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June 29, 1981
 NRC/TMI-81-037



MEMORANDUM FOR: Harold R. Denton, Director,
 Office of Nuclear Reactor Regulation
 Bernard J. Snyder, Program Director,
 TMI Program Office

FROM: Lake H. Barrett, Acting Deputy Program Director,
 TMI Program Office

SUBJECT: NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Enclosed is the status report for the period of June 21 - 27, 1981.

Lake H. Barrett
 Acting Deputy Program Director
 TMI Program Office

Enclosure: As stated

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DATE	6/ /81	6/ /81	6/ /81	6/ /81	6/ /81	6/ /81

NRC TMI PROGRAM WEEKLY STATUS REPORT

Week of June 21 - 27, 1981

Plant Status

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

Available Core Cooling Mode.: 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, June 25, 1981) (approximate values)

Average Incore Thermocouples: 117°F

Maximum Incore Thermocouple: 144°F

RCS Loop Temperatures:

	A	B
Hot Leg	118°F	121°F
Cold Leg (1)	70°F	73°F
(2)	72°F	72°F

RCS Pressure: 97 psig

Reactor Building: Temperature: 77°F

Water level: Elevation 290.9 ft. (3.4 ft. from floor)
via penetration 401 manometer

Pressure: -0.2 psig

Concentration: 6.2×10^{-6} uCi/ml Kr-85 (Sample taken 6/25/81)

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 June 21, 1981, through June 27, 1981, 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 are reported on a monthly basis.
- 3. 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/m³) at several environmental monitoring stations and reported the following results:

<u>Location</u>	<u>June 12 - June 19, 1981</u> (pCi/m ³)
Goldsboro	23
Observation Center	28
Middletown	21
Yorkhaven	27

All of the above levels of Kr-85 are considered to be background levels.

The EPA reported that the Yorkhaven sample results for the period June 5 - June 12, 1981, were not obtained due to procedural difficulty.

-- 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 June 18, 1981, through June 25, 1981.

- 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:

<u>Sample</u>	<u>Period</u>	<u>I-131</u> (uCi/cc)	<u>Cs-137</u> (uCi/cc)
HP-273	June 17, 1981 - June 24, 1981	<8.8 E-14	<8.8 E-14

- 5. Licensee Radioactive Material and Radwaste Shipments

-- On Monday, June 22, 1981, a 40 ml Unit 2 reactor coolant sample was sent to Babcock and Wilcox (B&W), Lynchburg, Virginia.

-- On Tuesday, June 23, 1981, one 4' x 4' EPICOR-II dewatered resin liner (liner DF-2) from Unit 2 was shipped to U. S. Ecology, Richland, Washington.

- On Tuesday, June 23, 1981, 74 drums and 10 metal boxes of Unit 2 LSA compacted and noncompact waste were shipped to U.S. Ecology, Richland, Washington.
- On Wednesday, June 24, 1981, one 4' x 4' EPICOR-II dewatered resin liner (liner DF-3) from Unit 2 was shipped to U.S. Ecology, Richland, Washington.
- On Thursday, June 25, 1981, 60 drums of Unit 2 contaminated laundry were shipped to Tri-State Industrial Laundries, Utica, New York.
- On Friday, June 26, 1981, one 6' x 6' EPICOR-II dewatered resin liner (liner DS-4) from Unit 2, and eight metal boxes of noncompact LSA waste from Unit 1 were shipped to U.S. Ecology, Richland, Washington.
- On Friday, June 26, 1981, one 4' x 4' EPICOR-II dewatered resin liner (liner DF-6) from Unit 2 was shipped to U.S. Ecology, Richland, Washington.
- On Friday, June 26, 1981, a Hittman cement mixer and components used in Unit 1 were shipped to Hittman Nuclear Development Co., Columbia, Maryland.
- On Saturday, June 27, 1981, one 4' x 4' EPICOR-II dewatered liner (liner DF-1) from Unit 2 was shipped to U.S. Ecology, Richland, Washington.

Major Activities

1. Submerged Demineralizer System (SDS). Functional tests are complete with the exception of a few items which are undergoing engineering evaluation and further testing. Operator training on components not involved with the outstanding functional testing is in progress. The operator training does not involve processing of contaminated water. The licensee is preparing procedures for NRC approval.

