

OCT 18 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 1A, DRP

SUBJECT: TMI STATUS REPORT FOR THE PERIOD SEPTEMBER 10 - OCTOBER 7, 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

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Reactor Projects Section 1A

Enclosure: As Stated

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ENCLOSURE

TMI-1 AND TMI-2 STATUS REPORT FOR THE PERIOD
SEPTEMBER 10 - OCTOBER 7, 1988

1. TMI-1

a. Facility Operations Summary

During the report period, the licensee decided to shut down the reactor to troubleshoot and repair the cause of a high flow in the No. 1 seal leak-off line of a reactor coolant pump. On September 17, 1988, the plant was taken off line, repairs were completed, and power operations were resumed on September 26, 1988. As of October 7, 1988, the TMI-1 reactor was at 100 percent power with Tave at 579 F and Reactor Coolant System (RCS) pressure at 2155 psig.

b. Items of Special Interest

Reactor Coolant Pump Seal

On September 17, 1988, the licensee decided to shut down TMI-1 to identify the cause of a high flow in the No. 1 seal leak-off line for the "D" reactor coolant pump (RCP). On September 15, 1988, the "D" RCP No. 1 seal leak-off started to increase from 2-4 gpm (normal readings) to 4-5 gpm. By September 17, 1988, the flow was 6-8 gpm. The licensee suspected a problem with the No. 1 seal itself; and, upon discussing the problem of the seal package with the vendor (Westinghouse), they decided to shut down for repairs.

The licensee had previously replaced this seal package on all four RCP's during the refueling outage that ended about eight weeks ago. The other three RCP's had normal readings from the No. 1 seal leak-off; and, overall, the unidentified Reactor Coolant System (RCS) leak rate remained significantly less than the 1 gpm technical specification limit.

Upon disassembling the No. 1 seal package, two damaged O-rings were found. These are considered to be the cause of the increased leak-off flow. The damage to the O-rings was attributed to improper installation during the refueling outage.

Upon completing repairs and follow-up testing the "D" RCP, the licensee observed an increase in shaft vibration and realigned the pump/motor assembly. The indicated vibration still remains a little higher (10-15 mils) in the "D" RCP than in the other three RCP's (6-8 mils). However, this indicated vibration has not affected pump performance, nor has it affected seal leak-off flow. The licensee is evaluating the cause of the vibration readings to determine if they are the result of a malfunctioning vibration sensor or indicate true vibrations.

High Heat-Up Rate

On September 29, 1988, upon reviewing computer data gathered during plant heat-up operations, the licensee determined that the technical specification limit for RCS heat-up rate had been exceeded. This occurred when the plant was preparing to resume power operations following a one-week outage to repair a RCP seal. Based on this review, the actual heat-up rate, using RCP's as the heat source, was in the range of 55-61 F/hour. These values exceeded the heat-up rate limit of 50 F/hour as required by the technical specifications. A preliminary engineering assessment by the licensee indicates that the primary system did not have significant thermal stresses as a result of exceeding this limit. This event will be detailed in a future NRC inspection report. Also, a Licensee Event Report will be issued at a later date.

2. TMI-2

a. Facility Activities Summary

During this reporting period, cutting of the grid forging continued. The grid forging is the third of five plates that comprise the Lower Core Support Assembly (LCSA) that is to be removed to provide access for defueling the lower head of the reactor vessel. Decontamination of plant surfaces and systems continues. Several plant areas have been isolated from routine use and placed in an interim status as meeting Post-Defueling Monitored Storage (PDMS) conditions set forth in the licensee's Safety Analysis Report (SAR) submitted to the NRC staff on August 16, 1988. Other plant areas are scheduled for verification to determine if they meet the interim PDMS isolation criteria set by the licensee but not yet approved by NRC.

b. Items of Special Interest

Defueling Operations

Cutting of the grid forging continued at a modest pace. Difficulty is still being experienced with the plasma arc cutting equipment. The torch tips have experienced several failures that require the torches to be re-built. The X-Y bridge has been removed from the vessel for repairs of various motors and positioning equipment and reinstalled. Also, it required decontamination prior to work on the bridge components.

To date, all of the in-core guide tubes have been cut to permit easier access to cuts on the grid forging itself. All of the forging support posts have also been cut and removed from the top of the forging. Of the seventy-seven cuts required to remove the forging, fifty-five have been attempted or completed. Of these, only seven have been verified as totally complete. Some will require recutting as a result of uneven cuts or incomplete penetration during initial cutting.

The licensee completed surveys of two plant areas to determine that quantities of fuel existing in these areas warrant no additional defueling. These areas are the reactor vessel plenum assembly and the letdown coolers. The results indicate that no further defueling in these areas is required and that the quantities of fuel in these areas is negligible. The post-defueling survey reports for these two areas were transmitted to the NRC in a letter dated September 30, 1988. Additional surveys for other areas will be reported as they are completed, for such areas as the steam generators and various sections of Reactor Coolant System (RCS) piping. The compilation of these reports will form part of the basis for the final assessment of completion of defueling efforts.

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

Decontamination/Dose Reduction Activities

Scabbling, steam cleaning, and hands-on decontamination continue in the auxiliary and fuel handling buildings. To date, the majority of the 143 cubicles have been decontaminated to end point criteria. The remaining cubicles contain 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 these cubicles. The licensee continues to assess specific plant areas for placement of these areas into an interim PDMS condition as defined by their SAR.

3. NRC Staff Activities

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

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

TMI-1 (50-289)

-- 88-22 on October 4, 1988, on the post-modification testing program. No violations were identified.

TMI-2 (50-320)

-- 88-13 on October 5, 1988, on TMI-2 defueling/decontamination activities. No violations were identified.

4. Public Meetings

On October 25, 1988, the members of the Advisory Panel on the decontamination of TMI-2 will meet with the NRC Commissioners. The meeting is scheduled for 11:00 a.m. in the NRC building at 11555 Rockville Pike in Rockville, Maryland. Members of the public may attend the meeting.