

U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. 50-289/82-15

Docket No. 50-289

License No. DPR-50 Priority -- Category C

Licensee: GPU Nuclear Corporation

P. O. Box 480

Middletown, Pennsylvania 17057

Facility Name: Three Mile Island Station, Unit I

Inspection At: Middletown, Pennsylvania

Inspection Conducted: August 10-13, 1982

Inspectors: *D. Beckman*
for S. Richards, Reactor Inspector

8/26/82
date

Approved By: *D. Beckman*
D. Beckman, Chief, Plant Systems
Section

8/26/82
date

Inspection Summary:

Inspection on August 10-13, 1982 (Report No. 50-289/82-15)

Areas Inspected: Routine, unannounced inspection by a region based inspector of three plant modifications: Task RM-9, Engineering Change Memorandum (ECM) S-028, raise the setpoint of the Pilot Operated Relief Valve (PORV); Task PM-18, ECM S-277, provide a vital power feed to telephone equipment including the Emergency Notification System (ENS); and Task RM-17, ECMS-123, modify the power supply to the Non-Nuclear Instrumentation/Integrated Control System (NNI/ICS) system. The inspection involved 31 hours of on site inspection effort.

Results: No violations were identified with any of the three modifications inspected.

DETAILS

1. Persons Contacted

- D. Barry, Engineering Associate II
- E. Eisen, Engineer III - Projects, Technical Functions
- E. Feinberg, Project Engineer
- *J. Garrison, QA Engineer Assistant Senior III, Nuclear Assurance
- G. Lawrence, I&C Foreman
- T. O'Connor, TMI Unit 1 Senior Fire Protection Coordinator
- J. Sipe, I&C Foreman
- C. Smyth, Supervisor, TMI-1 Licensing, Technical Functions
- *C. Stephenson, Nuclear Licensing Engineer, Technical Functions
- *R. Toole, Operations and Maintenance Director, TMI-1
- *F. Young, TMI-1 Resident Inspector

*Denotes those present at the exit interview.

2. Facility Modifications

Documentation associated with these facility modifications was inspected to verify that the modifications were implemented and tested in accordance with applicable regulatory requirements, the licensee's Quality Assurance Program, and applicable licensee procedures. The inspector also observed the completed work to verify that the modifications were accomplished as described by the design documents and to ensure that as-built drawings were revised to reflect the modifications.

2.1 Task RM-9, Raise the Setpoint of the PORV

In partial response to item 1.d of the NRC Order dated August 9, 1979, issued to Three Mile Island Unit 1 and in response to item 3 of IE Bulletin 79-05B, the licensee committed to raise the setpoint of the Pressurizer Pilot Operated Relief Valve (PORV) to minimize the number of valve actuations during plant transients. Task RM-9, ECM S-028, raised the PORV opening setpoint from 2255 psig to 2450 psig and the reset setpoint from 2205 psig to 2400 psig. The inspector reviewed the following documentation for this modification:

- Modification Turnover Package for Task RM-9, ECM No. S-028
- Generation Engineering Memorandum (GEM) 2489 dated July 9, 1979
- TMI Work Authorization Notice (WAN) 26, Rev. 0
- TMI Work Request Procedure, "Reset EM Relief Valve Setpoints," approved August 17, 1979
- TMI Unit 1 Instrument Calibration Data Sheets for Instrument RC3-PS8 dated August 24, 1979 and June 2, 1980

- Plant Inspection Report (PIR) No. IC-20088/81
- QC Surveillance Report 79-101 dated August 28, 1979
- Bailey Instructions Section E92-4, "High-Low Signal Monitor PT. No. 6613303-1," copyright 1964
- Machinery History Card for Component 13-5-10, RC3-PS8: HI/LO Alarm
- NNI Module Calibration Document, Reactor Coolant System, Page RC20, Rev. 2
- Notification of Installation Completeness, Transmittal No. MCG-25
- Instrument Loop Test Data Sheets for Reactor Coolant Pressure Instruments performed December 10-12, 1980

No violations associated with this modification were identified.

2.2 Task PM-18, Vital Power Feed for Telephone Equipment

Task PM-18 provides a vital power feed from 120 VAC Distribution Panel ATB to various telephone equipment, including the NRC Emergency Notification System (ENS), as required by IE Bulletin 80-15. The modification included routing of a power cable, installation of a distribution panel, and retermination of existing circuits at the new panel.

The following documents associated with this modification were reviewed.

