

April 21, 2000

Mr. Michael J. Colomb
Site Executive Officer
New York Power Authority
James A. FitzPatrick Nuclear Power Plant
Post Office Box 41
Lycoming, New York 13093

SUBJECT: NRC INTEGRATED INSPECTION REPORT 05000333/2000-002

Dear Mr. Colomb:

On April 1, 2000, the NRC completed an inspection at the James A. FitzPatrick Nuclear Power Plant. The results of this inspection were discussed on April 13, 2000, with you and members of your staff. The enclosed report presents the results of that inspection.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel.

The inspectors identified one violation of NRC requirements. The violation involved the failure to adequately perform a technical specification required surveillance test of keep fill systems. This finding was evaluated using the applicable SDP and was determined to be Green (very low safety significance). This violation is being treated as a non-cited violation (NCV), consistent with the interim Enforcement Policy for pilot plants. The NCV is described in the inspection report and has been entered into your corrective action program.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be placed in the NRC Public Document Room. Should you have any questions regarding this report, please contact me at 610-337-5211.

Sincerely,

/RA/

Glenn W. Meyer, Chief
Projects Branch 3
Division of Reactor Projects

Docket No. 05000333
License No. DPR-59

Enclosure: Inspection Report 05000333/2000-002

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 05000333

License No.: DPR-59

Report No.: 2000-002

Licensee: Power Authority of the State of New York, trading as the
New York Power Authority (NYPA)

Facility: James A. FitzPatrick Nuclear Power Plant

Location: Post Office Box 41
Scriba, New York 13093

Dates: February 20, 2000 to April 1, 2000

Inspectors: R. A. Rasmussen, Senior Resident Inspector
R. A. Skokowski, Resident Inspector
P. Frechette, Physical Security Specialist
G. Smith, Physical Security Specialist

Approved by: G. W. Meyer, Chief
Projects Branch 3
Division of Reactor Projects

SUMMARY OF FINDINGS

James A. FitzPatrick Nuclear Power Plant
NRC Inspection Report 05000333/2000-002

The report covered a six-week period of resident inspection. The report also covers a baseline inspection of the security program by regional physical security specialists. The safety significance of issues is indicated by their color (Green, White, Yellow, Red) and was determined by the Significance Determination Process (SDP) in draft Inspection Manual Chapter 0609 (see Attachment 1).

Mitigating Systems

Green. NYPA performed an incomplete evaluation of the safety significance of a ground indication on one of the two safety related station battery busses. NYPA's evaluation focused on the apparent cause of the ground but did not address the degraded but operable condition of this risk significant safety system. This issue was evaluated using the significance determination process (SDP) and determined to be Green (very low safety significance) because the battery system remained operable. No violation of requirements was identified. (Section 1R15.2)

Green. The surveillance testing on the keep fill parts of the core spray and residual heat removal low pressure coolant injection system discharge piping was inadequate, because the test method depended on the keep fill level switches (which had a history of being unreliable) to verify that the keep fill system was operating properly. The technical specification surveillance test requirements were not met for cases in which the level switches failed. However, based on other available indications, such as keep fill pumps operating, keep fill system pressure indication, and satisfactory CS and LPCI pump operation, the inspectors concluded that there was reasonable assurance that the systems would have performed their safety functions. Therefore, the issue was determined to be Green (very low safety significance) using the SDP. The inadequate surveillance test was determined to be a non-cited violation. (Section 1R22)

Physical Protection

Green. A surveillance test of search equipment at the access point identified a failure of all of the portal metal detectors. This finding was evaluated using the significance determination process and determined to be Green (very low safety significance). The inspectors concluded the time that the equipment was not functioning was minimal based on a satisfactory test two days prior to the failure and observations of equipment performance just prior to the test. The significance was based upon the determination that the finding was neither predictable or easily exploitable, nor were there any previous similar events. No violations of regulatory requirements were identified.

