

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

RO Inspection Report No.: 50-286/73-04

Docket No.: 50-286

Licensee: Consolidated Edison Company (Indian Point 3)

License No.: CPPR-62

4 Irving Place

Priority: _____

New York, N. Y. 10003

Category: B

Location: Buchanan, New York

Type of Licensee: PWR 1050 MW(e) (Westinghouse)

Type of Inspection: Routine, Unannounced

Dates of Inspection: May 2 - 4, 1973

Dates of Previous Inspection: March 13 - 15, 1973

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

5/25/73
Date

Accompanying Inspectors: _____

_____ Date

_____ Date

_____ Date

_____ Date

Other Accompanying Personnel: _____

_____ Date

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

5/28/73
Date

8111190305 730523
PDR ADCK 05000286
G PDR

_____ Date

SUMMARY OF FINDINGS

Enforcement Action

- A. Contrary to the requirements of 10 CFR 50, Appendix B, Criterion XV a non-conforming cable reel bearing a hold tag was observed in a work area. The reel was removed prior to the conclusion of the inspection. (Details, Paragraph 3)
- B. Contrary to the requirements of 10 CFR 50, Appendix B, Criterion XV, seven non-conforming cable reels bearing hold tags, were observed in the cable storage yard. (Details, Paragraph 4)
- C. Contrary to the requirements of 10 CFR 50, Appendix B, Criterion XV; two cable reels having cable with damaged insulation, were observed without hold tags in the cable storage yard. (Details, Paragraph 5)
- D. Contrary to the requirements of 10 CFR 50, Appendix B, Criterion XV, a non-conforming nozzle on the pressurizer was not documented as a non-conformance. (Details, Paragraph 6)

Licensee Action on Previously Identified Enforcement Items

Wedco has written non-conformance reports covering violations in welding noted in Report No. 50-286/72-05. In addition a Wedco procedure now requires inspection of weld reinforcement thickness. (Details, Paragraph 16)

Design Changes

None

Unusual Occurrences

None

Other Significant Findings

A. Current Findings

1. The licensee is fulfilling the requirements of 10 CFR 50, Appendix B, Criterion II in so far as they apply to training and indoctrination of personnel performing activities affecting quality. (Details, Paragraph 9)
2. The extent of the sample size to be included on the valve wall thickness measurements program is under consideration by the licensee. (Details, Paragraph 7)

3. Reactor coolant pump installation records are available in part. (Details, Paragraph 8)
4. Despite a recent audit of drawing control, deficiencies still exist. (Details, Paragraph 10)
5. QA audits of NDT procedures applied to piping have failed to disclose any deficiencies. (Details, Paragraph 14)
6. The UT of the reactor coolant pump flywheels will be undertaken after installation. (Details, Paragraph 19)
7. QC records for the pressurizer are not at the site. Audit reports covering these records as well as site visits indicate no deficiencies. (Details, Paragraph 20)
8. QC records for the steam generators indicate no deficiencies. (Details, Paragraph 21)
9. QC release documents for the accumulators are available at the site. (Details, Paragraph 22)
10. QC documents of Main Steam Non-Return (check) Valves indicate no deficiencies. (Details, Paragraph 23)
11. QC documents of the Main Steam Stop Valves indicate no deficiencies. (Details, Paragraph 24)
12. The QC documents for 4" gate valves in the Safety Injection System indicate no deficiencies. (Details, Paragraph 25)
13. The certification of calibration of torque wrenches appears to be in conformance with Wedco procedures. (Details, Paragraph 26)

B. Status of Previously Reported Unresolved Items

1. Test Documentation of Safety Cables

The program for test documentation of safety cables remains incomplete. (Details, Paragraph 11)

2. Scrap Cable in the Cable Yard

The program to remove scrap cable from the cable storage yard remains incomplete. (Details, Paragraph 12)

3. Weld Material Control

The implementation of the Wedco weld material control procedure has been completed. (Details, Paragraph 13)

4. Cable Pulling Inspection

A Wedco audit of cable pulling has resulted in two Non-Conformance Reports (NCR). (Details, Paragraph 15)

5. Stains on Reactor Vessel Wall

The report by Westinghouse dealing with the analysis of and corrective action for stains observed on the reactor vessel wall has been approved by the licensee. (Details, Paragraph 17)

