U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. 50-286/82-03

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: February 16, 1982 to March 15, 1982

Inspectors: T. J. Kenny, Resident Inspector — 3/19/82 date

W. Baunack, Acting Chief, Indian Point Resident Section, Division of Project and Resident Programs — 3/19/82 date

Inspection Summary:
Inspections on February 16, 1982 to March 15, 1982 (Inspection Report 50-286/82-03)
Areas Inspected: Routine onsite regular and backshift inspections of plant operations including shift logs and records; licensee action on previous inspection findings; plant tour; surveillance; maintenance; review of monthly reports; and followup on IE circulars and IE bulletins. The inspection involved 87 inspector hours by the resident inspectors.
Results: Of the eight areas inspected, no violations were identified in seven areas. One apparent violation was identified in one area, (failure to maintain controlled documents, details, paragraph 3.D(1).

DETAILS

1. Persons Contacted

M. Albright, Instrument and Control Superintendent
J. Brons, Resident Manager
J. Dube, Security and Safety Supervisor
D. Halama, Q.A. Superintendent
W. Hamlin, Assistant to the Resident Manager
W. Josiger, Superintendent of Power
J. Perrotta, Radiological and Environmental Services Superintendent
S. Munoz, Technical Services Supervisor
E. Tagliamonti, Operations Superintendent
J. Vignola, Maintenance Superintendent

The inspector also interviewed and observed other licensee employees including members of the operations, health physics, technical services, maintenance, and security staffs.

2. Licensee Actions on Previous Inspection Findings

(Closed) Inspector Follow Item (50-286/78-01-27): The inspector's concern was the licensee's handling of the requests for data gathering received from the NSSS. The method of requesting data from, and the handling of data received from the NSSS is accomplished through the onsite service manager for Westinghouse, who is onsite as a resident. The onsite service manager is kept informed in all matters concerning Westinghouse equipment, by the licensee.

(Closed) Unresolved Item (50-286/78-05-01): Correct problems causing frequent degradations of charging pump, seals, fluid heads, and piping. The inspector reviewed and verified Modification 78-3-47 CVCS, which added a bypass line around the charging pumps that acts as a recirculating line in order to start the pumps, warm them up, and remove any air from the system prior to putting them in service. This practice is followed whenever the seals are replaced. The inspector also reviewed and verified Modification 79-3-021 CVCS which added suction pulsation dampers to all charging pumps and a discharge pulsation damper to #33 charging pump. These modifications have reduced the number of seal failures by a factor of four. The licensee has scheduled the addition of discharge pulsation dampers to #31 and #32 charging pumps for the March outage.

(Closed) Unresolved Item (50-286/78-10-01): The inspector's concern was that the inspection of Neutron transmission poison plates in the high density fuel racks was not 100% complete. The inspector verified completion (100% inspection) of the Neutron transmission poison plates by review of Quality Control Inspection Report IP 78-40.

(Closed) Inspector Follow Item (50-286/78-19-02): Review of licensee's evaluation and disposition of pressurizer weld number L-1 UT indications. The inspector reviewed inservice inspection reports for 1978 and 1979 conducted by Westinghouse with the following results:

- Weld L-1 in the 1978 report was assessed to be laminar and a fabrication fault. This assessment resulted from the examination of x-rays made during fabrication.

- After the indication was found, a re-examination was conducted using 0^{o}, 45^{o}, and 60^{o} contact angles. The indication was found acceptable to ASME, Section XI, 1974 Addition, 1975 Addenda.

- The 1979 inspection reinspected weld L-1 using the same contact angles and showed no change in the indication. The report deduced the indication to be within the above-mentioned code.

This weld will be re-examined during the March outage.

The inspector has no further questions concerning this item.

(Closed) Unresolved Item (50-286/78-24-01): Incomplete cable qualification test data and apparent use of rejected cable. The original concern of the inspector pertained to the following seven Receiving Inspecting (RI) reports:

(1) Report 77-RI-474: No qualification test data had been released by Engineering. The inspector reviewed additional testing done by the Astora Labs, which qualified the cable in question.

