

U.S. NUCLEAR REGULATORY COMMISSION  
Region I

Report No.: 92-01  
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: February 2, 1992 through March 7, 1992  
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**Inspection Summary:** Routine NRC resident inspection of plant operations, radiological controls, maintenance, surveillance, engineering and technical support, and quality assurance/safety verification.

**Results:** See Executive Summary

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**NOTE:** The NRC inspection manual procedure or temporary instruction that was used as inspection guidance is listed for each applicable report section.

## Executive Summary

James A. FitzPatrick Nuclear Power Plant

NRC Region I Inspection Report No. 50-333/92-01

February 2, 1992 - March 7, 1992

**Plant Operations:** The plant remained shutdown throughout the inspection period. The performance of operations department personnel during routine activities was good.

**Radiological Controls:** The management decision to delay drywell maintenance until decontamination completion was positive with respect to maintaining personnel exposure ALARA goals.

**Maintenance:** Performance weaknesses were noted in the review of several maintenance activities. Some activities had excellent procedures which were followed closely and the documentation was kept up-to-date. Other activities had weak procedures, lacked formal procedures or were tersely documented, sometimes after the fact. The inspector concluded that procedure use and adherence expectations as described in AP-1.13 and AP-1.14 were not fully understood by all maintenance workers.

**Surveillance:** The conduct of surveillance activities during the period was observed to be good. The inspector reviewed several procedure enhancements to the emergency diesel generator testing, and determined they were comprehensive and well thought out.

**Engineering and Technical Support:** A previously unresolved item concerning the operability of core spray instrumentation in the cold shutdown condition was effectively addressed.

**Safety Assessment/Quality Verification:** An unresolved item (92-01-01) was identified concerning a previous nonconformance evaluated by NYPA QA where a type B air lock leak test may have been required to be performed. Several additional nonconformances evaluated by NYPA appeared to be shallow and failed to correct the root cause of the identified concerns. An unresolved item (92-01-02) was identified concerning a 1986 NRC Information Notice which dealt with inadequate leak rate testing of vacuum relief valves. Another unresolved item (92-01-03) concerned the design controls established for a modification which appeared to overlook required seismic qualifications of the equipment.

## DETAILS

### 1.0 SUMMARY OF FACILITY ACTIVITIES

#### 1.1 NYPA Activities

The plant remained in the cold shutdown condition to support the 1992 refueling outage through the inspection period. NYPA continued to repair various fire barrier electrical penetration deficiencies. NYPA completed a full core offload on February 17 to support chemical decontamination of the reactor recirculation system piping. The chemical decontamination was completed February 28. Major work tasks completed or in progress during the inspection period included: torus visual inspection and desludging, B station battery discharge test, B and D emergency diesel generator overhaul, fuel sipping, and various outage maintenance and testing activities.

#### 1.2 NRC Activities

The inspection activities during this report period included inspection during normal, backshift and weekend hours by the resident staff. There were 17 hours of backshift (evening shift) and 25 hours of deep backshift (weekend, holiday and midnight shift) inspections during this period.

A region-based inspector conducted a review of inservice inspection activities the week of February 24.

On February 5, the NRC published the results of the latest NRC senior managers meeting. At that meeting, it was announced that the FitzPatrick nuclear power plant required close monitoring by the NRC staff. Plants in this category have been identified as having weaknesses that warrant increased NRC attention until the plant demonstrates a period of improved performance.

### 2.0 PLANT OPERATIONS (71707,71710,93702)

#### 2.1 Routine Plant Operations Review

During the inspection period the inspectors observed control room activities including operator shift turnovers, shift crew briefings, panel manipulations and alarm response, and routine safety system and auxiliary system operations conducted in accordance with approved operating procedures and administrative guidelines. The inspectors independently verified safety system operability by review of operator logs, system markups, control panel walkdowns and component status verifications in the field. Discussions were held with operators and technicians in the field to assess their familiarity with current system status and personnel response to events during the inspection period. In addition, during plant tours, inspectors reviewed routine radiological control practices. The activities inspected were acceptable.

## 2.2 Operational Safety Verification

The inspector conducted partial control room and in-plant walkdowns of the following systems:

- A and C emergency diesel generators
- A standby gas treatment system
- A residual heat removal system
- A core spray system

## 2.3 Engineered Safety Feature Actuation

On March 2 at 2:11 p.m., a spurious trip of the B containment high range radiation monitor (27RM-104B) resulted in the automatic closure of two open containment ventilation isolation valves. The monitor was not required by technical specifications (TS) to be operable at the time, however, the spurious trip caused the ventilation system isolation which is considered a 10 CFR 50.72 reportable engineered safety feature actuation. The inspector verified that control room operator response to the event was appropriate and that the proper 10 CFR 50.72 notification was made. The inspector subsequently determined that, as a result of this event, station personnel are considering methods for removal of equipment from service to prevent unwarranted automatic system actuations, when such equipment is not required to be operable per the technical specifications.