6. Use of Contacts on Removable Breaker Elements

The licensee has not yet determined whether or not contacts on the removable elements of circuit breakers are used in interlock circuits in such a way as to make redundant equipment inoperable when the breaker is in the racked out position. (Details, Paragraph 18)

Management Interview

An exit interview was conducted at the site on May 4, 1973 with the following individuals:

Con Ed

- A. D. Kohler, Jr., Resident Construction Manager
- G. Coulbourn, Jr., Manager, IP-3 Construction
- H. V. Cairns, Nuclear Piping Inspector
- J. S. White, Quality Assurance Engineer
- D. D. Milano, QC Electrical Supervisor
- J. P. Deane, Supervising QA Engineer

Wedco

- M. L. Snow, Reliability Manager
- C. W. Hughes, QC Manager
- W. Diebler, QA Manager
- R. J. Smart, QC Engineer

- A. The inspector stated that he had observed a reel of cable bearing a "hold tag" in a work area. This is an apparent violation of 10 CFR 50, Appendix B, Criterion XV. The reel was removed prior to the completion of the inspection. (Details, Paragraph 3)
- B. The inspector stated that he had observed seven reels of cable in the cable storage yard bearing "hold tags". This is an apparent violation of 10 CFR 50, Appendix B, Criterion XV. (Details, Paragraph 4)
- C. The inspector stated that he had examined two reels of cable in the cable yard with damaged insulation which had not been marked either by a hold tag or in any other way, intermingled with cable for use.

- This is an apparent violation of 10 CFR 50, Appendix B, Criterion XV. (Details, Paragraph 5)
- D. The inspector stated that damage to the pressurizer supply nozzle had not been documented by a non-conformance report. This is an apparent violation of 10 CFR 50, Appendix B, Criterion XV. (Details, Paragraph 6)
 - E. The inspector stated that the valve wall measurements program should include all Q listed valves. The licensee stated that he would take the matter under consideration. This item is unresolved. (Details, Paragraph 7)
 - F. The inspector stated that he had reviewed installation records for the Reactor Coolant Pumps. Since work was in progress, records were not complete. The licensee stated that when this work would be completed, records would be made available for examination. This is an unresolved item. (Details, Paragraph 8)
 - G. The inspector stated that he had examined a training program arranged by the licensee in partial compliance with the requirements of 10 CFR 50, Appendix B, Criterion II. This matter is resolved. (Details, Paragraph 9)
 - H. The inspector stated that he had examined the drawings on a stick file in an electrical work area and noted two superceded drawings. The licensee stated that he would continue recent efforts to improve drawing control. This matter is unresolved. (Details, Paragraph 10)
 - I. The inspector stated that the cable test documentation program remained incomplete. The licensee stated that this was correct. This matter is unresolved. (Details, Paragraph 11)
 - J. The inspector stated that he had observed many pieces of cable in the cable storage yard which had been removed from cable reels. The program to remove scrap materials from cable yard remains incomplete. The licensee stated that this was correct. This matter is unresolved. (Details, Paragraph 12)
 - K. The inspector stated that he had noted no deficiencies in the examination of audit reports of NDT procedures applied to piping. This matter is resolved. (Details, Paragraph 14)
 - L. The inspector stated that he had observed QC inspection of cable pulling, as well as a Wedco audit report of this subject. The Wedco audit resulted in the preparation of two NCR's. The licensee stated that this was correct. This matter remains unresolved. (Details, Paragraph 15)
 - M. The inspector stated that he had examined Wedco NCR's written against weld deficiencies reported in Report No. 50-286/72-05 in addition to a procedure to require measurement of weld reinforcement thickness.

