

U.S. ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION I

RO Inspection Report No: 50-286/74-12 Docket No: 50-286
Licensee: Consolidated Edison Company License No: CPPR-62
4 Irving Place Priority: _____
New York, New York Category: B1
Location: Indian Point 3, Buchanan, New York
Type of Licensee: PWR 1050 MWe (W)
Type of Inspection: Routine, Announced
Dates of Inspection: July 29 - August 1, 1974
Dates of Previous Inspection: June 11-13, 1974
Reporting Inspector: *A.B. Davis* for 8/14/74
J. N. Hannon, Reactor Inspector Date
Accompanying Inspectors: *R.H. Glusac* 8/14/74
for D. M. Sternberg, Reactor Inspector Date

Other Accompanying Personnel: _____

Reviewed By: *A.B. Davis* 8/14/74
A. B. Davis, Senior Reactor Inspector Date
Reactor Operations Branch

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SUMMARY OF FINDINGS

Enforcement Action

A. Violations

None

B. Safety Items

None

Licensee Action on Previously Identified Enforcement Items

Not Inspected

Design Changes

Not Inspected

Unusual Occurrences

None Identified

Other Significant Findings

A. Current Findings

1. Non-Deficient Areas

- a. Schedule Slippage. (Details, Paragraph 2)
- b. Preoperational test procedure preparation status. (Details, Paragraph 3)
- c. Preoperational test results review. (Details, Paragraph 5)
- d. Preoperational test procedure review. (Details, Paragraph 4.a.)

2. Open Item

- a. Training for Phase III tests. (Details, Paragraph 6)

3. Unresolved Item

- a. Emergency Core Cooling System Preoperational Testing.
(Details, Paragraph 4.b.)

B. Status of Previously Reported Unresolved Items

The following items have been resolved.

1. Condensate pump failure safety implication. Reference Report 50-286/74-04. (Details, Paragraph 8)
2. Record retention responsibility. Reference Report 50-286/74-07. (Details, Paragraph 9)
3. Test log deficiencies. Reference Report 50-286/74-04. (Details, Paragraph 10)
4. Static Inverter Test Warmup Time. Reference Report 50-286/74-04. (Details, Paragraph 11)
5. Inverter test dummy load. Reference Report 50-286/74-04. (Details, Paragraph 12)
6. Inverter #33 test procedure. Reference Report 50-286/74-04. (Details, Paragraph 13)
7. Battery Charger Safety Precautions. Reference Report 50-286/74-04. (Details, Paragraph 14)

Management Interview

The management interview was held at the site on August 1, 1974, with the following licensee personnel attending:

Mr. S. H. Cantone, Operations Engineer, Unit 3
Dr. G. I. Coulbourne, Manager, Indian Point 3 Construction
Mr. J. Deane, Supervisor, QA Examination
Mr. V. M. Perry, Superintendent, Field Operations
Mr. G. D. Whittier, Test Engineer, Unit 3 Startup

The following summarizes the items discussed:

- A. Schedule for the Preoperational Test Program. (Details, Paragraph 2)

- B. Status of preoperational test procedure preparation. (Details, Paragraph 3)
- C. Preoperational test procedure review. (Details, Paragraph 4)
- D. Preoperational test results review. (Details, Paragraph 5)
- E. Previously reported unresolved items. (Details, Paragraphs 8-14)
- F. Plant tour. (Details, Paragraph 7)
- G. Training for Phase III tests. (Details, Paragraph 6)

DETAILS

1. Persons Contacted

S. G. Salay, Chief Engineer
A. D. Kohler, Resident Construction Manager
S. H. Cantone, Operations Engineer, Unit 3
V. M. Perry, Superintendent, Field Operations
S. Zulla, Engineer Unit 3
G. D. Whittier, Test Engineer
G. I. Coulbourn, Manager, Indian Point 3 Construction
J. Deane, Supervisor, QA Examination

2. Preoperational Test Schedule

The licensee stated that the RCS Hydrostatic Test was tentatively scheduled for the end of August, 1974; Hot Functional Tests no earlier than October, 1974; and other major preoperational tests during November and December. The licensee reported no official change to the initial fuel load date of November, 1974.

