U.S. NUCLEAR REGULATORY COMMISSION

REGION I

DCS No. 050286/841013

Report No.	50-286/84-25		
Docket No.	50-286		
License No.	DPR-64	Priority	Category <u>C</u>
Licensee:	Power Authority of	f the State of New York	
	10 Columbus Circle	2	
	New York, New York	× 10019	
Facility Name:	Indian Point	Nuclear Generating Stat	ion, Unit 3
Inspection At:	Buchanan, New	v York	
Inspection Con	ducted: October	16, 1984 to November 15	, 1984
Inspectors:	Africia	h	11.29.84
for	1011 ·	for Resident Inspector	date
fa	L. W. Roksbachi Re	n esident Inspector	
Approved By:	Jor L	1. Jan	11/29/84
	Leif Norrholm, Chi Section 2B, DPRF	lef, Reactor Project	date

Inspection Summary: Inspection on October 16, 1984 to November 15, 1984 (Inspection Report 50-286/84-25)

<u>Areas Inspected:</u> Routine onsite regular and backshift inspection of plant operations during a scheduled mid-cycle inspection/maintenance outage, including shift logs and records, licensee action on previously identified inspection findings, facility operations, operational safety verification, major maintenance, surveillance, review of monthly report, licensee event reports, generic letter 83-28, allegation followup, and site visit by NRC Commissioner. The inspection involved 195 hours by the resident inspectors.

<u>Results:</u> Based on initial results, the licensee extended the scope of the steam generator tube inspection program.

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DETAILS

1. Persons Contacted

Within this report period, interviews and 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) Unresolved Item (50-286/84-12-03) Discrepancy in reported external source check for noble gas monitor R-12. The licensee investigated the source check discrepancy and determined that the recorded value was a typographical error (1.5K cpm was corrected to 15K). The inspector discussed this with the licensee and reviewed the two most recent quarterly surveillance tests for noble gas monitors. Monitor R-12 passed these surveillance tests and the check source values were recorded correctly.

No violations were identified.

3. Facility Operations

On October 18, 1984, the licensee informed the inspectors that the requirement for NRC notification of a reactor trip was not recognized by plant personnel at the time of an event on October 13. A unit trip occurred on October 13, due to electrical perturbations in the nuclear instrumentation bus, while the reactor was subcritical.

Appropriate notifications were made by the licensee on October 18, and a description of the event is detailed in Licensee Event Report (LER) 84-014. The inspector determined that the above event is an isolated case, recognized and addressed with the appropriate corrective actions taken by the licensee, therefore, no additional followup is considered necessary by the inspectors.

During the reporting period, the unit was in cold shutdown in order to facilitate the mid-cycle steam generator inspection. In addition, the licensee completed several major maintenance items, modifications, and conducted surveillance activities.

a. Steam Generator, Mid-Cycle Inspection

Steam Generator Sludge Lancing, Inspection and Loose Parts Removal

The licensee completed steam generator sludge lancing, inspection and loose parts removal in accordance with applicable procedure, 3-CM-FS-7, "Steam Generator Tube Sheet Cleaning." The resident inspectors observed portions of the equipment set up and sludge lancing. The inspectors also observed portions of the camera inspection of the secondary side of the steam generators and viewed video tapes of the periphery of the tube sheet and the base of the tubes. No tube damage was observed. The licensee removed all identified loose parts. The loose parts consisted mostly of pieces of wire and weld rod.

No violations were identified.

Girth Weld Inspection

The licensee completed ultrasonic examinations of predetermined sections of the steam generator transit welds. The inspection was accomplished in accordance with Procedure NDE P9.4-9, Rev. 1, "Manual Ultrasonic Examination of Circumferential and Longitudinal Butt Welds in Ferrous Vessels of 2-1/2" Thickness and Greater." The results of the inspection were compared to previously documented baseline inspection results obtained at the completion of the girth weld repairs. The licensee determined that several indications grew up to 1/2 inches in size, however, all indications met the allowable planar indication acceptance criteria of ASME Code Section XI.

