

September 26, 1983
NRC/TMI-83-060

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
September 18 - September 24, 1983

Data from effluent and environmental monitoring systems indicated no plant releases in excess of regulatory limits. Waste shipments continued on a routine basis. Plant parameters showed no significant changes. The reactor coolant system is depressurized and RCS level remains at 321'6" as part of underhead characterization studies.

Site activities this week included: preparation for head lift, limited decontamination in the auxiliary and fuel handling buildings, "A" spent fuel pool refurbishment and procedure review. Five reactor building entries were made in support of miscellaneous tasks. (For more details see appropriate paragraphs below.)

Significant items covered in the enclosure are:

- Reactor Building Activities
- Polar Crane Status
- Spent Fuel Pool "A" Refurbishment/Submerged Demineralizer System Modifications
- Auxiliary and Fuel Handling Building Activities
- Waste Management Activities
- Pennsylvania Public Utilities Commission Action on GPU Funding Request
- Rickover to Assess GPU Management
- Public Meetings

Data summary sheets included in this report are:

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

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

IBIR-5
TMI

Enclosure: As stated

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TMI-2 Project

Section File

OFFICE	THIPO <i>K</i>	THIPO	THIPO <i>AN</i>	THIPO <i>Handwritten</i>	THIPO <i>Handwritten</i>		
SURNAME	KBarr/Imp	JBell	AFasano	<i>Handwritten</i>	LBarr <i>Handwritten</i>		
DATE	9/2/83	9/24/83	9/14/83	9/26/83	9/26/83		

ENCLOSURE

REACTOR BUILDING ACTIVITIES:

Five reactor building entries were completed during the week of September 18, 1983, involving pre-head lift activities, routine maintenance and housekeeping. Tasks of special interest included: evaluation of the refueling canal/reactor vessel seal plate suitability, reactor building sump sampling using the reactor building sump pump, and a video inspection of the 282 ft. elevation.

Procedures and hardware are being prepared to retrieve the 35 ft. of tygon tubing which was inadvertently dropped into the reactor vessel on September 12, 1983, during reactor coolant system (RCS) sampling. Three reactor building entries have been scheduled for the week of September 25, 1983.

POLAR CRANE STATUS:

The TMI Program Office is continuing the review of all licensee documents related to the reactor building polar crane. As previously reported in the Weekly Status Report dated September 19, 1983, the Office of Investigation (OI) has issued two reports, one on the technical allegations relating specifically to the polar crane and a second discussing other allegations. The Office of Internal Affairs (OIA) has also issued a report discussing NRC/GPU interfaces. The Chairman of the Commission, Nunzio Palladino, has tasked the TMI Program Office with responding to the OI report findings in October.

SPENT FUEL POOL "A" REFURBISHMENT/SDS Modifications:

The lifting lug on the second charcoal filter has been repaired and all six filters and driers have been moved from the north end of the pool and lowered to the truck bay floor. Following proper sealing they will be shipped as LSA waste. Removal of concrete shield blocks continued.

On September 19, 1983 the submerged demineralizer system (SDS) modifications, (as part of "A" fuel pool refurbishment), were completed, including leak testing of the new pipes. These modifications included:

- Reroute of the piping from the reactor building sump pump to the reactor coolant system (RCS) manifold, bypassing the tank farm
- Installation of a new submersible pump in place of the steam eductor in the lower tanks standpipe, to allow complete emptying of these tanks
- Reroute of the piping from the off-gas liquid separator tank bottom to the RCS manifold, allowing direct pumping of the collected liquids to the miscellaneous waste holdup tank or other plant tankage
- Disconnection of the charcoal filters and driers once used to treat effluent from the tank farm vents before the SDS vent and drain subsystem was operational.

Completion of these tasks will support SDS restart scheduled for the end of the week.

The final goal of the refurbishment work is to restore the "A" fuel pool to its preaccident condition. The 'A' pool will be used to store the fuel canisters containing reactor core debris removed from the reactor vessel. The present planning schedule for major tasks is as follows:

