

JUL 13 1988

Docket Nos. 50-289; 50-320

MEMORANDUM FOR: Lee H. Bettenhausen, Chief, Projects Branch No. 1, Division
of Reactor Projects

FROM: Curtis J. Cowgill, Chief, Reactor Projects Section No. 1A

SUBJECT: TMI STATUS REPORT FOR THE PERIOD JUNE 4 - JULY 9, 1988

Enclosed is the TMI Resident Office monthly status report, which covers both TMI-1 and TMI-2. This report is to provide NRC management and the public with highlights of significant events at TMI-1 and TMI-2 from an NRC regulatory perspective.

Original Signed By:

Curtis J. Cowgill, Chief
Reactor Projects Section 1A

Enclosure: As Stated

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ENCLOSURE

TMI-1 AND TMI-2 STATUS REPORT FOR THE PERIOD
JUNE 4 - JULY 9, 1988

1. TMI-1

a. Facility Operations Summary

During the report period, the plant continued to operate at full power until June 17, 1988. Over the weekend of June 17-19, 1988, the licensee shut down the reactor to cold shutdown conditions to start a 64-day refueling/maintenance outage.

As of July 9, 1988, the TMI-1 reactor was in a cold shutdown condition at approximately 115 F with reactor vessel level at the reactor vessel cold leg nozzles.

b. Items of Special Interest

Refueling Outage

During the shutdown/cool-down process of June 17-19, 1988, there was a buildup of Iodine concentration (primarily I-131) in the reactor building (RB) (primary containment), which restricted activities in the RB from about 3:00 p.m., June 18, 1988 to 12:00 p.m., June 19, 1988. The licensee anticipated the buildup and sampled RB air every two hours. Highest airborne I-131 concentration in the RB was 11.5 MPC (maximum permissible concentration) over the "A" D-Ring. There was minor RCS leakage from the Power Operated Relief Valve (PORV) and the "B" reactor coolant pump seal cavity area, both in the "A" D-Ring. The highest personnel exposure (initial estimate) due to these concentrations was about 15 MPC-hours. There was no indication of an off-site release.

A number of major surveillance tests were also completed. On Saturday, June 18, 1988, during the low pressure injection test, the pressurizer apparently was excessively cooled. Preliminary data indicated that hour-to-hour temperature points were 379 F to 253 F or a cooldown rate of 126 F/hour in the pressurizer. Technical Specifications require less than 100 F/hour. The licensee was to evaluate this information. For followup, see NRC Inspection Report No. 50-289/88-13.

Loss of Decay Heat Removal

On June 27, 1988 at 10:41 a.m., a temporary loss of decay heat removal (OHR) occurred until 10:52 a.m. The event resulted when DH-V-2 was inadvertently closed while technicians performed a surveillance test out of proper sequence. DH-V-2 is an isolation valve that provides flow from the "B" loop hot leg to the decay heat pump (DH-P-1A/B) suction. Upon the closure of DH-V-2, operators manually tripped the operating DH pump

(DH-P-1A) because of high vibration due to low suction pressure. Through operator action, the valve was quickly re-opened and the pump restarted within about eleven minutes. During that time, the reactor coolant increased in temperature from 126 F to 155 F. For followup, see NRC Inspection Report No. 50-289/88-13.

Environmental Area Gamma Radiation Monitor Malfunction

On June 16, 1988, the licensee reported the following information in a letter to the Commonwealth of Pennsylvania and local county emergency management agencies.

"On June 14 at 0300 EST, the Reuter-Stokes gamma radiation monitor at the North Gate of Three Mile Island recorded an exposure rate of 18.8 uR/hr for the five minute time period between approximately 0255-0300 EST. The unit recorded other elevated exposure rates at 0900, periodically through the remainder of June 14, and from 0000-0800 EST on June 15.

On June 15 at approximately 0800 EST the unit was inspected, and was found to be functioning abnormally. The unit at that time was powered down and reset, and the 300 volt battery in the unit was replaced.

We have, over the years, seen several occasions of heat-related electronic malfunctions with the Reuter-Stokes Sentry System. Temperatures of 90° and above may damage the battery in the housing and cause the system to malfunction, or cause other heat-related electronic malfunctions.

The waste shipment log for TMI indicated that no shipments left the Island, and the Unit 1 Control Room has no record of a gaseous release during the subject time period. Since extremely high temperatures have caused electronic malfunctions in the past, we have concluded that the incidents were related to either the 300v battery or the electronics of the system."