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Report Details

SUMMARY OF PLANT STATUS

During most of the inspection period the plant operated at power with no unplanned power reductions. Except, on April 1, 2000, during a planned power reduction to 30 percent for various maintenance activities, the reactor scrammed. Operators tripped the turbine generator based on indications of lowering condenser vacuum, which resulted in a reactor scram. This scram was considered uncomplicated and will be counted in the unplanned scrams performance indicator. NRC review of this event will be included in the next resident inspection report.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather

a. Inspection Scope

On March 9, 2000, the inspectors reviewed the New York Power Authority (NYPA) procedures and preparations for forecasted severe thunder storms.

b. Observations and Findings

There were no findings identified.

1R04 Equipment Alignments

a. Inspection Scope

The inspectors performed the following partial system walkdowns:

- Core spray (CS) A, residual heat removal (RHR), high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) systems during planned maintenance on CS B.
- Emergency diesel generators (EDGs) and offsite power sources during a planned maintenance on EDG A.
- CS, HPCI, RHR systems during planned maintenance on RCIC.

b. Observations and Findings

There were no findings identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors focused on fire protection equipment during tours of the battery and battery charger rooms.

b. Observations and Findings

There were no findings identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

On January 27, 2000, the inspectors observed the performance of an operations crew in the simulator. The inspectors observed the crew operating the simulator and the post event critique of the evolution.

b. Observations and Findings

There were no findings identified.

1R13 Maintenance Risk Assessment and Emergent Work

a. Inspection Scope

The inspectors reviewed the maintenance risk assessment associated with the following activities:

- Emergent work activity for the replacement of a gauge on the C EDG air start system.
- Planned work activities on EDG A, while the CS and RHR keep fill system level instruments were out-of-service.

b. Observations and Findings

There were no findings identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed operability determinations associated with the following plant equipment conditions:

- Operability of RCIC following a surveillance test failure.
- Operability of HPCI and RHR following the identification of calculation deficiencies associated with piping supports.
- Operability of the safety related battery busses following the occurrence of a ground.

b. Observations and Findings

The inspectors determined that NYPA performed an incomplete evaluation of the safety significance of a ground indication on one of the two safety related station battery busses. NYPA's evaluation focused on the apparent cause of the ground but did not address the potential consequences of continuing to operate this risk significant safety system with the ground. There were no findings related to the other operability evaluations reviewed.

On February 18, 2000, an indication of a ground on one of the two safety related station battery busses was observed. Following station procedures, operators traced the ground to one of three circuits. However, the ground could not be isolated because the remaining circuits could not be de-energized with the plant operating. Subsequently, NYPA identified a steam leak at an instrument line in the turbine building near the circuit, which appeared to be the cause of the ground. Leak repair and leakage containment reduced liquid in the area and the electrical ground later diminished.

NYPA wrote an operability determination to justify continued operation with the remaining residual ground on the system. The inspectors considered the operability evaluation inadequate in that the evaluation only addressed the compensatory measures for reducing the ground and did not assess the degraded but operable condition of the battery system. For example, the evaluation did not address if the battery system was performing as it was designed and if the steam leak had revealed a potential common mode failure of both battery systems (e.g., increased susceptibility to moisture.)

Subsequently, NYPA performed additional evaluations and revised the operability determination. Although the original conclusion was ultimately supported, the inspectors were concerned with the lack of depth of the original evaluation. The inspectors considered this issue noteworthy due to the high risk importance of the battery system. This issue was evaluated using the significance determination process (SDP) and determined to be Green (very low risk significance) because the battery system remained operable. The concerns with the operability determination were entered into the NYPA corrective action system as deficiency and event report (DER)-00-00745.

1R19 Post Maintenance Testing

a. Inspection Scope

The inspector reviewed the following post maintenance testing:

- Retest following replacement of several relays in the EDG A output circuit breaker.
- Retest of RCIC following planned maintenance activities.
- Retest of the B EDG following maintenance.

b. Observations and Findings

There were no findings identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed procedures and observed portions of testing related to the following surveillance tests:

- Monthly tests of the core spray and residual heat removal systems.
- Standby liquid control system surveillance testing.
- High pressure coolant injection system surveillance testing.

b. Observations and Findings

The inspectors determined that the surveillance testing method to verify the core spray and residual heat removal low pressure coolant injection system discharge piping remained filled with water was inadequate because the tests depended on the keep fill level switches that had a history of being unreliable. The surveillance tests under this method would have been unable to identify an inoperable keep fill system in cases in which the level switches failed. However, based on other available indications, such as keep fill pumps operating, keep fill system pressure indication, and satisfactory CS and low pressure coolant injection (LPCI) pump operation, the inspectors concluded that there was reasonable assurance that the systems would have performed their safety functions. Therefore, the issue was determined to be Green (very low risk significance) using the SDP. There were no findings related to the other surveillance tests reviewed.

