

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

DCS NUMBERS

Report No. 83-01

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

50333-821208
50333-821215
50333-821216
50333-830109
50333-830111

Facility Name: James A. FitzPatrick Nuclear Power Station

Inspection At: Scriba, New York

Inspection Conducted: January 1-31, 1983

Inspectors: *James C. Linville*
J. C. Linville, Senior Resident Inspector
L. T. Doerflein
L. T. Doerflein, Resident Inspector

2/10/83
date

2/9/83
date

Approved by: *H. B. Kister*
H. B. Kister, Chief, Reactor Projects Section 1C

date
2/15/83
date

Inspection Summary:

Inspection on January 1-31, 1983 (Report No. 50-333/83-01)

Areas Inspected: Routine and reactive inspection during day and backshift hours by two resident inspectors (150 hours) of licensee action on previous inspection findings, licensee event report review, operational safety verification, surveillance observations, maintenance observations, followup on plant trips, and review of periodic and special reports.

Results: No violations were observed in five of seven areas inspected. Two violations were observed in two areas (Failure to establish and implement procedures, paragraph 2 and 6).

Region I Form 12
(Rev. February 1982)

DETAILS

1. Persons Contacted

- R. Baker Technical Services Superintendent
- *R. Burns, Vice President, Nuclear Support-BWR
- T. Butler, Outage Coordinator
- *V. Childs, Assistant Operations Superintendent
- *R. Converse, Superintendent of Power
- M. Cosgrove, Quality Assurance Superintendent
- M. Curling, Training Superintendent
- W. Fernandez, Maintenance Superintendent
- H. Keith, Instrument and Control Superintendent
- R. Liseno, Operations Superintendent
- *C. McNeill, Resident Manager
- *E. Mulcahey, Radiological & Environmental Services Superintendent
- T. Teifke, Security & Safety Superintendent
- *R. Wiese, Assistant Maintenance Superintendent

The inspectors 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. Licensee Action on Previous Inspection Findings

(Closed) VIOLATION (333/82-15-06): This violation involved failure of personnel onsite to wear their photo identification badges in contaminated areas by leaving them attached to Radiation Work Permits. The inspector has noted only one additional instance of failure to implement this new requirement. In this case, the individual was in the drywell and there was a security guard at the access point monitoring the badge to ensure it was not taken by an unauthorized individual. The inspector verified by discussion with the training specialist and by review of a statement that each person who now receives General Employee Training signs that the requirement to wear photo identification badges at all times is emphasized.

(Closed) INSPECTOR FOLLOWUP ITEM (333/81-12-08): During inspection 50-333/82-28, the inspectors identified a violation (333/82-28-04 and 333/82-28-05), regarding the use of unauthorized defective tags on safety related equipment and failure to remove these tags during receipt inspection when the vendor documentation showed that the spare parts for the Low Pressure Coolant Injection Motor Operated Valve Inverter had been tested satisfactorily. This item is closed for administrative purposes since it is being carried as noted above.

(Closed) UNRESOLVED ITEM (333/82-06-02): The inspector reviewed revised LER 82-03-01X-1 which involved the withdrawal of control rods in the refuel mode with insufficient intermediate range neutron monitors operable. The inspector also reviewed and found acceptable the administrative controls

established to prevent recurrence which include changes to Operations Department Standing Order No. 4, Shift Relief and Log Keeping; Instrument and Control Department Standing Order No. 6, Instrument and Control Work Activity Log Book; and the development of Surveillance Procedure F-ST-20K, Control Rod Exercise/Venting.

(Closed) INSPECTOR FOLLOWUP ITEM (333/82-11-01): During the outage which ended January 23, 1983, the licensee completed the installation of the modification to the four remaining outside containment Main Steam Isolation Valves to prevent the previous recurrent failures.

