

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

RO Inspection Report No.: 50-286/74-09

Docket No.: 50-286

Licensee: Consolidated Edison Company (Indian Point 3)

License No.: CPPR-62

4 Irving Place

Priority: _____

New York, New York 10003

Category: B

Location: Buchanan, New York

Type of Licensee: PWR, 1050 MWe (Westinghouse)

Type of Inspection: Routine, Unannounced

Dates of Inspection: May 7-10, 1974

Dates of Previous Inspection: April 5, 1974

Reporting Inspector: *J. Allentuck*
J. Allentuck, Reactor Inspector

5/30/74
DATE

Accompanying Inspectors: NONE

DATE

DATE

DATE

Other Accompanying Personnel: NONE

DATE

Reviewed By: *R. F. Heishman*
R. F. Heishman, Senior Reactor Inspector

5-30-74
DATE

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SUMMARY OF FINDINGS

Enforcement Action

None

Licensee Action On Previously Identified Enforcement Items

Not Applicable

Design Changes

Not Applicable

Unusual Occurrences

Not Applicable

Other Significant Findings

A. Current Findings

1. The Constructor has undertaken the reconstruction of the reactor coolant pump support structures with the view to strengthening them. This matter is unresolved. (Details, Paragraph 3)
2. On the basis of examination of replacement kits for W-2 switches furnished by Westinghouse for Indian Point #2, the licensee has asked the constructor to examine rebuilt W-2 switches for Indian Point #3 so as to assure the absence of defective components. This item is outstanding. (Details, Paragraph 4)
3. There are apparently no acceptance criteria in WEGR-0-44, "Cleaning of Reactor Vessel Internals" for certain check-off items. This item is outstanding. (Details, Paragraph 5)
4. The procedure WEGR-0-44 does not include a requirement for the verification of the state of operational cleanliness of the entire reactor cavity prior to the installation of the reactor internals. This item is outstanding. (Details, Paragraph 6)
5. The procedure WEGR-0-44 fails to impose upon any individual the responsibility for determining whether or not the reactor internals shall be installed after cleansing or packaged for storage. This item is outstanding. (Details, Paragraph 7)

6. Certain check-off sheets in WEGR-0-44 fail to include signature blocks. This matter is outstanding. (Details, Paragraph 8)
7. Licensee QA Auditors consistently fail to indicate in reporting audits of Constructor Welding Records that they have covered joints included in WEDCO QA audits. This item is outstanding. (Details, Paragraph 9)
8. Revision to IPR-3051, the licensee's instruction for his QA audits of WEDCO are inadequately identified. This item is outstanding. (Details, Paragraph 10)
9. The 6900 volt one line diagram, Figure 8.2-3, FSAR, Supplement 22 doesn't agree with Figure 8.2-1, FSAR. This matter is outstanding. (Details, Paragraph 11)
10. There is no evidence available that the Liquid Level Transmitters (LT's) in the steam generator water level indication system meet seismic requirements. This matter is outstanding. (Details, Paragraph 13)
11. There exists no documentation available at the site supporting the deletion of "seismic calculations" from the purchase order for pressure transmitters in the service water system. This matter is outstanding. (Details, Paragraph 13)
12. The test procedures specified for Foxboro instruments are not available at the site. This matter is outstanding. (Details, Paragraph 14)
13. Inspection of cable and electrical termination quality documentation for service water pressure transmitter connections indicates no apparent deficiencies. This matter is resolved. (Details, Paragraph 17)
14. Certain hydraulic tubes of the in-core probe system, at the seal table, are unplugged. This matter is outstanding. (Details, Paragraph 15)
15. Certain lines of the weld channel pressurization system are either inadequately plugged or unplugged. This matter is outstanding. (Details, Paragraph 16)

16. Although the licensee has prepared corrective action documentation for deficiencies identified in his audit of his site constructor, the auditor has not verified these actions. This item is outstanding. (Details, Paragraph 18)
17. An inspection of certain of the licensee's audits of the Constructor's site activities reveal no apparent deficiencies. (Details, Paragraph 19)
18. Examination of the QA/QC documentation for certain pipe hangers revealed no apparent deficiencies. This matter is resolved. (Details, Paragraph 20)

