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February 7, 1983
NRC/TMI-83-011

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

Enclosed is the status report for the period of January 30, 1983, through February 5, 1983. Major items included in this report are:

-- Liquid Effluents

-- Airborne Effluents

-- EPA and NRC Environmental Data

-- Radioactive Material and Radwaste Shipments

-- Submerged Demineralizer System Status

-- EPICOR II Status

-- Reactor Building Entries

-- SDS Liner Shipment Preparations

-- EPICOR II Prefilter Shipment

-- Public Meetings

Original signed by
Lake H. Barrett

Lake H. Barrett
Deputy Program Director
TMI Program Office

Enclosure: As stated

OFFICE ▶						
SURNAME ▶						
DATE ▶						

cc w/encl:
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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

(1) noted corrections

OFFICE	TMIPO	TMIPO	TMIPO	TMIPO			
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DATE	2/7/83	2/7/83	2/7/83	2/7/83			

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NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

January 30, 1983 - February 5, 1983

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, February 4, 1983) (approximate values)
Average Incore Thermocouples*: 91°F
Maximum Incore Thermocouple*: 137°F

RCS Loop Temperatures:

	A	B
Hot Leg	75°F	75°F
Cold Leg (1)	70°F	80°F
(2)	70°F	80°F

RCS Pressure: 64 psig

Reactor Building: Temperature: 68°F
Pressure: -0.1 psig
Airborne Radionuclide Concentrations:

2.2 E-7 uCi/cc H^3
(sample taken 2/2/83)

2.6 E-9 uCi/cc particulates
(sample taken 2/2/83)

1. Effluent and Environmental (Radiological) Information

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

During the period January 28, 1983 through February 3, 1983, the effluents contained no detectable radioactivity at the discharge point although individual effluent sources which originated within Unit 2 contained minute amounts of radioactivity. Calculations indicate that less than fourteen millionths (0.000014) of a curie of cesium and less than eighty-six millionths (0.000086) of a curie of tritium were discharged.

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

2. Airborne Effluents

Airborne releases to the environment as measured by licensee installed monitors at discharge stacks are listed below. These releases were well within regulatory limits.

	November 1982		December 1982	
	UNIT II	EPICOR II	UNIT II	EPICOR II
Noble Gases (Ci)	8.18	2.25	5.89	2.48
Particulates (Ci)	9.87×10^{-8}	5.82×10^{-8}	2.95×10^{-6}	1.69×10^{-6}
Tritium (Ci)	1.88	6.50×10^{-3}	10.2	2.00×10^{-2}

3. Environmental Protection Agency (EPA) Environmental Data

-- The EPA Middletown Office has not received the environmental Kr-85 analytical results for the samples which were taken subsequent to January 3, 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 monitoring networks during the periods from January 28, 1983 through February 3, 1983.

-- At the request of the NRC (TMI Program Office), EPA collected a 24-hour compressed air sample on January 10-11, 1983, from the HP 219A sampling train (at the vent stack where GPU measures releases from Unit 2) and analyzed the sample in duplicate for krypton 85. The krypton-85 concentration in the stack was determined to be 43,100 ± 59 picocuries of krypton-85 per cubic meter of air which, with the stack flow rate of 136,175 cubic feet per minute corresponds to a 24-hour release of 0.238 curie of krypton-85. GPU's retrospective analysis of the stack monitor output indicated the measured release was approximately 0.2 curies. (The EPA had previously sampled the vent stack on August 14, 1981.)

4. NRC Environmental Data

-- The following are the NRC air sample analytical results for the onsite continuous air sampler:

Sample	Period	I-131 (uCi/cc)	Cs-137 (uCi/cc)
HP-355	January 26 - February 2, 1983	<7.3 E-14	<7.3 E-14

5. Licensee Radioactive Material and Radwaste Shipments

Beginning in early 1979 and continuing through 1982, the TMI Program Office staff have inspected all truck shipments of TMI-1 and TMI-2 radioactive material. In the interval, GPU has strengthened its program for transportation of radioactive materials, as shown by the number and types of successful shipments since the accident.