Steam Generator Eddy Current Testing (ECT)

Eddy current tests (ECT) of the initial steam generator (SG) tube sample size of 300 cold leg (CL) tubes and 200 hot leg (HL) tubes in each of two steam generators identified 30 tubes with wall degradation greater than the 50% plugging limit. Based on the above findings, in order to meet Technical Specification requirements, the licensee expanded the ECT program to include 100% inspection of HL and CL tubes of all four steam generators between the tube sheet and the second support plate. The expanded inspection program identified 138 defective tubes with degradation greater than 50%, distributed as follows:

Steam Generator	Number of	Defective	Tubes
31		59	
32		27	
33		31	
34		21	

The licensee stated that the ECT data obtained during the midcy:le inspection has been analyzed using new electronic equipment which has recently become available from the contractor. The new equipment has better noise/signal discrimination providing improved sizing of indications.

In order to allow for a meaningful comparison between the 1982 ECT data and inspection results, the 1982 data for all tubes tested has been reanalyzed using the new equipment. The new base line data was found to be consistent with the 1982 analysis. Based on a comparison of the midcycle inspection results with the reanalyzed 1982 data, the licensee found that:

- a. A 16% average indicated growth rate in wall degradation, for tubes now identified as having greater than 50% degradation, and;
- b. A 1.5% average indicated growth rate in wall degradation for all previously degraded tubes.

On November 2, the licensee requested from the NRC a temporary change to Technical Specifications, Section 4.9, to raise the steam generator tube plugging limit from 50% to 63% wall degradation. Subsequently, the NRC approved the licensee's request, thus allowing the unit to return to power operations, with the new plugging limit, for the remainder of the current fuel cycle scheduled to end in May, 1985. The revised limit reduced to 60 the number of tubes required to be plugged, prior to the return to power operations.

No violations were identified.

b. Modifications

Environmentally Qualified Transmitters

The licensee replaced 30 transmitters, located in the containment building, with environmentally qualified transmitters. The work was accomplished in accordance with Modification Procedures 84-03-040-SG and 84-03-036. The new transmitters are seismically qualified and meet the requirements of IEEE-323 and IEEE-344.

Fire Protection - Modification Procedure 83-03-089-FP

In order to meet 10 CFR 50, Appendix R requirements, the licensee installed Transite fire barriers between cable trays in the electrical penetration area of the containment building. The installation of automatic sprinkler protection in the auxiliary feedwater pump room is in progress.

4. Operational Safety Verification

- a. Documents Reviewed:
 - Selected Operators' Logs
 - Shift Supervisors Log
 - Selected Shift Turnover Checklists

- Jumper Log
- Radiuactive Waste Release Permits (liquid & gaseous)
- Selected Radiation Exposure Authorizations (REA's)
- Selected Chemistry Logs
- Selected Tagouts
- Health Physics Watch Log
- b. 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.
 - 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:

- Emergency Diesel Generators
- Service Water System
- Residual Heat Removal System
- Component Cooling Water System
- (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;

No violations were identified.

5. Maintenance

- 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. Maintenance activities reviewed included:

Main Steam Isolation Valves (MSIV) (Work Request 5242, 5243, 5244, and 5245)

Based on the valve manufacturer's recommendation, the licensee performed ultrasonic examinations on two valve shafts. No detectable indications were identified. In order to alleviate possible future problems, all valve shafts were replaced. The licensee conducted a material substitution evaluation, 84-03-074MS, Rev. 0. The MSIV's were overhauled in accordance with Maintenance Procedure 3-CM-V-GEN-23, Rev. 0. Air-operated valve actuators were also replaced as per Procedure 3-PM-V-GEN-4. Visual inspection of 33 MSIV disk identified a slight surface roughness. While the criteria for disk tightness was met, the licensee reconditioned the disk by removing 0.029 inches off the disk surface.

