1, 1984, a limited quantity sample from Unit 2 of depleted uranium oxide was shipped to Babcock and Wilcox at Lynchburg, VA.
- On May 2, 1984, a combined Unit 1 and 2 laundry shipment of contaminated protective clothing was sent to Interstate Nuclear Services Laundry Facility at New Kensington, PA
- On May 3, 1984, two steel liners containing Unit 1 solidified evaporator bottoms were shipped to the U.S. Ecology Waste Disposal Facility at Hanford, WA.

APPENDIX 4

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: SPC

Major Parameters as of 5:00 AM, May 4, 1984 (approximate values):

Average Incore Thermocouples*: 87°F
Maximum Incore Thermocouple*: 137°F

RCS Loop Temperatures:

	A	B
Hot Leg	70°F	76°F
Cold Leg (1)	69°F	70°F
(2)	68°F	69°F

Reactor Core Decay Heat: 17.5 Kilowatts

RCS Pressure: 60 psig

Reactor Building: Temperature: 64°F
Pressure: -0.15 psig
Airborne Radionuclide Concentrations:

2 E-8 uCi/cc H³ (Tritium) (LLD)
(sample taken 4/30/84)

9 E-9 uCi/cc particulates
(predominately Cs-137)
(sample taken 5/3/84)

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