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

Region I

Report No. 50-247/78-31

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: September 27-October 7, 1978

Inspectors: D Johnson for T. Rebelowski, Resident Reactor Inspector — 11/14/78 date signed

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Approved by: R Keimig — 11-15-78 date signed
R. R. Keimig, Chief, Reactor Projects
Section No. 1, RO&NS Branch

Inspection Summary:

Inspection on September 27-October 7, 1978 (Report No. 50-247/78-31)
Areas Inspected: Routine inspection by the resident inspector of plant operations including: tour of facility; observation of reactor operator requalification training; observation of physical protection in the areas of access control, barriers, search, escort, communications and compensatory measures; and, maintenance of nuclear components. The inspection involved 24 inspector hours on site by the NRC resident inspector.
Results: No items of noncompliance were identified.

Region I Form 12
(Rev. April 77)

DETAILS

1. Persons Contacted

Mr. A. Decker, Technical Engineer
Mr. J. Halpin, Maintenance Engineer
*Mr. T. Law, Plant Manager
*Mr. C. Limoges, Reactor Engineer
Mr. J. Makepeace, Technical Engineering Director
*Mr. W. Monti, Manager, Nuclear Power Generating Department
Mr. A. Nespoli, Operations Engineer
*Mr. M. Shatkouski, Chief Operations Engineer
Mr. R. Warren, Security Supervisor

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

* denotes attendees at the exit interview.

2. Maintenance Outage

The licensee entered into a maintenance outage on September 15, 1978 to repair the No. 21 Reactor Coolant Pump (RCP) seals and to perform other maintenance items. The outage was completed on October 6, 1978.

a. Reactor Coolant Pump Repairs

The licensee determined through an increase in pressure in 2nd stage-seal, that the No. 21 RCP seals were deteriorating.

(1) Review of Prerequisite Maintenance Items

The inspector examined the Maintenance Work Package (No. 7871) which was issued to maintenance personnel. The following items were verified:

-- Administrative approval of the Maintenance Work Request (MWR) was obtained prior to initiation of work on RCP;

-- Procedures to perform work, R.C.P. Motor and Coupling Removal, 2/3, CM-RCS RCPS 1.3, dated March 19, 1976, R.C.P. Seal Overhaul, 3/3 CM-RCS RCPS 1.22, were approved and technically adequate;

-- Quality Control requirements were detailed;

-- The inspector verified that maintenance personnel were qualified to perform the repairs;

-- The replacement material certifications were not available at time of inspection. This item will be reviewed at a subsequent inspection; (50-247/78-31-02)

-- Radiation Work Permits 1829 and 1832 were issued for the pump repairs.

(2) Hydrostatic Test

The licensee replaced the complete seal package. As part of the verification of the work performed, the MWR required an operational hydrostatic test of the reactor coolant system. The inspector witnessed the hydrostatic test on September 28, 1978. The Reactor Coolant System was 292F and ∿ 2200 psig.

The inspector observed that radiological controls were established which required additional protective clothing, eye protection and use of respirators. The inspector also observed that precautions were instituted and followed to keep personnel exposures as low as reasonably achievable. No leakage was observed in area of RCP No. 21.

b. Additional Outage Items

(1) Reactor Coolant Pump (RCP) No. 23 Flange Leakage

During the hydrostatic test, the licensee identified leakage at the Reactor Coolant Pump No. 23 pump casing to loop volute flange. The licensee retensioned the flange bolts, but the leakage continued. The licensee then increased the torque values after review by the Nuclear System Supplier and further evaluation by the licensee's staff. No further leakage was observed.

(2) Safety Injection Pump No. 23 (SIP)

Prior to criticality, the SIP No. 23 was declared inoperable, thus extending the outage. The No. 23 SIP was used to refill the Boron Injection Tank upon completion of repairs to the Boron Injection Tank (BIT) valves. During startup of SIP No. 23, the operator noted that the discharge pressure did not increase. The pump was secured immediately. Examination of the pump (MWR 7952) identified the failure of a bushing and sleeve at a high pressure stage of the pump. This failure was attributed to loss of flow which was caused by a partially restricted suction strainer.

With regard to the safety injection pump, the following items were addressed by the inspector:

-- Suction strainers exist in all intake elbows of SI Pumps;

-- The strainers were originally installed during startup testing;

-- The strainers do not appear on plant process and instrumentation diagrams (PID's). The inspector stated that the strainers in the SI suction lines must receive a safety evaluation for their continued use, and the strainer, if approved, must be fabricated to an approved plan and a modification request must be instituted. Also, the use of the strainers would require specific surveillance procedures to insure uninterrupted flow.

