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May 10, 1982
NRC/TMI-82-029

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 May 2, 1982 to May 8, 1982.
Major items included in this report are:

- Liquid Effluents
- NRC and EPA Environmental Data
- Radioactive Material and Radwaste Shipments
- Submerged Demineralizer System Status
- EPICOR II
- Reactor Coolant System Water Processing
- Reactor Building Entries
- Unit 1 Developments
- Public Meetings

Original signed by
Lake H. Barrett

Lake H. Barrett
Deputy Program Director
TMI Program Office

Enclosure: As stated

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OFFICE	SUBJECT	DATE				

Harold R. Denton
Bernard J. Snyder

May 10, 1982

cc w/enc1:
EDO
OGC
Office Directors
Commissioner's Technical Assistants
NRR Division Directors
NRR A/D's
Regional Directors
IE Division Directors
TAS
EIS
THI Program Office Staff (15)
PHS
EPA
DOE
Projects Br. #2 Chief, DRPI, RI
DRPI Chief, RI
Public Affairs, RI
State Liaison, RI

OFFICE ▶	TMIPO	TMIPO	TMIPO	TMIPO	TMIPO	TMIPO	
IRNAME ▶	GKalman:js	RCoffe	MShanbaky	AFasano	RBellamy	LBartee	
DATE ▶	5/12/82	5/10/82	5/10/82	5/10/82	5/10/82	5/16/82	

NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

May 2, 1982 - May 8, 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 (DHR) systems, Mini DHR (MDHR) system.

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

Backup Pressure Control Modes: MDHR and DHR system.

Major Parameters (as of 0500, May 7, 1982) (approximate values)

Average Incore Thermocouples: 102°F

Maximum Incore Thermocouple: 128°F

RCS Loop Temperatures:

	A	B
Hot Leg	96°F	100°F
Cold Leg (1)	80°F	84°F
(2)	83°F	90°F

RCS Pressure: 96 psig

Reactor Building: Temperature: 67°F
Water level: Elevation 282.9 ft.
(0.2 ft. from floor)

Pressure: -0.10 psig

Airborne Radionuclide Concentrations:

4.5 E-7 uCi/cc H³
(sample taken 5/4/82)

7.8 E-6 uCi/cc Kr⁸⁵
(sample taken 5/4/82)

1.8 E-9 uCi/cc particulates
(sample taken 5/5/82)

1. Effluent and Environmental (Radiological) Information

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 April 30, 1982, through May 6, 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 eleven millionths (0.000011) of a curie of tritium was discharged.

2. Environmental Protection Agency (EPA) Environmental Data

Results from EPA monitoring of the environment around the TMI site were as follows:

- The EPA measured Kr-85 concentrations (pCi/m^3) at several environmental monitoring stations and reported the following results:

<u>Location</u>	<u>April 2, 1982 - April 16, 1982</u> (pCi/m^3)
Goldsboro	29
Observation Center	23
Middletown	32
Yorkhaven	(problem with laboratory analysis)

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> (uCi/cc)	<u>Cs-137</u> (uCi/cc)
HP-318	April 28, 1982 - May 5, 1982	<6.6 E-14	<6.6 E-14

4. Licensee Radioactive Material and Radwaste Shipment

- On Tuesday, May 4, 1982, two drums containing Unit 1 smear samples and miscellaneous equipment were shipped to Babcock and Wilcox, Lynchburg, Virginia.
- On Thursday, May 6, 1982, 73 drums containing Unit 1 and Unit 2 contaminated laundry were shipped to Tri-State Industrial Laundries, Utica, New York.

The State of Washington banned Three Mile Island Unit 2, from use of the U.S. Ecology, Richland, Washington, burial site and suspended the TMI-2 burial permit effective 12:00 (noon), May 5, 1982. This action occurred after U.S. Ecology received a TMI-2 shipment (shipped April 29, 1982) of 74 Low Specific Activity (LSA) waste containers; one container, a 55 gallon drum, had a broken locking ring, and the drum was found open. The drum contained compacted rags and plastic material with a total activity of approximately 0.11 curies. The LSA solid waste was packaged into a plastic material which was intact upon arrival at the site. The State of Washington inspector at the U.S. Ecology site performed radiological and contamination surveys on the package and found

that the material within the 55 gallon drum was intact. No loose contamination was detected and the radiation levels on the drum were as specified on the shipping documents. Although no loose radioactive contamination was evidenced, the opening of the 55 gallon drum lid was identified as a violation of the Department of Transportation (DOT) regulations, and prompted the banning action.