(2) Report 77-RI-475 had incomplete qualification test data, and was conditionally released. The inspector reviewed certification papers for this report.

(3) Report 77-RI-477 found four reels of defective cable, but only three had been returned to the vendor. The inspector verified shipment of four reals of cable by review of shipping reports dated February 15, 1978.

(4) Report 77-RI-479: No qualifying test data. The inspector reviewed certification papers.

(5) Report 77-RI-522: No qualifying test data. The inspector reviewed documentation of additional testing performed by the licensee.

(6) Report 77-RI-533: No qualifying test data. The inspector reviewed certification papers.

(7) Report 77-RI-541: Incomplete qualifying test data. The inspector reviewed documentation of additional testing.

All of the above RI's were on hold when inspection 78-24 was conducted. The inspector reviewed the QCIR's (Quality Control Inspection Reports) that released the cable for use and has no further questions at this time.

(Closed) Unresolved Item (50-286/78-27-01): Terminal blocks and splices qualification. This is a repeat item, and will be closed when Circular 78-08 is closed.

(Closed) Noncompliance (50-286/78-33-02): Testing of containment isolation valves on a greater than two year interval. The inspector reviewed the licensee's letter of January 17, 1979 to the Region contesting the item. The inspector also reviewed the letter from the Region dated February 5, 1979 dismissing the item based on further consideration of Amendment #7 to Technical Specifications. The inspector has no further questions on this item.

(Closed) Inspector Follow Item (50-286/78-33-04): Containment Integrated Leak Rate Test Instrumentation. The inspector's concern was the failure of several dew cells during testing. The inspector reviewed Purchase Order 82-IP-0668 which ordered a new five-channel humidity monitor, 12 PCRC-11-HPB probes (detectors) which are an improved humidity detector and cabling to install these detectors. Discussion with the licensee's representative indicates the detectors will be available for the next ILRT to be done during the next outage.

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:

- Alarmed control room annunciators, assuring that the operators understood the reason and the importance for each, and that corrective action was being taken for each.

- Control room, shift supervisor, senior operator and watch personnel logs, assuring that trends, out-of-specification readings and anomolities, if any, were being challenged.

- That panel board displays and system lineups were in compliance with the licensee's procedures for safe operation.

- That pressure and temperature relationships in the containment, primary and secondary systems were in compliance with operating procedures.

- 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.

- That selected ESF trains were operable in accordance with Technical Specifications and plant procedures.

B. The inspector conducted biweekly inspections in the areas mentioned in paragraph "A" above, observing, where possible:

- Surveillance being conducted on plant parameters and equipment involving safety. Surveillance results are documented in paragraph 4 of this report;

- Ongoing ESF maintenance being conducted to assure compliance with licensee's procedures. Maintenance results are documented in paragraph 5 of this report;

- Selected liquid and gaseous samples to verify conformance with regulatory requirements prior to release;

- Boric acid samples to confirm proper boric acid level for plant operation;

- Visual observations of operating equipment and piping systems to ascertain if any leakage paths, vibration, unlocked normally locked valves, obstructions to valve operators, and loose supports existed;

- Shift turnovers including a review of shift turnover sheet; and,

- In general, observation of the following for compliance with regulatory requirements:

  1) Proper completion and use of selected radiation work permits;

  2) Proper use of protective clothing and respirators;

  3) Proper personnel monitoring practices (wearing of badges and use of monitoring equipment);

  4) Ignition sources and flammable materials are being controlled to assure that they are in accordance with licensee procedures;

  5) Equipment tagouts for conformance with controls for removal of equipment from service; and,

  6) Plant housekeeping cleanliness practices for conformance with approved licensee programs.

