

U. S. ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION I

CO. Inspection Report No. 50-247/72-03

Subject: Consolidated Edison Company

CPPR-21

Indian Point No. 2

License No. DPR-26

Location: Buchanan, New York

Priority

Category B

Type of Licensee: PWR (873 Mwe) Westinghouse

Type of Inspection: unannounced

Dates of Inspection: February 14, 17 and 18, 1972

Dates of Previous Inspection: December 10, 1971 and January 13, 1972

Principal Inspector: G. L. Madsen
G. L. Madsen, Reactor Inspector

3/16/72
Date

Accompanying Inspectors: None

Date

Date

Other Accompanying Personnel: None

Date

Reviewed By: E. J. Brunner
E. J. Brunner, Senior Reactor Inspector

3/17/72
Date

Proprietary Information: None

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SECTION I

Enforcement Action

Two primary pressure spikes of 650 psig were encountered when the system pressure was less than 220° F. (Paragraph 12 b(2))

Licensee Action on Previously Identified Enforcement Action

None.

Unresolved Items

Excessive vibration was noted during the operation of reactor coolant and pumps 21 and 24. (Paragraph 12.b(3))

Status of Previously Identified Unresolved Items

- A. The eight accumulator check valves are receiving a partial overlay to obtain acceptable wall thickness. Not included in this inspection.
- B. The DB-50 scram breakers are to be modified. No change.
- C. Mechanical Seal Leakage was encountered on the high pressure safety injection pumps. Additionally, pump No. 21 seized. Pump 21 is scheduled for replacement. (Paragraph 11).
- D. Mechanical Seal leakage was encountered on the residual heat removal pumps. The seals are scheduled to be replaced.
- E. The contingency Plans (earthquake, fire, and radiation) implementation. No change.
- F. Resolution of radioactive waste system deficiencies. Not inspected.
- G. UT inspection of steam generator 21 revealed two indications which were not included in the original base line data. Not inspected.

Design Changes

Modification to the high head safety injection system piping is planned. Con Ed submitted a request for approval of this modification to the Division of Reactor Licensing on February 7, 1972. (Paragraph 13).

Unusual Occurrences

- A. Two primary system pressure spikes of 650 psig were encountered at a time when the primary temperature was less than 220° F. Inquiry Report 50-247/72-05 and licensee letter to the Division of Reactor Licensing dated February 28, 1972. (Paragraph 12.b(2))
- B. A structural failure of the condensate storage tank was encountered. Inquiry report 50-247/72-04.

Persons Contacted

Con Ed

Mr. J. Makepeace, Startup Manager, IP-2
Mr. A. Kohler, Resident Construction Manager
Mr. P. Leo, Construction Superintendent, IP-2
Mr. E. Dadson, Superintendent, Quality Assurance
Mr. A. Nespoli, Superintendent, Operations, IP-2
Mr. W. Monti, Assistant Superintendent Operation, IP-2
Mr. O. Buesse, Electrical Startup
Mr. S. Austin, Senior Mechanical Engineer

Wedco

Mr. W. Diebler, Manager, Quality Control
Mr. O. Hughes, Quality Control, Pipe and Structural Engineer

Management Interview

The following subjects were discussed with Messrs. Kohler and Makepeace.

- A. Power Ascension Program - The inspector indicated a need for completion of the power ascension procedures. Mr. Makepeace stated that the generator trip, heat rate, and loss of flow test procedures are in preparation. (Paragraph 5)
- B. Electrical - The inspector indicated satisfactory findings relative to the electrical fire stops and separation barriers; however, a limited number of items are considered incomplete. Mr. Kohler indicated an awareness of these specific items. (Paragraph 3)

C. Pipe Hangers and Restraints

The inspector indicated that some 100 lines are considered as incomplete with respect to pipe hanger and restraint installation. Mr. Kohler indicated that a limited amount of work remains and has been defined. The inspector stated that a audit of these lines would be conducted following completion of the installation, the Wedco Quality Control inspection, and acceptance by ConEd. (Paragraph 6)

D. Security

The inspector indicated that security construction is considered incomplete. He was informed that the required work will be completed by April 1, 1972 and prior to going critical. The inspector indicated that this item will be reviewed prior to Compliance recommending the issuance of a license to operate at a power level. (Paragraph 7)

E. Subcritical Testing

The inspector indicated satisfactory findings relating to the subcritical testing program. Upon request, Mr. Makepeace indicated that the present schedule calls for reactor heatup to operating temperature on March 29, 1972. The inspector indicated an intent to witness a portion of the rod drop testing in the hot-flow condition and the pipe movement monitoring during heatup. (Paragraph 12)

F. Reactor Coolant System

The inspector indicated that the reactor coolant pressure spike occurrence requires an explanation. Makepeace indicated that the item is being reviewed and that a report to DRL will be issued.

The inspector inquired as to plans relating to the elimination of the vibration on reactor coolant pumps 21 and 24. Mr. Makepeace stated that Westinghouse specialists are scheduled to visit the plant and a checkout of the pump coupling alignment is planned. (Paragraph 12)

G. Fire Damage - Test Program

The inspector indicated that the fire damage test program is considered to be well organized. He indicated that additional component checkout procedures are needed. Mr. Makepeace indicated that the remaining procedures are in preparation and will be made available for the inspectors review. (Paragraph 8)

H. Quality Assurance Program

The inspector acknowledged the receipt of a copy of the Indian Point site QA program, to facilitate a compliance review.

