

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

DSC 50247/290882

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Region I

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Report No. 82-20

Docket No. 50-247

License No. DPR-26

Priority -- Category C

Licensee: Consolidated Edison Company of New York, Inc.
4 Irving Place
New York, New York 10003

Facility Name: Indian Point Nuclear Generating Station, Unit 2

Inspection at: Buchanan, New York

Inspection conducted: October 1-31, 1982

Inspectors:

T Foley

T. Foley, Senior Resident Inspector

11/17/82

date

P. Koltay

P. Koltay, Resident Inspector

11/17/82

date

T Foley for T. Rebelski

T. Rebelski, Senior Resident Inspector

11/17/82

date

Approved by:

H. Kister

H. Kister, Chief, Reactor Projects Section
IC, DPRP

11/24/82

date

Inspection Summary:

Inspection on October 1-31, 1982 (Inspection Report 50-247/82-20)

Areas Inspected: Routine onsite, regular and backshift inspection including licensee action on previously identified inspection findings; operational safety verification; plant tours; facility maintenance; surveillance observations; operability of engineered safeguard features; sampling program review; independent limiting condition for operation verification; steam generator weld examination; pre-refueling activities; containment isolation lineup; review of monthly and periodic reports; licensee event reports followup; radioactive waste system controls; physical security; and radiation protection controls.

The inspection involved 221 hours by the resident inspectors.

Results: No violations were identified.

DETAILS

1. Persons Contacted

D. Army, Maintenance Engineer
J. Basile, General Manager Nuclear Power Generation
M. Blatt, Acting Director, Regulatory Affairs
A. Brescia, I&C Supervisor
K. Burke, General Manager, Administrative Services
J. Cullen, Radiation Protection Manager
J. Curry, Chief Operations Engineer
W. Ferreira, Radiation Protection Administrator
R. Gauny, Deputy General Manager, Environmental Health and Safety
W. Gruber, Acting General Manager, Environmental Health and Safety
J. Higgins, Chemistry Manager
C. Jackson, Vice President Nuclear Power
J. Mooney, Electrical Engineer
H. Morrison, Operations Superintendent
A. Nespoli, Major Projects Manager
M. O'Kelley, Rad Waste, General Supervisor
J. Quirk, Test and Performance Engineer
M. Skotzko, Security Administrator
M. Smith, Acting General Manager Technical Support
T. Walsh, Instrument and Control Engineer

The inspectors also interviewed other licensee employees including members of the operations, health physics, technical support, maintenance, construction, corporate engineering staff, and security personnel.

2. Licensee Action on Previously Identified Inspection Findings

(Closed) NC5, August 16, 1982 (247/82-14-01) Failure to maintain valves identified in COL 51 chained and locked. Subsequent to completion of maintenance, the licensee failed to relock valves using chains and padlocks as required by the licensee's monthly surveillance procedure COL 51. The inspector verified that the licensee has initiated post maintenance surveillance of valves required to be locked as per COL 51.

(Closed) Unresolved Item (247-82-14-04) Diesel fire pump fuel tank level indicator not operable. The inspector verified that the licensee, in accordance with MWR 2413, installed a fuel tank level indicator.

(Closed) NC5, June 16, 1982 (247/82-09-01) Licensee failed to update operating procedures and associated graphs, to reflect OPS setting changes initiated by MWR 2N 54090. The inspector noted that the MWR was initiated by engineering without informing plant operation staff. The inspector verified that the licensee's procedure SAO 104, Revision 11, Maintenance Work Orders, requires all MWR's to be reviewed by the operations department.

(Closed) NC5, April 23, 1982 (247/82-04-01) Uncalibrated survey meter in control room emergency locker. The licensee placed properly calibrated survey meter in emergency locker. Routine resident inspection program re-examined meter on 10/21/82 and was found to be properly calibrated.

(Closed) NC5, April 23, 1982 (247/82-04-02) Degraded equipment not identified. The inspector verified the proper adjustment of valve 1723. The original maintenance work request 2N 25501 and 1746 are complete.