(Closed) INSPECTOR FOLLOWUP ITEM (333/82-19-01): While observing startup activities on the afternoon of January 24, 1983, the inspector determined that the licensee was inerting the containment directly from a truck nitrogen fill connection, a method which was apparently permitted by system design but was not included in the licensee procedure for inerting. The problem was previously identified as a possible contributor to the difficulty the licensee had in meeting the Technical Specification time requirement as described in LER 82-32. The licensee committed to correct the procedure. Discussions with the shift supervisor on watch at the time indicated he thought the procedure had been revised. However, the Operations Superintendent stated that although the minor revision had been drafted, it was being held pending a major revision to procedure F-OP-37, Nitrogen Vent and Purge, Containment Atmosphere Dilution (CAD), Containment Vacuum Relief and Containment Differential Pressure System. The situation was further aggravated by the fact that one of the two nitrogen tanks is inoperable due to an apparent vacuum leak between the inner and outer tanks which causes any nitrogen added to the tank to flash lifting the relief valve. This 50 percent reduction in nitrogen capacity requires frequent deliveries particularly during inerting operations to maintain the minimum licensee committed supply of 2000 gallons of nitrogen. The licensee plans to test and repair this tank when test equipment on order is received. In spite of these difficulties and the long management delay in correcting the procedure, the licensee failed to follow the existing procedure or to seek a temporary change to it. When the inspector informed the licensee of this violation of Technical Specification 6.8(A) which requires that written procedures be established, the licensee immediately shifted the lineup to inert the containment by feeding the bleeding the in-service nitrogen tank (333/83-01-01).

3. Licensee Event Report (LER) Review

The inspector reviewed LER's 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.

LER's 82-53, 82-56*, 82-57*, 83-02 and 83-03 were reviewed.

*LER's selected for onsite followup.

Documentation of the review of the repair of A Low Pressure Coolant Injection System Inverter reported in LER 82-56 is contained in paragraph 7 of inspection report 50-333/82-28.

Documentation of the review of the failure of D Main Steam Isolation Valve reported in LER 82-57 is contained in paragraph 8 of inspection report 50-333/82-28.

4. Operational Safety Verification

a. Control Room Observations

Daily, the inspectors 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 inspectors observed shift turnovers biweekly to ensure proper control room and shift manning. The inspectors directly observed the operations listed below to ensure adherence to approved procedures:

- Routine Power Operation
- Post Trip Operation
- Issuance of RWP's and Work Request/Event/Deficiency forms
- Routine startup
- Control Rod Sequence Exchange

No violations were observed.

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.

While reviewing the Shift Supervisor's log at about 4:00 p.m. on January 20, 1983, the inspector found that occurrence report 83-019 had been written to record an inadvertant release of about 130 gallons of radioactive water from A Laundry Drain Tank (LDT) at 1:47 p.m. The licensee stated that following an authorized discharge of B LDT batch number 4675, the operator had inadvertently started A Laundry Drain Pump (LDP) to mix A LDT before closing the canal discharge valve. Because the level recorder for B LDT was not inking during the discharge, there was some question about whether the water from A LDT had been discharged or returned to B LDT. However, the discharge canal

flow recorder showed a brief discharge following the trip of B LDP indicating that there was a discharge from A LDT for a short time. When the inspector informed the licensee that this event should have been reported on the Emergency Notification System under 10 CFR 50.72 as an inadvertent radioactive release, the licensee initially responded that it was not a radioactive release because it did not exceed 10 CFR 20 reporting limits. However, the licensee decided to report the event shortly after this discussion.

c. Plant Tours

During the inspection period, the inspectors made observations and conducted tours of the plant. During the plant tours, the inspectors 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 inspectors also checked fire protection, housekeeping/cleanliness, radiation protection, and physical security conditions to ensure compliance with plant procedures and regulatory requirements.

No violations were observed.

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 830060 on the amphenol plugs for control rod drive 22-31 solenoids

-- PTR 830033 on the 4160 volt emergency bus 10600

No violations were observed.

e. Radioactive Waste Systems Controls

The inspector witnessed selected portions of a liquid radioactive release to verify that the required release approvals were obtained, the required samples were taken and analyzed, the radioactive waste system was operated in accordance with approved procedures, and the release control instrumentation was operable and in use.

The inspector observed the release of Batch 4662, B Laundry Drain Tank, on January 7, 1983.

The inspector observed the survey of the radioactive waste shipment number 01-83-049-A on January 25, 1983.

No violations were observed.

f. 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.

- Low Pressure Coolant Injection
- Standby Gas Treatment
- Emergency Power Distribution

The inspector also verified the operability of the following system by performing a complete walkdown of the accessible portions of the system. During the system verification, the inspector confirmed that the licensee's system lineup procedures matched plant drawings and the as-built configuration; verified that valves were in the proper position, had power available and were locked (sealed) as required; verified that system instrumentation was properly valved in; and verified that there are no obvious deficiencies which might degrade system performance such as inoperable hangers or supports.