B. Status of Previously Identified Unresolved Items

1. The licensee has not yet completed the formulation of a program for the evaluation of the steam generator support structure in the light of previously identified defective welds. This item is outstanding. (Details, Paragraph 21)
2. Inspection of the QA/QC documentation of MCC-37 as well as 480V switchgear reveals no apparent deficiencies. (Details, Paragraph 22)
3. The licensee has determined that an abnormal occurrence at another site involving the operation of the containment spray pumps cannot occur at Indian Point Unit #3. This matter is resolved. (Details, Paragraph 23)
4. The A/E's approval of test data on the Station Service Transformers remains unavailable. This matter is outstanding. (Details, Paragraph 24)
5. The licensee has prepared several NCR's against the failure of the Constructor to prevent contact between carbon steel and stainless steel Class I components. This matter is outstanding. (Details, Paragraph 25)

Management Interview

An exit interview was conducted at the site with the following individuals:

Consolidated Edison Company

G. I. Coulbourn, Jr., Resident Construction Manager, IP3
D. L. Hartsfield, Superintendent

P. Upson, Construction Inspector
H. Cairns, Superintendent
J. Deane, QA Superintendent, Site
J. White, Project QA Engineer
G. Beer, Manager of QA

WEDCO

M. Snow, Reliability Manager
B. Garrow, QC Electrical

Items discussed are summarized below:

- A. The inspector stated that on the basis of his inspection the items listed below were outstanding. In each case the licensee indicated that he would take necessary action to provide information or take corrective action so as to resolve the outstanding items.
1. The reconstruction of the Reactor Coolant Pump support structures. (Details, Paragraph 3)
 2. Apparent defects in the replacement kits for the W-2 switches. (Details, Paragraph 4)
 3. Absence of acceptance criteria in WEGR-0-44. (Details, Paragraph 5)
 4. Absence of the requirement in WEGR-0-44 to verify state of operational cleanliness in the reactor cavity. (Details, Paragraph 6)
 5. Failure of WEGR-0-44 to impose the responsibility on an individual for determining whether or not cleansed internals packages shall be installed in the reactor vessel. (Details, Paragraph 7)
 6. Failure to include signature blocks on certain WEGR-0-44 checkoff sheets. (Details, Paragraph 8)
 7. Failure of licensee auditors of WEDCO welding records to select joints for review which have been previously covered by WEDCO audits. (Details, Paragraph 9)
 8. Failure to positively identify revision sheets to IPR 3051. (Details, Paragraph 10)
 9. Discrepancies between two 6.9 KV one-line diagrams with FSAR. (Details, Paragraph 11)

10. Absence of proof that LT's meet seismic requirements. (Details, Paragraph 12)
 11. Deletion of requirements for "seismic calculations" from purchase order for PT's. (Details, Paragraph 13)
 12. Unavailability at the site of test procedures for Foxboro instruments. (Details, Paragraph 14)
 13. Unplugged hydraulic tubes of the in-core probe system. (Details, Paragraph 15)
 14. Unplugged pneumatic lines of the weld channel pressurization system. (Details, Paragraph 16)
 15. Verification by the auditors of licensee's corrective action to audit items identified by licensee corporate office auditors. (Details, Paragraph 18)
 16. The absence of A/E approval of test data for station service transformers. (Details, Paragraph 24)
 17. Resolution of licensee NCR's written against the failure of the Constructor to prevent contact of stainless steel components with carbon steel. (Details, Paragraph 25)
 18. Formulation of a program for the evaluation of the steam generator support structure. (Details, Paragraph 21)
- B. The inspector stated that the following items were resolved:
1. QA/QC documentation of cable, cable installation and terminations associated with certain instrumentation circuits. (Details, Paragraph 17)
 2. Certain licensee audits of the Constructor's site activities. (Details, Paragraph 19)
 3. Seismic requirements for MCC 37 and 480 volt switchgear. (Details, Paragraph 22)
 4. Circuit modifications to prevent abnormal operation of containment spray pumps. (Details, Paragraph 23)
 5. QA/QC certification for selected pipe hangers in the MS and FW systems was in accordance with the purchase specifications. (Details, Paragraph 20)

