

September 3, 1982  
NRC/TMI-82-054

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 August 29 - September 3, 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
- EPICOR II Prefilter Shipment
- Public Meetings

Typed and signed by  
*Lake H. Barrett*

Lake H. Barrett  
Deputy Program Director  
TMI Program Office

Enclosure: As stated

8210070063 820903  
PDR ADOCK 05000320  
R PDR

OFFICE						
IRNAME						
DATE						

Harold R. Denton  
Bernard J. Snyder

-2-

September 3, 1982

cc w/encl:

EDO

OGC

Office Directors

Commissioner's Technical Assistants

NRR Division Directors

NRR A/D's

Regional Administrators

IE Division Directors

TAS

EIS

TMIP Program Office Staff (15)

PHS

EPA

DOE

Projects Br. #2 Chief, DPRP, RI

RI Division Directors

Public Affairs, RI

State Liaison, RI

OFFICE	TMIP	TMIP	TMIP	TMIP	TMIP	TMIP
SURNAME	GKalman:js	JWiebe	MShanbaky	AAsano	RBellamy	VBartlett
DATE	9/1/82	9/3/82	9/3/82	9/3/82	9/7/82	9/3/82

# NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

August 29, 1982 - September 3, 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 0500, September 3, 1982) (approximate values)

Average Incore Thermocouples\*: 123°F

Maximum Incore Thermocouple\*: 140°F

### RCS Loop Temperatures:

	A	B
Hot Leg	103°F	102°F
Cold Leg (1)	82°F	82°F
(2)	84°F	83°F

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

Reactor Building: Temperature: 75°F  
Pressure: -0.2 psig  
Airborne Radionuclide Concentrations:

4.7 E-8 uCi/cc H<sup>3</sup>  
(sample taken 8/10/82)

6.2 E-6 uCi/cc Kr<sup>85</sup>  
(sample taken 8/10/82)

1.4 E-9 uCi/cc particulates  
(sample taken 8/27/82)

## 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 August 27, 1982, through September 2, 1982, the effluents contained no detectable radioactivity at the discharge point and individual effluent sources, which originated within Unit 2, contained no detectable radioactivity.

\*The TMI-2 core was designed with thermocouple temperature sensors located in an area just above the fuel region in 48 of the 177 fuel assemblies. The sensor signal was transmitted downward through the center of the fuel assembly to instrument nozzles in the bottom of the reactor vessel. The temperature readout is displayed in the control room. Based on the core

damage which was observed during the closed circuit television inspection of the core, it is obvious that at least several, and possibly most, of the thermocouples are not providing a temperature indication from the top of the core region. However, based on comparison with the cold leg and hot leg temperatures, and various induced primary system temperature changes during the years following the accident, the thermocouples appear to be providing temperature indications that vary and are in a range which is consistent with engineering predictions. Even though the location and validity of the in-core temperatures is uncertain, the information provided by the thermocouples, specifically temperature trends, have been useful in the past, and the information will continue to be reported in the Weekly Status Report.

2. Environmental Protection Agency (EPA) Environmental Data

-- The EPA measured Kr-85 concentrations ( $\text{pCi/m}^3$ ) at several environmental monitoring stations and reported the following results:

<u>Location</u>	<u>July 30 - August 13, 1982</u>
Goldsboro	21
Middletown	26
Yorkhaven	23
Observation Center	21

-- 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 August 25, 1982, through September 2, 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>(<math>\mu\text{Ci/cc}</math>)</u>	<u>Cs-137</u> <u>(<math>\mu\text{Ci/cc}</math>)</u>
HP-334	August 25, 1982 - September 1, 1982	<6.4 E-14	<6.4 E-14

4. Licensee Radioactive Material and Radwaste Shipments

-- On August 31, 1982, a drum containing 14 liquid samples from the Unit 1 Once Through Steam Generator (OTSG) was shipped to Nuclear Water and Waste Technology, San Jose, California.