1. Tank decontamination: the tanks will first be flushed with water and hydrolased; SDS operability is a prerequisite for these operations as the generated waste water will have to be processed. Decontamination operations for the four upper tanks will extend through early November, and for the two lower tanks through mid-November. If water decontamination appears insufficient, it will be followed by chemical decontamination which could extend the work through mid-December.
2. Removal of the radiological shields: the shields consist of a concrete block wall around the pool (presently being removed) and 16 2 ft. thick (20 ton) concrete shield slabs located above the pool. Removal of the slabs will require construction and testing of rigging equipment (scheduled to be completed by late September), and welding and testing of the lifting lugs on the northernmost slabs (through mid-October). The actual removal of the 16 shield slabs will begin in October and is scheduled to be completed in early January, 1984.
3. Removal of the tanks: tank removal work includes cutting the inlet and outlet pipes, sealing off openings, lifting the tanks, lowering them into the truck bay and shipping them offsite. The actual removal operation will begin in late 1983 and be completed by March 1984.
4. Removal of the structural steel: i.e. the steel beams used to support the tanks and the concrete slabs. That work is scheduled to extend from late December 1983 to mid-March 1984.
5. Modifications to the fuel transfer mechanism: modification work is scheduled to start in mid-March 1984 and be completed by the end of 1984.
6. General trash removal and pool cleanup, followed by pool liner inspection, eventual repair, and test: this work is scheduled to extend from August 1984 to February 1985. The pool will then be filled with water and should be ready to receive fuel canisters.

AUXILIARY AND FUEL HANDLING BUILDING ACTIVITIES:

Installation of specialized decontamination equipment in the 328 ft. elevation decontamination facility addition occurred this week. The new equipment includes: a tool decontamination unit, with ancillary equipment attachments for adaptation to perform remote decontamination or hose cleaning; an electro-polisher unit; a vibratory finisher and an ultra-sonic unit. Construction on the physical structure is completed with only plumbing and electrical work associated with equipment installation being performed. Most of the supporting procedures governing operation of the facility and its equipment have completed the review process and are in place. The new facility is scheduled to commence operations in October.

WASTE MANAGEMENT ACTIVITIES:

1. SDS Liner Shipments. Plans are being made for the eventual shipment and disposal of the pre and final SDS particulate filters (sand and "Cuno" filters) used in the early SDS processing tasks.
2. EPICOR Demineralizer Shipments. EPICOR demineralizer F-42, F-47, F-41, K-7 and H-8 have been dewatered and are being prepared for shipment.

PENNSYLVANIA PUBLIC UTILITIES COMMISSION (PaPUC) ACTION ON GPU FUNDING REQUEST:

On September 20, 1983, in a unanimous preliminary vote, the PaPUC rejected Metropolitan Edison's (50% owner of TMI) and Pennsylvania Electric's (25% owner of TMI) request to allow the use of an additional \$16 million a year of rate payer funds for the cleanup of TMI Unit 2. Presently, \$22 million a year of rate payer funds from these two Pennsylvania utilities and \$12 million per year from Jersey Central Power and Light (25% owner of TMI) for a total of \$34 million a year are allowed for cleanup activities at TMI Unit 2. The commission voted not to increase rate payer funds to the level outlined in the Thornburgh plan because the nuclear industry contribution has failed to materialize.

In early 1983 GPU had projected \$76 million for 1983 and \$100 million in 1984. The 1984 projection anticipated \$50 million from rate payers and \$10-15 million from the industry. Unless additional financial sources are forthcoming, present cleanup activities may have to be further reduced.

RICKOVER TO ASSESS GPU NUCLEAR MANAGEMENT:

GPU has reached an agreement with Admiral Hyman G. Rickover to conduct a two-month detailed management assessment of GPU Nuclear Corporation.

Admiral Rickover will have complete and open access to all GPU Nuclear people, facilities and information in conducting the assessment. His report of findings and conclusions will be made public at the appropriate time.

In lieu of compensation, GPU will make a contribution to charities designated by Admiral Rickover.

PUBLIC MEETINGS:

Future Meeting:

1. On September 27, 1983, the NRC staff including Mr. H. Denton, Director of Office Nuclear Reactor Regulation, will meet with GPU Nuclear representatives at 11:00 AM in the MCSO (Middletown Borough Hall), 60 Emaus Street, Middletown, PA 17057, to discuss GPU Nuclear's request for NRC approval to conduct load tests of the TMI-2 reactor building polar crane. The meeting is open to the public for observation. Questions from the public will be accommodated by the NRC at the TMI-2 Advisory Panel meeting the following evening (see below).
2. On September 28, 1983, Lake H. Barrett will meet with the Concerned Mothers of Middletown to discuss TMI related issues.

3. On September 28, 1983, the Three Mile Island Unit 2 Advisory Panel will meet from 7:00 PM to 10:00 PM in the Holiday Inn, 23 South Second Street, Harrisburg, Pennsylvania. The meeting will be open to the public. The major topic for the meeting will be polar crane issues. Persons or groups that have questions pertaining to the TMI-2 cleanup that would like to have them considered or addressed by the Advisory Panel can send these questions to Mr. John Minnich, Chairman, Dauphin County Courthouse, P.O. Box 1295, Harrisburg, PA 17108. Persons or groups desiring the opportunity to speak before the Advisory Panel on TMI-2 cleanup related items are asked to contact in writing, Mr. Joel Roth, 4705 Carlisle Pike, Mechanicsburg, PA 17055.