The inspector requested that the licensee continue to advise RO:I of schedule slippages to facilitate inspection planning. The licensee agreed to keep RO:I informed.

3. Preoperational Test Procedure Preparation

a. Status

<u>Phase</u>	<u>I</u>	<u>II</u>	<u>III</u>
Number of Procedures Planned	82*	88	43
Procedures Approved for Performance	77	14	0
Procedures Under Review by JTG	5	64	35
Date Completion of Con Ed Review Anticipated	9/1/74	10/1/74	11/1/74

b. Standard Procedure Requirements

The inspector stated that future inspection efforts would be geared to witnessing tests and review of test results, but that any deficiencies identified in the standard procedure requirements would receive attention commensurate with their safety significance. The licensee acknowledged this information.

*Flushes not included.

4. Preoperational Test Procedure Review

a. INT-TP-3.5 RCS COLD HYDRO TEST

The procedure had been approved for initial issue (review only) by WEDCO on July 24, 1974, but had not been approved for performance by the Joint Test Group. The inspector discussed several items of interest with licensee representatives including isolation of D/P cells, removal of insulation, and SG tube sheet temperature restrictions. The licensee stated that the various concerns identified would be addressed during the Con Ed review process. The inspector has no further questions on the procedure at this time.

b. Emergency Core Cooling System Test Procedures

- (1) The following draft test procedures pertaining to the ECCS were reviewed:

(a) 8 Switch Sequencing	INT-TP-4.5.1
(b) Accumulator Injection	INT-TP-4.5.2
(c) Spray Pumps and Eductors	INT-TP-4.5.3
(d) Passive Failure and Recirculation	INT-TP-4.5.5
(e) Instrumentation	INT-TP-4.5.6
(f) Check Valves (Hot)	INT-TP-4.5.7
(g) Recirculation Pumps	INT-TP-4.5.8
(h) Containment Spray and Filter Dousing Air	INT-TP-4.5.9
(i) Recirculation Sump Level	INT-TP-4.5.10

- (2) No review of High Pressure Safety Injection, Low Pressure Safety Injection, or system operation with normal and with emergency power systems was conducted, since the following procedures were not available for review:

(a) Injection Pump Operation	INT-TP-4.5.4
(b) SIS and Loss of Power	INT-TP-4.13.3

- (3) No deficiencies in the area of Containment Spray System testing was identified.

- (4) The inspector noted that operability of the motor operated accumulator isolation valves is not being demonstrated under the maximum differential pressure condition, i.e., the RCS at zero gage pressure and the accumulators at

their maximum precharge pressure. This condition could occur in that these valves are permitted to be shut below an RCS pressure of 1000 psig by the proposed Technical Specifications. If a SIS occurred in this configuration the valves receive an automatic open signal.

The inspector was not shown any analysis or justification for not performing this test. Since the maximum differential pressure operation of the valves could be required during operation of the plant within the limits of the proposed Technical Specifications, the inspector informed the licensee that the testing of these valves would be treated as an unresolved item pending further review. The licensee acknowledged this information and stated that the present preoperational test program met current licensing commitments.

5. Preoperational Test Results Review

a. Flush of the Primary M/U Water System

The inspector reviewed at random several Flush Logs from the flush of the Primary Make Up Water System, which were being evaluated by Con Ed for acceptance. The licensee stated that WEDCO controlled the flushing sequence, which was noted to be recorded on the flow diagram. Although flow velocity calculations were apparently not recorded on the flush logs, the licensee's engineering staff reportedly evaluates each flush with the intent of ascertaining the minimum acceptable velocity-time combination to signify a satisfactory flush. The licensee stated that inspections would be conducted of each system prior to acceptance to assure that items such as temporary strainers would not be inadvertently left installed contrary to design. The inspector had no further questions on the review of the Primary M/U Water System Flush Logs.

b. Communications System Test

The inspector stated that the results of this test may be reviewed by RO:I in a subsequent inspection, as they would have been at this time had they been available. The licensee acknowledged this information.

