

AUG 11 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, DRP

SUBJECT: TMI STATUS REPORT FOR THE PERIOD JULY 9 - AUGUST 6, 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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TMI MONTHLY STATUS REPORT - 11

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ENCLOSURE

TMI-1 AND TMI-2 STATUS REPORT FOR THE PERIOD JULY 9 - AUGUST 6, 1988

1. TMI-1

a. Facility Operations Summary

During the report period, the licensee maintained the plant in a cold shutdown condition. Various refueling/outage activities were conducted or completed as discussed below. As of August 6, 1988, the TMI-1 reactor was in cold shutdown at approximately 130 F and reactor vessel level at the reactor vessel cold leg nozzles.

b. Items of Special Interest

Once-Through Steam Generator Eddy Current Testing

The licensee completed Once-Through Steam Generator (OTSG) eddy current testing (ECT) on July 11, 1988, which resulted in plugging of twenty-one tubes; thirteen in the "A" OTSG and eight in the "B" OTSG. The total number of plugged tubes was increased to 1,627 (1,260 - "A" OTSG and 367 - "B" OTSG), which is still below the limit of 2,000 tubes evaluated by the licensee and NRC staff.

Approximately 4,000 tubes were examined in both OTSG's out of a total of approximately 31,000 total tubes. The initial technical specification required a 3 percent sample in both OTSG's; this was expanded to an additional 6 percent sample in both OTSG's. One failed tube (more than 40% throughwall) in the "B" and two failed tubes in the "A" OTSG identified in the initial 3 percent sample necessitated the additional 6 percent sample. No failed tubes were identified in the second sample test. The other tubes that were plugged were identified from testing of previously identified tubes that were only slightly degraded.

The ECT results will be reported to the NRC in a report due twelve months after completion of testing. A preliminary review by an NRC inspector was conducted on site; no deficiencies were noted.

Outage Activities

Other items completed during the outage included refueling activities. The licensee installed seventy-six new fuel assemblies in the reactor. These new fuel assemblies have a greater enrichment of uranium than was previously used and will result in a longer operating cycle for cycle 7; approximately sixteen months.

The licensee also completed cleaning of both OTSG secondary sides, using a technique called "water slap" to remove corrosion deposits on the heat transfer surfaces. This should result in lower OTSG operating levels, which have limited plant power in the past when too high.

Borated Water Storage Tank Vortexing

The resident inspectors completed a review of a licensee safety evaluation (50.59), which was completed to document a change to the lo-lo level alarm for the borated water storage tank (BWST).

The licensee had previously identified a potential problem with the level in the BWST at which manual action is taken to switch from the injection to recirculation mode following Large Break Loss of Coolant Accident (LBLOCA). The level, 3 feet above the bottom of the tank, could result in loss of suction for the lower pressure injection (LPI), high pressure injection (HPI), and building spray (BS) pumps. The alarm was raised to 6 feet 4 inches to preclude this problem. This new level resulted in a lower net positive suction head (NPSH) (reactor building (RB) sump level), which required an emergency operating procedure change to direct throttling of the BS pumps following switch over to the recirculation mode. This lower level flow rate was also evaluated for impact on iodine removal, sump pH, and RB temperature. The licensee is also planning to update the appropriate sections of the Final Safety Analysis Report (FSAR).

Management Changes

On Friday, June 29, 1988, the licensee announced that George A. Kuehn, Radiological Controls and Industrial Safety Director at TMI-1, was selected as the Site Operations Director for TMI-2. Roger P. Shaw, Radiological Engineering Manager, TMI-1, was assigned to Mr. Kuehn's former position. Both changes were effective August 1, 1988.

2. TMI-2

a. Facility Activities Summary

During this reporting period, the upper flow distributor (UFD) was removed from the reactor vessel. The UFD is the second 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 external surfaces and plant systems continues. One plant area has been isolated and placed in an interim Post Defueling Monitored Storage (PDMS) status. Seven other plant areas are in the process of being verified to meeting the interim PDMS isolation criteria.

b. Items of Special Interest

Defueling Operations

Defueling crews completed removing the UFD from the reactor vessel and placing it in storage in a modified core flood tank. The UFD is the second of five sections that comprises the Lower Core Support Assembly (LCSA) that has been cut into pieces, using the plasma arc technique, and removed from the vessel. In preparation for cutting the next plate, the grid forging, defueling crews are clearing debris from the top and flow holes of the forging. This debris contains a significant amount of chips and dross material created by the drilling and cutting operations, respectively, in addition to short length fuel rods. Manual pick-and-place techniques were initiated to clear rods from the forging. Then, airlift operations were conducted to clear vacuumable debris from in and around the forging. Once the forging is cleaned, plasma arc equipment is to be installed and cutting operations will resume.