(Closed) NC5, April 23, 1982 (247/82-04-04) Licensee's security procedures did not identify the required fence parameters. The inspector verified that the licensee incorporated the required fence parameters in the applicable procedures. The damaged fence has been repaired.

(Closed) NC5, March 19, 1982 (247/82-03-02) Feedwater penetration "G" and steam penetration "A" were depressurized while the unit was in operation. The licensee took immediate steps to pressurize penetrations. Verification of the licensee's immediate action was made by the inspector. The licensee has modified the conventional and nuclear log sheets to include the documentation of penetration rack pressurization. Inspection of the area during routine resident inspection was acceptable.

(Closed) NC5, March 19, 1982 (247/82-03-05) Improper protective clothing. The licensee did instruct the Nuclear Plant Operator that had erred, and training curriculum did address violation in annual training requirements. The area of required protection has been reduced and proper posting of area was observed by the inspector. The protective clothing was available at entrance points of electrical tunnel.

(Closed) Circular 81-09 (IFI 81-CI-09) Containment effluent water that bypasses radioactivity monitor. The licensee identified original problem of circular. Corrective actions were completed prior to startup in 1981.

(Open) Unresolved Item (247/81-11-02) The problem area of service water intake structure with accompanied components were addressed. A reexamination of listed items showed minimal improvements. The following conditions still exist:

- bearing and packing cooling water exhibits leakage of 5 to 20 gpm and flows over discharge piping;
- discharge piping shows loss of base paint and early stages of pitting;
- extraneous trash, such as wood, flexible tubing gasket material on deck;
- poor or limited lighting;

- automatic back flush not installed;
- the strainer differential gauges have a varied total range;
- coaming around discharge piping traps water and contributes to oxidation of the piping; and,
- local service water electrical panel has numerous missing lenses.

An inservice inspection surveillance test PIV2, Group C quality components was reviewed by the inspector. Dates of the tests were November 7, 1981, May 3 and September 28, 1982, and indicated no problems with piping in the area. This does not agree with the inspector's observations. The inspector requested licensee to provide a schedule for corrective actions. Previous concerns were identified to the licensee's management.

(Closed) Unresolved Item (247/81-11-11) Inoperative seismic monitoring instrumentation. The seismic instrumentation that monitors site events is located at the PASNY facility. PASNY Procedure, "PTR 37, Seismic Instrumentation Calibration and Testing" requires one train operable at all times. This instrumentation has been verified operational.

3. Operational Safety Verification

The inspector verified:

- Proper control room manning and access control;
- Operators adhering to approved procedures for ongoing activities;
- Adherence to limiting conditions for operations observable from the control room;
- No abnormalities on instrumentation and recorder traces;
- Operators understood the reasons for annunciators which were lit, and that timely corrective action was being taken;
- Nuclear instrumentation and other reactor protection systems are operable;
- Control rod insertion limits are in conformance with technical specification requirements;
- Containment temperature and pressure indications were in conformance with technical specification requirements;
- No abnormalities indicated on radiation monitor recorder traces; and,
- Onsite and offsite emergency power sources available for automatic operation.

The inspector reviewed the control room log, shift supervisor's log, tagout log, operating orders, significant occurrence reports, daily leakrate calculations, shift turnover check sheet, and diesel operability log to obtain information concerning operating trends and activities, and to note any out-of-service safety systems.

During routine entry and egress from the protected area (PA), the inspectors verified:

- Access controls are in conformance with security plan requirements for personnel, packages and vehicles;
- Gates in the PA barriers are closed and locked if not attended;
- Isolation zones are free of visual obstructions and objects that could aid an intruder in penetrating the PA.
- Personnel radiation monitoring equipment is operable, and that equipment and materials are being monitored prior to release for unrestricted use.