The technical specifications require that the discharge piping of the CS and LPCI systems be maintained filled with water as a condition of system operability. This requirement is based on maintaining the piping filled to assure prompt injection of water, and eliminating a potential water hammer event if the system were to actuate with voided piping. The system designs include dedicated keep fill systems to maintain the piping filled and level switches to notify operators of a void in the piping. Technical specifications include two monthly surveillance requirements that the piping to be vented from the high point and water flow observed prior to testing and that the level switches to be functionally tested.

The surveillance test procedures to accomplish these requirements have started by draining the water from the discharge piping to functionally test the keep fill level switches but doing the draining in such a way that discharge piping level is not measurable. The piping was then refilled and vented from the high point. However, the keep fill level switches had a history of being unreliable, as documented in DER 00-0985 dated March 7, 2000. Because the test procedures utilized an alternate keep fill path from the condensate system to re-fill the piping (chosen to speed up the fill evolution and thus minimize radiation dose to the operators), a failure of the normal keep fill system

would not have been apparent. That is, this method did not verify that the normal keep fill system was actually functioning or that the system was functioning as left. The inspectors concluded that given the unreliability of the keep fill level switches, the test method used by NYPA did not satisfy the technical specification surveillance requirements.

Based on other available indications, such as keep fill pumps operating, keep fill system pressure indication, and satisfactory CS and LPCI pump operation, the inspectors concluded that there was reasonable assurance that the systems would have performed their safety functions. The inspectors evaluated the impact of the inadequate surveillance tests using the SDP and concluded that because the systems would have functioned, the issue was Green (very low safety significance). However, the failure to adequately verify the pump discharge piping was being filled as required by technical specification 4.5.G was a violation of NRC requirements. This violation is considered a non-cited violation, consistent with the Interim Enforcement Policy for pilot plants. The issues associated with this violation are in the NYPA corrective action system as DER - 00-0574. **(NCV 05000333/2000-002-01)**

1R23 Temporary Modifications

a. Inspection Scope

The inspector reviewed the following temporary modifications which were installed at the time of the inspection:

- 00-001 Defeat Crane Interlocks for Spent Fuel Pool Cleanup
- 00-004 Fail Open Level Control Valve 31LC-123A
- 00-006 Remove From Service and Cap Conductivity Cell

The inspector reviewed the following temporary modification, which was prepared but not yet installed at the time of the inspection.

- 00-023 Temporary Support of Hydrogen Seal Oil Piping

In addition, the inspectors reviewed a temporary repair that was made to deflect steam from a leaking joint on a secondary system sensing line.

b. Observations and Findings

There were no findings identified.

Emergency Preparedness Cornerstone

1EP1 Drill, Exercise, and Actual Events

a. Inspection Scope

On January 27, 2000, the inspectors observed the performance of an emergency preparedness drill by an operations crew in the simulator. The inspectors observed classification, notification and protective action recommendation development activities. The inspectors also reviewed the post drill critique.

b. Observations and Findings

There were no findings identified.

3. Safeguards (Cornerstone: Physical Protection)

3PP1 Access Authorization Program

a. Inspection Scope

The inspectors verified that NYPA was properly implementing the behavior observation portion of their personnel screening and fitness-for-duty program. Representatives of NYPA management and escort personnel were interviewed concerning their understanding of their behavior observation responsibilities and ability to recognize aberrant behavior traits. Access Authorization and Fitness-for-Duty self-assessments, event reports, audits and loggable events were also reviewed.

b. Observations and Findings

No findings were identified.

