



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
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July 21, 1980  
NRC/TMI-80-110

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

FROM: J. T. Collins, Deputy Program Director,  
TMI Program Office

SUBJECT: NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Enclosed is the status report for the week of July 13-19, 1980.

*John T. Collins*  
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Deputy Program Director  
TMI Program Office

Enclosure: As stated

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# NRC TMI PROGRAM OFFICE WEEKLY STATUS REPORT

Week of July 13-19, 1980

## Plant Status

Core Cooling Mode: Cyclic natural circulation in the "A" reactor coolant system (RCS) loop via the "A" once through steam generator (OTSG), steaming to the main condenser, and RCS loop-A and B cyclic natural circulation to reactor building ambient.

Available Core Cooling Modes: OTSG "B" to the main condenser; long term cooling "B" (OTSG-B); decay heat removal.

RCS Pressure Control Mode: Standby Pressure Control (SPC) System.

Backup Pressure Control Mode: Makeup system in conjunction with letdown flow (Emergency use only due to suspected leaks in the seal injection system).

Major Parameters (As of 0500, July 18, 1980) (approximate values)

Average Incore Thermocouples: 199°F

Maximum Incore Thermocouple: 151°F

RCS Loop Temperatures:

	A	B
Hot Leg	147°F	150°F
Cold Leg (1)	86°F	84°F
(2)	85°F	86°F

RCS Pressure: 80 psig (Heise)

Pressurizer Temperature: 94°F

Reactor Building: Temperature: 91°F  
Water level: Elevation 290.3 ft. (7.8 ft. from floor)  
via penetration 401 manometer  
Pressure: -0.3" Hg (Heise)

## Environmental & Effluent Information

1. Liquid effluents from TMI-1 released to the Susquehanna River, after processing, were within the limits specified in Technical Specifications.
2. No liquid effluents were discharged from TMI-2.
3. Results from EPA monitoring of the environment around the TMI site were:

- EPA environmental stations registered background levels for air particulate and water samples. Gamma scan results for all sampling locations were negative.
- Since the reactor building venting has been terminated, the EPA has changed their Kr-85 sampling frequency. Samplers for measuring Kr-85 concentration in air will be evaluated weekly in lieu of daily analysis, beginning July 12, 1980. The particulate sampling network will continue to be operated indefinitely with samples collected three times per week. Analysis of the filters and charcoal cartridges located in Middletown will continue to be performed.
- Instantaneous direct radiation readings showed an average level of 0.014 mRem/hr at the 18 monitoring stations.

#### 4. NRC Environmental Data

- The following are the NRC air sample analytical results for the onsite continuous air sampler:

<u>Sample</u>	<u>Period</u>	<u>I-131 (uCi/cc)</u>	<u>Cs-137 (uCi/cc)</u>
HP-224	July 9 to July 16, 1980	<4.8E-14	<4.8E-14

No reactor related radioactivity was detected.

- The licensee provided the following monthly inventory of Kr-85 releases for 1980: January-80 Ci, February-80 Ci, March-63 Ci, April-69 Ci, May-85 Ci, June-447 Ci, and July (to midnight July 10) 42,615 Ci. This results in a total Kr-85 release of 43,439 Ci, as of midnight July 10, 1980.

The licensee stated that the uncertainty for Kr-85 released during the purge is  $\pm 10\%$ .

- Environmental TLD measurements for the period May 29, to July 2, 1980, indicate gamma radiation to be at the natural background levels. Fifty-nine TLD's registered doses ranging from 0.10 mR/day to 0.20 mR/day. Average dose was 0.13 mR/day. These dose rates are consistent with natural background radiation in the TMI area.

#### 5. Radioactive Material and Radwaste Shipments were as follows:

- On Monday, July 14, 1980, a Unit 2 40 ml reactor coolant sample was shipped to Babcock and Wilcox (B&W), Lynchburg, Virginia.
- On Tuesday, July 15, 1980, three (3) boxes containing Unit 2 air sample filters were mailed to Teledyne Isotopes, Inc., Westwood, New Jersey.

-- On Tuesday, July 15, 1980, a stack air sample was shipped to the New York State Health Department, Albany, New York.