- Standby Liquid Control System

During the verification of the Standby Liquid Control (SLC) System, the inspector noted the following discrepancies between the as-built condition, the valve lineup checklist in operating procedure F-OP-17, Revision 6, and drawings OP-17-1 and FM-21A-12.

- Pump suction pressure gages, 11-PI-102B and 11-PI-103B, are not shown on either drawing OP-17-1 or FM-21A-12. The isolation valves for these gages, valves SLC 102A and B, are not shown on drawing OP-17-1 or included on the operating procedure valve lineup checklist.
- Pump suction vent valves, valves SLC 104A and B, are not shown on drawing OP-17-1 or included on the operating procedure valve lineup checklist.

Based on discussions with licensee personnel, the inspector noted that these discrepancies had been identified by operations department personnel during a walkdown of the SLC system. The inspector will review licensee action to correct these discrepancies during a subsequent inspection (333/83-01-02).

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-64-1, Main Steam Radiation Monitor Instrument Calibration, Revision 11, dated August 25, 1982, performed on January 7, 1983.
- RAP 7.3.10, Control Rod Scram Time Evaluation, Revision 8, dated August 18, 1982, performed on January 8, 1983.
- F-ST-9B, EDG Full Load Test and ESW Pump Operability Test, Revision 17, dated November 4, 1982, performed on January 27, 1983.

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-ISP-8, Core Spray Sparger Differential Pressure Instrument Functional Test/Calibration, Revision 8, dated January 19, 1983, performed on January 28, 1983.

No violations were observed.

6. Maintenance Observations

- a. The inspectors observed portions of various safety-related maintenance activities to determine that redundant components were operable, these activities did not violate the limiting conditions for operation, required administrative approvals and tagouts were obtained prior to initiating the work, approved procedures were used or the activity was within the "skills of the trade," appropriate radiological controls were properly implemented, ignition/fire prevention controls were properly implemented, and equipment was properly tested prior to returning it to service.
- b. During this inspection period, the following activities were observed:
 - WR 07/18097 on the repair of B Tip Machine
 - WR 29/18024 on the replacement of B outside containment Main Steam Isolation valve 10 percent closure limit switch

- WR 27/20015/16 on the installation of the Post Accident Sample System modification (F1-80-19/20)
- WR 78/14899 on the repair of Motor Control Center C-161 600 volt feeder breaker no. 11606
- WR 17/17799 on the repair of "A" Main Steam Line Radiation Monitor
- WR 17/19248 on the repair of "A" Refuel Floor Exhaust Radiation Monitor

While observing the post repair testing of Motor Control Center C-161 600 volt feeder breaker no. 11606 under WR 78/14899 from about midnight until 1:00 a.m. on January 14, 1983, the inspector noted from the discussions of the maintenance electricians and quality control personnel involved that the electricians had worked for many hours during the five day outage to support safety-related breaker preventive maintenance. During a followup review of time sheets for the maintenance electricians, the inspector determined that four maintenance electricians had worked for 17 or more consecutive hours at the time of the observation and that they returned to work at 7:30 a.m. on January 14 for another work day in preparation for a reactor startup. Although licensee management personnel were aware of the long hours required of the electricians to support the outage activities, they had not reviewed the schedule and authorized the overtime by memorandum as required by Plant Standing Order (PSO) No. 26, Overtime Policy, Revision 2, dated August 5, 1982. This written authorization is required for key maintenance personnel who exceed sixteen consecutive hours of work, who exceed 24 working hours in a 48 hour period, and who have a break of less than 8 hours between work periods when working on safety-related equipment. All of these time frames were exceeded by the four electricians who worked from at least 7:30 a.m. on January 13, 1983 to 1:00 a.m. on January 14, 1983 (17 hours), and from at least 7:30 a.m. to 4:00 p.m. on January 14, 1983 (8 hours). Consequently, there was a maximum break of six and one-half hours between work periods and at least 25 of 48 hours were worked by the four electricians from 6:30 a.m. on January 13, 1983 to 6:30 a.m. on January 15, 1983. The inspector informed the licensee that this was a violation of Technical Specification 6.8(A) which requires that written procedures such as PSO 26 be implemented (333/83-01-03).