## 3.0 **RADIOLOGICAL CONTROLS (IP 71707)**

### 3.1 Recirculation Piping Chemical Decontamination

The refueling outage started on January 11, 1992. In an effort to minimize outage exposure, NYPA management delayed all drywell related maintenance and inservice inspections until completion of the recirculation piping chemical decontamination. The inspector observed portions of the decontamination process performed in accordance with procedures TOP-97 and TMP-14.3. Prerequisites were verified by the inspector to have been properly met. He noted good control room operator procedural adherence and a generally careful and cautious approach to coordinating this evolution.

NYPA completed the chemical decontamination on February 28 with the following results: approximately 50 curies were removed from the recirculation piping with a general area decontamination factor of 2.83. Based on these results, NYPA radiological and environmental services (RES) department management anticipates at least a 50 percent savings in drywell exposures during the outage. The decision to delay drywell maintenance until decontamination completion reflected positively on management's commitment to achieving personnel exposure ALARA goals. The inspector will continue to monitor radiological exposure results throughout the outage.

#### 4.0 MAINTENANCE (IP 62703)

##### 4.1 Observation of Maintenance Activities

The inspector observed and reviewed selected portions of preventive and corrective maintenance to verify compliance with codes, standards and Technical Specifications, proper use of administrative and maintenance procedures, proper QA/QC involvement, and appropriate equipment alignment and retest. The following activities were observed:

##### 4.1.1 Work Request (WR) 096621, 27 AOV-114 Containment Air Dilution (CAD) Drywell Outer Exhaust Valve

During the performance of local leak rate testing of containment penetrations in accordance with ST-39B, valves 27 AOV-113 and -114 had excessive combined leakage. It could not be determined which valve had the failing leakage. Work request 096621 was written to document this problem and schedule repairs. A work permit request form (WPRF) was submitted by the mechanical maintenance group to disassemble 27 AOV-114, inspect for the reason for failure, repair the seat, and reassemble the valve.

The inspector observed portions of the maintenance conducted on February 20, 1992. The work permit request form specified that repairs were to be conducted in accordance with procedure MP 59.54. During a review of the work package documentation, the inspector found that it was not up to date for work which had been accomplished the previous day. The inspector also noted that procedural changes had not been made to reflect additional work (special rigging and an air tightness pretest of the valve seat) which was accomplished. During discussions with maintenance workers, the inspector noted confusion among the workers concerning the new station requirements for when a procedure is required (AP-1.13), for procedure use and adherence (AP-1.14), and for maintaining procedures accurate and up to date. Based on the assessment of the work activity described above, the inspector questioned whether the completed maintenance, as documented, met the intent of procedural adherence requirements described in AP-1.13 and 1.14. It appeared to the inspector that the actual maintenance performed was not accurately documented and was not conducted in accordance with the prescribed procedure. These observations were subsequently discussed with the maintenance management staff.

The following day, February 21, the inspector noted that the work package verification signatures were fully up to date, the workers were more knowledgeable of the requirements for maintaining procedures up to date and the work procedure was followed closely during repairs. A quality control inspector was on hand for procedural steps having a QC hold point. Throughout the observed activities, workers were following appropriate radiological control procedures for working in a contaminated area.

#### 4.1.2 WR 087561, 15 MOV 175A Reactor Building Closed Cooling/Emergency Service Water Return Valve Operator

Work request 087561 was submitted to schedule the overhaul and/or replacement of the operator for valve 15 MOV 175A prior to the end of the 1992 refuel outage to meet a commitment to the NRC. A work permit request form was submitted by electrical maintenance to disconnect the motor operator, overhaul the operator, replace a spring pack internal to the operator, and reinstall the operator.

On February 24 and 25, 1992, the inspector observed portions of the operator overhaul. The overhaul was accomplished in accordance with procedure MP 59.39. The inspector also observed portions of the VOTES testing which was accomplished on February 28, 1992. The inspector noted that the procedures were followed closely and the documentation was kept fully up to date. This included completion of an actuator data sheet/checklist for adding material history data to the MOV trending database. In addition to the required quality control (QC) hold points and verifications, QC was observed conducting intermittent surveillance of the overhaul activity. Good supervisory oversight was noted. The workers were following appropriate radiological control procedures. The inspector concluded that there was effective procedural adherence and quality verification of this work activity.

