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January 11, 1982
NRC/TMI-82-001



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 December 27, 1981 to January 9, 1982. Major items included in this report are:

- Liquid Effluent Releases
- NRC and EPA Environmental Data
- Radioactive Material and Radwaste Shipments
- Submerged Demineralizer System Status
- EPICOR II
- Reactor Building Entries
- Unit 2 Unusual Event
- PUC Rate Change Approval
- Public Meetings

Original signed by
Lake H. Barrett

Lake H. Barrett
Deputy Program Director
TMI Program Office

Enclosure: As stated

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Harold R. Winton
Bernard J. Snyder

-2-

January 11, 1982

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INDEXED	1/1/82	1/ /82	1/ /82	1/ /82	1/1/82	1/1/82

NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

December 27, 1981 - January 9, 1982

Plant Status

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

Available Core Cooling Modes: Decay heat removal systems. Long term cooling "B" (once through steam generator-B).

RCS Pressure Control Mode: Standby pressure control (SPC) system.

Backup Pressure Control Modes: Mini decay heat removal (MDHR) system. Decay heat removal (DHR) system.

Major Parameters (as of 0400, January 8, 1982) (approximate values)

Average Incore Thermocouples: 117°F

Maximum Incore Thermocouple: 135°F

RCS Loop Temperatures:

	A	B
Hot Leg	99°F	103°F
Cold Leg (1)	80°F	83°F
(2)	86°F	91°F

RCS Pressure: 96 psig

Reactor Building: Temperature: 63°F

Water level: Elevation 285.8 ft. (3.3 ft. from floor)

Pressure: -0.2 psig

Airborne Radionuclide Concentrations: 2.5×10^{-7} uCi/cc H³
 4.8×10^{-6} uCi/cc Kr85

(Sample taken 12/16/81)

Effluent and Environmental (Radiological) Information

1. Liquid effluents from the TMI site released to the Susquehanna River after processing, were made within the regulatory limits and in accordance with NRC requirements and City of Lancaster Agreement dated February 27, 1980.

During the period December 25, 1981 through January 7, 1982, 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 one ten thousandth (0.0001) of a curie of tritium was discharged.

2. Environmental Protection Agency (EPA) Environmental Data.

- The EPA Middletown Office has not received the analytical results for Kr-85 measurements around the TMI site from the EPA's Counting Laboratory at Las Vegas, Nevada. When these results become available, they will be included in a subsequent report.
- No radiation above normally occurring background levels was detected in any of the samples collected from EPA's air and gamma rate networks during the period from December 21, 1981, through January 7, 1982.

3. 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-300	December 23, 1981 - December 30, 1981	<6.3 E-14	<6.3 E-14
HP-301	December 30, 1981 - January 8, 1982	<6.5 E-14	<6.5 E-14

4. Licensee Radioactive Material Radwaste Shipments.

- On Thursday, January 7, 1982, three 250 ml samples of effluent from EPICOR II batch 60 were mailed to Science Applications Inc. (SAI), Rockville, Maryland.
- On Friday, January 8, 1982, two 250 ml samples of SDS effluent were mailed to SAI, Rockville, Maryland.
- On Friday, January 8, 1982, a one liter sample of Unit 1 Waste Evaporate Condensate Storage Tank (WECST) was mailed to Teledyne Isotopes Inc., Westwood, New Jersey.

Major Activities

1. Submerged Demineralizer System (SDS). Processing of batch 14 was completed on December 27, 1981. From December 27, 1981 to December 28, 1981, approximately 43,000 gallons of water (batch 15) were transferred from the reactor building sump. Processing of batch 15 commenced on December 29, 1981 and was completed on January 4, 1982. From January 5, 1982 to January 6, 1982, approximately 19,000 gallons of water (batch 16) were transferred from the reactor building sump. Processing of batch 16 commenced on January 6, 1982. The total amount of water transferred from the reactor building sump as of January 8, 1982, is approximately 400,000 gallons. SDS performance parameters for batch 14 and 15 are attached.

2. EPICOR II. Sump II processing of SDS effluent continued this week. The latest performance parameters for EPICOR II are attached.
3. Reactor Building Entries. Reactor building (RB) entries 27 and 28 were completed on January 5 and 7, 1982. The major task during both entries was the installation of supports for an electrically powered lift which will be used to transport personnel and equipment from the refueling floor (347 ft. elevation) to the polar crane. After the decontamination experiment, a small section of the 347 ft. elevation floor will be removed to enable the lift to reach down to the 305 ft. elevation. Additional RB tasks which were completed this week include testing of source range neutron monitor, N1-2; sampling for iodine 129; and area radiation surveys.

Due to delays with hardware modifications, the gross decontamination experiment has been rescheduled for early February 1982. RB entries will continue in January. The major RB tasks for the remainder of the month will include continued work on the power lift device and the installation of a high pressure water hose and an air line through a RB penetration.