This matter is unresolved pending closing of the NCR's. (Details, Paragraph 16)

- N. The inspector stated that the Westinghouse analysis of the stains observed on the reactor pressure vessel walls had been approved by the licensee. This item is resolved pending inspection of required documentation. (Details, Paragraph 17)
- Q. The inspector stated that the licensee had not yet fulfilled his commitment to determine whether or not interlock circuits had been designed so as to prevent the operation of redundant units when breakers were in the racked out position. The licensee stated that this was correct. This item remains unresolved. (Details, Paragraph 18)
- P. The inspector stated that he had examined a commitment by Westinghouse to ultrasonically test reactor coolant pump flywheels after installation. The licensee stated that he would follow-up this commitment. This is an unresolved item. (Details, Paragraph 19)
- Q. The inspector stated that he had examined the U. S. Testing Service audit of Westinghouse QA/QC for the fabrication of the pressurizer and had noted no deficiencies. This matter is resolved. (Details, Paragraph 20)
- R. The inspector stated that he had examined QA/QC records, which were available at the site, for the fabrication of the steam generators and had noted that acceptance of tube repairs dependent on a review of field hydro test results. The licensee agreed that this was correct. This matter remains unresolved. (Details, Paragraph 21)
- S. The inspector stated that he had examined the Quality Control Release forms for accumulators bearing Spin No.'s INTSIATAT-1, -2, -3, -4. This matter is resolved. (Details, Paragraph 22)
- T. The inspector stated that he had examined the Quality Control file for the fabrications of the Main Steam Non-Return Valves which indicated no deficiencies. This matter is resolved. (Details, Paragraph 23)
- U. The inspector stated that he had examined the QC documentation which existed at the site for the Main Steam Stop Valves and they indicated no deficiencies. This matter is resolved. (Details, Paragraph 24)
- V. The inspector stated that he had examined the QC Release Forms and associated documentation for the 4" Darling gate valves in SI system and that there were no apparent deficiencies. This matter is resolved. (Details, Paragraph 25)
- W. The inspector stated that he had examined calibration certificates for certain torque wrenches held in the boiler-makers' tool room and these appeared to be in compliance with Wedco procedure WQ 4.2 "Revised

Calibration Procedures" (Item 38, New Wedco QA Program), (Details, Paragraph 26)

DETAILS

1. Persons Contacted

Con Ed

- A. D. Kohler, Jr., Resident Construction Manager
- G. Coulbourn, Jr., Manager, IP-3 Construction
- H. V. Cairns, Nuclear Piping Inspection
- J. S. White, Quality Assurance Engineer
- D. D. Milano, QC Electrical, Supervisor
- J. P. Deane, Supervising QA Engineer

Wedco

- M. L. Snow, Reliability Manager
- C. W. Hughes, QC Manager
- W. Diebler, QA Manager
- R. J. Smart, QC Engineer

2. Status of Construction

Construction is 83% complete. By crafts completion is structural, 90%, mechanical, 50%, electrical, 45%

3. Non-conforming Cable in the Cable Spreading Room

The inspector examined a reel of neoprene jacketed cable in the cable spreading room bearing hold tag #0000677. The hold tag had been affixed to the reel to prevent its use because of insulation damage. The cable was not in a segregated area. The reel, however, was removed prior to the completion of the inspection.

4. Non-Conforming Cable in the Cable Storage Yard

The inspector observed in the cable storage yard, among reels of cable for use, seven non-conforming reels of cable bearing the following hold tags:

- No. 0000669
- No. 0000668
- No. 0000665
- No. 0000664
- No. 0000670
- No. 0000671
- No. 0000672

5. Damaged Cable in the Cable Storage Yard

The inspector observed cable with damaged insulation on cable reels in the cable storage yard. The reels bore the electrical subcontractor's tags having the following numbers:

FMM 6070

FMM 5698

These cables were neither tagged nor segregated.

6. Damage to Pressurizer Nozzle

The inspector examined a QC Inspection Activities report dated July 16, 1971 relating to the installation of the pressurizer which stated for Item #4008 "Weld on Supply Nozzle Broken by Lifting Beam". Relying on the recollection of the inspector, Wedco stated that the above statement was incorrect and that the actual occurrence was the removal by deliberate action of certain material from a weld prep for the purpose of providing clearance required for erection. Neither had a Non-Conformance Report been written, nor was there any other formal documentation aside from the QC Inspection Activities Report. This is an apparent violation of 10 CFR 50, Appendix B, Criterion XV.

7. Valve Wall Thickness Measurement Program

The inspector examined a letter from the licensee to Wedco dated April 27, 1973. While this letter indicated that measurements would be made on a random sample of valves the licensee stated that this matter would be taken under review. The progress to date of this program was reviewed in Report EUP-360, dated April 17, 1973 from Wedco home office to Wedco site.

