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August 2, 1982  
NRC/TMI-82-048

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 July 25 - 31, 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
- Reactor Building Entries
- Core Inspection
- EPICOR II Prefilter Inerting/Shipment
- Purification Demineralizer
- 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

August 2, 1982

cc w/encl:  
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DATE ▶	8/2/82	8/2/82	8/2/82	8/2/82	8/2/82	8/2/82

NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

July 25, 1982 - July 31, 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 0430, July 30, 1982) (approximate values)

Average Incore Thermocouples: 118°F

Maximum Incore Thermocouple: 136°F

RCS Loop Temperatures:

	A	B
Hot Leg	100°F	100°F
Cold Leg (1)	88°F	84°F
(2)	90°F	85°F

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

Reactor Building: Temperature: 84°F

Pressure: -0.34 psig

Airborne Radionuclide Concentrations:

1.4 E-7 uCi/cc H<sup>3</sup>  
(sample taken 7/26/82)

5.2 E-6 uCi/cc Kr<sup>85</sup>  
(sample taken 7/26/82)

4.5 E-9 uCi/cc particulates  
(sample taken 7/28/82)

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 July 23, 1982, through July 29, 1982, the effluents contained no detectable radioactivity at the discharge point although individual effluent sources which originated within Unit 2 contained small amounts of radioactivity. Calculations indicate that less than three hundred-thousandths (0.00003) of a curie of tritium were discharged.

2. Environmental Protection Agency (EPA) Environmental Data

The EPA measured Kr-85 concentrations at several environmental monitoring stations and reported the following results:

<u>Location</u>	<u>June 25, 1982 through July 9, 1982</u> (pCi/m <sup>3</sup> )
Goldsboro	26
Middletown	26
Yorkhaven	27
TMI Observation Center	Sample size insufficient for accurate analysis

-- 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 July 21, 1982, through July 29, 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> (uCi/cc)	<u>Cs-137</u> (uCi/cc)
HP-329	July 21, 1982 - July 28, 1982	<6.4 E-14	<6.4 E-14

4. Licensee Radioactive Material and Radwaste Shipments

No shipments of radioactive material or radwaste were made during this reporting period.

Major Activities

1. Submerged Demineralizer System (SDS). Processing of Batch 32 (the fifth batch of RCS water) was completed July 26, 1982. Parameters for Batch 32 are listed below. The SDS system is presently shutdown for feed pump repairs. It is anticipated that the pump repairs will be completed by Thursday, August 5, 1982. The next batch of water to be processed will be approximately 40,000 gallons of reactor building sump water which was transferred to the SDS feed tanks in May 1982.

Batch 32 Performance

	<u>Average Influent</u> uc/ml	<u>Average Effluent</u> uc/ml	<u>Average DF</u>
Cs-137	3.02	$3.61 \times 10^{-4}$	$8.36 \times 10^3$
Sr-90	10.1	$3.29 \times 10^{-2}$	$3.09 \times 10^2$

2. EPICOR II. The EPICOR II system is currently shutdown on a standby status.
3. Reactor Building Entries. One reactor building entry was made during the last week in July. Tasks performed during the entry included the following:
  - Reactor coolant system water samples were taken through the center control rod drive leadscrew orifice. Two samples were taken at the bottom of the plenum and one sample was taken from the area immediately above the core rubble bed.
  - Scaffolding was brought into the reactor building in preparation for work to open a path through the 347 ft. floor for the personnel power lift. The power lift is attached to the polar crane and is presently used to transport workers from the 347 ft. elevation to the polar crane. It is designed to eventually operate to the 305 ft. elevation.
  - Flushing of vertical wall surfaces below the 305 ft. elevation continued. The flushing technique consists of a rotating high pressure nozzle which is lowered incrementally from the 305 ft. elevation to the 282 ft. elevation. Approximately 7,000 gallons of processed water have been used for the flushes.