6. Training for Phase III Tests

The inspector determined by discussions with licensee representatives that training requirements for conducting the Phase III Pre-operational Test Program had not been defined. This item will remain open pending appropriate licensee action.

7. Plant Tour

In company with licensee representatives, a tour of the Unit 3 Auxiliary Building and the Simulator was conducted. No deficiencies were identified.

8. Condensate Pump Failure

The licensee provided the following responses to questions raised in RO Report 50-286/74-04:

- a. An informal analysis was made of the condensate pump failure with the following results:

- (1) The impeller broke into very few parts;
- (2) Flow through the pump stopped almost instantaneously;
- (3) The discharge check valve slammed shut due to pressure from a parallel pump;
- (4) Feed pumps are provided with suction strainers; and
- (5) There is an approximate 100' elevation between the condensate pump discharge and the steam generator feed inlet.

This analysis resulted in the conclusion by the licensee that the condensate pump failure had a low probability of causing an adverse effect on the safety of operation of the plant.

- b. Byron Jackson Model No. 28KXH-8STG.
- c. The affected pump had the same model number as those on Unit 2 but subsequent investigation revealed that the pump internals were different and that the Serial Numbers were different. The licensee stated that it had been determined that the different internal design of the Unit 3 pump had no bearing on the failure, which does not rule out potential for failure on Unit 2.
- d. No similar failures have occurred.

- e. The inspector observed a memo from the Resident Construction Manager to the Manager, IP3 Construction, IPR-5512 dated March 11, 1974, which reissued previous instructions regarding the requirements for evaluating construction deficiencies for any adverse effect on the safety of operation and associated reporting requirements pursuant to 10 CFR 50.55(e). Additionally, Administrative Directive AD13R1 dated December 12, 1973, discusses construction deficiency reporting as required by 10 CFR 50.55(e). This item is resolved.

9. Record Retention Responsibility

Revision 1 to Unit 3 Administrative Procedure 3AD-20, DOCUMENT DISTRIBUTION AND RETENTION, assigns responsibility for record retention to the Unit Engineer. The inspector has no further questions in this area. This item is resolved.

10. Test Log Deficiencies

- a. The Unit 3 Test Log has been identified per the requirements of Administrative Procedure 3AD-8.
- b. Record entries in the Test Log appear to contain sufficient supporting information.

The inspector had no further questions on these items. These items are resolved.

11. Static Inverter Test Warmup Time

The licensee representative stated that the 15 minute warmup time requirement referred to first turn-on and is for component protection. The subsequent turn-ons assume the inverter to be warmed up and allow seven minutes for data stabilization. The inspector had no further questions on this subject. This item is resolved.

12. Dummy Load Specified

The dummy load for use in the testing of the static inverter was specified in the "Readiness for Testing Checklist". This checklist was reviewed by the inspector. The inspector has no further questions in this area. This item is resolved.

13. Static Inverter #33 Test Procedure

Addendum 1 to TP 4.13.4 was generated to detail the test procedure for Static Inverter #33. The inspector reviewed this procedure and has no further questions in this area. This item is resolved.

14. Battery Charger Safety Precautions

The inspector was provided with the standard package of safety precautions for use by all operators. This package consisted of two books:

- (1) "General Rules and Regulations for Employees of the Electric Generating Stations, Gas Plants, Steam Generating Stations, Substations, Gas Holder Stations"
- (2) "General Instructions Governing Work on System Electrical Equipment"

The inspector reviewed these documents and had no further questions in this area. This item is resolved.