#### 4.1.3 WR 109766, 71MCC-162-OE-1 AC Input to LPCI MOV Independent Power Supply

Operations personnel found breaker 71 INV-3B (OE-1) on MCC-162 in the tripped position. Work request 109766 was written to have the cause investigated and repaired. Instrumentation and controls (I&C) personnel submitted a work permit request form to troubleshoot and repair the cause of breaker OE-1 tripping with support from the vendor factory representative.

The inspector observed portions of the troubleshooting and repair activities conducted on February 20, 1992. Work was accomplished and appropriately documented in accordance with ICSO-12 and ICSO-20. The technicians replaced a capacitor and a relay to correct the tripping problem. All lifted leads were documented and second checked upon restoration. The work was conducted in a halogen hazard area and the workers were observed to be following appropriate personal safety precautions.

#### 4.1.4 WR 87526, 46 MOV-102B ESW Pump B Discharge Valve Operator

Work request 87526 was submitted for the overhaul and/or replacement of the operator for valve 46 MOV-102B prior to the end of the 1992 refuel outage. A work permit request form was submitted by electrical maintenance to disconnect the motor operator, overhaul the operator, replace a spring pack internal to the operator, and reinstall the operator.

Portions of the operator overhaul and reassembly were observed on February 29, 1992. The overhaul was accomplished in accordance with procedure MP 59.40. The inspector noted that the procedure was followed closely and the documentation was kept fully up-to-date for the portions of the work observed. The inspector also verified adequate supervisory oversight. However, the inspector noted that the worker reformed a portion of the procedure which had been verified as complete by the previous shift. The worker found that a set screw hole in the motor shaft had not been drilled as specified by the procedure. Although not a significant concern for this work activity, the inspector considered this a second example of the apparent strict procedure adherence and attention to detail problems observed and noted in section 4.1.1 above. The inspector had no further questions or observations.

#### 4.1.5 WR 83811, 11-SLC-725A Standby Liquid Control Pump A Suction Cushion Chamber Drain Valve

Operations personnel noted that valve 11-SLC-725A was hard to operate and work request 83811 was submitted to schedule and plan repairs. Mechanical maintenance submitted a work permit request form to rebuild and repack the valve in accordance with procedures MP 59.10 and MP 59.9.

The inspector surveyed the job site on February 25, 1992 and found the valve disassembled. A review of the work package found that it was not up-to-date, in that no verification signatures were in the valve disassembly procedure steps, including those signatures for the RES department. The inspector determined that the worker left the work site without updating the work package documentation. Further inquiries determined that the worker had previously discussed the RES verification step and RES decided that no hold points were required. Although the inspector could find no evidence that the actual work was being performed incorrectly, it was apparent that the internal policies and procedures (AP 1.13 and AP 1.14) for procedural adherence and maintaining procedure documentation up-to-date were not being satisfied.

#### 4.1.6 WR 085460, P-2A Standby Liquid Control (SLC) Pump A

The resident manager identified on a plant tour a leak at the plungers of SLC pump A which required adjusting the packing or repacking of the pump. A work permit request form was submitted by mechanical maintenance to repack the pump.



The inspector observed workers and QC personnel inspecting the pump on February 25, 1992. The work package documentation was brought up-to-date upon completion of these inspections. On February 26, 1992, the inspector observed portions of the repacking of the pump plungers in accordance with procedure MP 11.1. A pre-job conference was conducted by the workers and the pump repacking was accomplished appropriately. The inspector concluded the maintenance was performed well.

#### 4.1.7 WR 109771, 66ACCU-4B Switchgear L16 Enclosure Air Conditioning Unit (ACCU) "B"

NYPA personnel found that air conditioning unit 66ACCU-4B had alarmed on low oil pressure. Work request 109771 was submitted to document the problem and schedule repairs. Mechanical maintenance submitted a work permit request form to investigate the problem and repair, as necessary.

The inspector reviewed the work instructions and observed portions of the work accomplished on February 22, 1992. The work package document was reviewed on February 22 and 28, 1992. The inspector noted that no troubleshooting or maintenance procedure existed for this type of ACCU, even though the eight units on site are all safety-related, QA category 1, EQ Equipment. Discussions with the maintenance superintendent revealed that a procedure is scheduled to be written. For the observed repair, work instructions were provided on Exhibit 9.3 of procedure AP-1.13. These instructions specified that the workers were to remove the EQ protective panels, check for oil leaks and the oil level, repair the leaks, add oil and refrigerant, and check operation. The inspector observed the worker checking for leaks, adjusting packing, and replacing the compressor suction line check valve flange gaskets. Work was accomplished appropriately and the inspector had no questions.