C. During the inspection, the inspector reviewed the following procedures, documents, or tests:

- Radioactive Waste Release Permit 692 for #31 MT (liquid)
- Various shift turnover checklists
- Security Station Logs and Radio Checks
- Jumper Log
- COL-CS-1 - Containment Spray
- COL-RHR-1 - Residual Heat Removal System
- Administrative Procedures AP-3 - Procedure Preparation
  AP-4 - Procedure Adherence and Use
  AP-21 - Conduct of Operations
  AP-23 - Conduct of I&C
  AP-34 - Processing, Control and Filing of Documents

Verification of Technical Specifications Limiting Conditions for operation for:

- Leakage of Primary Coolant
- Safety Injection and RHR Systems
- Control Rod and Power Distribution Limits

D. Findings:

1) The inspector conducted an audit of four sets of controlled documents, (Administrative Procedures, Operations Procedures, Surveillance Procedures and Health Physics Procedures). Overall, the findings were satisfactory with the following exceptions:

a) Administrative Procedures

- Eleven manuals were surveyed;
- Three manuals were in order;
- Three manuals were not up to date; and,
- In general, the remaining manuals had only minor problems.

b) Surveillance Procedures

- The Surveillance Department had not provided the Operating Document Coordinator with an updated index of their procedures as required by Administrative Procedure 34, Processing, Control and Filing of Documents.

c) Health Physics

- Minor problems with several manuals not being up to date; and,

- Latest index had not been issued.

d) Operations

- All controlled operating procedures were audited in the Control Room, Shift Supervisor's Office, Conventional Nuclear Plant Operator's Office (CNPO), and the Nuclear Plant Operator's (NPO) Office; and,

- All procedures were up to date with the exception of those in the CNPO office, which had four procedure manuals (Station Operating Procedures, Plant Emergency Procedures, Off Normal Operating Procedures, and Alarm Response Procedures) which contained out-of-date procedures.

The inspector stated the failure to adhere to administrative requirements relating to the control of procedures is considered to be a violation. (50-286/82-03-01)

The licensee's actions to date have been:

- All documents found out of date have been updated;

- A memo has been issued emphasizing the importance of keeping controlled documents up to date;

- Instructions for making controlled document changes (Administrative Procedures) have been revised to require that department heads sign acknowledgement transmittal sheets after the documents have been updated.

2) During the audit of Checkoff List (COL) RHR-11, Residual Heat Removal System, it was noted that the COL was in error in that it called for the breaker for the RHR pumps recirculation valve to the RWST (883) to be energized while the Technical Specifications require the valve to be deenergized. The inspector found the switch to be in the correct position in accordance with Technical Specification requirements. The licensee has stated that the COL will be changed to correct the error.

3) During the audit of COL-CS-1, Containment Spray System, the inspector found that two drain header valves were shut, but not locked. The COL called for them to be shut and locked. The licensee stated that since no requirements are in place to lock these valves, he will delete the requirement from the COL.

4) During discussions relating to performance of COL's, the licensee stated that all safety system COL's will be performed for the purpose of verifying system alignment and to find possible errors in the COL's, and also, to aid in the updating of system prints currently being conducted. The licensee has also initiated a valve tagging update program.

5) Steam Generator Identified Leakage

Since the steam generator (SG) tube leak in the #31 SG that forced a shutdown on September 23, 1981, the licensee has been monitoring several small SG tube leaks. The magnitude of these leaks in #33 and #34 SG's are approximately 2×10^{-3} gallons per minute (GPM). The licensee has been keeping a daily record and plotting the results which trend a steadily decreasing leak.

The licensee is utilizing several sampling methods and analyzing the results by employing a Gamma Spectroscopy Analysis utilizing a 15% Ge(Li) (Germainium Lithium Drifted Semi-Conductor Detector). The methods are as follows:

1. Air Ejector Condenser Discharge which, when analyzed, measures the total primary to secondary leakage of all the SG's. The results of this measurement equates to approximately 2×10^{-3} gpm and is the total primary leakage to all four SG's. (Technical Specifications limits leakage to 0.3 gpm to any one SG or 1 gpm total to all SG's.) The results are being plotted and compared to the Reactor Coolant activity of two isotopes, Argon 41 and Xenon 135. The plots follow the activity of the reactor coolant for Argon 41 and Xenon 135, but at a much lower magnitude. This method does not pinpoint the particular SG that is leaking, but does give a quantitive leakage rate.