- Turnover Package for Task PM-18, ECM S-277, Rev. 0
- Cable Pull Slip for Circuit No. 1EA6864
- Cable Routing and Termination Sheet for Circuit No. 1EA6864
- PIR No. CS/31786/87
- Procedure 1420-EL-2, Rev. 0, Data Sheet for Circuit EA6864
- Field Change Notice (FCN) No. C001207
- Field Change Requests (FCR) No. C001443 and C001446
- WAN 606, Rev. 0
- Interoffice Memorandum dated December 15, 1981, "Telephone Equipment Vital Power Feed"
- Transmittal No. MCG-~~25~~ including attached As Installed Drawings

The power supply cable from Panel ATB feeds a new distribution panel, designated panel D-22, which provides power to two 48 Volt Rectifiers and to a Telephone Equipment Receptacle. Discussions with licensee personnel indicated that the ENS may not be powered from panel D-22, as was the intent of the modification. The inspector reviewed Technical Functions Work Request No. B00344 dated September 23, 1981, which requests that the ENS control package be added as a load from panel D-22 via a revision to ECM 277, however ECM 277 has since been completed without this revision being incorporated. The inspector was informed that the employee previously responsible for the telephone system had recently retired and that the employees presently responsible will investigate the modification to determine the power supply to the ENS. This item is unresolved pending the licensee determination of status of the power supply to the ENS (82-15-01).

The inspector noted that the response to FCR No. C001446 accepted the routing of the power cable to panel D-22 in a control cable raceway, based on the low expected load of 17.5 amperes. The FCR requires that the cable be rerouted in conduit by or during the first refueling outage after restart, due to the possible thermal effects on other cables in the tray if the cable were to be loaded to its 100 ampere capacity. The inspector requested to review the licensee's administrative system which will ensure that the power cable will be rerouted as required and will limit the load placed on the cable pending the rerouting. This information was unavailable at the time of the exit meeting. This item is unresolved pending additional NRC review (82-15-02).

Maintenance Procedure 1420-FB-1, Revision 6, "Fire Barrier Penetration Seal Repair/Installation," requires that a Fire Barrier Penetration Notification form be completed when a fire barrier is breached. The inspector verified, to the extent possible, that barrier integrity had been maintained, but was unable to locate a notification form on file in the document control center for the routing of circuit EA6864 through penetration A146. The licensee informed the inspector that a number of notification forms had not yet been filed, which may include the notification in question. This item is unresolved pending NRC review of the Fire Barrier Penetration Notification form for circuit EA6864 through penetration A146 (82-15-03).

2.3 Task RM-17, Modification of the Power Supply to the Non-Nuclear Instrumentation/Integrated Control System (NNI/ICS)

The Non-Nuclear Instrumentation/Integrated Control System (NNI/ICS) is normally powered from Inverter 1A, which has an internal static transfer switch to control the source of power to its loads. IE Information Notice 79-29 identified potential problems associated with a loss of power to the NNI/ICS due to a failure of the static transfer switch to properly transfer. Task RM-17, ECM S-123 provides

for the installation of an additional non-automatic transfer switch with associated alarms and indication, which would allow the operator to manually transfer the power source to the NNI/ICS from the control room upon a failure of the static transfer switch. The inspector reviewed the following documentation associated with the modification:

- Modification Turnover Package for ECM S-123, Rev. 0-2
- PIR No. EL/13031/82, EL/10135/82, and EL/10160/81
- Cable Pull Slips, Megger Test Sheets, and Termination Sheets for circuits IRA1977, IEA6816, IEA6817, IEA6818, IEA6830, and IEA10
- Fire Barrier Protection Notification for penetrations A780 and A1122
- System Design Descriptions (SDD) 735A, Division I and II
- Transmittal No. MCG-72 and attached "As-Built" Drawings
- Procedure 1420-EL-2, Rev. 0, Data Sheet E-1 for ECM S-123
- Test Package 250/2 and 250/2.1 for Task RM-17
- WAN 363, Rev 0-1
- Field Questionnaires R762 and R767

The inspector noted that during testing of the modification, the indicating lights and the alarm were found incorrectly wired. This discrepancy was corrected and properly documented except that the wire termination points for fuses FU1 and FU2 were not properly described in the wire connections section of ASCO Drawing 871126. The inspector determined this error to be an isolated case with little significance. The licensee took appropriate action to correct the problem.

The alarm associated with the manual transfer switch monitors the normal power supply to the switch and when activated, it annunciates a light in the control room which reads "ATA Panel Power Lost." The inspector noted that when the panel is reenergized from the alternate power source, the alarm light remains lit. The inspector concluded that an alarm which indicated the panel to be deenergized when the panel may be energized could be misleading to an operator. Discussions with licensee personnel indicate the licensee feels that operator training and other available indications prevent any confusion concerning the alarm. The inspector had no further questions concerning the modification.

3. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable, deviations, or violations. Unresolved items identified in this report are discussed in paragraph 2.2.

4. Exit Interview

The inspector met with licensee representatives denoted in paragraph 1 at the conclusion of the inspection on August 13, 1982. The inspector summarized the scope and findings of the inspection. The NRC Resident Inspector was present at the meeting.