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Site Operations

May 28, 1982
NRC/TMI-82-035



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 23, 1982 to May 28, 1982.
Major items included in this report are:

- Liquid Effluents
- NRC and EPA Environmental Data
- Radioactive Material and Radwaste Shipments
- TMI Occupational Exposure
- Submerged Demineralizer System Status
- EPICOR II
- Reactor Coolant System Water Processing
- Reactor Building Entry
- Submerged Demineralizer System Vessel Shipment
- 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. Denton
Bernard J. Snyder
cc w/encl:

May 28, 1982

- EDO
- OGC
- Office Directors
- Commissioner's Technical Assistants
- HRR Division Directors
- HRR A/D's
- Regional Directors
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- TAS
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- TMI Program Office Staff (15)
- PHS
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- DRPI Chief, RI
- Public Affairs, RI
- State Liaison, RI

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DATE	5/ /82	5/ /82	5/ /82	5/ /82	5/ /82	5/ /82

NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

May 23, 1982 - May 28, 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.

NOTE: During Reactor Coolant System feed and bleed, pressure will be maintained with a Reactor Coolant Bleed Tank Pump. Automatic back up pressure control will be provided by the standby pressure control system.

Backup Pressure Control Modes: MDHR and DHR system.

Major Parameters (as of 0535, May 28, 1982) (approximate values)

Average Incore Thermocouples: 100°F
Maximum Incore Thermocouple: 129°F

RCS Loop Temperatures:

	A	B
Hot Leg	96°F	99°F
Cold Leg (1)	82°F	83°F
(2)	85°F	88°F

Pressure: 73 psig

NOTE: During reactor coolant system feed and bleed, pressure is maintained at approximately 70 psig.

Reactor Building: Temperature: 70°F

Pressure: -0.6 psig

Airborne Radionuclide Concentrations:

5.7 E-7 uCi/cc H³
(sample taken 5/25/82)

1.7 E-6 uCi/cc Kr⁸⁵
(sample taken 5/25/82)

9.1 E-10 uCi/cc particulates
(sample taken 5/26/82)

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 May 21, 1982, through May 27, 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 environmental Kr-85 analytical results for the samples which were taken April 16, 1982, through May 21, 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 May 19, 1982 through May 27, 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-320	May 17, 1982 - May 26, 1982	<5.3 E-14	<5.3 E-14

4. Licensee Radioactive Material and Radwaste Shipment

- On Monday, May 24, 1982, 20 metal boxes containing Unit 1 non-compacted trash (Low Specific Activity, LSA) were shipped to Chem Nuclear Systems, Inc., Barnwell, South Carolina.
- On Monday, May 24, 1982, 63 drums and 6 metal boxes containing Unit 1 compacted and non-compacted trash (LSA) were shipped to Chem Nuclear Systems, Inc., Barnwell, South Carolina.
- On Thursday, May 27, 1982, 53 drums containing Unit 1 and Unit 2 contaminated laundry were shipped to Tri-State Industrial Laundries, Utica, New York.

5. TMI Occupational Exposure

Licensee TLD (Thermoluminescent Dosimeter) records indicate the following Unit 2 occupational radiation exposure for 1982:

April 1982	19 man-rem*
Total 1982 (January-April)	120 man-rem

*Man-rem is an expression for the summation of whole body doses to individuals in a group. Thus, if each member of a population group of 1,000 people were to receive a dose of 0.001 rem (1 millirem), or if two people were to receive a dose of 0.5 rem (500 millirem) each, the total man-rem dose in each case would be one man-rem.

Major Activities

1. Submerged Demineralizer System (SDS). Processing of the first batch of Reactor Coolant System (RCS) water is continuing. As of 11:59 PM on May 28, 1982, the total amount of RCS water processed was approximately 40,000 gallons. SDS processing parameters will be provided following completion of the batch. No unanticipated problems have occurred.
2. EPICOR II. The EPICOR II system is shutdown because no water is ready for processing.
3. Reactor Coolant System (RCS) Feed and Bleed. A reactor coolant system (RCS) sample was taken on May 24, 1982. Analysis results of this sample along with the analysis results of previous samples which were taken before and during the first feed and bleed cycle are listed in Attachment 1. The second feed and bleed cycle is expected to commence during the week of May 30, 1982.
4. Reactor Building Entry (May 26, 1982). Radiation surveys and valve inspections were performed inside the "D-rings" (primary system radiation barriers) to support the planned depressurization and partial draining of the reactor coolant system (RCS). The surveys and inspections were made at high point vent valves which will be used initially to vent the primary system components and then to inert the primary system with nitrogen as the RCS water is drained to a level which will permit opening a control rod drive mechanism (CRDM). The CRDM disassembly and CRD lead screw removal is sequenced to support a closed circuit television inspection of the reactor vessel upper internals in July 1982. The closed circuit television camera will be lowered into the reactor vessel through the disassembled CRDM.

