

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. 50-286/83-23

Docket No. 50-286

License No. DPR-64 Priority -- Category C

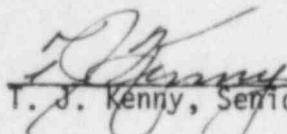
Licensee: Power Authority of the State of New York  
10 Columbus Circle  
New York, New York 10019

Facility Name: Indian Point Nuclear Generating Station, Unit 3

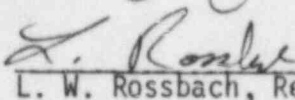
Inspection at: Buchanan, New York

Inspection conducted: December 16, 1983 to January 15, 1984

Inspectors:

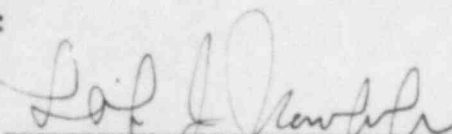
  
T. J. Kenny, Senior Resident Inspector

1/17/84  
date

  
L. W. Rossbach, Resident Inspector

1/12/84  
date

Approved by:

  
Leif Norrholm, Chief, Reactor Project Section 2B,  
DPRP

1/23/84  
date

Inspection Summary:

Inspection on December 16, 1983 to January 15, 1984 (Inspection Report 50-286/83-23)

Areas Inspected: Routine onsite regular and backshift inspection of plant operations including shift logs and records; licensee actions on previous inspection findings; plant tour; surveillance; review of modifications; review of monthly operating report; minimum operator staffing and requalification training; followup on IE bulletin; review of reporting requirements; licensee testing of circuit breakers; remote shutdown monitoring instrumentation; and update on current outage. The inspection involved 151 inspector hours by the resident inspectors.

Results: The thrust of this inspection was directed to the safe startup of the unit, which has been in cold shutdown for seven months. A concentrated effort, by the inspectors, focused on reactor trip breaker testing, and qualification of operators to staff the unit to meet new licensing requirements. No major concerns are addressed in this report, but issues such as time response testing of reactor trip (RT) breakers will be followed by the inspectors. Maintenance activities were inspected during review of modifications, which were installed during this outage.

## DETAILS

### 1. Persons Contacted

M. Albright, Instrument and Control Superintendent  
J. Brons, Resident Manager  
J. Cirilli, Q.A. Superintendent  
J. Dube, Safety and Fire Protection Superintendent  
S. Munoz, Technical Services Superintendent  
J. Perrotta, Radiological and Environmental Services Superintendent  
J. Russell, Superintendent of Power  
E. Tagliamonti, Operations Superintendent  
J. Vignola, Maintenance Superintendent

### 2. Licensee Actions on Previous Inspection Findings

(Closed) Unresolved Item (50-286/80-10-08) Suitability of setpoints in procedure for Reactor Coolant Pump (RCP) trip and steam generator wide range level of 55%. The inspector's concern was that the RCP trip of 1225 did not include a psia to psig correction or a post-LOCA instrument error correction. The licensee reevaluated the setpoint, and has set it to 1350, which does take these corrections into account. The inspector also questioned whether the tubes, of the steam generators, would be uncovered at the 55% wide range level. The inspector has reviewed calculations and graphs from the control room curve book that corrects actual level with indicated level for operating temperatures. The 55% indicated level equates to 7.1% actual level at operating temperatures. The inspector has no further questions in this area.

(Closed) Unresolved Item (50-286/81-01-04) The inspector's concern was the environmental qualification of the wiring used in the acoustical monitoring of the pressurizer safety and relief valves. The inspector reviewed Maintenance Work Request 2707, which directed the replacement with environmentally qualified cable.

(Closed) Unresolved Item (50-286/83-06-03) The licensee was to establish a procedure to formalize the evaluation of component failures, and to document reviews, evaluations, and the results of the reviews. The licensee has issued PFM-6, "Nuclear Plant Reliability Data System," a procedure which addresses the concerns of the inspector.

(Closed) Unresolved Item (50-286/83-06-04) The licensee was to revise Procedure AP-9, "Work Requests" to more formally define retests following corrective maintenance, and to use surveillance tests, where applicable. The licensee has revised AP-9 to reflect the concern, and has also issued PFM-5, "Retest Program," a procedure to fully describe retesting methods.