8. Reactor Coolant Pumps Installations Records

The inspector examined the reports of magnetic particle tests performed on the following pump support items:

<u>Item</u>	<u>Date</u>
31. A, B, C	2/16/73
32. A, B, C	1/ 5/73
33. A, B, C	2/15/73

There were no apparent deficiencies. No records however were available for the setting of the casings as work by Branch, the NDT subcontractor, had not been completed.

9. Training Program

The inspector examined course outlines entitled "Quality Control Training Program Mechanical" dated February 24, 1973 and "Quality Control Training Program Electrical" dated March 9, 1973 prepared by Nuclear Service and Construction Company under contract to the licensee. The above firm is providing instruction for all QA/QC inspectors employed in IP-3 by the licensee or Wedco, as well as certain craft workers. The courses are divided between electrical and mechanical

with three sessions per week over a six week period.

10. Drawing Control

The inspector examined a drawing stick file in an electrical work area and noted that of the drawings examined the following had been superseded:

<u>Dwg on Stick File</u>	<u>Latest Revision and Date</u>
30393 Rev 8	30393 Rev.9 (4/11/73)
32883 Rev 7	32883 Rev 8 (5/ 2/73)

The inspector also examined a ~~Con-Edison~~ audit report which indicated licensee attention to this problem.

11. Test Documentation of Safety Cables

The program reported in Report No. 50-286/73-03 to determine whether or not cable purchased under PO-9321-05-113-9 from Revere might be dried so as to provide acceptable test results remains incomplete. The documentation of additional tests required on cable purchased from Revere under PO-9321-05-113-6 is also incomplete.

12. Scrap Materials in the Cable Yard

First noted in Report No. 50-286/72-05 short lengths of cable, removed from cable reels remain in the cable yard. The licensee commitment to remove such material made during the RO inspection November 20 - 21, 1972 remains unfulfilled.

13. Weld Material Control

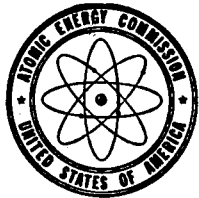
The inspector examined a Wedco audit Report No. 3-68 covering the period March 26 - 29, 1973 which reviewed the implementation of Wedco Procedure No. QCG-2 "Weld Material Control Procedure". No deficiencies were observed.

14. NDT Procedures Applied to Pipe Welding

The inspector examined Wedco audit reports 3-61, dated March 30, 1973, and 3-63, dated March 19, 1973, covering Radiographic Test Procedures and Personnel Qualifications and Magnetic Particle Procedures and Personnel Qualification respectively. No deficiencies had been noted. Audit Report No. 3-60 dated March 23, 1973 of Liquid Penetrant Test Procedures and Personnel Qualifications while indicating that no deficiencies had been noted failed to indicate the actual work which the QA examiner had observed.

15. Cable Pulling Inspection

The inspector examined Wedco Audit Report No. 3-66 dated April 13, 1973 covering the implementation of Procedures WCE 0-1, 0-6, 0-4, 0-2.



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NCR's No. 3-247 and No. 3-250 had been written against the failure to protect open ends of cable bearing pulled. These NCR's were applicable to approximately 30 items. In the field the inspector noted that for two cable pulls in the same area two separate QC inspectors had been assigned. This fact would tend to verify the licensee's claim that 100% inspection of cable pulling of Q-listed cable is being performed. The cables which the inspector observed being pulled under the surveillance of Wedco QC included H67-JD5D, E, F, G, & L.

16. Correction of Welding Deficiencies

The inspector examined Wedco NCR No. 3P-131 written to document the undercut of weld 1061. In addition he examined NCR No. 3P-131 written against the transition observed in valve body of SI-895-C. The inspector also examined Wedco Procedure WQA-4-0-7 which requires measurement of weld reenforcement thickness.

17. Stains on Reactor Vessel Wall

The Westinghouse report of the analysis of stains observed by the inspector on October 26, 1972 reported in Report No. 50-286/72-04 has been accepted by the licensee. Documentation of this acceptance will be examined at a later inspection.