Upon subsequent review of the work package, the inspector observed that the receiver check valve, the compressor discharge check valve, a discharged gage line snubber, and the compressor head valves were all replaced. The inspector observed that this is another example of where the licensee's internal administrative policies (procedure AP-1.13) were not being followed in that the parts replacements were above and beyond the work instructions (Exhibit 9.3 of AP-1.13) provided to the workers. The inspector noted that the work accomplished was documented in the work package on a work tracking form.

#### 4.1.8 WR 099557, Control Room Annunciator Window Brightness Modification

As required by the annunciator brightness modification, work request 099557 was submitted to schedule the installation of modification package F1-87-061. A work permit request form was submitted to install power supplies in accordance with installation procedure (IP) #8.

On February 20, 21, and 22, 1992, the inspector observed portions of the work accomplished to install power supplies and cabling in panel 09-43, located in the relay room. Upon reviewing the installation procedure on February 20 and 21, the inspector observed that the documentation

was not up to date. Installation procedure #8 is a "continuous use" procedure. Discussions with the workers indicated that there was some confusion on their part concerning the administrative policies for maintaining procedure documentation current. On February 22, the inspector found that the procedure documentation had been brought up to date. Discussions with the workers revealed that their procedure usage had been critiqued and the workers were more familiar with the administrative policies (AP-1.13 and AP-1.14) for maintaining procedures up to date. No other observations were noted.

#### 4.1.9 WR 085021, 70FD-4, 5, 6, 7, and 10 Fire Dampers

Work request 085021 was submitted to schedule the implementation of design equivalent modification No. M1-91-198. A work permit request form was submitted by contract services to obtain authorization to remove existing fire dampers 70FD-6 and -7 and install new three-hour rated fire dampers per M1-91-198, in the ventilation ducting in the relay room.

On February 19, 24 and 25, 1992, the inspector observed portions of the work activity to install fire dampers 70FD-6 and 7. The inspector found that the work was being accomplished in accordance with the installation procedure #1, and the documentation was up to date. A fire watch and the appropriate welding and grinding permits were posted as required.

#### 4.1.10 Maintenance Summary

As described above in sections 4.1.2, 4.1.3, 4.1.6, and 4.1.9, the inspector noted good procedure control and procedural adherence practices as delineated in administrative procedure (AP)-1.13 and AP-1.14. However, in sections 4.1.1, 4.1.4, 4.1.5, 4.1.7, and 4.1.8, various examples of maintenance personnel misunderstandings of the guidance of procedures AP-1.13 and AP-1.14 were noted. Although no evidence was found of work being conducted improperly or unsafely, it was evident that the procedural controls and adherence guidance were not being uniformly observed or strictly enforced by station supervision. During the inspection period, when presented with the specific procedural control and adherence observations, maintenance management took prompt action to address the specific concerns. At the conclusion of the inspection period, NYPA station management agreed with the inspector's overall observations and stated that they plan to provide additional training and guidance to all maintenance personnel on procedure use and adherence, in the short term. The inspector notes that the FitzPatrick Results Improvement Program (RIP) addresses procedural improvements in all functional areas to enhance overall procedural use and control. This area has been of continuing interest and concern to NYPA management and NRC staff.

### 5.0 SURVEILLANCE (61726)

The inspector observed and reviewed portions of ongoing and completed surveillance tests to assess performance in accordance with approved procedures and Limiting Conditions for Operation, removal and restoration of equipment, and deficiency review and resolution. The following tests were reviewed:

### 5.1 Routine Review of Completed Surveillance Test Records

The inspector reviewed the following completed tests:

ST-2B, RHR pump and MOV operability and keep full level switch functional test.

ST-6A, Standby liquid control pump functional test.

ST-6C, Standby liquid control relief valve test (IST).

ST-8N, ESW pump inservice test (IST).

ST-19, Battery room ventilation equipment operability test.

The inspector determined that these surveillance tests were conducted in accordance with approved procedures and technical specifications, and deficiencies were properly documented and addressed when identified during testing.

### 5.2 Routine Observation of Surveillance Testing in Progress

The inspector observed and reviewed the following surveillance activities:

ST-9L, EDG fuel oil transfer pump operability test.

ST-9B, EDG full load test and ESW pump operability test.

ST-9K, EDG barring.

ST-9M, EDG starting air compressor operability test.

ST-76C, Diesel fire pump 76F-1 operational checks.