### 3. Plant Tour

A. Normal and backshift inspections were conducted during routine entries into the protected area of the plant, including the control room, PAB, fuel building, and containment. During the inspection activities, discussions were held with operators, technicians (HP & I&C), mechanics, foremen, supervisors, and plant management. The purpose of the inspection was to affirm the licensee's commitments and compliance with 10 CFR, Technical Specifications, and Administrative Procedures. Particular attention was directed in the following areas:

- Instrumentation and recorder traces for abnormalities;
- Proper control room and shift manning;
- Proper use of procedures;
- Review of logs to obtain plant conditions;
- Verification of proper radiologically controlled areas and access points;
- Verification of surveillance testing for timely completion;
- Verification of safety-related tagouts;
- Plant housekeeping and cleanliness;
- That protected area access controls were in conformance with the security plan, including sufficient guards to perform duties, and that selected gates and doors were closed and locked;
- Selected liquid and gaseous samples to verify conformance with regulatory requirements prior to release; and,
- Boric acid samples to confirm proper boric acid level for plant shutdown conditions.

B. During the inspection, the inspector reviewed the following procedures, documents, or evolutions:

- Radioactive Waste Release Permit (liquid & gaseous)
- Various shift turnover checklists
- Security Station Logs and Radio Checks
- Jumper Log
- Selected Operators' Logs
- Selected Tagouts
- Selected Radiation Exposure Authorization (REA's)
- Selected Chemistry Logs

No violations were identified.

#### 4. Surveillance

##### A. Documents Reviewed:

- 3PT-Q23            Hi-Head Safety Injection Motor Operated Valves
- 3PT-Q22            Residual Heat Removal Valves
- 3PT-M5            Pressurizer Pressure Analog Channel Functional Test
- Surveillance Test Schedule
- Confirmatory Order dated February 11, 1980

##### B. Inspector Findings:

The inspector directly observed the performance of portions of the above-listed tests, and reviewed completed surveillance procedures to ascertain the following:

- That the instrumentation used was properly calibrated;
- That the redundant system or component was operable, where required;
- That properly approved procedures were used by qualified personnel;
- That the acceptance criteria were met;
- That the test data were accurate and complete;
- That proper reviews, by the licensee, had been conducted;
- That the results of the tests met Technical Specification requirements; and,
- That the testing was done within the required surveillance schedule for tests to be done prior to exceeding cold shutdown.

The inspector also verified that the systems were properly returned to service following the above-listed tests, by observing actual valve positions or position indication in the control room.

No violations were identified.

## 5. Review of Modifications

- A. During the outage, which is concluding at the end of this report, the licensee performed modifications in both Category I and Non-Category I systems. The inspector reviewed several of these modifications, and verified that the modifications were performed in accordance with approved procedures, and that the proper reviews were conducted under 10 CFR 50.59. As part of the review, the inspector also verified that maintenance procedures were being implemented by the personnel performing the modifications.
- B. The following is a brief description of the modification and inspector's comments concerning the modification:
  1. Modification 79-03-029-PW, "Installation of Demineralized Water Into Containment"
    - The licensee installed the demineralized water system in order to have a hot and cold source of demineralized water to perform water flushes and hydrostatic testing within the containment building. In his review, the inspector also verified that isolation valves have been installed, which receive a phase "A" isolation signal. The isolation valves are normally closed, during operation, and opened only to provide water in containment.
  2. Modification 82-03-066-EL, "Control Room Emergency Lighting"
    - This modification reduces the time required to accomplish the AC to DC transfer for the CCR and to increase the reliability of the supply to the CCR emergency lighting. The inspector noted that the transfer will now take 5 seconds, rather than 10 seconds. In addition, this modification modifies the wiring of the overcurrent lockout protection relay associated with DC control circuitry for DC breakers which are the feed, and tie breakers for lighting busses 32 and 33. The modification increases reliability.
  3. Modification 83-03-007 COMP, "Radial Flux Tilt Computer Alarm"
    - This modification rewires this alarm to utilize the control room computer rather than "NIS Detector Comparator," which results in a more reliable indication of flux tilt, and will prevent inordinate actuation due to normal signal fluctuation.