2. TMI-2

a. Facility Activities Summary

Progress has been made in cutting and removing sections of the Lower Core Support Assembly (LCSA) to provide access for defueling the lower head of the reactor vessel. Decontamination of external surfaces and plant systems continues. One plant area has been isolated and placed in an interim Post-Defueling Monitored Storage (PDMS) status. Five other plant areas are in the process of being verified to meeting the interim PDMS criteria.

b. Items of Special Interest

Defueling Operations

Using the plasma arc torch, defueling crews completed cutting the upper flow distributor into four sections. Preparations are being made to remove these sections and place them in storage in a modified core flood tank. The flow distributor is the second of five plates that will be removed from the LCSA. In preparation for cutting the flow distributor, workers cleared this plate of core debris and completed trimming the periphery of the lower grid rib section to remove potential interferences. The next section to be removed will be the grid forging. Failures of electrical components in the plasma arc cutting equipment has slowed the overall progress of removing the LCSA. The licensee has established a task force to examine the nature of these failures and to provide recommendations to improve the reliability of the cutting equipment.

The licensee reported that defueling operations were completed in the pressurizer using a robotic mini-submarine. The submarine picked up rock-like material and placed it into buckets that were eventually loaded into defueling canisters. Four and one-half gallon buckets of debris were removed from the pressurizer.

No shipments of casks containing core debris have been made during this reporting period.

Decontamination/Dose Reduction Activities

Scabbling, steam vacuuming, and hands-on decontamination continue in the auxiliary and fuel handling buildings. To date, 119 of 143 cubicles have been decontaminated to end point criteria. The remaining cubicles contain highly contaminated plant systems that first must be cleaned before the cubicle is decontaminated. Flushes of these systems are being performed to lower dose rates in the cubicles.

Attempts to transfer highly contaminated resins from the "A" make-up demineralizer have been unsuccessful. To aid in assessing and correcting this problem, a video camera will be inserted into the tank to evaluate the resin consistency and quantities.

A series of holes were drilled in the concrete block wall in the RB basement. The wall is being filled and drained with water in an attempt to flush contamination from the wall. The contaminated water is subsequently processed through the submerged demineralizer system to remove the contaminants.

The licensee implemented the initial phase of assessing specific plant areas for eventual placement of these areas into a PDMS condition. Following the assessment, the seal return cooler/filter room was isolated

from routine access to assure that it would not become re-contaminated nor be impacted by other plant operations. Five other areas are currently being verified by the licensee and will also be isolated from the balance of the plant.

Programmatic Environmental Impact Statement Comment Period

The NRC staff has extended the comment period on Draft Supplement No. 3 to the Programmatic Environmental Impact Statement (PEIS) related to the decontamination and disposal of radioactive waste, resulting from the March 29, 1979, accident at TMI-2. The original deadline for comments was June 15, 1988; this has been extended to August 1, 1988.

3. NRC Staff Activities

The NRC staff assigned on site consisted of the senior resident inspector, three resident inspectors, a licensing engineer (for TMI-2), and a secretary.

During this period, Region I issued the following inspection reports.

TMI-1 (50-289)

- 58-09 on June 7, 1988, on TMI-1 and 2 radiological effluent control program. No violations were identified.
- 88-10 on June 10, 1988 on liquid and gaseous radwaste program. No violations were identified.
- 88-11 on June 20, 1988, on refueling outage preparations. No violations were identified.
- 88-08 on June 20, 1988, on routine operational activities. No violations were identified. The report documented the results of a meeting with the licensee on their Technical and Safety Review Program.

TMI-2 (50-320)

- 88-04, combined report with 50-289/88-09 (see above).
- 88-06 on June 10, 1988 on TMI-2 defueling/decontamination activities. No violations were identified. The report provides a summary of a meeting held with the licensee on decontamination status of TMI-2.
- 88-07 on June 14, 1988, on TMI-2 waste processing and shipment activities. Two violations were identified. One was a failure to provide accurate total radioactivity on a manifest for a radioactive shipment on February 19, 1988. The other violation was for failure to properly record activities of the radionuclides for one package of the February 19, 1988, shipment.

Also, during this period, Region I and the licensee conducted a meeting in King of Prussia, Pennsylvania, on July 1, 1988, regarding a series of recent events at TMI-2 that were of concern to the NRC. The results of that meeting will be documented in NRC Inspection Report No. 50-289/88-10.

4. Public Meeting

The next meeting of the Advisory Panel for the decontamination of TMI-2 is scheduled for Thursday, July 14, 1988, from 7:00 - 10:00 p.m. It will be held at the Holiday Inn Center City, 23 South Second Street, Harrisburg, Pennsylvania. The panel will continue to discuss the recently issued Programmatic Environmental Impact Statement on Post-Defueling Monitored Storage.

Persons desiring to speak before the Advisory Panel are asked to contact Mr. Thomas Smithgall at 2111 Marietta Avenue, Lancaster, Pennsylvania, 17603 (telephone 717-291-1041).