The licensee is conducting surveys to determine fuel quantities in other portions of the primary system. In parallel with these surveys, various defueling techniques are being evaluated should fuel be found to be present.

No shipments of casks containing core debris have been 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, 119 of 143 cubicles have been decontaminated to end point criteria, with three cubicles presently undergoing evaluation to assess their status. 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.

Filling and draining of the block wall in the reactor building (RB) basement is ongoing. As a result of the low concentration of contamination in the flush water, the RB sump water is being processed through the EPICOR II water clean-up system, in lieu of the Submerged Demineralizer System (SDS). An evaluation is being performed to determine the effectiveness of the fill-and-drain operation.

Attempts to transfer highly contaminated resins from the "A" and "B" make-up demineralizers have been unsuccessful. Preparations are being made to install a hydrolance in the "A" demineralizer discharge piping in an effort to break up the material, using high pressure water, to permit sluicing to a receiver tank. A delumper is also being installed in the recirculation flowpath of the receiver tank to increase the sluicability of the discharged material.

The licensee implemented the initial phase of assessing specific plant areas for placement of these areas into a PDMS condition. Following its assessment, the seal return cooler/filter room is the first area to be isolated from routine access to assure that it would not become re-contaminated, nor be impacted by other plant operations. Seven other areas are currently scheduled for verification and should also be isolated from the balance of plant.

Yard Engine and Railcar Drift on Site

At approximately 1:30 p.m., July 26, 1988, a railcar carrying a loaded shipping cask and its unmanned yard engine drifted for approximately 60 yards on the site tracks. The engine and railcar came to a final rest as a result of an increase in the natural grade of the rails.

Prior to this occurrence, workers were preparing the cask for shipment off site, but they had stopped work because of a severe electrical storm. In their haste, they failed to set the engine's hand brake. Following their departure, the engine's air brake slowly bled off, which released the air brake and resulted in the engine and railcar slowly drifting. The engine struck a portable traffic sign that was in its path before coming to rest. No damage occurred to the engine, railcar, or shipping cask. The shipping cask contained seven cans of core debris. No release of radioactive materials occurred. No personnel were injured. Site inspectors are reviewing the actions taken by the licensee to preclude a recurrence.

Management Actions as a Result of Licensee Investigation of Operator Sleeping Issue

On July 20, 1988, the licensee announced the completion of its independent investigation into management response to allegations that a shift supervisor at TMI-2 had slept while on shift. The report was received by GPU Nuclear Corporation and forwarded to the Nuclear Regulatory Commission. The independent investigation was conducted for GPU Nuclear by Edwin H. Stier, former director of the New Jersey Division of Criminal Justice. In November 1987, Stier confirmed that the shift supervisor had slept on a number of occasions or been inattentive to his job. The individual was subsequently fired.

In the second phase of the investigation, Mr. Stier was critical of site management's handling of the allegations concerning the behavior of the shift supervisor. As a result of the completion of the investigation, the licensee took a number of disciplinary actions affecting TMI-2 site management. These actions included a dismissal, reassignments to lower level positions not involving supervision of licensed operators at TMI-2, and formal reprimands.

3. NRC Staff Activities

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

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

TMI-1 (50-289)

-- 88-05 on July 14, 1988, on routine operational activities. No violations were identified.

TMI-2 (50-320)

-- 88-08 on June 23, 1988, on TMI-2 defueling/decontamination activities. No violations were identified.

-- 88-10 on August 2, 1988, on TMI-2 defueling/decontamination activities. This report provides a summary of a management meeting held with the licensee on July 1, 1988, concerning events which were attributable to human performance cases.

4. Public Meetings

On July 14, 1988, the Advisory Panel for the decontamination of TMI-2 met in Harrisburg, Pennsylvania. Post-Defueling Monitored Storage, decommissioning, and the financing needed to achieve these plant conditions were discussed. The next Advisory Panel meeting is scheduled for Wednesday, September 7, 1988, at 7:00 p.m. The meeting location is tentatively planned to be in the Holiday Inn Center City, 23 South Second Street, Harrisburg, Pennsylvania.