U.S. NUCLEAR REGULATORY COMMISSION

Region I

50289-820317
50289-820331
50289-820603
50289-820628
50289-820712
50289-820929

Report No. 50-289/82-20

Docket No. 50-289

License No. DPR-50 Priority -- Category C

Licensee: GPU Nuclear Corporation

P.O. Box 480

Middletown, Pennsylvania 17057

Facility: Three Mile Island Nuclear Station, Unit 1

Inspection at: Middletown, Pennsylvania

Inspection conducted: September 7, 1982 - October 4, 1982

Inspectors: R. Conte — 10/8/82
R. Conte, Senior Resident Inspector (TMI-1) — date signed

F. Young — Oct 8, 1982
F. Young, Resident Inspector (TMI-1) — date signed

Approved by: A. Fasano — Oct 12, 1982
A. Fasano, Chief, Three Mile Island Section
Projects Branch No. 2 — date signed

Inspection Summary:

Inspection conducted on September 7, 1982 - October 4, 1982, (Inspection Report Number 50-289/82-20)
Areas Inspected: Routine safety inspection by site inspectors of licensee action on previous inspection findings; plant operations including steam generator repairs; in-office review of licensee event reports; and onsite licensee event report followup. The inspection involved 97 inspector-hours.
Results: No violations were identified.

Details

1. Persons Contacted

General Public Utilities (GPU) Nuclear Corporation

B. Ballard, Manager TMI Quality Assurance (QA) Modifications/Operations, Nuclear Assurance
R. Barley, Lead Mechanical Engineer TMI-1
J. Colitz, Plant Engineering Director TMI-1
T. Hawkins, Manager TMI-1, Startup and Test, Technical Functions
R. Harper, Corrective Maintenance Manager TMI-1
W. Heysek, Supervisor Site QA Audit
H. Hukill, Vice President and Director TMI-1
*J. Kuehn, Manager, Radiological Controls TMI-1
S. Levin, Maintenance and Construction Director TMI-1
F. Paulewicz, Mechanical Engineer TMI-1
M. Ross, Manager Plant Operations TMI-1
*H. Shipman, Engineer III, TMI-1
D. Shovlin, Manager Plant Maintenance TMI-1
*C. Smyth, Supervisor TMI-1 Licensing, Technical Functions
K. Stephenson, Nuclear Licensing Engineer, Technical Functions
*R. Szczech, Nuclear Licensing Engineer, Technical Functions
R. Toole, Operations and Maintenance Director TMI-1

Other personnel in the operations, engineering, and quality assurance staffs were also interviewed.

*denotes those present at an exit interview.

2. Licensee Action on Previous Inspection Findings

(Closed) Violation (289/81-32-02): Failure to follow Maintenance Procedure 1410-Y-26 thus causing a small fire in the Auxiliary Building. The inspector reviewed the licensee's corrective action to determine the adequacy and to verify that the action stated had been accomplished. Corrective action included holding discussions in the licensee's weekly safety meetings with foremen of all crafts on the importance of compliance with Maintenance Procedure 1410-Y-26 and increasing surveillance of welding and burning activities. In addition to reviewing above activities, the inspector interviewed several craftsmen performing welding and/or burning in the plant and determined that the craftsmen actually performing the work possessed adequate understanding of Maintenance Procedure 1410-Y-26. The inspector considered the corrective action acceptable and had no further questions concerning this item.

3. Plant Operations During Long Term Shutdown

a. Plant Operations Review

Inspections of the facility were conducted to assess compliance with general operating requirements of Section 6 of Technical Specifications in the following areas: licensee review of selected plant parameters for abnormal trends; plant status from a maintenance/modification viewpoint including plant cleanliness; control of documents including log keeping practices; licensee implementation of the security plan including access controls/boundary integrity and badging practices; licensee control of ongoing and special evolutions including control room personnel awareness of these evolutions; control of documents including log keeping practices; and implementation of radiological controls.

Random inspections of the control room during regular and back shift hours were conducted. The selected sections of the shift foreman's log and control room operator's log were reviewed for the period September 7, 1982, to October 4, 1982. Selected sections of other control room daily logs were reviewed for the period from midnight to the time of review. Inspections of areas outside the control room occurred on September 8, 16, 21, 22, 29 and October 1, 1982. Selected licensee planning meetings were also observed.