Findings:

On October 6, 1982, the resident inspectors were informed by the licensee that an error was made in valve positioning during the performance of recirculating No. 21 Chemical and Volume Control System (CVCS) Holdup Tank (HUT), which subsequently resulted in the distortion of the tank.

The inspectors examined the tank and noted that the integrity of the tank was maintained; however, several pipe connections to the tank were significantly bent; a seismic restraint was broken, and a dent approximately 15 feet long, 8 feet wide, and about one foot deep was evident on the top, toward the rear of the 8500 cubic foot tank.

The licensee stated that prior to the event, a Nuclear Plant Operator (NPO) was instructed to stop processing No. 22 CVCS HUT through the demineralizer cation bed, and to recirculate No. 21 CVCS HUT through the evaporator ion exchanger. In the course of making the valve lineup, the NPO incorrectly opened the return valve from the recirculation pump, and did not open the return from the evaporator gas stripper. The return valve from the gas stripper to No. 22 HUT was left open. The above valve lineup allowed the gas stripper feed pump to take suction on No. 21 HUT and return the water to No. 22 HUT, thus creating a vacuum and caused the distortion of No. 21 HUT.

The inspectors reviewed the procedure in use at the time of the event, SOP 3.6, Revision 2, CVCS Recycle System Operation. The procedure does not specifically address processing the HUT through the demineralizer cation bed, nor recirculating through the evaporator ion exchanger using

the gas stripper pump. Additionally, a specific valve lineup for either evolution is not given.

The licensee is performing an evaluation of damage, and preparing a procedure for returning the tank to its original shape. The licensee stated that a new draft of procedure SOP 3.6 incorporates the proper valve lineup required to accomplish the task of polishing hold up tanks. The licensee also stated that the procedure will be reviewed again as part of a comprehensive program for the review and upgrading of operational procedures. Additionally, individual pressure indication and alarms on the waste disposal panel and low suction pressure cut off's for gas stripper feed pumps, will be installed.

The inspector provided the licensee with a copy of IE Bulletin 80-05, "Vacuum Condition Resulting in Damage to Chemical Volume Control System (CVCS) Holdup Tanks," and reviewed their response to the bulletin dated June 6, 1980.

The licensee's response indicated that adequate protection was provided by using: (a) increased capacity of the nitrogen cover gas supply piping, and (b) providing a pump trip on the suction of the recirculation pump on low tank pressure. This trip was not placed on the gas stripper pump because it was not used for the purpose of recirculating holdup tank water at the time.

4. Plant Tours

During the course of the inspection, the inspector made observations and conducted tours of the following areas during regular and backshifts:

- Turbine Building
- Control Room
- Diesel Generator Rooms
- Primary Auxiliary Building
- Security Control Building
- Auxiliary Feed Pump Building
- Cable Spreading Room
- Maintenance and Operations Building
- Perimeter Fence
- Transformer Yard
- Intake Structure
- Spent Fuel Handling Building
- Containment Building

The following items were observed or verified:

- General plant/equipment conditions including operability and verification of standby equipment;
- Inspected plant areas for fire hazards, fire alarms, extinguishing equipment, actuating controls, fire fighting equipment, and emergency equipment for operability;
- Ignition sources and flammable materials are being controlled;
- Combustible material and debris are promptly removed from the facility;
- Plant housekeeping and cleanliness practices are in conformance with approved programs;
- Excess equipment and material is returned to storage areas;
- Critical clean areas are controlled in accordance with procedures, when required;
- Activities in progress are being conducted in accordance with administrative controls and approved procedures. Verified these activities do not interfere or have the potential to interfere with the safe operation of the facility; and,
- Reviewed a sample of equipment tagouts to verify compliance with Technical Specifications limiting conditions for operation regarding removal of equipment from service.

Findings:

During a tour of the Primary Auxiliary Building on October 7, the inspector noted that the licensee installed a steel partition wall separating the pipe penetrations area and the electrical penetration area at elevation 51 feet. The partition isolated the fire hose station designed to be used in the electrical penetrations area, and limited access and egress for the area to a hole opened in the roof of the electrical penetration room. The inspector notified the licensee of the above conditions. The licensee stated that a door will be installed in the partition wall. Subsequently, the inspector verified the installation of the door.