- On September 1, 1982, 94 drums containing Unit 1 and 2 contaminated laundry were shipped to Interstate Laundry, New Kensington, Pennsylvania.
- On September 2, 1982, two Unit 1 radiation monitors (RMG-24 and RMG-25) were shipped to Battelle Laboratories, Columbus, Ohio.

### Major Activities

1. Submerged Demineralizer System (SDS). The SDS system is presently shutdown. To-date SDS has processed approximately 1,205,000 gallons of contaminated water; 250,000 gallons of this total was RCS water. Processing parameters for the last batch of water, Batch 33, are included in Attachment 1.
2. EPICOR II. The EPICOR II system continued to process SDS effluent during the week. The latest performance parameters are included in Attachment 1.
3. Reactor Building Entries. Reactor building entries were conducted on Monday, August 30, 1982, and Wednesday, September 1, 1982. A third entry commenced Friday morning, September 3, 1982 and is in progress as this Status Report is being written.

Activities conducted in the reactor building this week include continued polar crane damage assessment, remote decontamination of the 282 ft. elevation, primary coolant sampling, and housekeeping. Activities scheduled for today, September 3, 1982, include the installation of a manometer on the reactor vessel head to sample and measure the rate of gas generation in the reactor vessel. A closed circuit television inspection of the reactor building below the 305 ft. elevation is also scheduled.

Preparatory activities have commenced for a reactor building decontamination program which will include hot water, high pressure flushes (techniques which were tested during the gross decontamination experiment) of exposed reactor building surfaces. The objective of the planned decontamination is to reduce surface contamination to a level which will reduce airborne activity sufficiently to enable entry personnel to work inside the reactor building without respiratory protection.

Two reactor building entries are scheduled for the week of September 5, 1982.

4. EPICOR II Prefilter Shipment. The EPICOR II Prefilter (PF-1), which was shipped from TMI on August 25, 1982, arrived safely at the Idaho National Engineering Laboratory on August 30, 1982. Gas samples from within the shipping cask cavity indicated inerted conditions with 94.4% nitrogen, 4.8% oxygen and 0.03% hydrogen.

Additional analyses will be completed on the internal conditions of PF-1 as part of the DOE Research and Development studies. GPU is continuing preparations for the shipment of EPICOR II PF-2, however, because of shipping cask availability delays, the next EPICOR PF liner is not scheduled for shipment until the first week of October.

Past Meeting

On Tuesday, August 31, 1982, Lake Barrett and the chairperson of the Three Mile Island Alert organization discussed the Unit 1 psychological stress issue on a live television broadcast on Channel 8.

Future Meetings

On Tuesday, September 28, 1982, Lake H. Barrett will participate in a public meeting sponsored by the Hershey League of Women Voters to discuss TMI Unit 2 cleanup issues.

ATTACHMENT I

SDS PERFORMANCE FOR BATCH NUMBER 33

<u>Radionuclide</u>	<u>Average Influent (uc/ml)</u>	<u>Average Effluent (uc/ml)</u>	<u>Average DF</u>
Cesium 137	$9.6 \times 10^1$	$3.0 \times 10^{-3}$	$3.2 \times 10^4$
Strontium 90	6.3	$2.4 \times 10^{-2}$	$2.7 \times 10^2$

EPICOR II PERFORMANCE  
Batch 138

<u>Radionuclide</u>	<u>Average Influent (uc/ml)</u>	<u>Average Effluent (uc/ml)</u>	<u>Average DF</u>
Cesium 137	$3.6 \times 10^{-3}$	$4.6 \times 10^{-7}$	$7.8 \times 10^3$
Strontium 90	$4.1 \times 10^{-2}$	$2.0 \times 10^{-5}$	$2.2 \times 10^3$
Antimony 125	$8.6 \times 10^{-3}$	$3.6 \times 10^{-7}$	$2.4 \times 10^4$