The above three items are considered unresolved items and will be reviewed again by the inspector. (50-247/78-31-01)

c. Additional Observations/Verifications

-- The inspector observed no inadequacies in the licensee's tagging or plant valve status.

-- All LCO's associated with observed component repairs were met.

The inspector did not identify any items of noncompliance during his observations and verifications of the maintenance repair items.

3. Condenser Tube Anomaly

The licensee experienced higher than normal chloride indications on the secondary condensate system during startup. Investigation by the licensee determined that five condenser tubes were severed and other tubes were damaged. The apparent cause was the dislodgement of the end plates at steam dump piping encasement in the condensers. The plates were rewelded and strongbacks were fabricated to preclude this type of occurrence. The inspector had no further questions on this item.

4. Review of Plant Operations

a. Shift Logs and Operating Records

(1) The inspector reviewed the following logs and records, where applicable, for the period of September 15 thru September 30, 1978:

(a) Senior Reactor Operator's Log

(b) Watch Supervision Log

(c) Conventional Nuclear Plant Operator's Log

(d) Night Order Book

(e) Jumper Log

(f) Locked Gate List

(g) Running Equipment Log

(h) Significant Occurrence Reports

(2) The logs and records were reviewed to verify:

(a) Log Book Reviews were being conducted by the staff;

(b) Instructions in the Night Order Book did not conflict with the Technical Specifications;

(c) Jumper Log entries did not conflict with Technical Specifications;

(d) Significant Occurrence Reports confirm compliance with Technical Specification reporting and L.C.O. requirements;

(e) Log book entries involving abnormal conditions are sufficiently detailed;

(3) The inspector used the following acceptance criteria for the above items:

(a) Technical Specifications;

(b) Licensee Procedures -

- OAD-3, "Plant Surveillance and Log Keeping Policy";
- SAP-126, "Jumper Log",
- SAP-124, "Reporting of Anomalous Conditions"

(4) Findings

No items of noncompliance or unresolved items were identified during the inspector's review of logs and records.

b. Plant Tour

The inspector's tour consisted of entry into containment during hydrostatic testing of main coolant loop and a tour of turbine hall to observe radiation controls and plant cleanliness.

(1) Observations in Containment

-- No fluid leaks were observed

-- Pipe hanger and seismic restraints observed were acceptable

-- Selected valves were correctly positioned

-- Equipment and caution tags observed reflected proper information

-- Control operators indicated knowledge of selected illuminated annunciators

-- Control room manning observed at several times during the inspection was in conformance with the requirements of the facility Technical Specifications.

No items of noncompliance were identified.

5. Observations of Physical Security

The resident inspector made observations, witnessed and/or verified, during regular and off-shift hours, that the selected aspects of the security plan were in accordance with regulatory requirements, physical security plans and approved procedures.

(a) Physical Protection Security Organization

-- Observations and personnel interviews indicated that a full time member of the security organization with authority to direct physical security action was present, as required.

-- Manning of all three shifts on various days was observed to be as required.

-- All physical security members observed appeared capable of performing their assigned tasks.

b. Physical Barriers

Selected barriers in the protected area (PA) and vital areas (VA) were observed and random monitoring of isolation zones was performed. No items of noncompliance were identified.

c. Access Control

Observations of the following items were made:

-- Identification, authorization and badging

-- Access control searches

-- Escorting

-- Communications

-- Compensatory measures, when required

d. Findings

The inspector identified no items of noncompliance.

6. Operator Requalification Training

The licensee maintains a simulator training facility on site. The inspector reviewed the licensee's program for requalification training for required control manipulations.

On September 29, 1978, a group of reactor operators (from Public Service Electric and Gas Company, New Jersey) were in the simulator facility under the instruction of the licensee's training coordinators.

a. Program

The requalification training program consisted of the following simualtor manipulations:

-- Bringing the reactor through solid, pressurizer bubble and reactor startup

-- Reactor startup to 100% power

-- Plant shutdown and cooldown

-- Reactor startup with induced instrumentation malfunctions

-- Rapid load changes in manual mode

-- Reactor trip control for BOLA and EOL.

-- Malfunctions of nuclear steam supply system

-- Malfunctions of nuclear components and instrumentation with reactivity anomalies.

b. Observations

The inspector witnessed operators on board. Three operators were at board with three operators as observers. The operators changed positions at periodic intervals giving each operator at least four hours per day board time.

The inspector also witnessed the operators reactions to a startup at 350°F with a rod drop, failure of main feed supply and loss of one channel of pressurizer instrumentation.

The inspector identified no inadequacies during his observation of the training.

7. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance or deviations. Unresolved items disclosed during this inspection are discussed in Paragraph 2.a and 2.c.

8. Exit Interview

The inspector met with the licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection. The inspector summarized the inspection findings including the unresolved item.