U.S. NUCLEAR REGULATORY COMMISSION
Region I

Report No.: 50-333/90-01

Docket No.: 50-333

License No.: DPR-59

Licensee: New York Power Authority
Post Office Box 41
Lycoming, New York 13093

Facility: James A. FitzPatrick Nuclear Power Plant

Location: Scriba, New York

Dates: January 25 through March 11, 1990

Inspectors: W. Schmidt, Senior Resident Inspector
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Approved by: for David F. Limroth 4/11/90
Glenn W. Meyer, Chief Date
Reactor Projects Section No. 1B

Inspection Summary:

This inspection report discusses routine and reactive inspections of plant activities during day and backshift hours including; plant operations, radiological protection, surveillance and maintenance, security, engineering and technical support, and safety assessment/quality verification. This period included deep backshift and weekend inspection conducted on January 27, 28, February 3, 4, 10, 17, 24, March 3 and 10.

Results:

The inspector identified a violation, two licensee identified violations, and four unresolved items. An Outline of Inspection follows.

OUTLINE OF INSPECTION

1. Operations (MC 71707, 93702, 60705)

   1.a Failure of NYPA to take effective corrective actions to ensure SRO command of reactor operations. Violation 90-01-01.
   1.b Simulator EOP training observation.
   1.c Backseating of recirculation loop valve and review of procedure changes to the backseating instruction. Resolved item F-1 from Inspection Report 89-12.
   1.d Review of NYPA's planning for the 1990 refueling outage.
   1.e (Closed) Unresolved Item 89-12-02; Temporary modification performed to RCIC fire doors without proper documentation.

   1.1 Inspector Assessment

2. Radiological Protection (MC 71707)

   2.a Review of Na-24 injection testing. Review NYPA's use of pre-job briefings and contamination control during the 1990 outage.
   2.b Inspector contamination by a hot particle.
   2.c Inspector observation of radiological housekeeping.

   2.1 Inspector Assessment

3. Surveillance and Maintenance (MC 61726, 62703, 71710, 92702, 92703)

   3.a (Closed) Unresolved Item 89-11-02; Review of NYPA's snubber program. NYPA failed to maintain adequate records for snubber service life per TS 6.10.13, Licensee Identified Violation 90-01-02.
   3.b RHR MOV failure because of operator inattention to detail - Licensee Identified Violation 90-01-08.
   3.c Review of HPCI turbine stop valve and lube oil system, F-1.
   3.d Review of missed IST on RHR pump cooling water check valve, Licensee Identified Violation 90-01-03.
   3.e NYPA identified inadequate surveillance of MSIV limit switch RPS functions, Unresolved Item 90-01-04.
   3.f Increased frequency A and C RHR pump testing.
   3.g Review of NYPA's resolution to EDG fuel oil samples above ASTM D975-81 limit.

   3.1 Inspector Assessment

4. Security (MC 71707)

Outline of Inspection (Continued)

5. Engineering and Technical Support (MC 92700, 92702, 73756)

5.a Review of NYPA's check valve IST program, Unresolved Item 90-01-05.
5.b Review of NYPA's controls on industry event reports and vendor notifications, Unresolved Item 90-01-06.
5.c Review of LERs.

-- 89-18-00 and 01
-- 89-19-00 and 01
-- 89-20-00
-- 89-26-00
-- 90-01-00
-- 90-02-00
-- 90-03-00
-- 90-04-00

5.d (Open) Unresolved Item 90-02-03; Review changes made to EOP procedure generation package.

5.1 Inspector Assessment

6. Safety Assessment and Quality Verification (MC 92700, 92702)

6.a NYPA to review how corrective actions for non-reportable events are identified and reviewed, Unresolved Item 90-01-07.
6.b (Closed) Violation 89-10-04; NYPA failed to perform audits required by TS within the specified frequency.

6.1 Inspector Assessment

7. Special/Regional Inspection Activity

7.a Special Inspection Report 90-11, resident inspector reviewed NYPA's actions on feed water flow instrument calibration.
7.b Inspection Report 90-13, Regional review of NYPA's Fire Protection program and followup on SSFI open items.