I. High Pressure Safety Injection System

The inspector reviewed findings relating to the high pressure SIS modification and the repair of pump 21. Mr. Makepeace confirmed that these changes will necessitate additional system checking. The inspector indicated that these items will receive additional Compliance review. (Paragraphs 11 and 13)

SECTION II

Additional Subjects Inspected, Not Identified in Section I, Where No Deficiencies Were Found

1. General

Plant activities have been directed toward restoration of the damage caused by the November 4, 1971 fire,* completion of miscellaneous construction, and the performance of subcritical testing as permitted by License No. DPR-26. The present ConEd schedule calls for heatup to operating temperature on March 29, 1972 and having the plant ready for initial criticality on April 10, 1972.

2. Fuel Storage Building

Status of the removal of an existing pipe from the fuel pool and the installation of stops on the main crane.

3. Electrical

Reviewed the installation of electrical separation barriers and fire stops.

4. Fuel Failure Detector

Plans relating to the installation of a fuel failure detector.

5. Power Ascension Program

Progress of procedure preparation for the power ascension program, following initial criticality.

6. Pipe Hangers and Restraints

- a. Status of pipe hanger and restraint installation for systems included in the nuclear portion of the plant.
- b. Review of punchlists for pipe hangers and restraints remaining to be installed.

- c. Review of Quality Control records for pipe hangers and restraints for lines which have been completed and accepted by Wedco and Con Ed.
- d. The checkout program for the hydraulic snubbers associate with the nuclear portion of the plant.

7. Plant Security

Discussed completion status of plant security construction.

8. Primary Auxiliary Building - Fire Damage

- a. Discussed status of repair of damaged caused by the November 4, 1971 fire in the PAB.*
- b. Reviewed functional test procedures for component affected by the November 4, 1971 fire.*
- c. Reviewed records pertaining to functional tests performed on 32 components.

9. Operational Quality Assurance Program

A copy of the Indian Point Site Operational Quality Assurance Program was received for future review.

10. Nuclear Facility Safety Committee (NFSC)

- a. Reviewed minutes relating to the NFSC meetings for November 5, 9, 11, and 22, 1971 and January 21, 1972.
- b. Reviewed the NFSC final report relating to the November 4, 1971 Primary Auxiliary Building fire.

Details of Subjects Discussed in Section I

11. High Pressure Safety Injection Pumps

As previously reported, the high pressure safety injection pumps encountered seal leakage and pump No. 21 siezed.** The pump seals are scheduled for replacement. Pump No. 21 was disassembled and portions

*CO Report No. 50-247/71-15, Section II

**CO Report No. 50-247/71-14, Paragraph 7.

were returned to the vendor for repair.* The inspector was advised that, due to anticipated delays in the vendor shop, pump No. 21 is to be replaced with a unit presently in storage and purchased for IP-3. Upon request, the inspector was informed that additional functional testing of the high pressure SIS will be required as a result of this change. Tests will include the measurement of the pump pressure-flow characteristics.

12. Subcritical Test Program

As previously reported, the testing to be accomplished during the subcritical period are included on a master punchlist.** A review of this later punchlist indicated that the following has been accomplished since the last inspection:

- a. A control procedure for heatup of the primary system was prepared. A review of this procedure revealed no apparent deficiencies.
- b. The primary system was heated to 230° F. Actions during this period included the following items of significance.
 - (1) A 2500 psig hydrostatic test of the primary system was performed. The purpose of this test was to survey for system leakage and to monitor primary to secondary leakage in the steam generator by measurement of boron concentration in the secondary water. No specific problems were reported.
 - (2) As previously reported,*** two primary system pressure spikes of 650 psig were encountered at a time when the primary coolant temperature was less than 220°F. (Technical Specification 3.1.4.B requires temperature greater than 220°F before primary pressure is raised above 500 psig.) The licensee indicated that in both cases the spike was terminated within one minute. The inspector was informed that the cause of the pressure spikes had not been determined and continues to be under investigation. The licensee stated that a report relating to this matter will be submitted to the Division of Reactor Licensing.****

*CO Report No. 50-247/72-02, Paragraph 12.

**CO Report No. 50-247/72-13, Paragraph 16,C

***CO Inquiry Report No. 50-247/72-06

****Submitted February 28, 1972

- (3) Vibrational information for the reactor coolant pumps was collected. The inspector was informed that the vibrations noted on pumps 21 and 24 was excessive. The pumps were shutdown. A checkout of coupling alignment for these pumps is scheduled.
- c. Cold-No flow rod drop testing and rod stepping was completed.
- d. Checkout of the part length rods in the cold condition was completed.

13. Safety Injection System

ConEd submitted a request to the Division of Reactor Licensing on February 7, 1972 for approval for a modification to the high pressure portion of the safety injection system (SIS). Upon request, the inspector was informed that this modification would necessitate repeating the flow distribution test for the high pressure SIS. The inspector was informed that:

- a. The design for this modification has been completed.
- b. Pipe and valves previously procured for IP-3 would be utilized.
- c. The pipe spool pieces have been fabricated at the vendor shops.
- d. Site welding will be performed using qualified welders and the Courtier welding procedure No 8 which has been used previously at IP-2.
- e. Quality control for the work will be provided by Wedco.
- f. Cleanliness control procedures will be prepared.
- g. The modified portions of the SIS will be flushed and hydrostatic tested.