

DISTRIBUTION  
TMIPO HQ r/p  
TMI SITE r/p  
CENTRAL FILE  
NRC PDR  
LOCAL PDR  
Site Operations File

September 14, 1981  
NRC/TMI-81-052



MEMORANDUM FOR: Harold R. Danton, 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 September 6 - 12, 1981.  
Major items included in this report are:

1. Liquid Effluent Releases
2. Gaseous Effluent Releases
3. NRC and EPA Environmental Data
4. Radioactive Material and Radwaste Shipments
5. Submerged Demineralizer System Status
6. EPICOR II System in Service
7. Reactor Coolant System Leak Unusual Event

Lake H. Barrett  
Deputy Program Director  
TMI Program Office

Enclosure: As stated

0109240676 010914  
PDR ADDER 08000280  
PDR

OFFICE ▶							
IRNAME ▶							
DATE ▶							

Harold R. Denton  
Bernard J. Snyder

-2-

September 14, 1981

cc w/encl:  
EDO  
OGC  
Office Directors  
Commissioner's Technical Assistants  
NRR Division Directors  
NRR A/D's  
Regional Directors  
IE Division Directors  
TAS  
EIS  
TMI Program Office Staff (15)  
PHS  
EPA  
DOE  
Projects Br. #2 Chief, DRPI, RI  
DRPI Chief, RI  
Public Affairs, RI  
State Liaison, RI

OFFICE ▶	TMIPD GK [Signature]	TMIPD Blonde	TMIPD MShanbaky	TMIPD Afasano	TMIPD RBe [Signature]	TMIPD LBarrett
SURNAME ▶	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]	[Signature]
DATE ▶	9/14/81	9/14/81	9/14/81	9/14/81	9/14/81	9/14/81

# NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Week of September 6 - 12, 1981

## 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 systems. Long term cooling "B" (once through steam generator-B).

RCS Pressure Control Mode: Standby pressure control (SPC) system.

Dackup Pressure Control Modes: Mini decay heat removal (MDIIR) system.  
Decay heat removal (DIIR) system.

Major Parameters (as of 0500, September 11, 1981) (approximate values)

Average Incore Thermocouples: 116°F

Maximum Incore Thermocouple: 137°F

RCS Loop Temperatures:

	A	B
Hot Leg	114°F	117°F
Cold Leg (1)	73°F	74°F
(2)	74°F	74°F

RCS Pressure: 99 psig

Reactor Building: Temperature: 72°F  
Water level: Elevation 290.95 ft. (8.45 ft. from floor)  
via penetration 401 manometer  
Pressure: -0.5 psig  
Concentration:  $2.6 \times 10^{-6}$  uCi/cc Kr-85  
(Sample taken 9/3/81)

## 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 September 4, 1981 through September 10, 1981, 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 two ten thousands (0.0002) of a curie of tritium was discharged.

- 2. Airborne effluents from the TMI site released to the environment, after processing, were made within the regulatory limits and in accordance with NRC requirements.

During the report period July 1-31, 1981, the licensee reported the following gaseous releases:

	<u>Curies</u>
Noble Gases	142
Particulates	0.00000122
Tritium	4.12

The above releases represent a small fraction of the allowable regulatory limits. The reported noble gas (Kr-85) release for the month of July, although well within limits and insignificant for environmental considerations, was higher than anticipated. As reported in the August 23, 1981 weekly status report (Conservatively Reported Krypton-85 Releases) the licensee has concluded that the Kr-85 releases via the EPICOR II (chemical cleaning building) and the plant effluent stack are associated with a temperature effect on the effluent monitors. Special grab samples from the effluent stream indicated that the Kr-85 to be less than one-hundredth of the reported levels. The conservatively high krypton releases will continue to be reported until the licensee appropriately modifies the effluent monitors.

- 3. Environmental Protection Agency (EPA) Environmental Data. The EPA announced on July 6, 1981 that, due to a new shipping procedure for Kr-85 samples to the laboratory, the results for the Kr-85 environmental monitoring stations around TMI will not always be available on a weekly basis. The NRC will report these results as they become available.