The computer, rather than the detector comparator, will be able to recognize fluctuations and prevent spurious signals that have been received in the past. The same excor detectors are utilized to give the flux tilt signal.

Functional testing will be performed when the unit reaches the required flux level for testing.

#### 4. Modification 78-03-049, "Low Flow Feedwater Bypass System"

- This modification has been completed in order to give better control of steam generator levels on a startup. Six inch bypass lines around the main feed regulation valve with flow control valves have been installed. Also, small pressure sensing lines from the main steam lines which feed the steam flow transmitters, have been incorporated to allow monitoring of low flow conditions. This system was installed mechanically by Con Edison prior to the license transferal to PASNY. The system was made operational electrically during this outage by PASNY.

This system will be tested under actual operating conditions during startup. Hydrostatic testing and system flushes were conducted prior to this outage.

No violations were identified.

#### 6. Review of Monthly Report

##### A. Monthly Operating Report

The Monthly Operating Report for November, 1983 was reviewed. The review included an examination of selected maintenance work requests, and an examination of significant occurrence reports to ascertain that the summary of operating experience was properly documented.

The inspector verified through record reviews and observations of maintenance in progress that:

- The corrective action was adequate for resolution of the identified items; and,
- The operating report included the requirements of TS 6.9.1.5.

The inspector has no further questions relating to the report.

#### 7. Minimum Operator Staffing and Requalification Training

##### A. Documents Reviewed:

- 10 CFR 50.54
- 10 CFR 55
- Training Manual
- Simulator Training Evaluations
- Annual RO and SRO Examinations
- Documentation of Completed Procedure Reviews

## B. Inspector Findings:

10 CFR 50.54 was recently amended to add minimum requirements for shift staffing by licensed operators and senior operators. To meet these requirements, the licensee has added additional licensed operators to each shift when above cold shutdown. The inspector has verified that shift staffing is in compliance with 10 CFR 50.54. The inspector also reviewed requalification training records, and interviewed the training superintendent, licensed operators, and senior licensed operators.

The inspector has verified that:

- Licensed operators added to the shift have satisfactorily completed training on the Indian Point simulator;
- The operators were up to date on their requalification training, including the review of plant modifications and procedures;
- Requalification training is being implemented consistent with the licensee's requalification training program;
- The training records reflect the actual training received; and,
- Additional training was received in identified deficient areas.

No violations were identified.

## 8. Followup on IE Bulletin

(Closed) Bulletin 81-03, "Flow Blockage of Cooling Water to Safety System Components by Corbicula SP (Asiatic Clam) and Mytilus SP (Mussel)

The inspector reviewed the above-listed IE Bulletin and the licensee's response. Environmental studies, by the licensee, have shown no evidence of either species in the Hudson River in the vicinity of the Indian Point station. During the current outage, the inspector looked inside several circulating water system inlet water boxes, and did not observe clams, mussels, or shell debris. Also, during the current outage, no clams, mussels, or shell debris were observed in the containment fan cooler unit motor coolers, which are cooled by the service water system.

The inspector determined that the response was within the time required by the bulletin, included the information required to be reported, and that the information was accurate. Since clam or mussel blockage problems haven't occurred at Indian Point, no corrective action was required.

No violations were identified.

## 9. Review of Reporting Requirements

### A. Documents Reviewed:

- 10 CFR 50.72 and 50.73
- AP-8 "Reporting of Significant Occurrences"

### B. Inspector Findings:

Immediate notification requirements were recently amended in 10 CFR 50.72 and Licensee Event Report requirements were added by 10 CFR 50.73. These requirements became effective January 1, 1984. The inspector reviewed the licensee's procedure for reporting significant occurrences. This procedure has been revised in accordance with 10 CFR 50.72, and also refers to the new Section 50.73. This revised procedure has been reviewed and approved by the Plant Operations Review Committee, in accordance with administrative procedures. The inspector had discussions with several licensed operators, and confirmed that they had reviewed the revised procedure and were knowledgeable about it. Also, a licensee representative attended a briefing on Section 50.73 held in NRC Region I headquarters, and is familiar with this new section.

Based on this review, the inspector has determined that the licensee has incorporated these new requirements into their program. The inspector has no further questions.

No violations were identified.

