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December 20, 1982  
NRC/TMI-82-077

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 December 12 through December 18, 1982. Major items included in this report are:

- Liquid Effluents
- Airborne Effluents
- EPA and NRC Environmental Data
- Radioactive Material and Radwaste Shipments
- Submerged Demineralizer System Status
- EPICOR II Status
- Reactor Building Entries
- SDS Liner Shipment Preparations
- EPICOR II Prefilter Shipment
- Public Hearings

Due to the Christmas holiday, no report will be issued on December 27, 1982; the report that will be issued January 3, 1983, will cover the period from December 19, 1982 through January 1, 1983.

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

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December 20, 1982

cc w/encl:  
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NRR Division Directors  
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NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

December 12, 1982 - December 18, 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: Standby Pressure Control System.

Major Parameters (as of 2:30 PM, December 17, 1982) (approximate values)

Average Incore Thermocouples\*: 92°F  
Maximum Incore Thermocouple\*: 129°F

RCS Loop Temperatures:

	A	B
Hot Leg	89°F	88°F
Cold Leg (1)	78°F	71°F
(2)	79°F	71°F

Pressure: 70 psig

Reactor Building: Temperature: 69°F  
Pressure: -0.98 psig  
Airborne Radionuclide Concentrations:

2.5 E-7 uCi/cc H<sup>3</sup>  
(sample taken 12/16/82)

1.1 E-8 uCi/cc particulates  
(sample taken 12/17/82)

1. Effluent and Environmental (Radiological) Information

Liquid effluents from the TMI site released to the Susquehanna River after sampling and monitoring, were made within the regulatory limits and in accordance with NRC requirements and City of Lancaster Agreement.

During the period December 10, 1982, through December 16, 1982, the effluents contained no detectable radioactivity at the discharge point and individual effluent sources, which originated within Unit 2, contained no detectable radioactivity.

\*Uncertainties exist as to the exact location and accuracy of these readings.

## 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.

	November 1982	
	<u>Unit II</u>	<u>EPICOR II</u>
Noble Gases (Ci)	8.18	2.25
Particulates (Ci)	$9.87 \times 10^{-8}$	$5.82 \times 10^{-8}$
Tritium (Ci)	1.88	$6.5 \times 10^{-3}$

## 3. Environmental Protection Agency (EPA) Environmental Data

- The EPA Middletown Office has not received the environmental Kr-85 results for the samples which were taken subsequent to November 24, 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 December 10, 1982 through December 16, 1982.

## 4. NRC Environmental Data

Results are from NRC monitoring of the environment around the TMI site.

- 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-348	December 8 - December 16, 1982	<6.6 E-14	<6.6 E-14

## 5. Licensee Radioactive Material and Radwaste Shipments

- On December 13, 1982, one Unit 2 EPICOR II prefilter (PF-6) was shipped to the Idaho National Engineering Laboratory, Scoville, Idaho.
- On December 13, 1982, one Unit 2 EPICOR II prefilter (PF-44) was shipped to the Idaho National Engineering Laboratory, Scoville, Idaho.
- On December 14, 1982, one Unit 2 EPICOR II prefilter (PF-18) was shipped to the Idaho National Engineering Laboratory, Scoville, Idaho.

- On December 14, 1982, 112 drums of contaminated laundry from Units 1 and 2 were shipped to Interstate Uniform Services, New Kensington, Pennsylvania.
- On December 16, 1982, a Unit 1 Cs-137 calibration source was shipped to Battelle Memorial Laboratory, Columbus, Ohio.
- On December 16, 1982, a container of smear samples from the Unit 1 once-through-steam-generators was shipped to Westinghouse Electric, Madison, Pennsylvania
- On December 17, 1982, two switches from the Unit 2 reactor building were shipped to EG&G Idaho Inc., Scoville, Idaho.
- On December 17, 1982, 91 drums and two metal LSA containers of Unit 2 trash were shipped to U.S. Ecology Hanford Burial Site, Richland, Washington.