During the observation of these activities and review of the test records, the inspector verified the proper performance of the surveillance, the correct use and adherence to approved procedures, the proper implementation of required administrative controls, and the correct calibration of test equipment. The inspector independently verified test data. The level of supervisory oversight, the detail of the test review process, the documentation of material and procedural deficiencies, and corrective action implementation appeared adequate and the inspector concluded the activities were effective with respect to meeting the safety objectives of the surveillance program.

### 5.3 Changes to Existing Emergency Diesel Generator Testing

The inspector reviewed the revisions made to the following procedures:

ST-9B, emergency diesel generator (EDG) full load test and emergency service water (ESW) pump operability test.

ST-9L, EDG fuel oil transfer pump operability test.

ST-9M, EDG starting air compressor operability test.

During performance of ST-9B in September 1991, the B EDG fuel oil day tank drain valves were not restored to their normal valve position during test restoration. A contributing cause of the event was that ST-9B was too long and complex, resulting in several shifts required to complete the surveillance test. The operations department was tasked with developing separate tests for the fuel oil transfer pumps and EDG starting air compressors. The inspector reviewed the changes to ST-9B, Technical Specification 4.9.C.2., and the new surveillance tests ST-9L and ST-9M. The inspector concluded that the changes met the intent of the Technical Specification and were an improvement to the previous surveillance test.

## 6.0 ENGINEERING AND TECHNICAL SUPPORT (93702)

### 6.1 (Closed) Unresolved Item 89-10-01: Adequacy of Core Spray Trip Systems

As previously discussed in inspection report 50-333/91-03, NYPA was provided a copy of the May 17, 1991 letter which summarized the NRC staff's position regarding the operability of emergency core cooling systems (ECCS) instrumentation in the cold shutdown condition. After internal review and discussions with the inspector, NYPA station management concurred with the NRC staff's position. NYPA also concluded that current Technical Specifications were adequate, but a revision to the instrumentation specifications section may be submitted for clarification in the near future. This item is resolved.

### 6.2 (Closed) Violation 91-21-01: Failure to Meet the Containment Isolation Requirements of Technical Specification 3.7.D.1

As documented in inspection report 50-333/91-21 and the attached Notice of Violation, the core spray containment isolation valves 14 MOV-5A and 14 MOV-5B did not satisfy their Technical Specification (TS) remote-manual containment isolation function because of an original installation design error. By letter dated February 10, 1992, (JAFP-92-0140) NYPA acknowledged this design deficiency and TS violation. In addition to taking immediate action to comply with TS requirements on November 27, 1991, NYPA subsequently installed a core spray pump running permissive in the valve control logic to correct the design error. The inspectors discussed this circuit modification with staff personnel and verified proper post-

modification testing. NYPA has also initiated a comprehensive assessment of all primary containment isolation valve control logics to ensure proper operation. This assessment is targeted for completion prior to startup from the current refueling outage. This violation is closed.

6.3 (Closed) Violation 91-21-02: Failure to Take Prompt and Effective Corrective Action For a Known Condition Adverse to Quality

As documented in inspection report 50-333/91-21 and the attached Notice of Violation, the NYPA licensing staff did not take prompt and effective action to ensure compliance with Technical Specifications upon concluding that valves 14 MOV-5A and 5B did not satisfy their design basis. By letter dated February 10, 1992, (JAFP-92-0140) NYPA acknowledged this performance deficiency and outlined corrective action to prevent recurrence. This corrective action includes interim written guidance and training for the licensing staff to ensure prompt handling and internal communication of licensing staff operability determinations. This guidance will be formalized in the licensing department guidelines by June 30, 1992. The inspector discussed the February 10, 1992 Notice of Violation response and corrective actions with station management and the licensing manager and found the corrective actions acceptable. This violation is closed.

**7.0 SAFETY ASSESSMENT/QUALITY VERIFICATION (71767,40500,93702)**

7.1 Effectiveness of Root Cause Identification and Corrective Actions for Previous Deficiencies

Inspection report 50-333/90-09 dated March 1, 1991 dealt with the failure of NYPA to maintain the torus temperature monitoring system operable. The torus temperature monitoring system was the Foxboro "Specification 200 micro system". NYPA quality assurance (QA) department performed a vendor surveillance audit, No. 1151, dated February 2, 1987, of the 200 micro system at Foxboro. The QA audit identified several deficiencies documented in nonconformance and corrective action (NCA) reports 557 and 558. The corrective action for NCA 557 recommended that the vendor evaluate and correct the identified faults. NYPA QA closed NCA 557 on August 25, 1987, without any formal disposition of the identified faults. As discussed in inspection report 90-09, the inspector concluded the documented basis for closure was shallow and lacked completeness.