8. Exit Interview (MC 30703)

Attachment A - Acronyms

DETAILS

1. Operations

The plant operated at rated power during the period, except for reductions in power to allow 345 KV transmission line maintenance. The inspector observed proper conduct and coordination of control room operations during power level changes.

a. The inspector determined that NYPA had not adequately implemented previous corrective actions to ensure command of reactor operations by one SRO at all times. On August 3, 1989, the inspector observed both the SS and the ASS taking a break in the control room lunchroom at the same time. NYPA corrective actions included discussions with each SRO on shift and changes to ODSO-1 to define better the responsibilities of an SRO. NYPA discussed these actions in a written response to NRC concerns expressed in the forwarding letter of Inspection Report 89-09, dated October 12, 1989.

On the evening of February 4, the inspector found no SRO in command of the control room. The SS had turned over control room command to the ASS while he toured the plant, and the ASS was taking a break in the control room lunch room. The ASS finished his break and returned to the control room area. The inspector asked the ASS about his awareness of the SRO responsibilities in the control room and the changes made to address the previous concerns. The ASS responded that he knew of the concern but did not know where the changes had been documented. The inspector identified the changes in ODSO-1 to the ASS. These observations were discussed with the plant management. NYPA management review determined that the behavior of the ASS was inexcusable and not to the high standard of professionalism expected. NYPA took appropriate disciplinary action against the individual and discussed the event with the operations staff.

As discussed in Inspection Report 89-09, the professionalism of operators is a matter of significance to the NRC. 10 CFR 50, Appendix B, Criterion XVI states in part that measures should be taken for significant conditions adverse to quality including determination of the cause and correction to preclude repetition. Failure of NYPA to ensure that all SROs maintained control room command as defined in ODSO-1 was a violation. Violation 90-01-01

b. The inspector observed effective operator simulator training using the new flow chart EOP format. The simulator instructors provided appropriate feedback to the operators during the observed scenario. NYPA completed EOP simulator training during the week of February 12 in preparation for transfer to the flow chart format after the 1990 refueling outage. The operators believed that the flowcharts improved the usability of the EOPs.

c. The inspector determined that NYPA performed the backseating of a recirculation loop valve (2MOV53A) properly and corrected previously identified procedure deficiencies with such operations. The inspector found that the changes made by NYPA to ODSO-27, the procedure for backseating MOVs, addressed the concerns documented in Inspection Report 89-12, Section 1.b. These actions close item F-1 from that inspection report.

d. The inspector found adequate planning conducted by NYPA for the 1990 refueling outage. The inspector attended several meetings and reviewed the integrated schedule. The computerized schedule included blocks of time set aside for specific system work. This specific work was then broken down into a system window schedule which appeared to allow better identification of all aspects of work on a specific system.

e. (Closed) Unresolved Item 89-12-02; Temporary Modification (TM) performed to RCIC room fire doors without proper documentation. The inspector reviewed TM 90-10, and found it adequate. The inspector closed this item.

1.1 Inspector Assessment

NYPA management did not ensure that all SROs understood and followed the policy changes and new performance expectations regarding control room command.

2. Radiological Protection

a. The inspector attended pre-evolution briefings and walked down the equipment that supported the sodium (Na)-24 isotope tracer feed flow determination test. A radiation protection technician became contaminated following the first injection test, and the inspector reviewed NYPA's initial response to that event. A two man NRC regional radiation protection team reviewed NYPA's actions for the contamination event and documented the results of the inspection, along with resident inspector input, in Inspection Report 90-12.

The resident inspectors noted a deficiency with the preparations for the test. NYPA performed testing to identify and correct any leakage from the test equipment, however, NYPA had not conducted a visual inspection for leakage from plant piping through which the tracer would pass before injection into the feed piping. Any leakage could have affected the test results and more importantly caused an unknown radiological hazard. The inspector addressed this concern with the assistant operations superintendent, who directed the performance of an inspection, that identified no leakage.