### Major Activities

1. Submerged Demineralizer System (SDS). The surveillance test on the auxiliary building ventilation was repeated and met specified system performance. The reactor coolant system (RCS) feed and bleed process was resumed and completed December 13, 1982 after which the RCS system was refilled and pressurized. SDS processing of Batch 39 (approximately 40,000 gallons) began December 18. After approximately eight hours of operation, a radiation level monitor alarmed, and the system was shutdown. High levels of radiation were not found. However, one system component was replaced, and maintenance will be necessary on another component before the system can be restarted.
2. EPICOR II. The EPICOR II system is presently in a shutdown condition.
3. Reactor Building Entries. Reactor building entries are continuing at the rate of four entries per week. Polar crane refurbishment and reactor building decontamination have been the most man-hour intensive tasks in the reactor building during the December entries. On December 17, 1982, the reactor (the primary side of the system) was refilled and pressurized to 70 psig. Primary system refill is a prerequisite for refilling the steam generators (the secondary side of the system) in preparation for chemical conditioning of the steam generator secondary water.

Prior to refilling, temperature and radiation probes were lowered into the reactor vessel. The temperature in the core region, above the rubble bed and in the lower two feet of the plenum, was 107°F. The temperature in the upper portions of the plenum was 102°F. The gamma-sensitive radiation probe was lowered into the vessel to a height of approximately six inches below the top of the plenum. This elevation corresponds to the approximate elevation of the reactor vessel head flange. The probe was lowered through control rod drive leadscrew openings at the core periphery and at a location midway from the periphery and the core center. At both locations, probe measurements indicated the radiation

levels near the upper surface of the plenum ranged from 520 to 600 R/hr. The measurements were made under water inside the 8½-inch diameter control rod guide tubes. Radiation levels four feet above the plenum were 50 R/hr at the core periphery and 120 R/hr midway between the core periphery and center. The radiation data is being evaluated to determine possible impact on reactor vessel head removal.

4. SDS Liner Shipment Preparations. The vacuum recombiner demonstration test on a spent SDS liner continued during this reporting period. During approximately 10 days of monitoring under vacuum conditions, the liner internal pressure has slowly increased at a rate of 0.25 psi per day. The liner, which is maintained under 20 feet of water in the spent fuel pool, has shown no weight increase during this monitoring period. The data on liner internal pressures indicate that the catalytic recombiner is removing radiolytic hydrogen and oxygen gas. However, because of other potential oxygen removal mechanisms (i.e., oxygen getters) excess hydrogen inventories could be generated. The spent SDS liner will continue to be monitored for a total of 14 days, at which time gas samples will be taken to identify the source of the pressure increase. Assuming the demonstration test meets all acceptance criteria and combustible gas mixtures are not generated, the first recombiner-loaded SDS liner will be shipped to Richland, Washington on December 29, 1982.
5. EPICOR II Prefilter Shipment. EPICOR II prefilter liners PF-6, PF-18 and PF-44 were shipped from TMI to the Idaho National Engineering Laboratory (INEL) during this reporting period. The shipments of these nitrogen inerted liners bring to a total of 15 (in a group of 49) EPICOR prefiltersthat have been shipped to INEL this year. The licensee is making preparations for sampling and inerting PF-5. No prefilter shipments are scheduled next week.

Future Meetings

1. On January 17, 1983, Lake H. Barrett will meet with Friends and Family of TMI to discuss various TMI issues.
2. During the ASME Week activities January 17-20, 1983, in Sarasota, Florida, Ronald R. Bellamy will speak on TMI related issues.
3. On January 19, 1983, Anthony N. Fasano will speak on the reactor vessel "Quick Look" results at an American Nuclear Society Meeting at Pennsylvania State University, Middletown campus.
4. On January 24, 1983, Lake H. Barrett will address the Harrisburg Rotary Club on various TMI issues.
5. On February 2, 1983, the Advisory Panel for the decontamination of TMI Unit 2 will hold a meeting from 7:00 to 10:00 PM at the Holiday Inn, 23 South Second Street, Harrisburg, Pennsylvania.