-- 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 September 2, 1981, through September 10, 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> <u>(uCi/cc)</u>	<u>Cs-137</u> <u>(uCi/cc)</u>
HP-204	September 2, 1981 - September 9, 1981	≤0.1 E-14	≤0.1 E-14

8. Licensee Radioactive Material and Radwaste Shipments.

- On Tuesday, September 8, 1981, a 40 ml Unit 2 reactor coolant sample was sent to Babcock and Wilcox (B&W), Lynchburg, Virginia.
- On Wednesday, September 9, 1981, three smears from Unit 1 were mailed to Westinghouse Electric Company, Madison, Pennsylvania.
- On Thursday, September 10, 1981, 97 drums of compacted trash, 8 drums of solidified Radfac wash, and 8 boxes of non-compacted trash from Unit 2 were shipped to U.S. Ecology, Hanford, Washington.
- On Thursday, September 10, 1981, a 1000 ml WECST monthly composite was mailed to Teledyne Isotopes, Westwood, New Jersey.

Major Activities

1. Submerged Demineralizer System (SDS). A trial period of processing intermediate level water commenced September 7, 1981, when water from the reactor coolant bleed tanks (RCBT's) was pumped through filters to the SDS feed tanks. The process was secured after approximately 3,000 gallons when instrumentation indicated increased pressure drop across one of the process filters such that it needed to be replaced. About the same time, it was noted that the SDS fuel pool B cleanup system had lower than expected flow, indicating the need to replace the ion-exchangers in this system.  
  
Upon resolution of the above operational problems the intermediate level RCBT water in the SDS feed tanks will be processed through the SDS ion-exchange vessels. Then a small batch (approximately 15,000 gallons) of the reactor building sump water will be transferred to the feed tanks for processing by the SDS. These operations may take place during the week of September 13, 1981.
2. EPICOR II. During the period July 10, 1981 to August 9, 1981, the SDS processed approximately 150,000 gallons of intermediate level water. On September 11, 1981, the licensee started polishing this water using the EPICOR II system. The polished water will be stored onsite in the processed water storage tanks.
3. Reactor Coolant System (RCS) Leak Rate. Shortly after 5:00 PM on September 11, 1981, the licensee determined that the RCS leak rate for the previous four hours averaged approximately 0.6 gpm instead of previously established system average leak rate of approximately 0.1 gpm. The licensee instituted emergency leak rate procedures and commenced investigating the leak. An NRC inspector was in the plant on a routine inspection and was aware of the event when first discovered.

At approximately 6:00 PM the licensee formally notified the onsite NRC TMIPO that an increased leak rate had been detected. Subsequent to the initial determination of an increased leak rate, half-hour leak rate determinations confirmed that the leak was approximately 0.6 gpm. Licensee's emergency procedures call for an Unusual Event classification at a 1 gpm leak rate, however the licensee declared an Unusual Event at 6:43 PM as a precautionary measure. An Unusual Event is the lowest classification of events in the licensee's emergency procedures. The classifications in order of increasing severity levels are: 1) Unusual Event, 2) Alert, 3) Site Emergency, and 4) General Emergency.

The licensee's leak investigation showed no leaks or increases in radioactivity outside of the reactor building. To conduct investigations inside the reactor building, preparations were commenced for entering the reactor building. However, based on knowledge that RC-V122, the Pressurizer Liquid Sample Isolation Valve, (a normally open and remotely operated valve located in the reactor building), had been shut and reopened during the afternoon of September 11, 1981, the valve was closed at 4:22 AM on September 12, 1981, to determine it's effect on the leak rate. A half-hour leak rate determination at 4:52 AM indicated the leak rate of approximately 0.1 gpm which has been the normal leak rate for more than a year. Subsequent leak rate determinations confirmed that the RCS leak rate had returned to normal. Based on normal RCS leak rate the licensee cancelled plans for a reactor building entry.

During the entire evolution of the event, NRC personnel remained onsite for proper monitoring. Additionally, the onsite NRC TMIPO will review the event in more detail.

#### Future Meeting

On Tuesday, October 13, 1981, Lake Barrett will address the Downingtown Rotary Club to give an update on the cleanup efforts at TMI and discuss the functions of the NRC.