## 10. Licensee Testing of Circuit Breakers

### A. Documents Reviewed:

- Technical Manuals for Low Voltage W Circuit Breakers DS & DSL
- Technical Manuals for Low Voltage W Circuit Breakers DB
- Technical Manuals for High Voltage W Circuit Breakers DH
- WOG 83-296, December 15, 1983 Comprehensive Maintenance Program for DB-50 RT Breakers
- 3PT-M13 A&B Reactor Protection Train A&B
- 3PT-R91 Reactor Trip & Bypass Breaker Trip Verification
- 3-PM-R-ES-2, 480 Volt Breaker MCC Inspection
- 3-PM-R-ES-6, 480 Volt Breaker Inspection
- 3-PM-V-ES-12, 6900 Volt Breaker Inspection
- FSAR Chapter 14

### B. Inspector Findings:

The inspector reviewed the above documentation to determine if the licensee's breaker maintenance program was being conducted in accordance with manufacturer's recommendations and technical manuals. In his review, the inspector verified that the preventive maintenance (PM) procedures and surveillance procedures used at the site have been written

to include the manufacturer's recommendations, and that these PM procedures are performed in a timely manner, in accordance with the technical manuals.

The manufacturer did not require response time testing of RT breakers, and the licensee has not been performing these tests. Because of recent occurrences with RT breakers, at other sites, the inspector asked the licensee how the requirements of FSAR Chapter 14, which describes the length of time tripping functions required to meet the design criteria, are met. The licensee is reviewing this area to draft a response. The licensee stated he will, as part of his response to Bulletin 83-08, address the response time measurement of RT breakers. The inspector will review this area again when the bulletin is answered.

No violations were identified.

#### 11. Remote Shutdown Monitoring Instrumentation

##### A. Document Reviewed:

- PFP-RPC-2-"Control Room Inaccessibility"

##### B. Inspector Findings:

The inspector reviewed the above-listed document to determine if the unit could be shut down in the event that the control room became inaccessible. In his review, the inspector determined that should there be a reason to evacuate the control room, remote stations would have to be manned to accomplish a cooldown of the unit. They are:

- Steam Dumps - to dump steam in order to cool down the plant;
- Auxiliary Feedwater Room - to control steam generator level;
- Main Feed Regulation Valve Area - backup for steam generator level control;
- Primary Auxiliary Building - for charging pump control and pressurizer heater control; and,
- Electrical areas - to start and stop equipment for functions other than mentioned above.

The inspector verified that these stations are adequately lighted, and that current procedures, necessary tables, and cooldown curves are in place. The inspector also verified that alternate communications could be established to coordinate the unit shutdown. The licensee's primary communication is sound powered phones. The

phone jacks were in place, but dedicated phones had not been assigned to these areas. After discussion with the licensee, concerning no assigned phones, the licensee stated they plan to place five sound powered phones in the emergency locker, which will become part of the emergency locker inventory, and to revise the procedure to delineate the phone locations for emergency use.

No violations were identified.

## 12. Update on Current Outage

The present outage is nearing completion, and the startup date is presently scheduled for January 27, 1984. The following events are in progress at the close of this report period:

- The licensee is heating the plant above cold shutdown to perform a hydrostatic test on the newly installed RTD loop bypass piping. The licensee plans to hold the plant in a hot shutdown condition in order to build up a protective coating (magnitite) on the inside of this piping;
- The main generator high potential (hi-pot) test has not been completed. At the successful completion of this test, the generator will be reassembled;
- The moisture separator reheaters tube bundle changeout has been completed, and have been returned to service;
- The main condenser has been hydrostatically tested, and the leaks found have been repaired; and,
- The licensee has received the latest modification to Technical Specifications which allows 24% steam generator tube plugging. The inspector has reviewed Plant Operating Review Committee Minutes, and verified that the licensee has conducted a 50.59 review on the current fuel cycle (cycle 4), and has determined that no safety concerns exist.

The inspectors will continue to follow the progress of this startup, and keep Region I informed of any developments during the final stages of this startup.

No violations were identified.

## 13. Exit Interview

At periodic intervals during the course of the inspection, meetings were held with senior facility management to discuss the inspection scope and findings. An exit interview was held on January 17, 1984 to discuss this report period.