On September 30, 1982, while touring the yard area, the inspector noted plant personnel working without TLDs in an area posted TLD Required. The inspector performed a radiation survey of the area and found that TLDs were not required (general area survey less than 0.8 mrem/hr). It was further determined that previous to the commencement of work, licensee representatives had surveyed the area and concluded that TLDs were not required in this area. Discussion with the Radiological Plant Manager (RPM) determined that the signs stating TLDs required should have been removed. The RPM stated that the proper posting of TLD areas would be addressed to all radiological shift foremen. The inspector had no further comment in this area.

b. Steam Generator Recovery Program

(1) Background

As a result of the presence of intergranular attack and stress corrosion cracking on the OTSG tubes identified in November 1981, the licensee has initiated an extensive investigation to determine the cause and repairs required to return the plant to service. The final repair approach is to establish a new primary system pressure boundary by a process known as kinetic expansion in those tubes where it is possible (see NRC Region I Inspection Report No. 50-289/82-14).

The major steps in the kinetic expansion process are to flush the secondary side tube to the upper tube sheet crevice, heat the crevice to drive out the moisture, use an explosive to kinetically expand the tubes and then clean the OTSG to grade B cleanliness. The secondary side tube sheet crevice was flushed twice and this first major step is considered complete. The drying of the crevice between the secondary side of the tube to the upper tube sheet is scheduled to begin the week of October 4, 1982. Projected start of kinetic expansion is scheduled for the week of October 18, 1982. Estimated length of time to perform the repair process is between two to four months from start of kinetic expansion.

(2) Review

The inspector has continued to monitor the steam generator repair program to verify the following items.

-- accuracy of information related to the event submitted to NRC

-- procedures written in accordance with the specifications of the licensee programs

-- adequacy of procedures used to control the activity

Selected sections of OTSG repair documents were reviewed and field operations of kinetic expansion preparation work were observed on several occasions. Licensee and contractor personnel demonstrated adequate control of the work being accomplished.

(3) Findings

No violations were identified.

4. In-Office Review of Licensee Event Reports (LERs)

The inspector reviewed the LERs listed below, which were submitted to the NRC Region I office, to verify that the details of the event were clearly reported including the accuracy of the description of cause and the adequacy of corrective action. The inspector determined whether further information was required from the licensee, whether the event should be classified as an Abnormal Occurrence, whether the information involved with the event should be submitted to the Licensing Boards, and whether the event warranted onsite followup.

The following LERs were reviewed:

-- LER 82-001/01T-1, dated March 17, 1982 (While performing control room habitability review per NUREG 0737, Item III.D.3.4, it was identified that the control building ventilation system modification had not made any provisions for automatic isolation of high airborne radioactivity in the fuel handling building to exclude the potential contaminants from entering the system.)

-- LER 82-009/03L-0, dated June 28, 1982 (An incorrect valve lineup on the Reactor Building purge effluent monitor system resulted in a failure to meet Technical Specification requirements for specific number of instrumentation to be operable.)

-- LER 82-010/99X-0, dated July 12, 1982 (Engineering Safeguards Actuation System low pressure system bypass channel failed to drop out of bypass during post maintenance testing because of induced voltage in newly installed triac from adjacent circuitry. Replacement triac was solid state relay as compared to previous electromechanical relay type.)

-- LER 82-012/01T-0, dated September 17, 1982 (Personnel error in calculating the alarm setpoint for station liquid effluent monitor [RM-L-7] resulted in a wrong setpoint.)

-- LER 82-013/03-L, dated September 29, 1982 (Due to an open breaker on sample pump SR-P-4, no flow existed past the plant effluent radiation monitor thus making the monitor inoperable per Technical Specifications.)

The above LERs were closed based on satisfactory in-office review except for LER 82-001, -009, -012, and -013, which were selected for onsite followup. Onsite followup on LERs -001, -012, and -013 will be performed in subsequent NRC inspection reports (82-LO-01, 82-LO-12, and 82-LO-13).

No violations were identified.

5. Onsite Licensee Event Followup

The inspector verified that the LERs listed below contain the reporting requirements of Technical Specifications, applicable licensee procedures had been met, appropriate corrective action had been taken, the event was reviewed by the licensee as required by Technical Specifications, and continued operation of the facility was conducted in conformance with Technical Specification limits.

The inspector's findings regarding these LERs were acceptable.

-- LER 82-003/01T-0, dated March 31, 1982 (While regenerating demineralizer beds, an auxiliary operator inadvertently overflowed the secondary neutralizing tank to the plant's effluent discharge to the river.)

-- LER 82-007/03L-0, dated June 3, 1982 (Iodine channel of purge effluent monitor RM-A9 failed low, causing the required number of channels specified by Technical Specifications not to be available.)

-- LER 82-009/03L-0, dated June 28, 1982 (An incorrect valve lineup on the reactor building purge effluent monitor system resulted in a failure to meet Technical Specification requirements for specific number of instrumentation to be operable.)

No violations were identified.

6. Exit Interview

The inspectors met with the licensee representatives (denoted in paragraph 1) and at the conclusion of the inspection on October 4, 1982, to discuss the inspection scope and findings.