### Major Activities This Week

1. EPICOR II System. Processing of the fuel pool storage system water via the reactor coolant bleed tank ("B") continued. Completion of processing auxiliary building water, which has accumulated as a result of the March 28 accident and the subsequent cleanup period to date, is expected by early August 1980.

Processing status of auxiliary building water (approximate) is as follows:

Amount processed this week:	28,000 gallons
Amount processed to date:	441,000 gallons
Amount to be processed:	32,000 gallons

2. Reactor Building Purge. Frequent reactor building atmosphere samples were taken during the week. The results are summarized below:

July 15, 1980 (469' elevation)	(1) $6.2 \times 10^{-4}$ uCi/cc
	(2) $6.4 \times 10^{-4}$ uCi/cc
July 16, 1980 (315' elevation)	(1) $6.86 \times 10^{-4}$ uCi/cc
	(2) $6.65 \times 10^{-4}$ uCi/cc
July 16, 1980 (469' elevation)	(1) $6.25 \times 10^{-4}$ uCi/cc
	(2) $7.07 \times 10^{-4}$ uCi/cc
July 17, 1980 (469' elevation)	(1) $7.66 \times 10^{-4}$ uCi/cc
	(2) $7.5 \times 10^{-4}$ uCi/cc
July 19, 1980 (465' elevation)	(1) $1.33 \times 10^{-3}$ uCi/cc
	(2) $1.29 \times 10^{-3}$ uCi/cc

The water in the reactor building sump is suspected to be off gassing Kr-85. The licensee is modifying the normal operating procedure for the reactor building ventilation system to address periodic building purge evolutions which would minimize Kr-85 buildup.

3. Reactor Building Entry. Opening of the inner door for personnel airlock no. 2 was precluded during the initial attempt due to the stuck  $\Delta P$  safety interlock pin. The stuck pin problem was corrected on July 1, 1980, by drilling a small hole through the door and disengaging the pin. The opening of the inner door on July 16, 1980, was successful.

The open door allowed for radiation surveys to be taken inside the reactor building near the inner door. The radiation levels ranged from approximately 20 mR/HR at the door to approximately 700 mR/HR 12-15 feet from the door.

The inner door was closed and the seal rings for the door were leak tested. The door seals failed the leak test. The seals are of similar design to a Reactor Vessel to Vessel Head-O-Ring Seal Arrangement comprising of an inner and outer seal. The test pressure source is applied between the two seals. The leak would indicate that one or both of the seals were not providing a seal tight mating surface with the door.

Inner door seal leakage (under test pressure) was minimized by surface cleaning and taping. At 7:00 p.m., on July 16, 1980, an additional inner door seal leakage test failed to meet the test acceptance criteria (2772 standard  $\text{cm}^3/\text{min}$  at 10 psig).

The seal leakage test on the outer door of the airlock was successful. However, a similar problem to the current inner door leakage occurred on the outer door in March 1980. This resulted in the outer door seals being replaced. The replacement of the inner door seals, if necessary, would involve a distinctive radiological problem requiring careful planning.

The licensee and the NRC onsite staff are reviewing the inner door problem with respect to ALARA (as low as reasonably achievable) conditions. The licensee plans are to make periodic airlock entries for data collection, i.e., inner door gap measurements between mating surfaces, etc. In addition, during the scheduled first containment entry planned for July 23, 1980, (since the March 28 accident) an individual will be dedicated to the thorough cleaning of the door seals/mating surfaces. This will be followed by subsequent testing of the inner door seals.

4. Mini-Decay Heat (MDH) System. Licensee review of the functional test and operating procedures for the MDH system is in progress. Major outstanding items for system operation are: Replace carbon steel filter housings with stainless steel filter housings; perform the functional test the system; complete operator training; issuance of associated operating procedures; and revise technical specifications to address MDH system operation.
5. Plant Decontamination. A subcommittee was established this week to coordinate all outstanding items for plant decontamination. The pending operation of the desludging system for various radwaste tanks was discussed. Procedures to support desludging operations were submitted to the NRC onsite staff for review.

More detailed reports in this area are forthcoming and will be addressed in subsequent reports.