Reactor Coolant Pumps

The licensee replaced seal packages on four reactor coolant pumps. The work was accomplished in accordance with Maintenance Procedure 3-PM-R-RCS-2. In addition, the licensee replaced reactor coolant pump motors 32 and 34.

- c. The following additional maintenance activities were observed by the inspectors:
 - Overhaul and hydrotest of Crosby Main Steam Safety Relief Valves;
 - Replacement of steam generator blowdown valves;
 - Fan cooler unit fan motors preventive maintenance; and,
 - Replacement of rod control drive cooling fan motors.

No violations were identified.

6. Surveillance

- a. Documents Reviewed:
 - 3PT-R13 Recirculation Pump Functional Test
 - 3PT-R29C Station Battery #33 Load Test

- 3PT-R32C Control Room Filtration System Test
- Retest 5301, 5612 Fan Cooler Solenoid Valves
- Retest 5417 Metal Impact Monitoring System
- Retest 5519, PM-F-980 Hi Head SI Flow Transmitter
- 3PT-R12 Hydrogen Recombiner Functional Test
- 3PT-R53 Containment Sump Pump Operations and Level Sensor Check

b. Inspector Findings:

The inspector(s) directly observed the performance of portions of the above-listed tests, or 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 proper reviews, by the licensee, had been conducted; and,
- That the results of the tests met Technical Specification reguirements.

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

No violations were identified.

7. Review of Monthly Report

The Monthly Operating Report for September, 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 inspector(s) have no further questions relating to the report.

8. Licensee Event Reports

a. In-Office Review of Licensee Event Reports

The inspectors reviewed an LER submitted to the NRC:RI office to verify that details of the event were clearly reported, including the accuracy of the description of cause and adequacy of corrective action. The inspector determined whether further information was required from the licensee, whether generic implications were involved, and whether the event warranted onsite followup.

The following LER was reviewed:

- -- 84-014 Unit Trip Signal During Shutdown With Reactor Subcritical
- b. Onsite Licensee Event Followup

The LER listed above was reviewed to verify that the reporting requirements of Technical Specifications and Station Administrative Procedures had been met, that appropriate corrective action had been taken, that the event was reviewed by the PORC (Plant Operating Review Committee), and that continued operation of the facility was in conformance with the Technical Specification limits.

No violations were identified.

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

- a. Documents Reviewed:
 - 3PT-R91 Reactor Trip and Bypass Breaker Trip Verification
 - 3PT-M13A&B Reactor Protection Train A&B

Each refueling, the licensee tests independently the ability to manually trip the reactor trip breakers through the use of either the undervoltage or shunt trip mechanisms. Each month the licensee performs a functional test of the ability to manually trip the reactor trip breakers and tests independently the ability of the undervoltage trip assembly to trip the reactor trip breakers. Following discussions with the licensee, the licensee committed to add breaker time response testing to the monthly functional test.

No violations were identified.

10. Allegation Followup

- a. An anonymous note addressed to the resident inspectors implied some form of irregularity in the conduct of maintenance activities associated with a main steam isolation valve. The subject activity was conducted during the current maintenance outage, and was frequently observed by the resident inspectors. A detailed review of the documents contained in the maintenance package indicates that the job was accomplished in accordance with applicable procedures. No irregularities were readily apparent. Based on the available information, no further followup is necessary in this area.
- b. The inspector assisted the region in investigating a previously identified allegation in the area of plant security.

No violations were identified.

11. Site Visit by NRC Commissioner

The Indian Point 3 site was visited by Commissioner Frederick Bernthal and his staff on October 19. The Commissioner met with licensee's onsite and offsite management to discuss plant status and applicable current issues. The resident inspectors accompanied the Commissioner on a plant tour. The visit concluded with a short news conference. Several intervenors accompanied the Commissioner during the visit.

12. 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 November 19, 1984 to discuss this report period. During the discussion, the licensee did not identify any 10 CFR 2.790 material.