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May 3, 1982
NRC/TMI-82-028

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 April 25, 1982 to May 1, 1982. Major items included in this report are:

-- Liquid Effluents

-- Airborne 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

-- Groundwater Monitoring Status

-- Public Meetings

Original signed by
Lake H. Barrett
Lake H. Barrett
Deputy Program Director
TMI Program Office

Enclosure: As stated

OFFIC						
URNAME						
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cc w/encl:
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DATE	5/14/82	5/12/82	5/ /82	5/12/82	5/14/82	5/13/82	

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NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

April 25, 1982 - May 1, 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, April 30, 1982) (approximate values)
Average Incore Thermocouples: 102°F
Maximum Incore Thermocouple: 129°F

RCS Loop Temperatures:

		A	B
Hot Leg		97°F	100°F
Cold Leg	(1)	82°F	81°F
	(2)	85°F	85°F

RCS Pressure: 96 psig

Reactor Building: Temperature: 66°F
Water level: Elevation 283.2 ft. (0.5 ft. from floor)
Pressure: ~.5 psig
Airborne Radionuclide Concentrations:
1.7 E-6 UCi/cc H^3
(sample taken 4/27/82)
3.2 E-6 uCi/cc Kr^{85}
(sample taken 4/27/82)

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 23, 1982, through April 29, 1982, the effluents contained no detectable radioactivity at the discharge point and individual effluent sources, which originated within Unit 2, contained no detectable radioactivity.

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.

	March 1982	
	Unit II	EPICOR II
Noble Gases (Ci)	$<1.04 \times 10^{2}$	$<2.97 \times 10^{1}$
Particulates (Ci)	1.39×10^{-7}	1.69×10^{-7}
Tritium (Ci)	3.97×10^{1}*	7.71×10^{-1}

*This indicates an estimate of H-3 releases during March since the release value was based on a short sampling period which may not be representative of the entire monthly release.

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 April 2, 1982, through April 16, 1982, 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 April 21, 1982 through April 29, 1982.

-- On April 30, 1982, the EPA reported the January and February 1982 results of its tests for tritium (H-3) in atmospheric moisture (see attachment 1 and 2 for excerpts of EPA press release). The first series of results were reported in TMIPO Weekly Status Report dated February 21-27, 1982.

4. 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:

Sample	Period	I-131 (uCi/cc)	Cs-137 (uCi/cc)
HP-317	April 2, 1982 - April 28, 1982	<6.7 E-14	<6.7 E-14

5. Licensee Radioactive Material and Radwaste Shipments

-- On Tuesday, April 27, 1982, 15 Unit 1 flush samples (liquids from various locations) were shipped to the Westinghouse Electric Company Laboratory, Madison, Pennsylvania.

-- On Tuesday, April 27, 1982, 10 Unit 2 SDS samples (Submerged Demineralizer System) were shipped to Oak Ridge National Laboratory, Oak Ridge, Tennessee.

-- On Tuesday, April 27, 1982, one Unit 2 SDS sample was shipped to Oak Ridge National Laboratory, Oak Ridge, Tennessee.

-- On Thursday, April 29, 1982, three Unit 1 liquid samples (spent fuel pool, borated water storage tank and decay heat A) were shipped to the Babcock and Wilcox Research Center, Lynchburg Virginia.

-- On Thursday, April 29, 1982, three Unit 1 liquid samples (same as above) were shipped to the Westinghouse Electric Company Laboratory, Madison, Pennsylvania.

-- On Thursday, April 29, 1982, three Unit 1 liquid samples (same as above) were shipped to the Nuclear Water and Waste Technology Laboratory, San Jose, California.

-- On Thursday, April 29, 1982, 68 drums and 6 metal boxes containing Unit 2 compacted and non-compacted low specific activity (LSA) trash were shipped to U.S. Ecology, Inc., Richland, Washington.

Major Activities

1. Submerged Demineralizer System (SDS). The SDS processed approximately 11,000 gallons of reactor coolant bleed tank water during the week. The remaining water in the Reactor Building (approximately 40,000 gallons) is now being transferred into the SDS feed tanks using the jet pump installed into the incore instrument trough in the reactor building. This water will remain in the SDS feed tanks until a sufficient time period is available to process the water without interferring with preparations for Reactor Coolant System Processing.

2. EPICOR II. The EPICOR II system commenced processing SDS effluent during the week.

3. Reactor Coolant System (RCS) Water Processing. Engineering and construction efforts by the licensee are continuing in preparation for RCS processing which is presently scheduled to commence around the middle of May 1982. NRC/TMIPO review of the procedures needed to commence RCS water processing is expected to be completed during the week of May 3, 1982. The NRC/TMIPO site office, with support from the Chemical Engineering Branch, NRR, is reviewing the licensee's request to revise the Recovery Operations Plan to incorporate changes to accomodate RCS processing.