The Three Mile Island Program Office has approved 10 of the 37 procedures which will be used to operate the SDS. Twenty one of the 37 procedures are needed to commence transferring Reactor Coolant Bleed Tank Water to the SDS Feed Tanks. The water is expected to be transferred during the week of June 29, 1981. Shortly following the transfer, the water will be processed using the SDS.

2. Reactor Building Entry

During the twelfth entry, on June 25, 1981, problems developed with the mechanical interlock mechanism on the reactor building (RB) personnel airlock doors. The resultant delays caused the polar

crane inspection which was scheduled for the twelfth entry to be postponed. All the other scheduled tasks were completed successfully before the door problem developed. The polar crane inspection was rescheduled for a special entry on Wednesday, July 1, 1981.

The mechanical linkage to the interlock, which serves to ensure that one airlock door is completely closed before the other door can be opened, became loose and prevented personnel from opening the outer airlock door. No one was inside the RB or in the airlock during the malfunction. The outer airlock door was eventually opened and the loose linkage was repaired. However, following the repair, it was decided that the personnel involved with the scheduled two hour crane inspection should not continue with the physically demanding crane inspection.

During RB entries, a second personnel airlock which is an integral part of the equipment hatch, serves as an alternate means of egress from the RB. The equipment hatch airlock was verified operational and was available for emergency use.

During the twelfth entry the following tasks were completed successfully:

- Closed circuit television maintenance;
- Lighting circuit repairs;
- Installation of lights in the enclosed stairwell;
- Intercom repairs; and
- Smear surveys and sample removal.

3. EPICOR-II Prefilter (PF-16) Analysis Results. Preliminary results on the PF-16 liner examination were reported by the Battelle Columbus Laboratories (BCL). PF-16 is one of the 50 high specific activity first stage EPICOR II treatment process liners for the accident generated water collected in the Auxiliary Building. This liner was shipped to BCL on May 19, 1981, for examination as part of a DOE sponsored resin characterization program to further develop technology and expand knowledge for processing high specific activity resins and to evaluate liner material compatibility.

Analysis results on the gas fraction drawn from the top of the inside of the liner indicated: nitrogen plus carbon monoxide-79.5%, hydrogen-12.2%, carbon dioxide-5.4%, argon-0.9%, oxygen-0.2% Hydrocarbons ~ 0.1%. Visual television examination of the external surfaces of the liner was performed. There were no indications of liner degradation. Television examination of the liner interior indicated no excessive corrosion of the interior of the liner, although some pitting corrosion was visible. The inside surface of

the top cover, which had no protective coating, indicated surface corrosion (this surface is not in contact with radioactive resins). External gamma scans revealed that the bulk of the radioactivity is contained within the top five to six inches of the resin (total resin depth is 36 inches). The radiation levels at the top and bottom of the resin bed were approximately 1000R/hr and 20R/hr, respectively. Gas samples taken from inside the liner have confirmed the prediction that hydrogen is generated inside these prefilters. Oxygen, which is necessary for a combustible mixture, was also confirmed to be depleted to a level to preclude any internal combustion or explosion. This fact coupled with the lack of an ignition source eliminates concern for any imminent safety hazards. Nonetheless, the licensee has instituted procedural controls and cell module sampling as precautionary measures to assure no flammable condition exists. Additionally, the licensee is developing a plan for future handling of the remaining 49 filters.

Data gathering and analysis will continue with additional information made available as received.

4. Shipment of EPICOR-II Second and Third Stage Liners. On June 27, 1981, the final liner of the twenty-two (22) EPICOR-II second and third stage liners left the TMI site for Hanford, Washington. These 22 liners, which were shipped over a three month period starting in April 1981, were part of the EPICOR-II ion exchange process used to cleanup the accident generated water collected in the Unit II Auxiliary Building.

Future Meetings

1. On Wednesday, July 1, 1981, Lake Barrett will meet with area mothers to discuss various subjects related to TMI.
2. On Thursday, July 9, 1981, The Advisory Panel for the Decontamination of Three Mile Island, Unit 2 will be meeting from 7:00 p.m. to 10:00 p.m. in the Holiday Inn, 23 South Second Street in Harrisburg, to discuss the current status of cleanup activities at TMI. This meeting will be open for public observation.