3PP2 Access Control

Inspection Scope

- a. The inspectors verified that NYPA had effective access controls and equipment in place designed to detect and prevent the introduction of contraband (firearms, explosives, incendiary devices) into the protected area that could be used to commit radiological sabotage. Verification of the identification and authorization process was used to confirm that only those who have been properly screened are granted unescorted access to the protected and vital areas. Access control activities were observed, including observation of personnel processing through the search equipment during peak ingress periods and testing of all access control equipment. Access control event logs, audits and maintenance work requests were also reviewed.

b. Observations and Findings

During the inspection a surveillance test of search equipment at the access point identified a failure of all of the portal metal detectors. This incident was evaluated using the significance determination process and determined to be Green (very low safety significance). The inspectors concluded the time that the equipment was not functioning was minimal based on a satisfactory test two days prior to the failure and observations of equipment performance just prior to the test. The significance was based upon the determination that the finding was neither predictable or easily exploitable, nor were there any previous similar events. No violations of regulatory requirements were identified.

During observed testing of search equipment, all of the portal metal detectors failed NYPA's routine test. Review of testing records for tests conducted prior to the inspection indicated that the search equipment was being tested in accordance with NYPA's procedures, and no equipment failures were identified.

Upon discovery of the equipment failure, NYPA implemented immediate short-term compensatory measures, in the form of individual hands-on searches for all personnel entering the protected area. The failed equipment was removed from service and subsequently replaced by metal detectors from warehouse inventory. The replacement equipment was functioning properly, and was being tested on a daily basis. NYPA entered this finding into their corrective action program (DER-00-0068) and was conducting a root cause investigation to determine the cause of the equipment failure.

4. OTHER ACTIVITIES [OA]

4OA1 Identification and Resolution of Problems

Inspection findings in previous sections of this report also had implications regarding NYPA's identification, evaluation, and resolution of problems, as follows:

- a. Section 1R15 - Evaluation of a degraded but operable condition (a ground) on a battery system was incomplete. This demonstrated weak problem evaluation.
- b. Section 1R22 - Surveillance testing of the low pressure keep fill system may not have identified an improperly operating keep fill system if the level switch also failed. This demonstrated weak problem identification.

Additional items associated with NYPA's corrective action program were reviewed without findings.

4OA2 Performance Indicator Verification

a. Inspection Scope

The inspector reviewed the performance indicators for the following:

- reactor coolant system (RCS) activity (January 1999 through December 1999)
- RCS leakage (January 1999 through December 1999)
- containment leakage (January 1999 through December 1999)
- RCIC system unavailability (January 1999 through December 1999)

b. Observations and Findings

There were no findings identified.

4OA4 Other

- .1 (Closed) LER 50-333/99-013: Steam Leakage Detection System Outside Design Bases.
This licensee event report was a minor issue and was closed during an on-site review.

4OA5 Meetings

Exit Meeting Summary

On April 13, 2000, the inspectors presented the inspection results to Mr. M. Colomb, Site Executive Officer, and others who acknowledged the findings presented.

During the exit meeting, one issue of very low risk significance was discussed that was determined to be a non cited violation (NCV). Should NYPA elect to contest this NCV, a written response within 30 days of the date of this Inspection Report, with the basis for the denial, should be sent to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the FitzPatrick facility.

The inspectors asked the NYPA personnel whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

NCV 05000333/2000-002-01: The failure to adequately verify the pump discharge piping was filled as required by technical specifications.

Closed

LER 50-333/99-013: Steam leakage detection system outside design bases.

LIST OF ACRONYMS USED

CFR	Code of Federal Regulations
CS	Core Spray
DER	Deficiency and Event Report
EDG	Emergency Diesel Generator
HPCI	High Pressure Coolant Injection
IR	Inspection Report
LER	Licensee Event Report
LPCI	Low Pressure Coolant Injection
MR	Maintenance Rule
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
NYPA	New York Power Authority
PRA	Probabilistic Risk Assessment
RCIC	Reactor Core Isolation Cooling
RCS	Reactor Coolant System
RHR	Residual Heat Removal
SDP	Significance Determination Process
SLC	Standby Liquid Control
TS	Technical Specification

ATTACHMENT 1

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety

- Initiating Events
- Mitigating Systems
- Barrier Integrity
- Emergency Preparedness

Radiation Safety

- Occupational
- Public

Safeguards

- Physical Protection

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

More information can be found at: <http://www.nrc.gov/NRR/OVERSIGHT/index.html>.