A concern was expressed to an NRC inspector subsequent to the inspection report 90-09 review, which inferred there may have been excessive pressure on QA to reduce the NCA backlog during the subject time period. To address this concern the inspector reviewed a sampling of NCA reports closed in that time period. Based on this review, the inspector concluded that, in general, the technical basis for resolution and closure of several issues was shallow and lacked completeness. The NCA process did not appear to determine the root cause of the specific deficiencies and, thus, to ensure appropriate corrective actions to prevent recurrence. However, the inspector noted no evidence of undue pressure to close audit findings or reduce the NCA backlog.

The inspector made this conclusion based upon review of the following closed NCAs:

#### NCA 584

Dated December 11, 1987, NCA 584 identified that the emergency diesel generator (EDG) fuel oil purchased as QA category 1 must be certified to be in compliance with American Society for Testing and Materials (ASTM) D-975 and be receipt inspected by QC personnel. The NCA determined that: diesel fuel oil deliveries were not received through normal warehouse procedures; QC personnel were not performing receipt inspection; and QC personnel had no knowledge of the deliveries. The approved corrective action required the vendor to provide a certificate of compliance that the fuel oil satisfied the ASTM D-975 specification and also deleted the QC receipt inspection requirement from the purchase order.

A subsequent NRC inspection, conducted in May 1989 (IR 89-80), reviewed the quality control measures for EDG fuel oil and identified the following concerns:

- The Technical Specification requirements for diesel fuel clarity and content with respect to water, sediment, and ash were not in agreement with ASTM D-975.
- No onsite samples of the fuel were taken, QC personnel were not involved in fuel receipt inspection, and QA personnel had not audited the fuel supplier.

NYPA management took prompt corrective actions to resolve these concerns and received a non-cited violation for not ensuring purchased material (diesel fuel) conformed to procurement documents. Based on the additional actions taken by NYPA in May 1989, the NCA resolution in December 1987 appeared shallow and incomplete.

#### NCA 537

Dated June 20, 1986, this NCA identified that eight staff licensed individuals had not completed watchstanding proficiency requirements or properly documented those watches completed. The root cause was determined by NYPA to be inconsistent tracking of proficiency watches. NYPA closed the NCA based on implementation of a computer tracking system.

A subsequent NRC inspection conducted in December 1991 (IR 91-26) identified an apparent violation of 10 CFR 55, in that NYPA's program to control active and inactive operator licenses was deficient, since several SROs did not stand the minimum proficiency watches, and in a subsequent quarter performed the duties of an SRO. The root cause determination and corrective actions for NCA 537 were ineffective in preventing recurrence of the watchstanding deficiency.

#### NCA 536

Dated June 20, 1986, this NCA identified that several licensed operators had not been administered a portion of the requalification program. The root cause determined that attendance at training sessions by SROs was limited due to a five shift rotation schedule and a single instructor dedicated to the requalification training during advanced technical training sessions. The NCA was closed based on the operators receiving the missed training.

The Diagnostic Evaluation Team in October 1991 identified a similar finding. Based on recurrence, the NCA corrective actions were shallow and incomplete. The NCA failed to address the limited staffing to support training activities and the ineffective management oversight of the training program. The NCA corrected the symptom (i.e., missed training was made up), but failed to address the root causes.

#### NCA 552

Dated November 25, 1986, this NCA identified a potential violation of Technical Specification surveillance requirement 4.7.A.2.e.(3) which states that a type B air lock test is required within three days of opening the air lock when containment integrity is required and maintenance has been performed on the air lock which could affect its sealing capability. The inspector reviewed: the NCA; the maintenance completed on the personnel hatch; the Technical Specification interpretation No. 04, dated May 20, 1987; the plant operating review committee (PORC) determination of July 9, 1987, that the event was not reportable; and the QA closure of the NCA, dated February 24, 1989.

The inspector concluded, based on review of the NCA 552 package, that the air lock test appeared to be required by technical specifications and that the concern was never adequately resolved prior to NCA closure. The inspector considers this to be an unresolved item pending further review to understand NYPA's basis for determining that this condition did not constitute a 10 CFR 50.73 reportable event. (92-01-01)

#### Summary

As stated above, the NCA process did not appear to adequately determine the root cause of the specific deficiencies and, as a consequence, to ensure appropriate corrective action to prevent recurrence. In response to this assessment, NYPA management acknowledged the apparent

weakness and stated that a broad internal review of closed QA audit findings would be conducted to ensure that previously identified deficiencies were properly evaluated for root cause(s) and appropriate corrective action. The inspector considered NYPA's followup actions appropriate.