In the future, the TMIPO staff will audit routine TMI low-level radioactive material shipments in accordance with the normal monitoring criteria existing at other licensed facilities. TMIPO radiation specialists will continue to inspect each TMI-2 high-level radioactive material shipment (e.g., Submerged Demineralizer System and EPICOR II liners and certain Low Specific Activity materials.) All TMI-1 and TMI-2 radioactive shipments will continue to be reported in the Weekly Status Report.

-- On February 1, 1983, one box containing cloth swipes from Unit 1 was sent to Babcock and Wilcox, Lynchburg, Virginia.

-- On February 1, 1983, one box containing six 500-milliliter water samples from Unit 1 was sent to Nuclear Water and Waste Technology, San Jose, California.

-- On February 1, 1983, one box containing one Unit 1 liquid sample (1 liter) was sent to Radiation Management Corporation, Philadelphia, Pennsylvania.

-- On February 3, 1983, one box containing one 1000-ml reactor building sump sample, taken from Unit 2, was shipped to Teledyne Corporation, Westwood, New Jersey.

-- On February 3, one box containing two 250-ml samples taken from both Unit 1 once through steam generators was sent to Westinghouse Corporation, Madison, Pennsylvania.

-- On February 3, 1983, one box containing one (1 liter) sample taken from the Unit 1 waste evaporate condensate storage tank was sent to Radiation Management Corporation, Philadelphia, Pennsylvania.

-- On February 3, 1983, one CNSI-8-120-3 shipping cask (Type B), containing EPICOR Prefilter No. PF-42, was shipped to EG&G, Scoville, Idaho.

-- On February 4, 1983, one CNSI-8-120-4 (Type B) shipping cask, containing EPICOR Prefilter NO. PF-35, was shipped to EG&G, Scoville, Idaho.

-- On February 4, 1983, one HN-200 (Type B) shipping cask, containing EPICOR Prefilter No. PF-25, was shipped to EG&G, Scoville, Idaho.

Major Activities

1. Submerged Demineralizer System (SDS). SDS processing of 46,000 gallons of reactor coolant system water (RCS batch 7) was completed on January 29, 1983; the performance parameters are included in Attachment 1. SDS processing of RCS batch 8 (40,000 gallons) began on February 2, 1983 and is currently in progress.

2. EPICOR II. EPICOR II processing of 7,500 gallons of SDS effluent was accomplished on January 27, 1983. Two batches of water (totaling 3,800 gallons) from the "A" once through steam generator were processed on January 29 and 30, 1983. EPICOR II performance parameters for the period January 27-30, 1983 are included in Attachment 1.

3. Reactor Building Entries. Reactor building entries are continuing at the rate of five entries per week. Reactor building decontamination activities have been halted temporarily while a malfunction in the decontamination water feed system is being corrected. Previously processed Unit 2 water is used to decontaminate the interior of the reactor building. Polar crane refurbishment has been the major activity in the reactor building during the past week. Additionally, an ion exchange column which was used during the development of the SDS system was decontaminated and preparations were completed for draining the secondary side of the "B" steam generator.

   The ion exchange column had been used to process a sample volume of reactor building sump water to test the effectiveness of the ion exchange media prior to commencing sump water cleanup with the submerged demineralizer system. A cesium borate solution was used last week to elute the activity from the test column. Preparations are being made to remove the ion exchange column from the reactor building for shipment to a commercial waste disposal site.

   A pipe plug on the "B" steam generator drain line which is located approximately 15 feet below the 305 ft. elevation, was successfully removed using long handled tools. The drain line will be used to drain the secondary side of the steam generator. The steam generator draining is scheduled to commence next week. The water level in the reactor coolant system is scheduled to be lowered on February 16, 1983, in preparation for additional under head characterization.