2. Steam Generator Blowdown which analyzes all SG's individually. The gross Gamma Spectroscopy has revealed that #33 and #34 SG's have a small leak.

3. Resin Sampling - The blowdown samples have been arranged so a 340 gallon sample can be directed through a resin bed. The bed can then be counted to analyze for any isotope in the concentrated sample. The total activities from all isotopes are:

   SG #31 - 2.7×10^{-4} uc/cc
   SG #32 - 1.5×10^{-4} uc/cc
   SG #33 - 7.5×10^{-4} uc/cc
   SG #34 8.6×10^{-4} uc/cc

   Part of the activities are from the long-lived isotopes that are in the SG's from previous leaks, and carried over from the secondary system. The licensee has selected Iodine 131 to equate the primary leakage and confirm the particular SG's that are leaking with the following results:

   SG #31 - 9.255×10^{-6} uc/cc - 3.3 times higher than the standard
   SG #32 - 2.736×10^{-6} uc/cc - standard
   SG #33 - 4.588×10^{-5} uc/cc - 16.8 times higher than the standard
   SG #34 - 4.532×10^{-5} uc/cc - 16.6 times higher than the standard

   Iodine 131 was selected because of its 8-day half life and #32 SG was selected as the standard because it has never exhibited any primary to secondary leakage.

After discussions, the licensee stated he will address the chemically analyzed leakage during the planned refueling outage, beginning March 26, 1982, by performing helium leak detection methods on SG's #33 and #34 to identify the leaking tubes. The licensee also stated that other, yet to be determined, testing will be performed on all the steam generators.

4. Surveillance

A. The inspector observed portions of four surveillance activities being conducted on safety-related equipment to ascertain the following:

- That test instrumentation was properly calibrated;
- That the redundant system or component was operable;
- That properly approved procedures were used by qualified personnel; and,
- That the acceptance criteria was met.

Tests observed:

- 3PTQ13 - Iodine Monitor
- 3PTM14A - S.I. Logic "A"
- 3PTM12 - Turbine Electrical O.S. Analog
- 3PTM40 - Emergency Locker Equipment

No violations were identified.

B. The inspector conducted an indepth review of surveillance activities to ascertain the following:

- That the conditions listed in "A" above were met;
- That the test data was 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.

Tests reviewed:

- 3PT-W1 - Diesel Generator (past 10 completed procedures)
- 3PT-BW1 - Control Rod Exercise (past 5 completed procedures)
- 3PT-W7 - CO_2 System Inspection (past 10 completed procedures)
- 3PT-W3 - Evacuation Alarm Test (past 10 completed procedures)
- 3PTM35 - Service Water Pumps (past 5 completed procedures)

Findings:

During the evaluation of 3PTM35, the inspector noted that three TPCN (Temporary Procedure Change Notices) were in effect. The procedures were performed correctly, but the fact the three TPCN's were incorporated appeared to confuse the person conducting the test. The inspector noted some of the TPCN's were in effect for almost two years. The duration of TPCN's and the number in effect were discussed with the licensee. The licensee stated changes to the procedures for the implementation of TPCN's would be considered.

The licensee has revised procedure 3PTM35 and is waiting for the addition of flow devices (which will be added during the March outage) to issue the procedure.

No violations were identified.

5. Maintenance

A. The inspector selected maintenance activities being conducted on ESF equipment to ascertain that redundant trains were in service, and that approved procedures and qualified personnel were conducting the maintenance.

B. The inspector observed portions of maintenance activities listed below to ascertain the following:

- The activities did not violate a limiting condition for operation;
- That redundant components were operable;
- 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's; and,

- That the equipment was properly tested prior to return to service.

