

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

CO Inspection Report No. 50-247/71-14

Subject: Consolidated Edison Company

Indian Point No. 2

License No. DPR-26

Location: Buchanan, New York

Priority

Category C

Type of Licensee: PWR (873 Mwe) Westinghouse

Type of Inspection: Routine, Announced

Dates of Inspection: October 24 and 28, 1971

Dates of Previous Inspection: Sept. 15, 16, 24, 28 and 29 and
Oct. 6, 7, 8, 10 and 11, 1971

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

12/8/71
Date

Accompanying Inspectors:

Date

Date

Other Accompanying Personnel: None

Date

Reviewed By: *Eldon J. Brunner*
Eldon J. Brunner, Senior Reactor Inspector

12/8/71
Date

Proprietary Information: None

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SECTION I

Enforcement Action: None

Licensee Action on Previously Identified Enforcement Matters: None

Unresolved Items:

- A. Preoperational testing indicates that the RHR System delivers unequal flows to the four RCS loops. (Paragraph 6)
- B. Mechanical seal leakage was encountered on the three high pressure safety injection pumps. Additionally, pump No. 21 seized. (Paragraph 7a)
- C. Mechanical seal leakage was encountered on residual heat removal pump No. 21. (Paragraph 7b)

Status of Previously Reported Unresolved Items

- A. The Contingency Plans (Earthquake, Fire, Tornado, and Radiation) Implementation - No change.
- B. Resolution of radioactive waste system deficiencies. No change.
- C. UT inspections of steam generator No. 21 revealed two indications which were not included in the original base line data - No inspection activity.

Unusual Occurrences: None

Persons Contacted:

Con Ed

- J. Makepeace, Startup Manager, IP-2
- S. Cantone, Superintendent, Performance
- B. Moroney, Production Engineer
- S. Zulla, Production Engineer

Management Interview

The following subjects were discussed with Mr. Makepeace at the conclusion of the inspection:

- A. Preoperational Testing - The inspector indicated some reservations relative to the acceptability of the measured unequal RHR flows to the four RCS loops. Mr. Makepeace stated that the demonstrated pump capabilities and the stated flow consideration had been evaluated by Westinghouse and Con Ed and that the existing condition is considered to be acceptable and meets the requirements of the FSAR. (Paragraph 6)

- B. Core Loading - The inspector indicated generally satisfactory findings relative to core loading operation; however, the individual log sheets were found to be somewhat messy and on a couple of occasions the shift had failed to sign the log sheet. Mr. Makepeace indicated an awareness of this condition and stated that Mr. Cantone had issued instructions which should correct this condition. (Paragraph 3)
- C. Technical Specifications - The inspector indicated satisfactory findings relative to adherence to the Technical Specification requirements, for the core loading period. He indicated an apparent need for organizing the records. Mr. Makepeace indicated that Mr. Zulla has been designated this responsibility and that improvements can be expected. (Paragraph 5)
- D. Residual Heat Removal Pump No. 22 - Mr. Makepeace indicated that the problem associated with RHR pump No. 22 is a leaking outer mechanical seal. He indicated that maintenance is scheduled and that RHR pump No. 21 has showed no similar difficulty. (Paragraph 7a)
- E. High Pressure Safety Injection Pumps - The inspector indicated a concern relative to the problems with the three high pressure safety injection pumps. Mr. Makepeace indicated a similar concern. He indicated that the vendor (Pacific Pump) is scheduled to visit the site and evaluate the condition. The inspector indicated that CO will follow this item during a future inspection. (Paragraph 7b)

SECTION II

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

1. General

License No. DPR-26 was issued on October 19, 1971 which permits core loading and the performance of subcritical testing. The first fuel assembly was placed in the reactor vessel on October 27, 1971 and the core loading was completed on October 31, 1971.

2. Preoperational Testing

- a. Reviewed the Master Punchlist for testing to be performed during the core loading-subcritical testing period.
- b. Reviewed test results and approvals for the following preoperational testing:

<u>Procedure No.</u>	<u>Title and Remarks</u>
4.2.6	Boric Acid Blender Calibration
4.5.1	Safety Injection - Passive
Section 6	Failure and Low Head to High Head Recirculation Paths
4.12	Fuel Handling Checkout

The above test results were reviewed and approved by Wedco and Con Ed.

3. Core Loading

- a. Reviewed the watch foreman's log book for October 19 to 24, 1971.
- b. Reviewed control room log sheets for October 26 and 27, 1971.
- c. Observed core loading operations for transferring 10 fuel assemblies from the fuel storage building to the reactor vessel.
- d. Discussed administrative coverage versus the context of core loading procedure No. 5.0.

- e. Reviewed core loading prerequisite records relating to core loading procedures Nos. 5.1, 5.2, 5.3 and 5.4.
- f. Reviewed nuclear instrumentation records associated with the movement of four fuel assemblies, including 1/M plots.

4. Security

Observed security measure being applied versus procedural requirement for the core loading period.

5. Technical Specifications

Reviewed records and observed plant conditions relating to the following Technical Specification requirements relating to core loading:

Sections - 3.1-E.4., 3.2-A., 3.8-A, 4.6-A, 4.6-B, 4.6-C, 6.1-A, A-1, A-2, A-3, A-4, and A-5.

Details of Subjects Discussed in Section I

6. Preoperational Testing

As previously reported,*flow data obtained during the checkout of the residual heat removal system (RHR), using preoperation test procedure No. 4.3.2, indicated unequal flows to the four reactor coolant system loops (RCS) and that the indicated total flow was not equivalent to the sum of the indicated flow to the four RCS loops. Instrumentation problems were identified. Prior to core loading this preoperational test was repeated. A review of the results of this testing indicated the following:

- a. The prerequisites were completed prior to performance of the test.
- b. The procedure was followed.
- c. Wedco and Con Ed have evaluated and approved the test results.

With respect to the correlation between the indicated total flow and sum of flows to the four RCS loops, the test results indicate the following:

- a. At total flows of approximately 3000 gpm, the sum of the flows to the four RCS loops is comparable.
- b. At high flow rates, the total flow and the sum flow to the RCS could not be compared since the maximum indicated flow range for the individual loop is 1000 gpm.

*CO Report No. 50-247/71-13, Paragraph 16b.

- c. At low flow rates, the accuracy of the indicated total flow is questionable.

With respect to the unequal flow to the four RCS loops, the test data indicates that this condition still exists. As an example, at a total flow of 3100 gpm the indicated flows to the four RCS loops was 670, 920, 650, and 900 (sum - 3140 gpm). Mr. Moroney indicated that an evaluation of this condition was performed and that the requirements of the FSAR for delivery of flow to the RCS are considered to be available.

7. Safety Injection System

a. High Pressure Pumps

Mechanical seal leakage was encountered on the three high pressure safety injection pumps during the performance of preoperational Test No. 4.5.1, Section 6 - Safety Injection - Passive Failure and Low Head to High Head Recirculation Paths. Additionally, Pump No. 21 seized. Upon inquiry, Mr. Makepeace indicated that the vendor, Pacific Pump, is scheduled to visit the site and that corrective maintenance will be initiated.

b. Residual Heat Removal (RHR) Pumps

RHR Pump No. 22 was shut down as a result of mechanical seal leakage during the performance of preoperational test No. 4.3.2 - RHR pre-operational checkout. This pump is scheduled for maintenance repair.