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November 22, 1982
NRC/TMI-82-069

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 November 14 through November 20, 1982. Major items included in this report are:

-- Liquid Effluents

-- EPA and NRC Environmental Data

-- Radioactive Material and Radwaste Shipments

-- Submerged Demineralizer System Status

-- EPICOR II Status

-- Reactor Building Entries

-- Control Rod Drive Mechanism Status

-- SDS Liner Shipment Preparations

-- EPICOR II Prefilter Shipment

-- Public Meetings

Because of the Thanksgiving holiday, no report will be issued on November 29; the report that will be issued December 6, 1982 will cover the period from November 21 through December 4, 1982.

Original signed by
Lake H. Barrett

Lake H. Barrett
Deputy Program Director
TMI Program Office

Enclosure: As stated

OFFICE ▶							
SURNAME ▶							
DATE ▶							

cc w/encl:
EDO
OGC
Office Directors
Commissioner's Technical Assistants
NRR Division Directors
NRR A/D's
Regional Administrators
IE Division Directors
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TMI Program Office Staff (15)
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DATE	11/ /82	11/ /82	11/ /82	11/ /82	11/ /82	11/ /82	

NRC FORM 318 (10-80) NRCM 0240

NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

November 14, 1982 - November 20, 1982

Plant Status

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

Available Core Cooling Modes: Mini Decay Heat Removal (MDHR) system.

RCS Pressure Control Mode: RCS is vented to the reactor building.

Major Parameters (as of 0615, November 19, 1982) (approximate values)
Average Incore Thermocouples*: 107°F
Maximum Incore Thermocouple*: 130°F

RCS Loop Temperatures:

	A	B
Hot Leg**	85°F	84°F
Cold Leg (1)	68°F	69°F
(2)	69°F	69°F

Pressure: The reactor coolant system is vented to the reactor building.

Reactor Building: Temperature: 66°F
Pressure: -0.14 psig
Airborne Radionuclide Concentrations:

1.5 E-6 uCi/cc H^3
(sample taken 11/17/82)

5.8 E-9 uCi/cc particulates
(sample taken 11/19/82)

1. Effluent and Environmental (Radiological) Information

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

During the period November 12, 1982, through November 18, 1982, the effluents contained no detectable radioactivity at the discharge point and individual effluent sources, which originated within Unit 2, contained no detectable radioactivity.

*Uncertainties exist as to the exact location and accuracy of these readings.
**The primary water level is below the hot leg temperature sensors.

2. Environmental Protection Agency (EPA) Environmental Data

-- The EPA Middletown Office has not received the environmental Kr-85 results from the EPA's Counting Laboratory at Las Vegas, Nevada for the TMI samples which were taken after October 26, 1982. 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 November 10, 1982 through November 18, 1982.

3. NRC Environmental Data

Results are from NRC monitoring of the environment around the TMI site.

-- 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-344	November 10 - November 18, 1982	<6.4 E-14	<6.4 E-14

4. Licensee Radioactive Material and Radwaste Shipments

-- On November 15, 1982, 82 drums of contaminated laundry from Units 1 and 2 were shipped to Interstate Uniform Services, New Kensington, Pennsylvania.

-- On November 17, 1982, an EPICOR II prefilter (PF-20) was shipped to EG&G Idaho Inc., Scoville, Idaho.

-- On November 17, 1982, one drum containing a Unit 2 reactor coolant system (RCS) sample was shipped to the Westinghouse Waltz Mill Site Madison, Pennsylvania.

-- On November 17, 1982 another drum containing a Unit 2 RCS sample was shipped to the Westinghouse Waltz Mill Site, Madison, Pennsylvania.

-- On November 18, 1982 one box containing Unit 1 air samples was shipped to Teledyne, Westwood, New Jersey.

-- On November 18, 1982, one box of fission chambers was sent to Los Alamos National Laboratory, Los Alamos, New Mexico.

-- On November 19, 1982, 70 drums of contaminated laundry from Unit 1 and 2 were shipped to Interstate Uniform Services, New Kensington, Pennsylvania.

-- On November 19, 1982, 105 drums and 2 boxes of Unit 2 trash were shipped to U.S. Ecology Hanford Burial Site, Richland, Washington.

-- On November 19, 1982, three drums and a box containing Unit 1 OTSG equipment were shipped to B&W Lynchburg Research Center, Lynchburg, Virginia.

Major Activities

1. Submerged Demineralizer System (SDS). SDS completed processing of Batch No. 38 (approximately 44,000 gallons of reactor building sump water) on November 13, 1982 and is now in a standby status. Processing parameters for Batch No. 38 are included in Attachment 1.

2. EPICOR II. EPICOR II completed processing of SDS effluent Batch No. 38 on November 15, 1982 and is now in a standby status. The processing parameters are included in Attachment 1.

3. Reactor Building Entries. Four reactor building entries were conducted this week: November 15, 17, 18, and 19, 1982. In addition to continuing the polar crane refurbishment (which has been identified as the critical path and priority activity), the following tasks were performed in the reactor building this week: three leadscrews, which could not be uncoupled from their control rods on the first attempt, were uncoupled on Thursday; the procedure to raise the axial power shaping rod (APSR) leadscrews, in preparation for head lift, was initiated (refer to paragraph 4 on CRDM status); and leadscrew 8H, which had been removed from the reactor during the quick look inspection, was cut and segments removed from the reactor building for eventual shipment off site for analysis.

