

277

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

RO Inspection Report No. 50-286/72-03

Subject: Consolidated Edison Company

Indian Point 3

License No. CPPR-62

Location: Buchanan, New York

Priority                     

Category A

Type of Licensee: PWR, 1050 Mwe (Westinghouse)

Type of Inspection: Routine, Unannounced

Dates of Inspection: August 30, 31, September 1, 1972

Dates of Previous Inspection: May 24-25, 1972

Principal Inspector: *R. F. Heishman*  
R. F. Heishman, Acting Senior Reactor  
Inspector

10-5-72  
Date

Accompanying Inspectors: *A. A. Varela*  
A. A. Varela, Reactor Inspector

10/4/72  
Date

*J. Allentuck*  
J. Allentuck, Reactor Inspector

10/4/72  
Date

Other Accompanying Personnel: None

                      
Date

Reviewed By: *E. M. Howard*  
E. M. Howard, Chief, Reactor Construction Branch

10-5-72  
Date

Proprietary Information: None

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## SECTION I

Enforcement Action

There was no power to the heater for the motor of containment spray pump B-31. (Section II, Paragraph 10)

Licensee Action on Previously Identified Enforcement Matters

- A. The quality control plan for construction of the refueling water storage tank was available at the site. This item is considered resolved. (Section III, Paragraph 3)
- B. Cable trays 06FQA and 15LFD had been re-installed with adequate separation. Installation drawings had been corrected. The re-installed cable trays had not been properly marked. This is considered an unresolved item. (Section II, Paragraph 3)
- C. Drawings for cable tray 59NDA have been corrected to show a barrier where it passes cable tray 21KFC. This item is considered resolved. (Section II, Paragraph 3)
- D. The licensee had secured documentation of continuity and insulation resistance for approximately 90% of the cable procured for installation inside the containment and was in the process of procuring the remainder. This item remains unresolved pending securing all the necessary documentation. (Section II, Paragraph 11)
- E. Reels of 600 volt cable for which test reports were unavailable or for which reported data indicated nonconformance were marked with hold tags. This item is considered resolved. (Section II, Paragraph 6)

Unresolved Items

Shipping documents for certain piping materials were not compatible with the receiving reports for the same materials. (Section II, Paragraph 10)

Status of Previously Reported Unresolved Items

The inspector queried the licensee regarding the life expectancy of membranes in storage tank. It was reported that the manufacturer, Goodyear, stated but would not guarantee a minimum life expectancy of ten years. This item remains unresolved pending review of inservice inspection requirements. (Section II, Paragraph 4)

Design Changes

None

Unusual Occurrences

None

Persons Contacted

The following persons were contacted during the site inspection:

Con Ed

- A. Kohler, Jr., Resident Construction Manager
- G. Coulbourn, Jr., Superintendent, IP-3
- E. Dadson, Site Superintendent, QA
- T. Houlihah, Chief Construction Inspector
- G. Beer, QA Supervisor (Home Office)
- G. Wasilenko, QA (Home Office)
- R. Schuster, QA Engineer, (Welding)
- M. Connolly, QA Inspector (Concrete)
- E. Erickson, QA Inspector (Welding)
- W. Haberkost, QA Inspector

WEDCO

- M. Snow, Manager, Reliability
- W. Diebler, Manager, QC
- C. Hughes, QC Engineer (Welding and NDT)
- V. Montoya, Electrical Designer
- E. Gardner, Electrical Construction Engineer
- D. McAfee, QA Engineer
- R. Torbetta, QC Inspector (Welding)

PTL

- J. Ackert, Supervisor (Concrete)
- R. Scales, Inspector (Concrete)
- P. DeMarco, Batch Plant Inspector

Branch Laboratories, Inc.

- D. Holmes, NDT Supervisor
- R. Anzalone, NDT Inspector

The following persons attended the management meeting held on August 31, 1972:

Con Ed

- A. Kohler, Jr., Resident Construction Manager
- G. Coulbourn, Jr., Superintendent, IP-3

G. Beer, Manager, QA  
E. Dadson, Site Superintendent, QA

Management Interview

The following subjects were discussed at the management interview conducted at the site on August 31, 1972:

- A. The inspector stated that the previously identified item relative to the connection of cable tray 06QFA to 15 LFD had been corrected in drawings and as installed. However, the cable trays had not yet been properly marked. (Section II, Paragraph 3)
- B. The inspector stated that the previously identified item relative to the barrier where cable tray 59NDA passed cable tray 21KFC had been corrected and this matter was considered resolved. (Section II, Paragraph 3)
- C. The inspector stated that he had observed nonconformance reports for reels of 600V cable which did not meet certain IPCEA requirements or for which test data was lacking or considered doubtful. (Section II, Paragraph 6)
- D. The inspector stated that access to the reactor vessel should be controlled with a view to improving cleanliness. The licensee stated that control of such access would be investigated. (Section II, Paragraph 8)
- E. The inspector reported that power was not being supplied to the heater for the motor of injection spray pump B-31 and that this was contrary to required maintenance procedures. The licensee agreed to restore power to the above heater. This was accomplished prior to completion of the inspection. (Section II, Paragraph 10)
- F. The inspector stated that the preparation and implementation of a construction quality assurance plan and procedures should be undertaken in an urgent manner. The licensee stated that negotiations with the turnkey contractor were being undertaken for such preparation and implementation but that a schedule had not been determined. The inspector observed that an interim program for weld rod control and control of cable tray inspection was implemented. (Section II, Paragraph 5 & 7)
- G. The inspector stated that shipping documents were not in agreement with receiving reports for shipments 015-06 and 015-07. The licensee said that paper work would be reviewed to clear up the apparent discrepancies and the results would be available to the inspector. (Section II, Paragraph 90)

SECTION II

Prepared by: J. Allentuck

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

1. General

The licensee reported that the overall status of construction was 68% complete. Details include mechanical 25%, electrical 72%, structural 75%. The fuel loading date was stated as January, 1974.

2. Containment Spray System/Suction Line to Refueling Storage Tank

A review of the QC procedures applied to welds at S1-185 in line 015 was made. The following areas were inspected:

- a. The appearance of the weld
- b. The qualification of the welder
- c. The qualification of the weld procedures
- d. Identification of the welder
- e. Identification of the weld location
- f. Report of radiography
- g. Weld rod control

Details of Subjects Discussed in Section I

3. Separation of Cable Trays

The inspector reviewed Westinghouse design drawings No. A202452 and A202450, as well as the installation, in the field, of cable tray 06QFA and cable tray 15 OFB. The installation had been corrected in accordance with the revised drawings to show the proper separation between the cable trays. The cable trays had not, however, been properly marked. In addition, the inspector observed Westinghouse drawing A202454, Revision A, dated June 21, 1972, which has been revised to show a barrier where cable trays 59NDA passed cable tray 21 KFC. The barrier had not been installed in the work at the time of the inspection; however, the drawing revision closed the item.

4. Membranes and Storage Tanks

The inspector requested information from the licensee relative to the life expectancy of membranes in storage tanks. The licensee stated that Goodyear had made a verbal statement that the minimum life expectancy was 10 years; however, would give no guarantee in this respect. The licensee agreed to determine inservice inspection requirements.

5. QA Program

A task force composed of licensee and Wedco employees had established QA requirements and negotiations were in progress to amend the Wedco contract to provide for their implementation. In the interim a cable tray inspection program and a weld rod control program had been implemented using the services of U. S. Testing Lab. The inspector stated that the QA program based on the task force recommendations should be speedily implemented.

6. Nonconforming 600 Volt Cable

The inspector observed nonconformance reports for five reels of nonconforming cable. The reasons for the NCR's included the following:

- a. Test reports were insufficient in that certain data was lacking.
- b. Certain data was in doubt.
- c. Test reports had not been received.
- d. Test data did not meet IPCEA requirements.

The inspector observed a reel marked MA57 which consisted of single pair, No. 18 wire, and bore tag 0000317. This was a nonconforming material and bore an appropriate hold tag.

7. Interim Weld Rod and QA Control Program

The inspector observed data on the control of weldrods which had been accumulated in accordance with an interim weldrod control program. In addition, an interim quality program for cable tray installation was implemented.

8. Cleanliness Of Reactor Vessel

The inspector observed that access to the reactor vessel was not controlled and that this was an undesirable situation from a cleanliness standpoint.

9. Receiving Documents For Piping Materials

The inspector observed receiving documents for shipments of piping materials dated August 31, 1971 and September 21, 1971. The documents could not immediately be related to the shipping reports. Wedco QC assured the inspector that documentation would be furnished to resolve the apparent discrepancies.