A two man team surveyed and inspected the valves in the A "D-ring". Radiation readings in the vicinity of most of the valves were in the 300 mR/hr range. Corrosion was observed on the vent valves. The inspection team descended to a platform below the pressurizer and the primary pumps (308 ft. elevation). The radiation levels were in the 3 R/hr range in this area. The isolation valve on a one inch drain valve

from the RCS cold leg indicated 20 R/hr on contact. This one inch drain line would typically be used as a connection point for a tygon tube level indicator during refuelings. A tygon tube was observed in the vicinity of the drain line. No signs of heat damage to the tygon tube were apparent. From the 308 ft. elevation the team had a clear view of the 282 ft. elevation floor (floor of the basement inside the "D-ring"). The floor looked like a dried river bed with deposits of solids that were estimated to be one inch thick in places.

A remote radiation survey was performed inside the B "D-ring". This was the first survey inside the B "D-ring" and the results will be verified during subsequent entries. The survey result indicated that the radiation levels in the B "D-ring" were substantially higher than in the A "D-ring" (the pressurizer is in the A "D-ring"). Radiation levels on a 356 ft. elevation platform in the B "D-ring" (between the top of the steam generator and the top of the hot leg) were 32 R/hr. The area radiation levels near most of the vent valves were in the 10 R/hr range. The radiation levels appeared to decrease with distance away from the steam generator.

Prior to exiting the reactor building (RB) the B "D-ring" survey team lowered a remote survey detector to the floor of the RB basement in the area below the open stairwell. The radiation levels increased gradually from 2 R/hr to 45 R/hr as the detector was lowered from the 305 ft. elevation to the 282 ft. elevation. Residue on the tip of the detector (the detector physically contacted the 282 ft. elevation floor) looked like wet sand.

Following fire system repairs, smoke detectors inside the reactor building were tested during the RB entry on May 26, 1982. The fire detectors activated fire protection circuitry outside the RB, however, the fire protection system was not fully operable (some local alarms did not activate and a ventilation damper failed to close). The problems appear to be associated with circuitry outside the RB and technicians are working to correct the problems.

The next RB entry is scheduled for Thursday, June 3, 1982. Scheduled tasks next week include an in-containment inventory of CRDM disassembly tools. The RB CCTV cameras will be repositioned to monitor the CRDM's.

5. Submerged Demineralizer System Vessel Shipment. The first DOE shipment of a spent SDS waste vessel (D10015) arrived safely at Richland, Washington on May 24, 1982. As reported in last week's status report, research and development characterization and glass vitrification testing will be performed on the inorganic ion exchange (zeolite) waste material. Confirmatory sample analyses have been taken at the DOE facility to ensure the waste package met Federal shipping and transport requirements.

Past Meetings

1. On May 24, 1982, Lake Barrett and Richard Bangart, Effluent Treatment Systems Branch, presented a panel discussion and keynote speech on NRC Radwaste Policies and the TMI Accident and resulting radwaste problems for an advanced study course at the Memphis State University Center for Nuclear Studies in Memphis, Tennessee.
2. On May 26, 1982, Mr. B. Rusche, Dr. F. Coffman and Mr. H. Feinroth briefed the NRC Commissioners on DOE activities at TMI.
3. On Thursday, May 27, 1982, Ronald Bellamy addressed the fifth graders in the Derry Township Elementary School, Hershey, PA. Topics discussed included basic radiation and nuclear reactor principles and the cheating incident at Unit 1.

Future Meetings

1. On May 28, 1982, Lake Barrett will meet with the Concerned Mothers group to discuss TMI issues.

ATTACHMENT 1

RCS Feed and Bleed of 50,000 Gallons
 Start 5/17/82 - Stop 5/20/82

<u>Date</u>	<u>Time</u>	<u>Cs-137 (uc/ml)</u>	<u>Sr-90 (uc/ml)</u>	<u>Sb-125 (uc/ml)</u>	<u>Turbidity (NTU)*</u>
5/10	1000	14	18	--	--
5/17	1300	13	16	8.4×10^{-2}	28
5/17	2000	16	17	9.3×10^{-2}	36
5/18	2000	8.7	16	--	23
5/19	0900	8.2	11	6.5×10^{-2}	24
5/19	2030	8.3	7.9	6.7×10^{-2}	23
5/24	1000	5.9	10	5.5×10^{-2}	--

*Nephelometric Turbidity Units - An empirical measure of turbidity based on measurement of the light-scattering characteristics (Tyndall effect) of the particular matter in the sample.