   Reactor building decontamination using high pressure high temperature water, limited "hands-on" decontamination, and some strippable coating application is continuing in parallel with the other activities in the reactor building. The objective of the current decontamination effort is to reduce loose surface contamination and decrease airborne activity to a point where personnel will not be required to wear respirators. Preliminary information from measurements on the polar crane indicate that the latest series of decontamination efforts has not reduced ambient radiation levels. The effectiveness of the decontamination to reduce airborne activity cannot be effectively evaluated until more surface area is decontaminated.

   Two reactor building entries are scheduled for the Thanksgiving holiday week.

4. Control Rod Drive Mechanism (CRDM) Status. In preparation for reactor vessel disassembly, control rod leadscrews must be uncoupled from their control rod spider assemblies. Following uncoupling, the leadscrews will be raised to the top of the CRDM housing for storage during reactor head removal. Initially, three leadscrews were uncoupled and completely removed from the reactor to facilitate the quick look inspection. The remaining 66 leadscrews were rotated 45 degrees in their bayonet-type coupling sockets and appear to be uncoupled from the spider assemblies.

Eight of the 66 remaining leadscrews are associated with the axial power shaping rods (APSR), which (as designed) did not automatically insert following a reactor shutdown. After the March 1979 accident, the APSR's remained in their last position, withdrawn about 25% (35 inches). In June 1982 an attempt was made to insert the APSR's using the normal electric drive system. Except for one leadscrew, which inserted completely, the insertion attempt did not drive the remaining leadscrews to the fully in position. The decoupling of the partially withdrawn APSR leadscrews was attempted and appeared to be successful.

On Thursday, November 18, 1982, the first step in raising the APSR leadscrews into their CRDM housings was attempted. The attempt consisted of electrically raising each leadscrew three inches to verify clearance from the spider coupling. Seven of the eight APSR leadscrews moved up three inches without any apparent difficulty. One of the leadscrews would not move up or down (this leadscrew is one which is still withdrawn 25%). The licensee is evaluating the situation. The remaining 58 control rod leadscrews will eventually be raised to the prehead-lift position using an external hoist.

5. SDS Liner Shipment Preparations. The functional testing of the SDS liner recombiner and vacuum outgassing system (LRVOS) was resumed and completed. It demonstrated all the operational features of the system, including: (1) vacuum drying of the SDS liner for water removal, (2) insertion of the catalytic recombiner pellets into the liner vent port, (3) gas inerting of the liner with nitrogen or argon, and (4) monitoring and sampling of the SDS liner. Earlier problems with pellet blockage were resolved by reducing the catalyst addition rate and by insuring that the loading tool internals are kept dry. The licensee is currently preparing procedures for a full-scale demonstration test on a spent SDS liner. This test is part of the pre-shipment requirements to demonstrate that sufficient catalyst exists to recombine the hydrogen and oxygen gas produced by the radiolysis of any residual water remaining in the liner. This demonstration testing will be required on all spent SDS liners prior to shipment. The first spent liner demonstration test is scheduled to begin on November 29, 1982, and the first SDS liner shipment is scheduled for late December.

6. EPICOR II Prefilter Shipment. EPICOR II prefilter liner PF-20 was shipped from TMI to the Idaho National Engineering Laboratory (INEL) on November 17, 1982 in a CNS-8-120 type B shipping cask. This liner was the ninth in a group of 49 EPICOR liners to be shipped to INEL. The licensee anticipates six more liners to be shipped by the end of 1982. Two liners are scheduled for shipment next week.

Past Meeting

On November 17, 1982, the Advisory Panel for the Decontamination of TMI-2 held a public meeting at the Holiday Inn in Harrisburg, Pennsylvania. The panel received an update of the cleanup progress from GPU as well as status reports from the NRC, EPA, and DOE. The panel viewed the video tapes of the Unit 2 reactor core inspections that were performed in July and August 1982. Additional topics of discussion were the funding situation, cleanup schedules, accident generated water disposition, and transportation routing of radioactive waste shipments. The next Panel meeting will be on February 2, 1983 at a location to be determined later.

Future Meetings

1. On November 22, 1982, Lake H. Barrett will meet with the Concerned Mothers of Middletown to discuss TMI related issues.

2. On December 1, 1982, Lake H. Barrett will present a paper on TMI to the New England Chapter of the Health Physics Society in Boston, Massachusetts.

3. On December 3, 1982, Lake H. Barrett will meet with Friends and Family of TMI to discuss various TMI-2 issues.

ATTACHMENT I

SDS PERFORMANCE FOR BATCH NUMBER 38

Radionuclide	Average Influent (uc/ml)	Average Effluent (uc/ml)	Average DF
Cesium 137	12.5	3.70×10^{-5}	3.39×10^{5}
Strontium 90	3.82	2.78×10^{-4}	1.54×10^{4}

EPICOR II PERFORMANCE

Radionuclide	Average Influent (uc/ml)	Average Effluent (uc/ml)	Average DF
Cesium 137	2.90×10^{-5}	3.10×10^{-7}	9.35×10^{1}
Strontium 90	1.40×10^{-4}	1.68×10^{-5}	8.3×10^{0}
Antimony 125	2.10×10^{-3}	3.55×10^{-7}	5.94×10^{3}