

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

DCS  
050286-111685 <sup>84</sup>

Report No. 50-286/84-28

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: November 16, 1984 to December 15, 1984

Inspectors:

*for* *L. W. Rossbach*                      1.7.85  
L. W. Rossbach, Senior Resident Inspector                      date

*for* *P. S. Koltay*                      1.7.85  
P. S. Koltay, Resident Inspector                      date

Approved by: *Leif Norrholm*  
Leif Norrholm, Chief, Reactor Project  
Section 2B, DPRP

*1/9/85*  
date

Inspection Summary: Inspection on November 16, 1984 to December 15, 1984  
(Inspection Report 50-286/84-28)

Areas Inspected: Routine onsite regular and backshift inspection of plant operations during a scheduled mid-cycle inspection/maintenance outage and subsequent startup including shift logs and records, licensee action on previously identified inspection findings, operational safety verification, major maintenance, surveillance, review of monthly report, ESF system walkdown, training, generic letter 83-28, and allegation followup. The inspection involved 151 hours by the resident inspectors.

Results: The inspection effort focused on the completion of the mid-cycle inspection/maintenance outage and plant startup. One violation was identified. Following a walkdown of the safety injection system, it was determined that the system diagram had not been revised to reflect a modification.

8501240037 850110  
PDR ADOCK 05000286  
Q PDR

## DETAILS

### 1. Persons Contacted

Within this report period, discussions were conducted with members of the licensee management and staff to obtain the necessary information pertinent to the subjects being inspected.

### 2. Licensee Action on Previously Identified Inspection Findings

(Closed) Violation (50-236/84-22-01) The subject report identified the licensee's failure to properly store drawings marked as Safeguards Information. The licensee took immediate corrective action by placing the drawings in cabinets equipped with approved locking bars and locks. In addition, the inspectors verified that the licensee issued a new Administrative Procedure, AP 5.1 pertaining to the protection of Safeguards Information, and reinstructed personnel in the proper handling of such information.

No violations were identified.

### 3. Operational Safety Verification

The inspector(s) conducted 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.

1. On a daily basis, particular attention was directed in the following areas:

- Instrumentation and recorder traces for abnormalities;
- Proper control room and shift manning and access control;
- Verification of the status of control room annunciators that are in alarm;
- Proper use of procedures;
- Review of logs to obtain plant conditions; and,
- Verification of surveillance testing for timely completion.

2. On a weekly basis, the inspector(s) confirmed the operability of a selected ESF train by:

- Verifying that accessible valves in the flow path were in the correct positions;

- Verifying that power supplies and breakers were in the correct positions;
- Verifying that de-energized portions of these systems were de-energized as identified by Technical Specifications;
- Visually inspecting major components for leakage, lubrication, vibration, cooling water supply, and general operable condition; and,
- Visually inspecting instrumentation, where possible, for proper operability.

Systems Inspected:

- Residual Heat Removal
  - Auxiliary Feedwater
  - Hydrogen Control
3. On a biweekly basis, the inspector(s):
- Verified the correct application of a tagout to a safety related system;
  - Observed a shift turnover;
  - Reviewed the sampling program including the liquid and gaseous effluents;
  - Verified that radiation protection and controls were properly established; and,
  - Verified that the physical security plan was being implemented;
4. Documents reviewed included:
- Selected Operators' Logs
  - Shift Supervisors Log
  - Selected Shift Turnover Checklists
  - Jumper Log
  - Radioactive Waste Release Permits (liquid & gaseous)
  - Selected Radiation Exposure Authorizations (REA's)
  - Selected Chemistry Logs
  - Selected Tagouts
  - Health Physics Watch Log
5. Inspector Comments/Findings:

On November 16, while the plant was in cold shutdown, a piece of sheet metal was blown by high winds onto the station auxiliary transformer causing a phase-to-phase fault and a loss of offsite power. Power was restored from the alternate offsite power supply. During this event, the inspector observed that several emergency lighting units in the Primary Auxiliary Building were not lit. This was discussed with plant management and maintenance requests were initiated.

No violations were identified.