10. Heater for Containment Spray Pump

The inspector observed that the heater for containment spray pump No. B31 was not connected. This was contrary to 10 CFR 50, Appendix B, Criterion XIII which states in part "When necessary . . . specific . . . temperature levels shall be . . . provided." The heater for containment spray pump No. 32 was operating. This deficiency was corrected before the departure of the inspection on September 1, 1972.

11. Documentation Of Test Data For Cable In the Containment

The inspector reviewed documentation of continuity and insulation resistance for cable procured for installation in the containment. Wedco stated such documentation had been obtained for approximately 90% of such material or 2.7 million feet.

SECTION III

Prepared by: A. A. Varela

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

1. General

The licensee stated that containment wall concrete was completed in September, 1971 to Ring 12, (Dome is No. 49) and no additional placement has been made since. Resumption of containment wall concrete placement is scheduled for September, 1972 and will be prosecuted for total completion in November, 1973 after the equipment hatch is closed.

2. Concrete Placement

- a. Class I concrete placement on the containment shield wall slab was observed on August 30, 1972, and these items were inspected:
  - (1) Forms appeared to be strong, tight and clean, and rebar and other embedments properly placed and sturdily secured.
  - (2) Quality control check-off verified preparedness in the above categories.
  - (3) The concrete mix design and designation for this placement and delivered batches were verified.
  - (4) Tests were performed for slump, strength, and air containment.
  - (5) The placement crew, equipment and technique appeared adequate.
  - (6) Quality Control inspections were performed during the placement.
- b. These items at the batching plant and in truck mixing were inspected:
  - (1) Storage of aggregate provided adequate separation of sizes, and control of moisture, temperature and segregation.
  - (2) Storage of cement and admixtures provided adequate weather protection.
  - (3) The batching plant at Verplanck appears to be satisfactorily operated by Westcon, and Wedco maintains continuous inspection by PTL personnel.
  - (4) Truck mixing times and drum revolutions are controlled by approved procedures at the batch plant, in transit and place-

ment.

- (5) Delivery of proper mix to its intended location in the scheduled time appeared adequately controlled.

3. Refueling Water Storage Tank

- a. This tank was procured under contract between Wedco and CB&I, and controlled by specifications written, revised, and approved by the A-E, UE&C Inc. Design data is identified in detail in the specifications. CB&I Fabrication and erection drawings were required to be submitted to UE&C for approval before any shop work was undertaken. CB&I's final specifications for welded storage tanks and CB&I's tank QA/QC program for shop and field erection control required UE&C and Wedco approval for conformance to the contract. Wedco provided vendor surveillance at CB&I's shop and approved all releases for completeness of documentation and conformance to specification requirements before any material was shipped to the field. First level QC inspection at the shop and for receipt and storage at the site was performed by CB&I. First level inspection on site erection was also performed by CB&I with Wedco monitoring all operations. Site NDT tests were performed by CB&I and witnessed by Wedco. Radiographs were concurrently judged and approved by CB&I, Wedco and Con Ed. The tank was constructed during January, 1972 but hydrostatic testing has not yet been performed on the tank.
- b. A review of the QC System in the following areas was conducted:
  - (1) Identification of weld procedures
  - (2) Identification of NDT procedures
  - (3) Identification of NDT results
  - (4) Radiograph quality
  - (5) Evaluation of weld quality
  - (6) Magnetic particle examination
  - (7) Dye penetrant examination
  - (8) Correlation of records to welds
  - (9) Defect removal verification
  - (10) Acceptance of weld repair
- c. A review of the QC System for welding material control in these areas was conducted:
  - (1) Material receipt verification
  - (2) Pre-issue storage conditions
  - (3) Issue control
  - (4) Post-issue environmental control
  - (5) Disposition of unused material
- d. Records in the following areas were inspected to verify whether the

licensee/contractor is meeting the construction requirements and to test and verify the quality control system:

- (1) Verification of weld defect removal
- (2) Radiographic acceptance of weld repair
- (3) Weld material issue control for identification
- (4) Temperature and moisture control of weld material after issue
- (5) Disposition of issued but unused weld material.

4. Refueling Canal Liner

Records in the following areas were inspected to verify whether the licensee/contractor is meeting the construction requirements and to test and verify the quality control system.

a. Material records

- (1) Material certificates on chemical analyses
- (2) Material mechanical and physical properties
- (3) Nondestructive testing

b. Receipt records on quarantine and disposition of nonconforming material

c. Installation records and NDT testing and inspection

Details of Subjects Discussed in Section III

None