DETAILS

1. Persons Contacted

Consolidated Edison Company

G. I. Coulbourn, Jr., Resident Construction Manager, IP3
D. L. Hartsfield, Superintendent
P. Upson, Construction Inspector
H. Cairns, Superintendent
J. Deane, QA Superintendent, Site
J. White, Project QA Engineer
G. Beer, Manager of QA

WEDCO

M. L. Snow, Reliability Manager
C. Bash, QC Manager
B. Garrow, QC, Electrical
J. Smart, QA. Electrical

2. Status of Construction

Construction has been reported by the licensee to be 90% complete.

3. Reactor Coolant Pump Support Structure

The licensee has undertaken to strengthen the RC Pump support structure by encasing certain vertical members in concrete and replacing horizontal members with heavier pieces. The licensee was unable to provide documentation for his explanation of the reason for this reconstruction.

4. W-2 Switches

The inspector examined the licensee's letter to WEDCO dated May 5, 1974 which referred to Unit #2 stating in part "On inspection we now feel that the corrective parts are apparently defective. Cracks are evident in about 40% of the replacement double pin lever rollers as per sample ... WEDCO should constitute a program to identify and correct any potential failure associated with the Unit 3 switches."

5. Acceptance Criteria in WEGR-0-44

A sign-off requirement in WEDCO Procedure WEGR-0-44 "Cleaning of Reactor Vessel Internals" requires the following determinations:

Irradiation Sample Assemblies Satisfactory?
Irradiation Sample Plugs Satisfactory?

Acceptance criteria, however, are not included in the procedure.

6. WEGR-0-44: Verification of Operational Cleanliness

WEGR-0-44 states in part "...During the core loading operation the entire containment must be in a state of operational cleanliness, especially the refueling cavity and all crane surfaces..." The procedure does not provide a means for making or documenting this determination.

7. WEGR-0-44: Determination to Install Internals

WEGR-0-44 states in part under Terminal Inspection Paragraph A, "If cleaning of the RCS has been completed and the RV is ready to accept the Internals Packages ... they should be installed immediately..."

B. If the decision is made not to install the Internals Packages after they have been cleaned, then they should be completely wrapped with clean polyethylene covers..."

The procedure fails to assign responsibility either for making the required determination or for documenting it.

8. WEGR-0-44: Sign-Off Requirements on Checklists

WEGR-0-44 includes guide tube check-off sheets which however do not include required signature blocks. Other check-off lists in this procedure suffer the same deficiency.

9. Licensee Audits of Welding Records

The audit checklist for licensee audits of WEDCO welding records includes the suggestion that the auditor select, among the joints to be reviewed, joints which had been included by the Constructor in his audit. This item has been consistently neglected by licensee auditors. The licensee supervisor should require compliance or remove the item from the procedure.

10. Revision to IPR 3051

The licensee's instruction for the audit by his site forces of WEDCO site activities is incorporated in IPR 3051. A licensee memorandum dated April 12, 1974 transmitted sheets which included revised audit frequency requirements for inclusion in IPR 3051. These sheets failed to include any identifying mark such as a revision number or date.

11. 6.9 KV Power System

The 6.9 KV one line drawing FSAR Figure 8.2-3 Supplement 22 doesn't indicate the possibility of feeding the 6.9 KV bus from two gas turbines which possibility is indicated on FSAR Figure 8.2-1, Supplement 11.

12. Seismic Requirements for Level Transmitter (LT's)

Purchase Order 546-C1D104275 dated September 9, 1969 indicates seismic requirements for Foxboro instruments. This is given as simultaneous accelerations of .52g horizontal and .35g vertical. There is no documentary evidence available that the LT's for the steam generator level indication system meet these requirements.