4. Maintenance/Modifications:

- a. The inspector selected completed maintenance activities listed below to ascertain the following:
  - That equipment was tagged out in accordance with licensee approved procedures;
  - That approved procedures, adequate to control the activity, were being used by qualified technicians;
  - That Q/C hold points were observed and that materials were properly certified;
  - That radiological controls were proper and in accordance with licensee approved radiation exposure authorization; and,
  - That the equipment was properly tested prior to return to service.

b. Activities reviewed included:

Fan Cooler Units (FCU) - Work Requests 5366, 5301, 5696 through 5700

During the 1984 mid cycle outage, the licensee contractor refurbished each of the five FCU fan motors, and replaced the solenoid valves associated with each FCU air damper actuator as part of the FCU environmental qualification modification. Initial post maintenance tests of the solenoid valves failed to actuate associated air dampers. Subsequently, the inspectors reviewed maintenance and modification documents and drawings and held discussions with licensee management to determine the cause of failure. The inspectors found that the initial installation was accomplished in accordance with preliminary drawings not approved for construction. According to the licensee, final, approved drawings were available at the time, and the use of the preliminary drawings was due to personnel error. The licensee took immediate corrective actions by reinstalling the valves in accordance with the approved drawings, and re-instructing responsible supervisors in the use of approved drawings for all field installations.



Post maintenance test subsequent to the corrections made to the installation of the valves also failed to actuate the air dampers. The licensee determined that the vendor supplied the wrong solenoid valves. The licensee's Purchase Order IP-3385 specified solenoid valves to be equipped with 125 VDC coils. The licensee's vendor provided valves equipped with 120 VAC/60 cycle coils. The licensee's Quality Assurance receipt inspection failed to detect the error, although the valve name plate indicated 120/60 voltage. Prior to the conclusion of the outage, the licensee installed solenoid valves equipped with DC coils and conducted a satisfactory post maintenance test by stroking the air dampers. The licensee's corrective action consisted of reinstructing the receipt inspector for electrical inspections. The licensee is also generating a generic steplist for inspecting electrical components and is preparing a Significant Occurrence Report (SOR).

Through discussions with licensee management, the inspectors determined that the above items represent isolated incidents, where appropriate corrective actions have been taken to prevent recurrence. Therefore, no additional followup by the resident inspectors is being considered.

#### Environmentally Qualified Transmitters-Modification No. 84-03-040

During the 1984 mid-cycle outage, the licensee replaced 34 transmitters, located inside containment with environmentally qualified transmitters.

Post installation testing and surveillance activities identified two transmitters with failed amplifier assemblies. While attempting to match corresponding part numbers to obtain replacement amplifiers, the licensee discovered that the failed amplifiers were certified to meet 1971 IEEE Standards instead of the 1974 and 1975 standards as required. Further investigation revealed that amplifiers in 32 out of the 34 transmitters were only qualified to the earlier standard and thus, would not meet current EQ requirements.

The licensee's Purchase Order 81-IP-4121 specified transmitters certified to meet the requirement of IEEE 323-1974 and IEEE 344-1975.

Certificates of Compliance, shipped with the transmitters by the vendor, state that the equipment supplied meets the requirements of the 1971 IEEE standards. However, the vendor also states in a letter to the licensee, dated February 20, 1982, that the transmitters shipped are of the same design as those being tested by Wyle Laboratories to determine if IEEE 1974 and 1975 requirements are met. Subsequently, Wyle Laboratories issued test report No. 45592-4, dated May 18, 1983. The Wyle report concludes that the transmitters tested indeed meet IEEE 323-1974 and IEEE 344-1975 environmental qualification requirements. The licensee verified, however, that the transmitters tested by Wyle were equipped with an updated version of the amplifiers found in the transmitters installed onsite.

Prior to returning to power operations, the licensee determined that the quality of the installed transmitters meets or exceeds that of the original equipment, therefore, plant safety is not adversely affected. In order to meet environmental qualification requirements, the amplifier assemblies of 32 transmitters will be replaced.

No violations were identified.

#### 5. Surveillance

The inspectors observed the performance of portions of the following surveillance tests associated with the startup of the plant following the mid-cycle outage:

- 3PT-V15, Containment Gross Leakage Inspection. No leakage was indicated by this low pressure (2 psig) test.
- 3PT-V10A, RCS System Pressure Leakage Test. Components that had been opened during the outage and that were observed by the inspectors at test pressure included the reactor coolant pump seal packages and steam generator primary manways. No leakage was observed. Near the reactor coolant pumps, the inspector noted that some out-of-service piping was not well mounted and appeared to present a seismic hazard to a vent line on a cold leg accumulator discharge line. The licensee subsequently removed the piping.
- 3PT-CS4, Accumulator, Low Head Injection and RHR Check Valve Test. No leakage was observed.
- 3PT-R4, Full Length Rod Drop Time. All rods passed the operability criteria.
- 3PT-R6, Main Steam Safety Valves. Although the safety valves were overhauled during the outage, the as found setpoints were all within the operability acceptance limits.