No violations were identified.

5. Facility Maintenance

The inspector reviewed portions of safety-related corrective and preventive maintenance, and determined through observations and reviews of records that:

- The maintenance activity did not violate limiting conditions for operation;
- Redundant components are operable, if required;
- Required administrative approvals, and tagouts were obtained prior to initiating the work, if required;
- Approved procedures were being used, where required;
- The procedures used were adequate to control the activity;
- Replacement parts and materials being used are properly certified;
- Preventive Maintenance Program is functioning in accordance with approved procedures;
- Radiological controls are proper, and that they are being properly implemented;
- Ignition/fire prevention controls were appropriate, and were implemented, where required;
- QC hold points were observed, and provided independent verification of specific points, if required; and,
- Equipment was properly tested prior to return to service.

Portions of the following maintenance activities were observed and reviewed:

Fuel Manipulator Crane, Outage Job No. 225.

The licensee completed modifications to the manipulator crane by incorporating design changes detailed in ESG 82-15479-00, Improvements to Upgrade Reliability of Manipulator Crane. The inspectors reviewed the following procedures:

- Installation of Redundant Full-up Safety Circuit;
- Installation of a 2100 lb. Underload Circuit;
- Installation of a Replacement Motor Control Console;
- Installation of Full Length Walkway on the Driveside of the Bridge;

- Installation of mast mounted TV monitor system for closeup viewing of fuel element engagement; and,
- Installation of a TV monitor positioning system for bridge alignment.

Replacement of RTD's on Reactor Coolant System, Outage Job No. 1138

The licensee removed and replaced RTD's 410A, 421B, 430A, 431A and 440B on the primary coolant loops. The inspector reviewed Maintenance Procedure MP 1.14, Revision 5, Nondestructive Examination Reports, welder qualification records, and quality control tags.

The following additional maintenance activities were reviewed and observed in part:

- Replacement of pressurizer spray valve 455A;
- Installation of new electrical penetrations;
- Reactor coolant pump motors replaced RCP 21 and 24, outage jobs Nos. 734 and 735; and,
- Replace disk insert, Main Steam Relief Valve MS 48A, outage job No. 764.

No violations were identified.

6. Surveillance Observations

The licensee's surveillance equipment and program provides assurance that required pumps, fans, valves, and other instrumentation will perform their required functions.

The inspectors' verification of the licensee's surveillance program includes:

- Review of surveillance procedure for conformance to technical specification requirements, and verify proper licensee review/approval;
- Verification of test instrumentation calibration;
- Observations of portions of system removal from service. Confirmation that LCO's are met when operational mode requirements are specified;
- Observation of portions of the conducted surveillance test;
- Observation of portions of the system's restoration to service;

- Review test data for accuracy and completeness. Independently calculated selected test results to verify accuracy;
- Confirmation that surveillance test documentation is reviewed and test discrepancies are rectified;
- Verification that test results meet technical specification requirements;
- Verification that testing was done by qualified personnel; and,
- Verification that surveillance schedule for this test was met.

The following surveillance tests were witnessed:

- PT-R38 Shock Suppression Functional Testing, Revision 3, 9/24/82
- The snubbers were tested on a Bergen Patterson Hydraulic Test Stand Model 2500. The test stand was calibrated on October 25, 1982.

Findings:

In accordance with the Technical Specifications, Section 4.12, the licensee tested 10 snubbers. Three out of the ten, SR 935, 46SR 30, and SR 73A, failed the lockup test. The licensee is in the process of evaluating its options for corrective action.

- PT-R8 Refueling System Interlocks Test
- PT-R1 Boron Injection Tank Level Bistables Functional Test, Revision 4.