4. Reactor Building Entries. The jet pump installation to remove the remaining six inches of water from the reactor building (RB) basement was completed during the RB entry on Wednesday, April 28, 1982. The pump was energized from outside the RB on Thursday evening and began pumping the estimated 40,000 gallons (30,000 gallons of original sump water plus 10,000 gallons of water from the decontamination experiment) of water from the RB basement to the SDS feed tanks at approximately 10 GPM. On Sunday, May 2, 1982, the pumping operation was secured when filters on the inlet line to the SDS feed tanks reached 40 PSI of differential pressure (plugged filter indication) and pump flow decreased to 2 GPM. Approximately 36,000 gallons of water were pumped from the sump before the high differential pressure was reached.

   Additional work inside the RB on Wednesday included the testing of six RB smoke detectors. The smoke detectors are part of the RB fire protection system and are designed to activate an alarm in the control room and automatically to secure portions of the RB ventilation system. None of the six detectors performed their designed functions during the test. Technicians are trouble shooting the fire protection circuits from outside the RB to determine the cause of the malfunction.

   The next RB entry is scheduled for Wednesday, May 5, 1982. A health physics technician will perform an area and airborne radiation survey of the RB before any other work is undertaken to determine how the removal of the sump water affected the RB radiation levels.

5. Groundwater Monitoring Program. As part of the groundwater monitoring program, weekly water samples are taken from test borings 1, 2, 3, 10, 16, and 17. The weekly samples are analyzed by the onsite laboratory. Once per month the water samples are sent to two independent laboratories offsite. The latest onsite analysis results are available from samples taken on April 26, 1982. Offsite samples results for all wells are available for samples taken on March 2, 1982. Based on the available sample results, tritium concentrations in the groundwater have remained in the same range as those reported in previous Weekly Status Reports. Except for tritium, there have been no other radionuclides detected in the latest water samples.

Past Meeting

On Tuesday, April 27, 1982, Lake Barrett met with a group of Middletown mothers to discuss progress on the cleanup at TMI Unit 2, various funding plans for Unit 2 cleanup, Unit 1 steam generator repairs and sources of GPU funding for steam generator repairs. They expressed their opinion that Unit 1 should not be restarted until Unit 2 was cleaned up.

Future Meeting

1. On Tuesday, May 4, 1982, Harold Denton, Bernard Snyder and Lake Barrett will testify in Washington, DC, before Senator Alan K. Simpsons' Senate Subcommittee on Nuclear Regulation, Evnironment and Public Works Committee.

2. On May 11, 1982, Lake Barrett will meet 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.

3. 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. 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; respresentatives from Union of Concerned Scientists; Bipartisan Committee to Vote No; GPUN, and TMI Friends and Family.

ATTACHMENT 1

SAMPLING FOR TRITIUM IN ATMOSPHERIC MOISTURE

Atmospheric moisture collectors are operated near TMI and at a control station in Wernersville to monitor tritium (^3H) in atmospheric moisture. Tritium exists in the environment worldwide, mostly in the form of water in which one or both hydrogen atoms has (have) been replaced by a tritium atom, as a result of nuclear weapons testing, nuclear power generation, fuel reprocessing and from natural sources. Pre-TMI monitoring data indicate that surface water, drinking water and precipitation in the TMI area will contain from an average of 0.3 pCi/ml of tritium with values as high as 0.6 pCi/ml within the expected range.

The analytic results for samples collected from 01/07/82 to 03/05/82 are given in the following table. The concentration of tritium in water collected from air at Middletown, Goldsboro, and Wernersville was in the expected range. The concentration of tritium in water collected from air at the TMI Observation Center continues to be slightly elevated but the resulting concentration of tritium in air is less than 1/10,000 (0.01%) of the Federal limit.

EPA 156/04/30/82

ATTACHMENT 2

TRITIUM IN ATMOSPHERIC MOISTURE EPA 156/04/30/82

DATES	THI Observation Center		Middletown		Coldsboro		Werneraville(Control St.	
	Conc. of Tritium in Collected Water(pCi/ml)[1]	Conc. of Tritium in air (pCi/m³)[1,2]	Conc. of Tritium in Collected Water(pCi/ml)[1]	Conc. of Tritium in Air (pCi/m³)[1,2]	Conc. of Tritium in Collected Water(pCi/ml)[1]	Conc. of Tritium in Air[1,2] (pCi/m³)	Conc. of Tritium in Collected Water(pCi/ml)[1]	Conc. of Tritium in Air (pCi/m³)[1,2]
/7-1/28	-	-	-	-	-	-	< .39	< .67
/11-1/28	2.0 ± .28	15 ± 28	< .39	< .86	< .39	< .87	-	-
/28-2/5	.77 ± .28	3.7 ± 1.3	< .43	< 2.0	< .43	< 2.1	-	-
/28-2/8	-	-	-	-	-	-	< .43	< 2.0
/5-2/26	.71 ± .27	10.9 ± 4.09	< .43	< 1.3	< .45	< 1.68	-	-
/8-2/25	-	-	-	-	-	-	< .50	< 1.9
/25-3/4	-	-	-	-	-	-	< .47	< 1.3
/26-3/5	.68 ± .30	3.9 ± 1.7	< .47	< .86	< .47	< 1.4	-	-

1. Statistically significant values are given ± 2 standard deviations of the mean for the determination. The symbol "< " denotes the true value is less than the value given.

2. The Federal limit for tritium in environmental air is 200,000 picocuries per cubic meter of air (pCi/m³).