The inspectors observed that instrumentation used in the above tests was properly calibrated, that properly approved procedures were used, and that the results of the above tests met Technical Specification requirements.

No violations were identified.

#### 7. ESF System Walkdown

The inspectors walked down the safety injection system, compared the system lineup with the system checkoff list and reviewed the system

diagram. The inspectors found that the Safety Injection (SI) System was lined up so that the system was capable of performing its intended function. One vent line was found with an apparent test connection attached that was not in the checkoff list. The licensee subsequently capped it. The test line did not affect the operability of the system. The inspectors also had a few comments on housekeeping, but noted that general housekeeping improved once the plant returned to power.

In comparing the Safety Injection System Flow Diagram Sheet No. 2 (Drawing No. 9321-F-27503, Rev. 12) with the actual installed system, it was discovered that valve (850C) on the discharge line of SI pump 31 was not on the drawing and valve (850A) also on the discharge line of SI pump 31 was not shown correctly on the drawing. These valves were on the checkoff list. These valves, which are both motorized, were installed in place of a manual valve 850A during the 1982 - 1983 outage. At the time of the modification, these changes were temporarily included in drawing 9321-F-27503, Rev. 11, in the form of an engineering change memo (ECM-ESS-059) in accordance with administrative procedures. This drawing was recently revised, but the modification was not incorporated into this current revision (Rev. 12). This is a violation (50-286/84-28-01).

Drawing 9321-F-27503 was one of many system flow diagrams which were recently revised and reissued, and the inspectors expressed their concern that other drawings could have the same problem. The licensee reviewed other modifications and drawings and found two other drawings with the same problem. The modifications left off the safety injection drawing and the two additional drawings were all from the same modification package - MOD 81-3-06 ESS, Automation and Modification of Valves for Containment Isolation. These modifications had been incorporated into the system's checkoff lists, which are the controlling documents for system lineups. No problems were found with other modification packages and drawings. The inspectors are continuing to review the modification and drawing update program.

#### 6. Review of Monthly Report

The Monthly Operating Report for October 1984 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(s) verified through record reviews and observations of maintenance in progress that:

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

The inspectors have no further questions relating to the report.



## 8. Training

The inspector attended general employee retraining classes and verified that retraining in the areas of safety, security, quality assurance, administrative procedures, fire protection, the emergency plan, and radiological health and safety was provided as required by the licensee's committed program. The inspector also verified by direct questioning of a female employee that female employees are provided instruction concerning prenatal radiation exposure.

The licensee's Training Department has begun to produce its own training films. Two of these, one in security and one on radiological safety, were included in the retraining classes. The new films improved the quality of the training. They held the viewer's interest better than previous films and the instructions were more practical since they were filmed in the plant and represented actual working conditions.

No violations were identified.

## 9. Generic Letter 83-28 (Salem ATWS) - Diverse Reactor Trip Function Testing

This item was previously documented in report 50-286/84-25, and included a licensee commitment to do monthly reactor trip breaker time response testing. Subsequently the NRC clarified its position on time response testing intervals (NRC letter Varga to Bayne, November 16, 1984) by requiring such tests to be performed during refueling outages. The licensee adjusted their commitment accordingly.

As part of the testing performed during startup from the mid-cycle outage, the licensee tested the time response of the reactor trip breakers to a manual trip signal. The test was documented in Temporary Procedure Change (TPC) 84-150-OP. The breakers response met the acceptance criteria.

No violations were identified.

## 10. Allegation Followup

An anonymous note addressed to the resident inspectors implying some form of irregularity in the conduct of maintenance activities associated with a main steam isolation valve was received at the end of the last inspection period, and the initial followup was documented in report 50-286/84-25.

Additional followup was performed during the current inspection period with the following results: QC was not called to observe the hold point for step 4 on the work step list for the machining of the disc surface on the #33 MSIV (Ref. MWR 5243). Step 4 was the inspection of the disc after machining to verify that sufficient (about 5/32) hard facing remained on the seat surface and that the machined surface was smooth and free of defects. The step 4 inspection was performed by an engineer and licensee employee assigned to the maintenance department who was independent of the



contractor that machined the disc. QA determined through discussion with the maintenance engineer that adequate inspection of the work was accomplished. The QA/QC followup of this event was documented in Quality Control Inspection Report (QCIR) 84-431. The inspectors noted that the licensee is following this event in their deficiency trend file to alert them to repeated problems in this area.

Based on the available information, no further followup is necessary in this area.

No violations were identified.

11. 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 December 17, 1984 to discuss this report period. During the discussion, the licensee did not identify any 10 CFR 2.790 material.