18. Use of Contacts on Removable Elements of Circuit Breakers

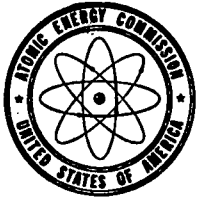
The licensee had undertaken, as reported in Report No. 50-286/73-03, to determine whether or not contacts on the removable elements of circuit breaker in the power supply to Q related motors were employed in interlock circuits, in such a manner as to prevent the operation of redundant equipment when the removable element was in the racked-out position. The licensee has not completed the undertaking.

19. Reactor Coolant Pump Flywheels

The inspector examined a letter from Westinghouse to the licensee dated August 11, 1972 stating that UT of Reactor Coolant Pump Flywheels would be undertaken after installation of the equipment.

20. QA/QC Records for Pressurizer

In accordance with the licensee letter to RO dated 5/22/71 QA information for certain items of equipment including the pressurizer are to be physically retained by Westinghouse. This position relies on the fact that the effective date of 10 CFR 50, Appendix B post-dated the equipment order. Auditing of QA/QC for this equipment was performed for the licensee by U. S. Testing. The inspector reviewed Westinghouse QC Release - 41 dated February 25, 1971. In addition the inspector examined U. S. Testing Report No. 10066-235 dated March 12, 1971 which covered UT of all longitudinal and circumferential



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welds and indicated no rejectable defects. A dimensional check was reported in 10066-76, dated May 21, 1969. Included were material certifications of plates as well as certifications of plates as well as certification of a shop-hydro test. No deficiencies were noted.

21. QA/QC Records for the Steam Generators

The inspector examined the following Westinghouse QC Release forms for the steam generators listed below:

RCPC	5G01	#34
	5G02	#35
	5G03	#36
	5G04	#37

No deficiencies were noted, however the acceptance of tube repairs depends on a review of field hydro test results.

22. QC Documentation for Accumulators

The inspector examined Westinghouse Quality Control Release-0397 for units bearing Spin No. INTSIATAT-1, and -2. He noted that Material Certifications, Heat Treat Records, RT records, PT/MT and pressure were referenced to QCR-1252 which was not available at the site. In addition he examined Quality Control Release QCRO889 for Spin No. INTSIATAT-3 and -4.

23. QC Documentation for Main Steam Non-Return Valves

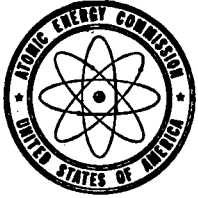
The inspector examined the Quality Control File for the Main Steam Non-Return Valves procured from Schutte & Korting. The inspector examined a Purchase Order Review by Westinghouse Reliability Department dated May 2, 1972. These Non-Conformances which existed at that time were cleared by June 30, 1972.

24. QC Documentation for the Main Steam Stop Valves

The inspector examined Westinghouse vendor surveillance documents for four Atwood-Morrill 28" Pneumatic Operated, Main Steam Stop Valves bearing serial numbers S/N 1-762, 2-762, 3-762 and 4-762. These documents indicated no deficiencies.

25. QC Documentation for Valves in SI System

The inspector examined the QC documentation of 4" - 1500# gate valves procured from Darling bearing serial numbers, S/N 93-12567-3, -4 and 93-12818-3, -4. Included was a Westinghouse Quality Control Release S-0743. The Quality Control Release included review of NDT records, heat treat records, dimensional check, pressure test, seat tightness, performance test and cleanliness test. There were no apparent deficiencies.



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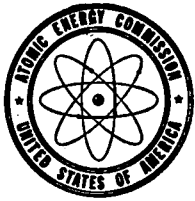
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26. Calibration Certification of Torque Wrench

The inspector examined the certification of the calibration of certain torque wrenches maintained in the boiler-makers' tool room. The following certificates for the wrenches listed were examined:

<u>Tool</u>	<u>Certificate</u>
Apco Mossberg RDF-600, #6008-3	1719
Proto Wrench	1717
Torque Wrench, #R-10498	1718
Torque Wrench, #6017-1	1721
Torque Wrench, #500FR	1720

The above certificates had been issued on October 31, 1972. The certification interval is stated as being six months. The tools listed had been returned for re-calibration and re-certification in April 1973.



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