

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

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Report No. 85-31
Docket No. 50-333
License No. DPR-59 Priority -- Category C
Licensee: Power Authority of the State of New York
 P.O. Box 41
 Lycoming, New York 13093

Facility Name: J.A. FitzPatrick Nuclear Power Plant

Inspection At: Scriba, New York

Inspection Conducted: December 1, 1985 - January 17, 1986

Inspectors: A.J. Luptak, Resident Inspector
 J.R. Stair, Reactor Engineer, DRP 2C

Reviewed by: L. T. Doerflein
 L. T. Doerflein, Project Engineer

2/26/86
Date

Approved by: J.C. Livville Jr.
 J.C. Livville, Chief
 Reactor Projects Section 2C, DRP

2/26/86
Date

Inspection Summary:
Inspection on December 1, 1985 - January 17, 1986 (Report
No. 50-333/85-31)

Areas Inspected: Routine and reactive inspection during day and backshift hours by one resident inspector and one region based inspector (76 hours) of licensee event report review, operational safety verification, surveillance observations, maintenance observations, followup on Containment Atmosphere Analyzer operability, and review of periodic and special reports.

Results: One violation was identified in the areas inspected: Failure to make Emergency Notification System calls for reportable events. (details in paragraph 3.b)

DETAILS

1. Persons Contacted

- *R. Baker, Acting Maintenance Superintendent
- *R. Converse, Resident Manager
- *W. Fernandez, Superintendent of Power
- *J. Flaherty, Acting Instrument and Control Superintendent
- *D. Lindsey, Operations Superintendent
- *R. Liseno, Acting Planning and Construction Superintendent
- *A. McKeen, Assistant Radiological & Environmental Services Superintendent
- E. Mulcahey, Radiological & Environmental Services Superintendent
- *R. Patch, Quality Assurance Superintendent
- *V. Walz, Acting Technical Services Superintendent

The inspector also interviewed other licensee personnel during this inspection including shift supervisors, administrative, operations, health physics, security, instrument and control, maintenance and contractor personnel.

*Denotes those present at the exit interview.

2. Summary of Plant Activities

The plant was operated at near full power throughout this inspection period.

3. Licensee Event Report (LER) Review

The inspector reviewed LERs to verify that the details of the events were clearly reported. The inspector determined that reporting requirements had been met, the report was adequate to assess the event, the cause appeared accurate and was supported by details, corrective actions appeared appropriate to correct the cause, the form was complete, and generic applicability to other plants was not in question.

LERs 85-27 and 85-28* were reviewed.

*LER selected for onsite followup.

- a. LER 85-27 reported the failure of two outside containment Main Steam Isolation Valve actuators which required a plant shutdown for repairs. Details of this event are discussed in paragraph 8 of Inspection No. 50-333/85-28.
- b. LER 85-28 reported the automatic isolations of the High Pressure Coolant Injection System (HPCI) due to a false high ambient temperature signal on December 13, 1985 and twice on December 16, 1985. Following a tour of the area to verify normal conditions, the system was restored to a normal lineup shortly after each isolation. When initial troubleshooting failed to correct the spurious isolations,

the decision was made to replace the Master Trip Unit (MTU) associated with the temperature detector causing the isolations. Following replacement, no spurious isolations have occurred. The MTU was returned to the manufacturer for further testing.

In reviewing this event, the inspector noted an Emergency Notification System (ENS) call had not been made. 10 CFR 50.72(b)(2)(ii) requires that the licensee notify the NRC Operations Center, via the ENS, as soon as practical and in all cases within four hours of any event that results in automatic actuation of any Engineered Safety Feature. The inspector determined that the plant's Final Safety Analysis Report (FSAR) lists the HPCI Equipment Room High Temperature as one of the initiating signals of the Primary Containment and Reactor Vessel Isolation Control System (PCRVICES) (section 7.3.4.8.11). The FSAR also includes the PCRVICES as a "Nuclear Safety Systems and Engineered Safeguards" (section 1.6.2.7). The inspector, therefore, determined that the event was reportable under 10 CFR 50.72(b)(2)(ii).

In reviewing previous events, the inspector determined that an ENS call should also have been made on October 29, 1985, when, during surveillance testing, the HPCI outside containment steam supply valve (23MOV16) failed shut, making the system inoperable. 10 CFR 50.72(b)(2)(iii)(D) requires that the licensee notify the NRC Operations Center, via the ENS, as soon as practical and in all cases within four hours of any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems needed to mitigate the consequences of an accident. The failure of valve 23MOV16 would have prevented HPCI from fulfilling its function of cooling the reactor in the event of a small break Loss of Coolant Accident as described in the FSAR section 6.4.1.