The inspector concluded that NYPA needed to take additional action to prevent the spread of contamination during all radiologically sensitive work. The inspector discussed the long term concerns about the adequacy of pre-job briefings, the distances that potentially contaminated personnel travel before frisking and the action taken when individuals are discovered to be contaminated, with NYPA management.

b. NYPA radiation protection technicians (RPTs) performed well when a whole body frisker identified radioactive contamination of the NRC inspector. The technicians located and removed the hot particle from the shoulder of the inspector's shirt. NYPA completed documentation of the hot particle contamination properly. The inspector had observed RHR pump operations and toured the West Crescent, entering no contaminated areas. The RPTs performed a whole body count on the inspector to ensure there was no internal contamination. While NYPA could not determine the origin of the particle, they suspected it was a speck of crud or iron filing (not Co-60).

c. The inspector toured various areas of the plant and observed generally good radiological housekeeping.

2.1 Inspector Assessment

The inspector determined that NYPA responded conservatively to the hot particle contamination event discussed above. However, NYPA did not perform adequately with respect to the unusual radiological problems involved with the use of Na-24.

3. Surveillance and Maintenance

a. (Closed) Unresolved Item 89-11-02; Review of NYPA's snubber program. The inspector reviewed NYPA's control of the testing, rebuilding and installation of snubbers and determined that the program was being well managed. However, the controls on the program between 1985 and 1989 were ineffective. These inadequate controls lead to NYPA's discovery of missed rebuilds for snubbers inside and outside of the drywell. Also, NYPA identified inadequate control of snubber locations and histories, leading to several cases of snubbers with the same, supposedly specific, plant numbers.

Since the spring of 1989 a maintenance engineer has reviewed and managed the program. This individual performed well in reviewing and documenting the location and maintenance history of the plant snubbers. The inspector verified that current lists and work requests existed for programmatic inspection and rebuilds due during the 1990

outage. While it appeared that the current management of the program was adequate, the inspector determined that no specific program plan procedure existed that delineated the documentation requirements. Based on this concern, NYPA has committed to develop a program plan procedure for snubbers.

NYPA's failure to maintain service life records for snubbers violated TS 6.10.13. NYPA did not receive a Notice of Violation because they identified these issues and took corrective actions. NRC enforcement policy 10 CFR, Part 2, Appendix C, section V.G.1, allows licensee identified violations not to be cited. Assignment of an open item number identified this non-cited violation solely for tracking purposes. NON 90-01-02

Based on this review and NYPA's commitment the inspector closed this item.

b. The inspector reviewed NYPA's determination that an auxiliary operator caused the damage to an RHR MOV due to a personnel error. On January 30, NYPA declared the A LPCI sub-system inoperable because of the motor failure on the inboard injection valve (10MOV25A) during surveillance testing. Differential pressure in excess of motor design limits caused the failure when operators tried to open the valve. ST-2B required verification that the differential pressure across 10 MOV 25A be less than 300 psid by opening an isolation valve to a corresponding differential pressure gauge. The auxiliary operator performing this step failed to follow the procedure and read the pressure on an isolated gauge.

The inspector reviewed ST-2B and determined that inattention to detail by the auxiliary operator caused the event. NYPA reinforced with operators the need to carefully follow procedures and maintain a questioning attitude. Failure to follow procedures as required by TS 6.8.a is a violation. A Notice of Violation was not issued because NYPA identified this issue and took corrective actions. NRC enforcement policy, 10 CFR Part 2, Appendix C, section V.G.1., allows that licensee identified violations not be cited. Assignment of an open item number identifies this non-cited violation solely for tracking purposes. NON 90-01-08

c. The inspector found that NYPA properly conducted monthly IST surveillance testing, subsequent corrective maintenance and post maintenance testing on HPCI. The initial testing indicated that the opening stroke time for the turbine stop valve (HOV-1) had been exceeded. NYPA conducted maintenance on the HPCI lube oil system following this failure which included flushing the servo valve, cleaning the lube oil filters and replacing the shaft driven main lube oil pump (MLOP).

The inspector reviewed the HPCI lube oil system and the operation of HOV-1. Inspector analysis of surveillance test data for HOV-1 and discussions with the NYPA systems engineer indicated several problems with the lube oil system as it related to the stroke time of HOV-1.

-- The time from when the auxiliary lube oil pump (ALOP) started until HOV-1 began to move open, depended most on the pressure transient on the low pressure portion of the lube oil system. NYPA found that the pressure transient at this point was affected by the lube oil filter differential pressure and the response of the pressure reducing valve.