## 7.2 Licensee Evaluation of NRC IN 86-16

During a review of NRC Information Notice (IN) 86-16, "Failures to Identify Containment Leakage Due to Inadequate Local Testing of BWR Vacuum Relief System Valves," NYPA identified a potential leakage path that presently is not local leak rate testable. The leakage path is through the packing of Fisher 9200 series butterfly valves used as inboard containment isolation valves. NYPA has identified seven of these inboard containment isolation valves which satisfy the criteria for leakage paths which are not testable by a local leak rate test (LLRT). However, it is noted that this leak path is subject to primary containment integrated leak rate testing (PCILRT).

The last PCILRT surveillance was completed in June 1990. In August of 1990, two of these valves were disassembled and the packing was disturbed when the shaft to disc pins were replaced in accordance with modification D1-90-173. The post repair test was done by pressurizing between the inboard and outboard isolation valves which did not pressurize the valve packing. It is noted that 10 CFR 50, Appendix J, Section III.C.1 requires that LLRT pressure be applied in the same direction as that which would exist when the valve would be required to perform its safety function, unless it can be determined that the results from the tests for a pressure applied in a different direction will provide equivalent or more conservative results. Upon identifying these untested leakage paths, NYPA documented their findings in adverse quality condition report (AQCR) No. 92-038 and in occurrence report (OR) 92-050. The OR was reviewed by PORC and determined to be reportable. As of the end of the inspection period, NYPA was continuing its evaluation and will submit the results in LER 92-008.

This leakage rate testing deficiency remains unresolved pending completion of NYPA's evaluation and determination of the safety significance of having two untested primary containment leak paths since August 1990. This is an unresolved item. (92-01-02)

## 7.3 Licensee Evaluation of NRC Information Notice (IN) 91-70

NRC Information Notice (IN) 91-70, "Improper Installation of Instrumentation Modules," identified several conditions which affect the seismic qualifications of Foxboro Specification 200 (Spec 200) equipment. These conditions included: 1) the absence of vibration damping material; 2) the absence of instrument module guide rails, and 3) the absence of some power supply support brackets. NYPA reviewed IN 91-70 for applicability. This review was documented in operational event/vendor information review report 910680.



NYPA's review included an inspection of three panels (27 MAP, 09-24, and 09-51) which were known to include Foxboro Spec 200 equipment. This inspection revealed that nests 2A and 2B in the 27 MAP panel have vacant module locations. Foxboro Master Installation Instruction, MI 2AN-105, "N-ZANU Analog Nests", dated April, 1987, states that all nest locations must be filled for Class 1E applications and unused module slots must be filled with a dummy load. These requirements were reaffirmed by a Foxboro technical advisory which was sent to FitzPatrick in October 1991. This condition was documented and evaluated in Occurrence Report 92-070 and NYPA declared various Regulatory Guide (RG) 1.97 instrumentation inoperable based on inadequate seismic qualification of panel 27 MAP. An event notification per 10 CFR 50.72 was made on February 2, 1992.

Work request (WR) 097383 has been submitted to schedule the installation of dummy loads in the vacant module locations. NYPA also has plans (WR 097324) to inspect these panels to verify that the card guides and bumper assemblies are properly installed.

The inspector questioned why NYPA's design contractor did not identify these seismic qualification requirements when the modification packages were developed for the installation of these RG 1.97 instruments. This item remains unresolved pending the completion of NYPA's safety evaluation and the submittal of a LER. (92-01-03)

#### 7.4 Required Plant Conditions to Support Reactor Defueling Operations

On February 7, a conference call was conducted between NRC staff and NYPA management to discuss the necessary protection systems and plant conditions to be established to support reactor defueling operations. During a previous conference call on January 7, NYPA determined that certain protection circuits (i.e., scram discharge instrument volume [SDIV] high level scram function) were required to be operable to support defueling operations. At that time NYPA committed to review the protective circuit design and establish an adequate surveillance test to assure the operability of the SDIV protection circuits prior to initiating defueling activities. Upon completion of the review, NYPA determined the SDIV protection circuits were not required to be operable provided no control rod motion was allowed. NYPA determined they had the ability to perform an alternate method of testing the refueling interlocks without rod motion. This alternate method would allow operators to defuel the reactor without the support of the SDIV protection system. During the February 7 conference call, the NRC staff concluded that NYPA's position met the Technical Specification requirements provided that all control rods were verified fully inserted and that NYPA established the necessary controls to prevent control rod withdrawal during the defueling evaluation.