7. Followup on Plant Trips

- a. At 12:11 p.m., January 9, 1983, the turbine tripped due to a mechanical failure of an auxiliary relay contact arm on a 345 KV line protective relay. The reactor then scrambled from 78 percent power on the ensuing turbine control valve fast closure. There

was no ECCS actuation and no radioactive release associated with the trip. The plant remained shutdown for five days after the trip to repair the relay and to plug tubes in the 6A feedwater heater which had been previously leaking and was further aggravated by the transient.

- b. At 12:55 p.m. on January 17, 1983, the reactor scrammed from 89 percent power due to a closure of the Main Steam Isolation Valves (MSIV's). Again, there was no ECCS actuation and no radioactive release associated with the scram. Subsequent licensee investigation, which included a thorough management critique attended by the inspector, indicated that the MSIV isolation was caused by a surge in the reactor level instrument sensing line for the double low level trip switches. At the time of the scram, Instrument and Control technicians were performing a calibration on the parallel triple low level trip switch which starts the diesel generators. In spite of discussions with the personnel involved and a reenactment of the calibration, the licensee was unable to specifically identify the cause of the surge.

During the brief shutdown following the trip, the licensee was able to free control rod 22-31 which had been stuck in the full in position prior to the previous startup on January 14, 1983. However, when the licensee attempted to restart the plant on January 18, 1983, control rod 18-27 became uncoupled and efforts to recouple it failed. Since the licensee was unable to adhere to the prescribed control rod pattern and the reactor was not yet critical, the plant was shutdown at 1:57 a.m. on January 18, 1983 to replace control rod drives 22-31 and 18-27.

Following the replacement of control rod drives for control rods (CR) 22-31, 18-27 and 26-23 and replacement of the hydraulic control unit for CR 42-07, the licensee performed scram time testing of these CR's during a startup on January 25, 1983. Because of failed position indication switches on CR's 18-27 and 42-07, the licensee was unable to get complete scram time test data for them. Consequently, the licensee issued a temporary change to Reactor Analyst Procedure 7.3.10, Control Rod Scram Time Evaluation, Revision 8, dated August 18, 1983 to permit timing gross individual CR scram times using a stopwatch to demonstrate that the seven second maximum scram time for CR operability of Technical Specification 3.3.C.3 was met. However, this method did not provide adequate data to assure that the core average scram times required by T. S. 3.3.C.1 for all operable CR's during power operation were met, because current data for positions 38 on CR 18-27 and positions 46, 38, 24 and 04 on CR 42-07 was not available. The licensee initially did not think that this was required because T. S. 4.3.C.1 only requires that this surveillance be conducted once per cycle. The inspector pointed out that T. S. 3.3.C.1 requires that the licensee be able to demonstrate the averages be within specified limits for all operable CR's during power operation. This implies

that new data must be obtained for CR's on which maintenance has been done. This position is supported by Standard General Electric T. S. which specifically requires this after performing CR maintenance. The licensee subsequently performed an additional scram time test on rod 42-07 and used the conservative value for notch 24 in the notch 38 position for CR 18-27 to demonstrate that T. S. 3.3.C.1 was met.

Further licensee review of the scram data from January 17, 1983 indicated that although sufficient Safety Relief Valves (SRV's) lifted to control the pressure spike caused by the MSIV isolation, K SRV which was set at 1090 psig, did not lift even though recorded reactor pressure reached 1120 psig and J SRV which was set at 1140 psig did lift. Since neither J nor K SRV's lifted within the allowable ± 1 percent tolerance, the licensee replaced the topworks of both and sent the removed topworks of both two stage Target Rock SRV's to Wyle laboratory for as-found testing and repair. The licensee also noted that F SRV tailpipe temperature had been running at about 278^oF prior to the scram and that there was a topworks to main body flange leak identified during the previous startup on January 14, 1983. Since the temperature had not had five days to stabilize, the licensee did not remove it for testing per a previous commitment to NRR based on an earlier temporary Technical Specification amendment. The inspector discussed this matter with the NRR Licensing Project Manager who concurred. Instead of replacing the F SRV topworks, the licensee repaired the flange leak during the six day outage which concluded with a reactor startup on January 24, 1983.

No violations were observed.

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 report was reviewed:

- Operating Status Report for the month of December 1982, dated January 10, 1983.

No violations were observed.

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 28, 1983, the inspectors met with licensee representatives (denoted in paragraph 1) and summarized the scope and findings of the inspection as they are described in this report.