4. SDS Liner Shipments. The licensee is making preparations for the third (in a group 12) recombiner loaded SDS shipments, which is tentatively scheduled for February 11, 1983. As with previous shipments, this spent SDS liner (D10013) will be vacuum dried, loaded with a catalytic recombiner, and monitored to demonstrate non-combustible gas conditions. Additional data are being collected on this SDS liner to obtain information on radiolytic gas generation rates (i.e., hydrogen and oxygen) as a function of curie loadings and residual water content. Like previous SDS shipments, this liner will be received by DOE contractors at Richland, Washington. This particular liner will be used by Rockwell Hanford (a DOE contractor at Richland) for research and development work on special containers for waste disposal.

5. EPICOR II Prefilter Shipments. Three EPICOR II prefilters (PF-25, PF-35 and PF-42), were shipped from TMI to Idaho National Engineering Laboratory (INEL) this week. These EPICOR shipments bring to a total of 24 (in a group of 49) prefilters that were shipped to INEL. The licensee plans to have the remaining 25 prefilters shipped off-site by the end of the summer of 1983. One prefilter is scheduled for shipment next week.

Past Meetings

On February 2, 1983, the Three Mile Island Advisory Panel held a meeting in Harrisburg. Members of the GPU TMI-2 Safety Advisory Board (SAB) provided an overview of their functions and findings to date. Dr. J. Fletcher, the Chairman of the SAB, discussed the role of the board and its interaction with GPU. Dr. N. Rasmussen provided a technical description of some of the activities at the site. Dr. R. Friedman, Chairman of the External Affairs Panel of the SAB, discussed the Panel's role in communicating information between GPU and the local communities.

Representatives from GPUN provided an overview of the latest TMI-2 Recovery Program Estimate. Five different alternatives, based on different levels and schedules of funding, were presented. Depending on the alternative, estimated program completion varied from December 1987 to December 1989. The current status of the cleanup was summarized by Mr. Bahman Kanga, the Director of TMI-2. Mr. Robert C. Arnold, President of GPUN, provided an update on funding, summarizing the expected sources of revenues for covering the cost of the cleanup. Representatives from GPUN provided a brief overview of environmental radiological monitoring in the vicinity of the site and the results of the "Quick Scan" radiological examination of the TMI-2 reactor head region. (See Weekly Status Report dated January 17, 1983, for information on Quick Scan.)

Future Meetings

1. On February 7, 1983, Lake H. Barrett will meet with Friends and Family of TMI to discuss various TMI related issues.

2. On February 8, 1983, Lake H. Barrett will meet with the Concerned Mothers of Middletown to discuss TMI related issues.

3. On March 17, 1983, the Advisory Panel for the decontamination of TMI Unit 2 will hold a meeting at 7:00 PM, at the Holiday Inn, 23 South Second Street, Harrisburg, Pennsylvania.

ATTACHMENT I

SDS PERFORMANCE FOR RCS BATCH 7

Radionuclide	Average Influent (uc/ml)	Average Effluent (uc/ml)	Average DF
Cesium 137	1.1×10^{-1}	4.1×10^{-4}	3.5×10^{2}
Strontium 90	6.8×10^{0}	1.9×10^{-2}	3.6×10^{2}

EPICOR II PERFORMANCE PARAMETERS
January 27, 1983 to January 30, 1983

Radionuclide	Average Influent (uc/ml)	Average Effluent (uc/ml)	Average DF
Cesium 137	2.1×10^{-5}	$<2.3 \times 10^{-7}$	$>9.1 \times 10^{1}$
Strontium 90	1.1×10^{-2}	$<1.9 \times 10^{-5}$	$>5.7 \times 10^{2}$
Antimony 125	5.7×10^{-4}	$<3.2 \times 10^{-7}$	$>1.8 \times 10^{3}$