1) Removal of a valve in the Isolation Valve Seal Water System

Documents Reviewed:

- Work Request 2676
- Work Step List
- Purchase Orders 81-IP-2689 (Tubing)
  81-IP-2292 (Reducing bushing)
- Certification Papers for the above purchase orders.

2) Nitrogen tie-in to the Isolation Valve Seal Water System

Documents Reviewed:

- Work Request 2677
- Work Request 2678
- Modification Procedure 82-03-036 N_2
- Work Step List
- Purchase Orders 81-IP-2725 (Hilti Bolts)
  82-IP-0822 (Valve)
- Certification Papers for the above purchase orders.

3) Repair to Timing Mechanism of #31 Instrument Air Compressor

Documents Reviewed:

- Work Request 2602
- Work Step List

4) Repair of Dew Point Recorder

Documents Reviewed:

- Procedure IC-AD-4 Trouble Shooting Dew Point Recorder
- Preventive Maintenance Procedure ICPMA 1102

No violations were identified.

6. Review of Monthly Report

A. Monthly Operating Report

The Monthly Operating Report for February, 1982 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.

B. Findings:

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 6.9.1.6.

The inspector has no further questions relating to the report.

7. Followup on IE Circulars

The inspector reviewed the following IE Circulars. For each circular reviewed, the inspector ascertained that:

- The circular was received by the licensee's management.

- The circular was reviewed for applicability.

- For each circular, if it is applicable to the facility, the appropriate corrective actions have been taken or are scheduled to be taken.

(Closed) 80-CI-12 - Valve Shaft-to-Actuator Key May Fall Out of Place When Mounted Below Horizontal Axis: The inspector reviewed PORC minutes and a memorandum to file by the maintenance superintendent stating this problem does not exist at this facility. The memorandum to file also stated that the maintenance superintendent would remain cognizant of the recommended fix should it be necessary in the future.

No violations were identified.

8. Followup on IE Bulletins

The inspector reviewed the following IE Bulletins. In addition to his comments, he ascertained that:

- The written response was within the time period stated in the Bulletin.

- The written response included the information required to be reported.

- The written response includes adequate corrective action commitments based on the information presented in the Bulletin and licensee's response.

- The licensee's management forwarded copies of the written response to the appropriate onsite management representatives.

- The information discussed in the licensee's written response was accurate.

- The corrective action taken by the licensee was as described in the written response.

1) The inspector determined, by a review of Plant Operating Review Committee Minutes and other licensee documentation that the following IE Bulletins are not applicable to Indian Point Unit 3 and considers them closed.

(Closed) 80-BU-08	Examination of Containment Liner Penetration Welds
(Closed) 80-BU-18	Maintenance of Adequate Minimum Flow through Centrifugal Charging Pumps Following Secondary Side High Energy Line Rupture
(Closed) 80-BU-19	Failures of Mercury-Wetted Matrix Relays in Reactor Protective Systems of Operating Nuclear Power Plants Designed by Combustion Engineering
(Closed) 80-BU-21	Valve Yokes Supplied by Malcolm Foundry Company Inc.
(Closed) 80-BU-23	Failures of Solenoid Valves Manufactured by Valcor Engineering Corporation

2) (Closed) 80-BU-06 - Engineered Safety Features (ESF) Reset Controls: The inspector reviewed test performed as requested by item 2. The inspector also reviewed correspondance to the commission dated June 17, 1980 and March 23, 1981. In addition, the inspector reviewed Procedure PER-ES-1 which describes in detail the resulting action, by the operator, for ESF system operation.

3) (Closed) 80-BU-20 - Failures of Westinghouse Tupe W-2 Spring Return to Neutral Control Switches: The inspector reviewed correspondance to the commission dated September 9, 1980, February 10, 1981, and March 3, 1981. The inspector also reviewed the licensee's Periodic Test Procedure 3PT-V19 which, accomplishes a check of these switches whenever an operation is performed, or monthly, to determine if the switch has returned to its proper position for the next operation.

The inspector had no further questions relating to actions taken by the licensee.

9. 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.