The licensee failed to make ENS reports for the events occurring on October 29, 1985 and December 13 and 16, 1985. The failure to make ENS calls as required for the cases described is considered a single violation of 10 CFR 50.72 (50-333/85-31-01)

In both events discussed above, shift personnel incorrectly determined that the events were not reportable; however, during management review, it was determined that they were reportable under 10 CFR 50.73 and the required reports were submitted within the 30 days allowed.

4. Operational Safety Verification

a. Control Room Observations

Daily, the inspector verified selected plant parameters and equipment availability to ensure compliance with limiting conditions for operation of the plant Technical Specifications. Selected lit annunciators

were discussed with control room operators to verify that the reasons for them were understood and corrective action, if required, was being taken. The inspector observed shift turnovers bi-weekly to ensure proper control room and shift manning. The inspector directly observed the operations listed below to ensure adherence to approved procedures:

- Routine power operations.
- Issuance of RWP's and Work Requests/Event/Deficiency forms.

No violations were identified.

b. Shift Logs and Operating Records

Selected shift logs and operating records were reviewed to obtain information on plant problems and operations, detect changes and trends in performance, detect possible conflicts with Technical Specifications or regulatory requirements, determine that records are being maintained and reviewed as required, and assess the effectiveness of the communications provided by the logs.

No violations were identified.

c. Plant Tours

During the inspection period, the inspectors made observations and conducted tours of the plant. During the plant tours, the inspector conducted a visual inspection of selected piping between containment and the isolation valves for leakage or leakage paths. This included verification that manual valves were shut, capped and locked when required and that motor operated valves were not mechanically blocked. The inspector also checked fire protection, housekeeping/cleanliness, radiation protection, and physical security conditions to ensure compliance with plant procedures and regulatory requirements.

No violations were identified.

d. Tagout Verification

The inspectors verified that the following safety-related protective tagout records (PTR's) were proper by observing the positions of breakers, switches and/or valves.

- PTR 851872 on "A" Core Spray System
- PTR 851953, 860021, 860024 on "B" Core Spray System

- PTR 860007 on "A" Low Pressure Coolant Injection Independent Power Supply System

No violations were identified.

e. Emergency System Operability

The inspectors verified operability of the following systems by ensuring that each accessible valve in the primary flow path was in the correct position, by confirming that power supplies and breakers were properly aligned for components that must activate upon an initiation signal, and by visual inspection of the major components for leakage and other conditions which might prevent fulfillment of their functional requirements:

- Core Spray System
- "B" Low Pressure Coolant Injection Independent Power Supply System
- Emergency Service Water System
- Standby Liquid Control System

No violations were identified.

5. Surveillance Observations

The inspector observed portions of the surveillance procedures listed below to verify that the test instrumentation was properly calibrated, approved procedures were used, the work was performed by qualified personnel, limiting conditions for operation were met, and the system was correctly restored following the testing:

- F-ISP-225B, High Pressure Coolant Injection Steam Line Pressure Transmitter Calibration and Channel Functional Test, Revision 0, dated March 13, 1985, performed December 16, 1985.
- F-ISP-49, Reactor Water Clean-up Area High Temperature Instrument Functional Test/Calibration, Revision 10, dated May 22, 1985, performed January 2, 1986.
- F-ISP-100B, Reactor Protection System and Primary Containment Isolation System Instrument Functional Test/Calibration, Revision 1, dated July 31, 1985, performed January 13, 1986.

The inspector also witnessed all aspects of the following surveillance test to verify that the surveillance procedure conformed to technical specification requirements and had been properly approved, limiting conditions for operation for removing equipment from service were met, testing was performed by qualified personnel, test results met technical

specification requirements, the surveillance test documentation was reviewed, and equipment was properly restored to service following the test.

- F-ST-3A, Core Spray/Flow Rate/Valve Operability Test, Revision 19, dated November 20, 1985, performed January 16, 1986.

No violations were identified.