The inspector reviewed temporary change #3 to surveillance test (ST)-20r', revision 13, "Refueling interlocks functional test". The change provided the necessary instructions to perform an alternate method of testing the refueling interlocks without withdrawing control rods. The procedure also provided special precautions and controls to prevent inadvertent control rod withdrawal. The inspector concluded that the procedure change was effective in ensuring the refueling interlocks could be verified without rod motion.

#### 7.5 Review of Licensee Event Reports (LERs) and Special Reports

The following LERs were reviewed and found satisfactory:

- LER 91-31: "Design deficiency of the emergency service water (ESW) system return piping from the emergency diesel generator (EDG) jacket water coolers."

NYPA design basis document (DBD) reconstitution effort identified that the common twelve-inch ESW return piping for the four EDG jacket water coolers was directed into the A ESW and residual heat removal service water (RHRSW) pump bay. This condition results in heated water from the EDG jacket water coolers being recirculated to the ESW and RHRSW pump inlets. NYPA could not identify any previous design documents evaluating this condition. Based on preliminary engineering analysis, NYPA has limited plant power operations to a maximum lake temperature of 65°F and required an RHRSW pump running while the ESW pumps are supplying cooling water to the EDG jacket water cooler during diesel operation. With the RHRSW pump discharging to the circulating water system discharge canal, this ensures lake water intake flow to the ESW/RHRSW pump bays which offsets a portion of the heating effect of recirculating the EDG jacket water cooling discharge.

The inspector verified that NYPA made the necessary procedure changes to require a RHRSW pump running during EDG operation. NYPA committed to limiting plant power operation to 65°F lake temperature until a modification is performed to reroute the ESW return piping from the EDG jacket water coolers or provide additional engineering analysis of the existing configuration. The inspector determined that NYPA identification and short term resolution of this concern was conservative. These actions should ensure that the safety-related service water supply temperature of 82°F is not exceeded.

- LER 91-33: "Potential torus pressure instrument errors."

NYPA determined that during loss of coolant accident (LOCA) conditions several torus pressure instruments could have errors introduced as the result of condensation of water in instrument sensing lines. The LER documented the potential post-LOCA scenario which could result in the possible condensation of water in the sensing lines and identified the instruments which would be affected. NYPA committed to move the

location and elevation of all the affected instrument sensing lines to preclude the potential condensation and collection of water prior to startup from the 1992 refueling outage. NYPA also committed to evaluate all drywell instrumentation for potential susceptibility for pressure measurement errors introduced by condensed water vapor. NYPA identified this concern as a result of a comprehensive, in-depth engineering review and the efforts to fully resolve it are appropriate.

- LER 92-02: "Motor operated valve (MOV) deficiencies related to Generic Letter 89-10 testing."

The LER identified several MOV deficiencies identified during MOV testing. Most of the deficiencies identified indicate inadequate torque and thrust capability of the MOVs when operated under most limiting design basis conditions. NYPA plans on completing two additional months of testing on other safety-related MOVs. The specific cause and analysis of each deficiency has not been identified. NYPA plans to provide an LER supplement 90 days after completion of all MOV testing. The inspector will assess NYPA actions after issuance of the LER supplement.

- LER 92-03: "MOVs administratively inoperable due to installation of wrong motor pinion key."

This error was caused by an incorrect part number being provided by the valve operator vendor. NYPA committed to provide an LER supplement once the cause of the error was determined. Although the valves had incorrect motor pinion gear keys installed, NYPA believes the valves were still capable of performing their design basis safety function. The inspector will assess NYPA's final assessment after the LER supplement is issued.

## 7.6 Offsite Safety Review Committee Meeting

Technical Specification (TS) 6.5.2 requires that the Power Authority establish a safety review committee (SRC) and hold meetings at least every six months. The NRR project manager (PM) attended SRC meeting No. 03-92 conducted on March 3, 1992, at the corporate office in White Plains, New York. The PM noted that SRC meetings are joint sessions to review and oversee safety related activities at both the FitzPatrick and Indian Point Three (IP3) facilities.

The PM noted effective discussions between the NYPA licensing staff present at the meeting and the SRC members in addressing questions and concerns regarding proposed technical specification amendments. The PM also noted comprehensive review of Licensee Event Reports focused on ensuring that deficiencies with the potential for adversely affecting both nuclear facilities were adequately addressed. The members maintained a critical safety perspective and did not accept proposals on face value.

## 8.0 MANAGEMENT MEETINGS

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 licensee representatives and summarized the scope and findings of the inspection as they are described in this report.