-- The rest of the HOV-1 opening stroke time appeared to be affected most by the discharge pressures of the ALOP and MLOP. NYPA found that HOV-1 actually stopped its opening movement for a short period of time during system start. NYPA determined that a system design characteristic allowed the turbine to receive steam before the ramp generator controlled the turbine speed. NYPA planned to correct this problem by implementing a modification to the turbine control system as outlined in GE SIL 480, dated February 9, 1989, during the 1990 outage.

The inspector noted several deficiencies in the operating, surveillance and alarm response procedures for HPCI:

-- OP-15, Figure 15-2, showed the pressure switch which monitors the MLOP discharge pressure located downstream of the pump check valve. In this location the switch would not perform its intended function. The inspector verified installation of that switch upstream of the check valve.

-- ST-4N, NYPA modified this procedure in 1987 to ensure recording of data on the lube oil system, because of previous concerns about the opening time of HOV-1. The inspector found that the lube oil filter differential pressure, and pressure downstream of the pressure regulator did not get recorded. The inspector considered that these values were of importance since they could affect the stroke time of HOV-1.

-- Control room alarm response procedure 09-3-3-35 did not adequately address the operator response for a low bearing oil pressure alarm. The alarm response procedure discussed the automatic starting of the ALOP at 20 psig, which was not controlled by the pressure switch that controlled this alarm. Further, the calibration procedure did not have the correct setpoint although the previous calibration had been done at the correct point.

-- The high lube oil differential pressure alarm (09-3-3-27) did not alarm, but NYPA believed that this loss of pressure contributed to HOV-1 exceeding its IST stroke time. The inspector asked NYPA to evaluate the need for lowering this setpoint.

NYPA committed to review these concerns and to take actions where necessary. The inspector planned to review NYPA's actions in a subsequent report. F-1

d. The inspector determined that inadequate control of the IST program for check valves led NYPA to declare the D RHR pump inoperable on February 20. NYPA determined that IST inspection of the D RHR pump RBCCW cooling supply check valve 15-RBC-35D had never been completed. NYPA isolated the cooling line to the pump, disassembled and inspected the check valve satisfactorily, and returned the system to operability. NYPA identified this condition because of continued improvements in the control and overall implementation of their check valve program. The inspector determined, based on further review of similar valves this appears to be an isolated case.

Failure of NYPA to test 15-RBC-35D violated their IST program implemented to comply with ASME Section XI and 10 CFR 50.55a(g)(4). NYPA did not receive a Notice of Violation because they identified this issue and took adequate corrective actions. NRC enforcement policy, 10 CFR Part 2, Appendix C, Section V.C allows licensee identified violations not to be cited. Assignment of an open item number identified this non-cited violation solely for tracking purposes. NON 90-01-03

e. The inspector found that NYPA handled the determination of inadequate surveillance testing on a MSIV RPS limit switch (LS) properly. NYPA determined, because of simulator review of the surveillance test, that the testing of MSIV LSs did not have sufficient overlap to ensure that both LSs on each valve performed their function. Each RPS system has two trip channels with contacts that will cause a scram condition with the isolation of more than one MS line. NYPA had not been testing to ensure that the MSIV position relays for both channels deenergized when the MSIVs close to less than 90% open. The inspector considered that this constituted an unresolved item, until NYPA completes its corrective action. Unresolved Item 90-01-04

f. The inspector found that NYPA properly conducted the increased frequency IST surveillance test (ST-4N) for the A and C RHR pumps, on March 1. These pumps had shown a decreasing trend in developed head during the last several tests. The March 1 test indicated that the developed head for both pumps was near the reference values, which was an improvement in performance since the last test. The inspector monitored the data acquisition and system parameters during the test. No specific reason for the improvement in performance could be identified.

NYPA received TS amendment 153 on March 1, allowing a 14-day LCO with both the A and C pumps inoperable. NYPA still planned to disassemble and repair the pumps using this LCO before the beginning of the 1990 refueling outage.

g. The inspector determined that NYPA took appropriate action to resolve concerns about the water and sediment content of EDG fuel oil above the ASTM D975-81 limit of .05%. The inspector found the March 9 engineering evaluation which stated that EDG degradation would not occur by running the machines with fuel oil that contained up to .06% water and sediment acceptable.