During the entries this week it was verified that the area radiation level in the enclosed stairway at the 305 ft. elevation increased from 8 R/hr (measured when sump water level was at approximately the 291 ft. elevation) to 18 R/hr (measured when the sump water level was at approximately the 286 ft. elevation). Eight fixed points on the 305 ft. elevation have been monitored regularly for changes in radiation levels since the RB sump processing began. Except for the radiation increase in the enclosed stairway, no significant changes in area or airborne radiation levels have been noted. On November 16, 1981, it was reported in the Weekly Status Report that there was an apparent radiation level increase in an area above the reactor coolant drain tank, however, subsequent measurements indicated that the radiation level in the area has remained essentially constant. The cause of the radiation level increase in the enclosed stairway is being investigated. The open stairway is now being used for normal access to the 347 ft. elevation.

4. Particulate Radioactivity Increase in Unit 2 Auxiliary and Fuel Handling Buildings (Unusual Event). At 9:53 AM on January 8, 1982, the licensee declared an Unusual Event as a result of an indication of increased airborne radioactivity in the Unit 2 Auxiliary and Fuel Handling Buildings. Personnel working in the buildings were immediately evacuated. The licensee's initial investigation of this event indicated that the increased airborne radioactivity in the buildings could have resulted from blowdown of the service air lines into a potentially contaminated floor drain.

The licensee reported a slight increase in the plant airborne effluent monitor (HPR-219). Initial offsite dose calculations

indicated a minute fraction of a millirem, at the site boundaries, which is indistinguishable from natural background. An offsite survey team took measurements at about 0.5 mile south of the TMI Visitors Center and confirmed no detectable radioactivity offsite. The possible source of this airborne activity was isolated at 10:00 AM. All in-plant monitors and effluent monitors were trending down to normal readings at 10:48 AM. The licensee terminated the Unusual Event at 11:30 AM. NRC onsite staff continues to examine the cause and circumstances involved in this event.

5. PUC Rate Change Approval. On Friday, January 8, 1982, Pennsylvania Public Utilities Commission approved a settlement negotiated between the state Consumer Advocate, General Public Utilities, Met-Ed and Penelec on rate requests. The settlement involves a three step rate change to Met-Ed's rate structure: the first in January, the second if NRC authorizes normal operation at Unit 1 and the plant has produced electricity at a 35% power level for 100 consecutive hours, and the third in the May/June period. The impact on TMI-2 cleanup, if New Jersey takes a similar action for Jersey Central Power and Light, will be that approximately \$50 million per year will be generated by rate payer revenues specifically for TMI-2 cleanup. An accelerated cleanup level will require approximately \$120-130 million a year so that other elements of funding will be necessary to supplement the \$50 million. The net result of the rate changes on Metropolitan Edison rate payers, which also involve expected reduction in purchase power costs and termination of deferred energy subcharges, would be that a monthly bill in June 1982 will be about the same as in December 1981. GPU also projects that the revenues produced by the proposed rate action would avert a possible cash shortage that might have occurred in 1982 and puts the company on the road toward more stable financing.

Public Meetings

1. On Monday, January 11, 1982, Lake Barrett will participate in a television (WPIX Channel 11, Pittsburg) program to discuss the TMI situation as it pertains to the national and Pennsylvania energy situation.
2. The NRC's Advisory Panel for the Decontamination of TMI Unit 2 will be meeting on January 13, 1982, and January 28, 1982, from 7:00 PM to 10:00 PM at the Holiday Inn, 23 South Second Street in Harrisburg. The meetings will be open for public observation. At both meetings, the Panel will discuss alternative strategies for assuring financial resources to complete the TMI-2 cleanup.
3. On Friday, February 26, 1982, Lake Barrett will be speaking for the dinner meeting being held by the Engineers Week Joint Planning Council to honor Lehigh Valley's Engineer of the Year and Young Engineer of the Year.
4. On Saturday, March 13, 1982, Lake Barrett will address the Society of Manufacturing Engineers in Williamsport, PA, on the cleanup of TMI and general aspects of nuclear power.

ATTACHMENT

SDS Performance for Batch Number 14

<u>Radionuclide</u>	<u>Average Influent (uc/ml)</u>	<u>Average Effluent (uc/ml)</u>	<u>Average DF</u>
Cesium 137	82	1.3×10^{-3}	6.3×10^4
Strontium 90	2.7	8.3×10^{-3}	3.2×10^2

SDS Performance for Batch Number 15

<u>Radionuclide</u>	<u>Average Influent (uc/ml)</u>	<u>Average Effluent (uc/ml)</u>	<u>Average DF</u>
Cesium 137	92	8.3×10^{-4}	1.1×10^5
Strontium 90	3.0	7.6×10^{-3}	3.9×10^2

EPICOR II Performance
December 17, 1981 to January 5, 1982

<u>Radionuclide</u>	<u>Average Influent (uc/ml)</u>	<u>Average Effluent (uc/ml)</u>	<u>Average DF</u>
Cesium 137	2.1×10^{-3}	$<1.7 \times 10^{-7}$	$>1.2 \times 10^4$
Strontium 90	8.8×10^{-2}	$<1.1 \times 10^{-5}$	$>1.5 \times 10^3$
Antimony 125	8.8×10^{-3}	$<3.6 \times 10^{-7}$	$>2.5 \times 10^4$