Findings:

The BIT low level and very low level bistables were found to be out of specification, and therefore, did not meet "As Found" operability criteria. The licensee corrected the error by adjusting the bistable settings for channels LC 944B and LC 944J.

No violations were identified.

7. Operability of Engineered Safeguard Features

The inspector verified through direct observation, and procedural review, the operability of a selected ESF system.

The inspection criteria included:

- A walkdown of the accessible portions of selected system;
- System lineups checked against plant drawings;

- Verified hangers and supports were operable;
- Cleanliness of breakers, instrumentation cabinets;
- Instrumentation is properly valved and calibrated;
- Valves in proper position, power available, locked and sealed, as required by checkoff lists; and,
- Local and remote control positions correctly established.

The accessible valve lineups and flow paths for the component cooling water system were verified.

No violations were identified.

8. Sampling Program Review

The inspector reviewed sampling results for the following tests to verify conformance with regulatory requirements;

- Refueling water storage tank boron concentration; tests performed during the month of October;
- Spent fuel pool boron concentration; and,
- Boric acid storage tanks boron concentration.

No violations were identified.

9. Independent Limiting Condition for Operation Verification

The inspector independently verified equipment status to determine that Technical Specification limiting conditions for operation requirements were being met for the following:

- Refueling water storage tank level;
- Boric acid tank level and temperature; and,
- Electrical distribution system for onsite and offsite power sources.

No violations were identified.

10. Steam Generator Weld Examination

During this inspection period, Westinghouse Corporation informed the licensee of a potentially generic cracking problem in steam generator girth welds, and recommended that an inspection program be established to verify that the specified cracking problem does not exist at this unit.

The licensee established a Non-Destructive Examination (NDE) program utilizing Ultrasonic (UT) techniques. The program included three feet of UT examination on each of Nos. 22 and 23 steam generators (S/G's) in addition to the American Society of Mechanical Engineers (ASME) code examinations referenced in the Technical Specifications.

During the initial UT examination, the licensee revealed several indications of possible cracks, and therefore, expanded their examination program to encompass Radiographic Testing (RT) and remote TV visual examination and extend the (UT) to encompass 100% of one girth weld.

The program is currently continuing. The licensee is attempting to correlate the UT, RT and visual results, and comparing the current data with original base line NDE records.

The resident inspector independently observed a portion of the interior girth weld in No. 23 S/G and compared this visual observation to a previous observation of interior welds of steam generators with cracking problems. The inspector noted no obvious cracking of the girth weld, or in or near the heat affected zone of the weld.

The inspector also viewed and discussed developed x-rays of the weld, and noted that indications were evident on the film.

The licensee is currently analyzing and evaluating results of NDE data and stated that the resident inspectors will be informed of the results. The inspectors will continue to follow the actions of the licensee in regard to this matter. No violations were identified.

11. Pre-Refueling Activities

The inspector verified by direct observation or procedure review that the following have been, or are scheduled to be accomplished prior to refueling operations, and that the following conditions relating to fuel handling operations are in conformance with Technical Specifications or approved procedures:

- Spent fuel storage area crane interlocks or physical stops are operable;
- Provisions for verifying prior to fuel handling operations that the spent fuel area ventilation system is operating as required;

- Provisions for verifying prior to fuel handling operations that the efficiency of the absolute and charcoal filter systems had been determined at the required frequency;
- Provision for verifying that the secondary containment or the spent fuel building isolation occurs on high radiation signal;
- Provision for verifying that minimum water level requirements are monitored during fuel handling operations;
- Provision for verifying that the spent fuel storage pool area radiation and airborne radioactivity monitors are operable;
- Provision for verifying that the spent fuel pool cooling and cleanup system is operable;
- Quality assurance controls with respect to cleanliness controls necessary for refueling operations have been established;
- Redundant source range nuclear instrument channels are operable;
- Audible indication of the response of one source range channel is available; and,
- Communication between the control room and the fuel storage building is established.