3.1 Inspector Assessment

The failure to follow written procedures caused damage to an RHR valve, resulting in unnecessary corrective maintenance. The inspector planned to continue monitoring the trend in personnel errors, and to assess NYPA's corrective actions.

4. Security

On February 20, NYPA reported to the inspector receipt of their first confirmed positive drug test on a NYPA technical services engineer. The individual's site access was removed and the EAP process was followed as outlined in NYPA's FFD policy. As of the end of the report period, the EAP process had not been completed.

5. Engineering and Technical Support

a. The inspector found that NYPA's IST check valve program had improved and was responsive to previous IST and Generic Letter 89-04 concerns. However, the inspector determined discrepancies between the second ten year IST program and the program in place to address Generic Letter 89-04. NYPA issued Performance Engineering Procedure 6.3 (PEP 6.3), IST Category C Valve Testing to ensure compliance with the IST program and GL 89-04 commitments.

The inspector determined that several RBCCW check valves in the second ten year IST program did not get incorporated in PEP-6.3. The valves in question had a safety function in the closed position to prevent loss of safety related ESW flow into the non-safety related RBCCW system, thus preventing the potential for inadequate ESW flow to safety components. NYPA reviewed these concerns and determined that the valves had been deleted inappropriately, absent any other evaluation.

NYPA pointed out that they had previously tested these valves. They removed them from the program with the intention of performing a flow analysis to prove that failure of the valves to seat would not affect design ESW flow. However, NYPA never performed this evaluation. NYPA subsequently added these valves to PEP 6.3. In addition, NYPA committed to verify that no other valves previously in the IST program had been removed during program improvements to support the NYPA Generic Letter 89-04 response without a supporting basis for removal.

The inspector considered that this represented an unresolved item pending completion of NYPA's Generic Letter 89-04 response and supporting IST program reviews. Unresolved Item 90-001-006

b. The inspector concluded based on recent inspection findings that NYPA had been slow to review industry event reports and GE Service Information Letters (SILs). The inspector found that NYPA did not take timely action on SILs 452 and 475, which addressed feedwater flow instrument calibration deficiencies and HPCI high steam flow isolation setpoint calculation deficiencies, respectively. The inspector discussed this with the technical service engineer who received the incoming information and distributed it for review. NYPA revised Plant Standing Order 28 (PSO 28) in July 1989 to ensure that incoming information receives review and prioritization within an appropriate time period. Prior to this there had been no specific time limit. Information received prior to July 1989, has not received complete reviews, and it was unclear whether NYPA planned to prioritize these reviews for each system. The inspector considered that this issue represented an unresolved item. Unresolved Item 90-001-007

c. The inspector reviewed the following LERs and found that the information and corrective actions provided were adequate. The information in parentheses indicates the event date and the SALP functional area to which the report applies.

-- 89-18-00 and -01 (October 8, 1989, engineering and technical support) HPCI turbine inoperable due to restrictive high steam flow isolation setpoints.

-- 89-19-00 and -01 (October 31, 1989, maintenance) HPCI inoperable due to electrical ground in the speed control circuit.

-- 89-20-01 (November 5, 1989, N/A) Reactor scram due to EHC malfunction.

-- 89-26-00 (November 5, 1989, maintenance) SRV pilot valve assembly setpoint drift.

-- 90-01-00 (January 19, 1990, surveillance) Reactor scram due to a false reactor vessel water level signal during instrument calibration.

-- 90-02-00 (January 20, 1990, operations) Shutdown cooling system isolation during system startup.

-- 90-03-00 (January 29, 1990, engineering and technical support) Potential core overpower event due to feed water flow transmitter calibration errors.

-- 90-04-00 (February 7, 1990, maintenance) RCIC isolation due to failed master trip unit for high ambient room temperature.

d. (Open) Unresolved Item 89-12-03; This item tracks EOP issues that require action either by NYPA or NRC to allow closure. On February 13, the NRC staff issued the safety evaluation for Fitz-Patrick's EOP procedure generation package. This evaluation noted that NYPA should complete improvement to the PGP as part of the upgrade to Revision 4 of the BWROG EPGs.