Major Activities

1. Submerged Demineralizer System (SDS). Processing of SDS batch 24 (reactor coolant bleed tank water) was completed on April 29, 1982, and its performance parameters are included in Attachment 1. Transfer of remaining reactor building sump water to the SDS feed tanks commenced on April 29, 1982 and was terminated on May 2, 1982, when the upper limit of differential pressure (ΔP) across the SDS prefilter was reached. This limit was reached after transfer of approximately 36,000 gallons of sump water. The SDS feed prefilter and final filter have been changed to accommodate reactor coolant system (RCS) processing and the SDS system has been flushed to remove residual chemical contaminants. The water from the reactor building sump will be held in the SDS feed tanks until a sufficient time period is available to process the water without interfering with reactor coolant system processing (see RCS processing).
2. EPICDR II. The EPICDR II system continued to process SDS effluents during the week and its performance parameters are included in Attachment 1.
3. Reactor Coolant System (RCS) Water Processing. Engineering and construction efforts by the licensee are continuing in preparation for RCS processing. NRC/TMIPD review of RCS water processing procedures is complete. Recovery Operations Plan Change 14, which addresses chemistry specifications for chlorides, dissolved oxygen and dissolved hydrogen is currently under review. A functional test for RCS processing through SDS will be performed on May 10, 1982. This is to be a full demonstration test of all modifications and sampling systems for RCS processing. The current target date to commence RCS water processing is May 17, 1982.
4. Reactor Building Entries. A radiation survey in the reactor building (RB) following the removal of approximately 36,000 gallons of water from the basement indicated that the water removal did not significantly reduce the general radiation levels on the 305 ft. elevation. Areas on the 305 ft. elevation which are not well shielded from the basement (stairwells and metal gratings) did show a substantial gamma dose rate decrease following the water removal. These areas were previously identified as hot spots with dose rates ranging from 5 R/hr to 28 R/hr. The latest measurements in these areas ranged from 2.2 R/hr to 15 R/hr. The technician who surveyed the 305 ft. elevation accumulated 105 mR in 14 minutes while performing the survey.

The water level in the basement decreased from approximately six inches to one inch when the 36,000 gallons were pumped from the basement to the submerged demineralizer system (SDS) feed tanks. The water transfer was terminated when the feed tank prefilter plugged. The water level in the RB basement is

expected to increase gradually from reactor coolant system leakage (approximately 100 GPD). Air samples during the last RB entry indicated that airborne particulate activity was below the maximum permissible concentration (MPC) for workers.

Next week RB entries are scheduled for Monday and Thursday, May 10 and 13, 1982. The majority of containment time will be spent assessing the repair requirements on the polar crane.

5. Unit 1 Developments. The licensee has decided to tube expand and reseal virtually all of the 31,000 tubes in the upper tube sheet section of both One Through Steam Generators. The additional work will be performed because further testing has indicated that potential defects were found with a special test instrument specifically designed and developed for examining the very ends of tubes. Not all 31,000 tubes show indications of damage at the top, but the licensee feels it will be more efficient to reseal all of them, whether or not defects were indicated in the tests. A total of 500 to 700 tubes in the two generators are likely to be plugged and taken out of service permanently.

The repair method involves the use of controlled explosive charges to expand the tubes. The licensee reports that the technique was previously used both in newly constructed heat exchangers and tube repairs in the utility industry (since late 1960's). The length of the tubes to be expanded will be the upper 10 inches of the tube in the upper tube sheet area which will extend several inches below the area affected by corrosion. Unit 1 reactor vessel and core internal inspection is continuing.

Future Meetings

1. On May 11, 1982, Lake Barrett will meet with a group of Middletown mothers to discuss issues and concerns related to the cleanup program at TMI Unit 2 and the status of Unit 1.
2. On May 11, 1982, Lake Barrett will participate in a panel discussion on TMI issues to be aired on cable television in the Central Pennsylvania area. The discussion is sponsored by the West Shore Council of Governments. Other panelists include, Susan Shanaman, Chairman of State Public Utility Commission; General DeWitt Smith, Director of Pennsylvania Emergency Management Agency; Representative James Wright, Chairman House Select Committee on TMI; representatives from Union of Concerned Scientists; Bipartisan Committee to Vote No; GPUN, and TMI Friends and Family.

ATTACHMENT 1

SOS PERFORMANCE FOR BATCH NUMBER 24

<u>Radionuclide</u>	<u>Average Influent</u> (uc/ml)	<u>Average Effluent</u> (uc/ml)	<u>Average DF</u>
Cesium 137	1.4	8.3×10^{-4}	1.7×10^3
Strontium 90	5.7×10^{-2}	7.5×10^{-3}	7.6

EPICOR II PERFORMANCE
April 28, 1982 to May 1, 1982

<u>Radionuclide</u>	<u>Average Influent</u> (uc/ml)	<u>Average Effluent</u> (uc/ml)	<u>Average DF</u>
Cesium 137	7.9×10^{-4}	4.5×10^{-7}	1.7×10^3
Strontium 90	8.2×10^{-3}	$<1.0 \times 10^{-5}$	$>8.2 \times 10^2$
Antimony 125	6.5×10^{-4}	$<3.8 \times 10^{-7}$	$>1.7 \times 10^3$