APPENDIX 1

LIQUID EFFLUENT DATA

GPU Nuclear

Liquid effluents from the TMI site released to the Susquehanna River after sampling and monitoring, were determined to be within regulatory limits and in accordance with NRC requirements and the City of Lancaster Agreement.

During the period September 16, 1983, through September 22, 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 2.5 E-6 (0.0000025) of a curie of Cs-137 was discharged.*

*Also found in effluent sources from main sewage holding tank and discharged was 9.1 E-6 of a curie of Tc-99m (Technetium). This radionuclide has a very short half life (6 hours) and comes from the urine of patients who received the Tc-99m in medical diagnostic examinations.

Environmental Protection Agency

Lancaster Water Samples:	7 samples
Period Covered:	August 28 - September 3, 1983
Results:	Gamma Scan Negative
TMI Water Samples:	7 samples
Period Covered:	September 3 - September 10, 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 September 2, 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 September 13, 1983 through September 21, 1983.
- The slightly higher than normal Kr-85 level reported in the September 2, 1983 Weekly Status Report was determined to be caused by an inadvertent contamination of the sampler during routine calibration.

NRC Environmental Data

Results from the NRC continuous air sampler monitoring of the TMI site environment are as follows:

<u>Sample</u>	<u>Period</u>	<u>I-131</u> <u>(uCi/cc)</u>	<u>Cs-137</u> <u>(uCi/cc)</u>
HP-385	September 14, 1983 - September 22, 1983	<6.2 E-14	<6.2 E-14

APPENDIX 3

RADIOACTIVE MATERIALS/RADWASTE SHIPMENT DATA

- On September 20, 1983, a NU-PAC 14/190M type A cask containing EPICOR II liner F-30 was shipped to U.S. Ecology, Hanford burial site, Richland, Washington.
- On September 20, 1983, a drum containing four cylinders of Kr-85 residue from TMI-1 leak test was shipped to Oak Ridge National Laboratory, Oak Ridge, Tennessee.
- On September 20, 1983, two steel boxes of non-compacted trash and two solidified evaporator bottoms from TMI-1 were shipped to U.S. Ecology, Hanford burial site, Richland, Washington.
- On September 20, 1983, a HN-100 type A cask containing solidified resin from TMI-1 was shipped to Barnwell, South Carolina.
- On September 21, 1983, three boxes of core topography equipment from TMI-2 were shipped to Idaho National Engineering Laboratory, Scoville, Idaho.
- On September 21, 1983, an empty HN-100-S type A cask was shipped to Rollins Leasing, Baltimore, Maryland.
- On September 22, 1983, 69 drums of contaminated laundry from TMI-1 and TMI-2 were shipped to Interstate Uniform Service, New Kensington, Pennsylvania.
- On September 22, 1983, 114 drums and 3 steel boxes of compacted and non-compacted trash from TMI-1 and TMI-2 were shipped to U.S. Ecology, Hanford burial site, Richland, Washington.
- On September 23, 1983, two liners containing TMI-1 solidified evaporator bottoms were shipped to Hanford burial site, Richland, Washington.

APPENDIX 4

WATER PROCESSING DATA

Submerged Demineralizer System (SDS)

SDS resumed processing September 22, 1983, but processing was interrupted on September 23, 1983 for approximately 5 hours due to a leak in the packing of one of the valves. The valve is being repaired and processing of the water from the "C" reactor coolant bleed tank (resulting from the recent "drain down of the RCS") will resume as soon as the problem is corrected. This will be SDS batch 60 consisting of approximately 33,000 gallons.

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: N/A

Major Parameters (as of 5:00 AM, September 23, 1983) (approximate values)

Average Incore Thermocouples*: 107°F

Maximum Incore Thermocouple*: 144°F

RCS Loop Temperatures:

	A	B
Hot Leg	**	**
Cold Leg (1)	77°F	77°F
(2)	78°F	77°F

RCS Pressure: 0 psig

Reactor Building: Temperature: 76°F

Pressure: -0.15 psig

Airborne Radionuclide Concentrations:

8.5 E-7 uCi/cc H³ (Tritium)
(sample taken 9/21/83)

3.9 E-9 uCi/cc particulates
(predominately Cs-137)
(sample taken 9/22/83)

*Uncertainties exist as to the exact location and accuracy of these readings.
**Since the RCS draindown, hot leg temperature detectors are above water level.