5.1 Inspector Assessment

The inspector found that the system engineering program has provided useful focus on engineering activities in the HPCI, RHR and EDG areas. NYPA should continue to benefit from this program by affording needed focus on system operation and design basis.

6. Safety Assessment/Quality Verification

a. The inspector noted that PORC determined several ORs during the period were not reportable, but that the OR documented non-conforming conditions or failure to follow plant procedures. Based on this the inspector asked the QA superintendent what controls were in place to ensure that corrective actions were taken and were reviewed for adequacy. There was no such program to document these conditions. The inspector considered that adverse quality condition reports were the applicable method of documenting such events and the associated corrective actions. NYPA committed to review this situation. The inspector considered that this condition represented an unresolved item. Unresolved Item 90-01-06

b. (Closed) Violation 89-10-04; NYPA failed to perform audits required by TS within the specified frequency. NYPA agreed with this violation in their response dated January 5, 1990. NYPA committed to making changes in the control of audits to ensure adequate completion. The inspector found that these changes addressed the need for increased corporate and site attention to TS required audits. These changes included development of a two year audit schedule, monthly audit program status reports to the SRC and specific guidance needed by site QA to carry out the audit program.

NYPA also completed the overdue audits by November 1, 1989. The inspector reviewed four of these audits, and determined appropriate use of audit checklists and adequate recommendations based on the findings. Based on this review the inspector closed this violation.

6.1 Inspector Assessment

The inspector and NYPA continued to identify areas where inadequate controls led to failure to meet program commitments. Management and QA review of results and adherence to program commitments remain an area of concern.

7. Special/Regional Inspection Activity

a. Special Inspection Report 90-11; January 31 through February 7. The resident inspector conducted this report to review NYPA's actions with respect to feed flow instrument calibrations.

b. Inspection Report 90-13; February 20 through March 2. Region based inspector performed the core fire protection inspection and followup on SSFI Inspection Report 89-80 open items.

8. Exit Interview

At periodic intervals during the course of this inspection, meetings were held with senior facility management to discuss inspection scope and findings. In addition, at the end of the period, the inspectors met with NYPA representatives and summarized the scope and findings of the inspection as they are described in this report.

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

ATTACHMENT A

Acronyms

ALARA	-	As Low as Reasonably Achievable
ASS	-	Assistant Shift Supervisor
EDG	-	Emergency Diesel Generator
EOP	-	Emergency Operating Procedures
EPG	-	Emergency Procedure Guideline
HCU	-	Hydraulic Control Unit
HELB	-	High Energy Line Break
HPCI	-	High Pressure Coolant Injection System
FFD	-	Fitness for Duty
IGSCC	-	Inter Granular Stress Corrosion Cracking
I&C	-	Instrumentation and Control
ISI	-	In-Service Inspection
IST	-	In-Service Testing
LCO	-	Technical Specification Limiting Condition for Operation
LCOAS	-	LCO Action Statement
LER	-	Licensee Event Report
LLRT	-	Local Leak Rate Test
MOV	-	Motor Operated Valve
ODSO	-	Operations Department Standing Order
OR	-	Occurrence Report
PCIV	-	Primary Containment Isolation Valve
PM	-	Preventive Maintenance
PMT	-	Post Maintenance Testing
PORC	-	Plant Operations Review Committee
PTR	-	Protective Tagout Request
QA	-	Quality Assurance
QC	-	Quality Control
RCIC	-	Reactor Core Isolation Cooling System
RHR	-	Residual Heat Removal System
RPS	-	Reactor Protection System
RTD	-	Resistance Temperature Detector
RWCU	-	Reactor Water Cleanup System
RWP	-	Radiation Work Permit
SALP	-	Systematic Assessment of Licensee Performance
SBGT	-	Standby Gas Treatment System
SPDS	-	Safety Parameter Display System
SRC	-	Safety Review Committee
SRO	-	Senior Reactor Operator
SS	-	Shift Supervisor
SSFI	-	Safety System Functional Inspection
ST	-	Surveillance Test
STA	-	Shift Technical Advisor
TAF	-	Top of Active Fuel
TS	-	Technical Specification