13. Pressure Transmitter (PT) In-Service Water System

The purchase order for the PT-1190 in the service water system includes the statement "Delete Seismic Calculations". The licensee was unable to explain whether or not seismic requirements for this device had been eliminated and if they had been the justification therefore. If these requirements continued to be incorporated in the purchase order there was no evidence of an alternative demonstration that they had been met.

14. Test Procedures for Foxboro Instruments

The purchase order of Details, Paragraph 13 above includes: "Lot System Testing, Static and Dynamic Tests, performed in accordance with IPP test procedure.

The licensee was unable to provide a copy of the referenced test procedure.

15. Unplugged Tubes at the Seal Table

Some eleven of fifty plastic caps were missing from the hydraulic lines, which are part of the in-core probe system, at the seal table at elevation 65'.

16. Unplugged Pneumatic Lines

The inspector observed pneumatic lines of the weld channel pressurization system missing metal plugs. Several lines had the location of the missing plug covered by tape. In one instance there was no temporary cover.

17. QC Documentation for Instrumentation Connections

The inspector examined the QC documentation for connections to PT-1190. Included was cable pull card for JB2-JD 6/2, the megger slip, the termination slip and the cable pull inspection checklist. The cable was traceable through Reels No. 5005 and 5793 to the Hypotronics Test Report dated January 10, 1974.

18. Licensee QA Audit of Site Activities (by HQ Auditors)

The inspector examined an audit report by the licensee's Quality Standards and Reliability group of Indian Point Unit #3 Construction prepared to evaluate the adequacy of WEDCO and licensee construction quality programs. Five items requiring corrective action were identified. Con Ed responses were transmitted with IPR-5592 dated April 9, 1974. Corrective actions detailed in that response had not been verified by the auditors.

19. Licensee Audits of WEDCO Activities (by Site Auditors)

The inspector examined the following audit reports prepared by the licensee of WEDCO activities:

Audit #15, Electrical Penetrations, April 22, 1974 - Audit Report Q7M, Audit of WEDCO NSSS Equipment, February 1, 1974 - Audit of WEDCO Hanger Records, March 26, 1974

No deficiencies were noted.

20. QA/QC Documentation: Pipe Hangers

The inspector examined the QA/QC documentation for the following Bergen-Patterson pipe hangers:

HMS-1,	HMS-2,	Main Steam
HBF-1		Feedwater System

The certificate of compliance dated February 6, 1973 was in compliance with Specification No. 9321-05-248-27.

21. Steam Generator Support Structure Evaluation

A program is being formulated to determine the magnitude of the problem and to evaluate corrective action for apparent defective welds of the steam generator support structures. Members subject to dynamic loading of between 50 and 85% of their capacity have been identified and associated welds will be inspected. Those subject to between 85 and 100% have already been examined. Original visual inspection has encompassed all four supports.

22. Seismic Requirements of MCC 37 and 350 V Swgr

The inspector inspected the following documents, noting no deficiencies:

- a. For MCC-37 - A letter from WEDCO to WEDCO site dated March 1, 1974 stating that seismic data had been approved.
- b. For 480 V Switchgear - A letter from Westinghouse dated May 10, 1971 which stated that Type "DS" switchgear being supplied meet 0.15g sinusoidally applied.

23. Containment Spray Pumps

The licensee has applied undervoltage protection to the timing circuit of the circuit breaker control scheme for the containment spray pump motors. This is designed to prevent the abnormality identified at another site whereby the containment spray pump on an emergency bus will not restart automatically if voltage to that bus is lost and the spray pump actuation signal is present.

24. Test Documentation: Station Power, Service Transformers

The Station Power Service Transformers are included in the FSAR as Class I equipment. Test data is available and has been examined by the inspector. Approval of the test data by the A/E is required.

25. Carbon Steel in Contact with Stainless Steel Components

The inspector examined the NCR's relating to the following deficiencies:

- a. A stainless heat exchanger is mounted in place with carbon steel U bolts and straps in violation of WEGR-0-21, Section 4.1.5.

- b. The stainless steel lines listed below are supported by carbon steel hangers.

AC Line #10 - 14" Hot leg of Steam Generator #32 AC Line
#353 - 10" Cold leg of Loop 2