Two or possibly three entries have been scheduled for next week (first week in August). The proposed tasks for next week include continuation of the core inspection and additional flushes of the vertical surfaces below the 305 ft. elevation.

4. Core Inspection. The core inspection is scheduled to continue on Wednesday, August 4, 1982. On Wednesday, workers will commence preparations to remove two additional control rod drive leadscrews to continue with the closed circuit television inspection of the core. A primary inspection objective will be an attempt to determine the lateral extent of the core damage. One peripheral leadscrew and one leadscrew between the periphery and the center will be removed to determine the lateral extent of the void which was found in the center of the core. The core inspection techniques will be similar to those used during the initial inspection. A pointed metal surface probe is being prepared and if ready, the probe will be used during the inspection next week in an attempt to determine physical characteristics of the rubble surface, e.g., is it composed of loose or congealed material.

The core inspection next week is expected to be completed by Thursday or Friday. Plans for additional core inspections have not been formulated at this time. Additionally, various options for reactor coolant system lay-up conditions are being evaluated. The reactor coolant system has remained partially drained and vented to the reactor building. As expected, average incore thermocouple temperature has increased to 118°F. (approximately 1½°F per day temperature rise) since the primary system was drained.

5. EPICOR II Prefilter Inerting/Shipment. On July 27, 1982, the first of 49 EPICOR II Prefilters (PF-3) was sampled for gas composition and inerted with nitrogen in preparation for shipment. The remotely operated inerting and sampling device (described in the July 19, 1982 Weekly Status Report) was used to remove the vent plug from the 4' x 4' PF liner which is currently stored on-site at the solid waste storage facility.

The initial gas sample indicated a liner pressure of 0.1 psig with 6.3% hydrogen, 93.7% nitrogen and non-detectable oxygen. Subsequent samples indicated hydrogen as high as 9.9%. The liner was inerted with nitrogen (as a cover gas) and the hydrogen concentration reduced to 0.88%. Because hydrogen gas is generated by radiolysis within the PF liners, the PF-3 gas composition will be monitored over a 14 day period to demonstrate that nonflammable conditions will exist over a minimum of twice the expected shipment period. The gas mixture is not flammable because the oxygen is depleted by the organic resin within the liner.

The Department of Energy has agreed to take possession of all 49 prefilters for research purposes since these PF's are not suitable (in their present form) for commercial shallow land burial sites. PF-3 is expected to be shipped to the Battelle Columbus Laboratory on August 10, 1982.

6. Purification Demineralizer Disposition. As highlighted in the June 7, 1982 Weekly Status Report, preparations are continuing by GPU and DOE for the removal and disposal of two reactor coolant system purification demineralizers. These 4 ft. diameter, 7 ft. high stainless steel vessels contain up to 50,000 curies of mixed fission products deposited on ion-exchange resins. The initial activities will be to determine conditions within the auxiliary building demineralizer cubicles where dose rates are expected to exceed 1000 R/hr. A remotely operated System In-Service Inspection (SISI) robot (shown in Attachment I) will be used to visually monitor conditions in the cubicles as well as collect information on dose fields, loose surface contamination, temperatures on the vessel walls and retrieve material as necessary. SISI is currently scheduled to enter the "B" purification demineralizer cubicle on August 3, 1982.

Past Meetings

On Wednesday, July 28, 1982, Lake Barrett met with a group of Middletown Mothers to discuss various TMI issues including the Unit 2 core inspection, Unit 1 steam generator repair and Unit 1, Atomic Safety and Licensing Board (ASLB) "Cheating" decision. They expressed their opinion that Unit 1 should not be restarted prior to the completion of the Unit 2 cleanup.

Future Meetings

During the week of August 2 - 6, 1982, Ronald R. Bellamy will present a paper entitled "HEPA Filter Experience During TMI-2 Reactor Building Purges" at the 17th DOE Nuclear Air Cleaning Conference, Denver, Colorado.

# ATTACHMENT I

## REMOTELY OPERATED INSPECTION/RETRIEVAL PLATFORM