The following procedures were reviewed in order to ascertain the above conditions:

- PT-R9, Revision 2, Fuel Handling Building Filtration Test;
- PT-R8, Revision 4, Refueling System Interlocks Test;
- SOP-10.2.4, Revision 4, Filling Reactor Cavity for Refueling Via Containment Spray Pump;
- SOP-17.1, Revision 5, Preparations for Core Refueling;
- SOP 17.7, Revision 3, Fuel Transfer System Operations;
- SOP 17.12, Revision 3, Spent Fuel Assembly Handling Tool; and
- SOP-17.19, Revision 7, Spent Fuel Inspection Program.

The inspectors noted that several procedures were not readily available for review because the latest revisions were not incorporated or the procedure was not yet reviewed by the Station Nuclear Safety Committee (SNSC). The procedures reviewed by the inspector appeared to be thorough and clear.

No violations were identified.

12. Containment Isolation Lineup

Containment isolation was not required during the reporting period since the unit was maintained in cold shutdown with no fuel movement in the containment.

The licensee is in the process of replacing ten existing electrical penetrations with new penetration assemblies. The inspector examined the following electrical penetrations: 46-1, 32-2, 20-5, 40-10, and 28-7.

No violations were identified.

13. Review of Monthly and Periodic Reports

Monthly Operating Reports

The Monthly Operating Reports for September, 1982 were 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.

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;
- The information in the reports was identified as licensee event reports, where required, per TS 6.9.1.7; and,
- The operating report included the requirements of TS 6.9.1.6.

No violations were identified.

14. Licensee Event Reports Followup

Through direct observations, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine that reportability requirements were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished in accordance with Technical Specifications.

- LER 82-035/03L-0 Failure of Nuclear Power Range Instrumentation Channel N41
- LER 82-038/03L-0 Fan Cooler Unit No. 24 Fan Coupling Failure
- LER 82-039/03L-0 Boric Acid Concentration Outside TS 3.2.3.3 Limits
- LER 82-041/03L-0 Failure of Solenoid SOV 1279 Resulting in Loss of Containment Weld Channel Penetration Pressure

No violations were identified.

15. Radioactive Waste System Controls

The inspector verified through observation and calculations, the liquid and gaseous release programs at the site.

The inspection parameter for liquid and gaseous releases included:

- Releases were in accordance with approved procedures;
- Release approvals were documented;
- Samples were taken and analyzed; and,
- Release control instrumentation was operable during release.

The inspector reviewed the liquid radioactive waste releases associated with the following permits:

- Permit No. 43, released on October 18, 1982
- Permit No. 44, released on October 20, 1982
- Permit No. 46, released on October 21, 1982

No violations were identified.

16. Physical Security

During the course of the inspection, the inspectors observed the implementation of the security plan by noting:

- The security organization is properly manned and that security personnel are capable of performing their assigned functions;
- Persons and packages are checked prior to allowing entry into the protected area;

- Selected vital area barriers are not degraded;
- Vehicles are properly authorized, searched, and escorted or controlled within the protected area;
- Persons within the protected area display photo identification badges, persons in vital areas are properly authorized, and persons requiring escort are properly escorted;
- Compensatory measures are employed when required, by security equipment failure or impairment; and,
- Response to threats or alarms or discovery of a condition that appears to require additional security precaution is consistent with procedures and the security plan.

No violations were identified.

17. Radiation Protection Controls

During routine facility tours, the inspectors verified radiation protection controls were properly established by:

- Observing that licensee's HP policies/procedures are being followed;
- Observing portions of area surveys performed by licensee's personnel, and confirming licensee's survey results by independent measurement;
- Verifying by observation and review that the requirements of current RWP's are appropriate, and are being followed;
- Observing proper completion and use of selected RWP's;
- Observing proper use of protective clothing and respirators;
- Observing proper personnel monitoring practices; and,
- Examining randomly selected radiation protection instruments that were in use to verify operability and adherence to calibration frequency.

No violations were identified.

18. 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.