6. Maintenance Observations

- a. The inspector observed portions of various safety-related maintenance activities to determine that redundant components were operable, that these activities did not violate the limiting conditions for operation, that required administrative approvals and tagouts were obtained prior to initiating the work, that approved procedures were used or the activity was within the "skills of the trade," that appropriate radiological controls were properly implemented, that ignition/fire prevention controls were properly implemented, and that equipment was properly tested prior to returning it to service.
- b. During this inspection period, the following activities were observed:
 - PMWR 14/02709 overhaul of the limitorque valve operator for the "A" Core Spray Pump Upstream Isolation Valve.
 - WR 71/36934 upgrade of electrical components for the "A" Low Pressure Coolant Injection Independent Power Supply.
 - WR 71/25494 clean and inspect the D.C. supply breaker for the "A" Low Pressure Coolant Injection Independent Power Supply.
 - PMWR 71/02836 preventive maintenance on the motor controller for "B" Core Spray Minimum Flow Valve.

No violations were identified.

7. Followup on Containment Atmosphere Analyzer Operability

During the 1985 refueling outage (completed June 1, 1985), the licensee replaced the existing containment oxygen analyzer with an analyzer manufactured by Exo-Sensors, Inc. In September 1985, when out-of-tolerance values were received for both channels during calibration, the manufacturer concluded that the licensee was drying out the sensor by the method used for calibration. The calibration procedure was changed, the analyzers returned to service, and the frequency of surveillance test increased to monthly. On November 5, 1985, the "B" channel again displayed erratic behavior during calibration; this led to the replacement of the "B" sensor on November 19, 1985. After declaring the "B" channel operable on November 24, 1985, the plant was shutdown and containment was de-inerted due to

inoperable Main Steam Isolation Valves. During the de-inerting process, the "A" channel failed to track containment atmospheric conditions and was declared inoperable. The licensee resumed plant operations with only the "B" channel operable.

On December 2, 1985 the "B" channel displayed erratic calibration results and was declared inoperable. The manufacturer determined that the failure of the "B" channel was caused by a defective sensor. Incorrect material was used in manufacturing the sensor, which was installed as stated above on November 19, 1985. The manufacturer believes the failure of the "A" sensor on November 24, 1985 was of a different nature from the "B" sensor failure, since the "A" sensor was manufactured in a different batch than the "B" sensor. The manufacturer is analyzing the "A" sensor to determine the failure mechanism. The manufacturer supplied the licensee with a report concerning the defective "B" sensor and has made a 10 CFR 21 report to the NRC.

Both channels were declared operable on December 16, 1985, after installing two correctly manufactured sensors. On January 2, 1986, the "B" channel was again declared inoperable due to unrealistic "as left" values following the calibration procedure. After discussions with the manufacturer, the licensee was informed by the manufacturer January 10, 1986, that they had been supplied the incorrect calibration values for the two sensors replaced on December 15, 1985. Based on the manufacturer's determination that the incorrect calibration values would cause non-conservative readings at elevated temperatures (such as an accident environment), the licensee declared both channels inoperable. After calibrating both channels with the correct values, they were declared operable on January 11, 1986.

Due to the problems noted above, the licensee's Quality Assurance (QA) Department placed a hold on all Exo-Sensor parts on-site. They also advised Exo-Sensor that they considered the incorrect calibration values as a potential 10 CFR 21 reportable item and commenced a formal 10 CFR 21 evaluation in accordance with procedure NGP-10, Reporting of Defects and Noncompliance, Revision 2. The licensee plans to have a team, composed of QA and Instrument and Control personnel, visit the Exo-Sensors manufacturing site during the last week of January to assess the manufacturer's capabilities and corrective actions. LER 85-24 was issued October 11, 1985 to discuss some of the initial problems with the analyzers. A revised LER will be submitted to discuss the recent problems and the licensee's actions. The inspector will review this LER and licensee actions during a subsequent inspection.

At the end of the inspection period, the licensee had not completed its 10 CFR 21 evaluation concerning the incorrect calibration values. This will be reviewed in a subsequent inspection (50-333/85-31-02).

8. Review of Periodic and Special Reports

Upon receipt, the inspector reviewed periodic and special reports. The review included the following: inclusion of information required by the NRC; test results and/or supporting information consistent with design predictions and performance specifications; planned corrective action for resolution of problems, and reportability and validity of report information. The following periodic reports were reviewed:

- November 1985 Operating Status Report, dated December 4, 1985.
- December 1985 Operating Status Report, dated January 7, 1986.

9. Exit Interview

At periodic intervals during the course of this inspection, meetings were held with senior facility management to discuss inspection scope and findings. On January 21, 1986, the inspector met with licensee representatives (denoted in paragraph 1) and summarized the scope and findings of the inspection as they are described in this report.

Based on the NRC Region I review of this report and discussions held with licensee representatives during the exit meeting, it was determined that this report does not contain information subject to 10 CFR 2.790 restrictions.