

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

RO Inspection Report No. 50-286/72-02

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: May 24-25, 1972

Dates of Previous Inspection: January 27-28, 1972

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

6-22-72
Date

Accompanying Inspectors: *E. M. Howard*
E. M. Howard, Chief, Reactor Const. Br.

6-22-72
Date

Other Accompanying Personnel: NONE

Date

Reviewed By: *E. M. Howard*
E. M. Howard, Chief, Reactor Construction Br., RO:I

6-22-72
Date

Proprietary Information: NONE

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SECTION IEnforcement Action

- A. The quality control plan approved by UE&C and the Wedco purchase order relative to construction of the refueling water storage tank were not available on site. (Section II, Paragraph 3)
- B. There were no documented instructions, procedures, or drawings containing appropriate quantitative or qualitative acceptance criteria for determining that cable trays, conduits, and cable installation had been satisfactorily accomplished. (Section III, Paragraph 4)
- C. Contrary to Westinghouse drawing A202452, Revision 4, and the UE&C procedure, cable tray 06QFA was physically attached to cable tray 15LFD. Procedures, instructions, or drawings do not provide for the identification and engineering evaluation of field changes in this area. (Section III, Paragraph 3)
- D. The cable procured for installation inside containment does not contain documentation relative to continuity resistance or insulation resistance which is consistent with the procurement specification. (Section III, Paragraph 5)
- E. The 600 volt cable contained documentation; however, the specification requirements referenced the IPCEA requirements. The IPCEA Standard was not available on site precluding a determination that cable met the specification requirements at the time of receipt. (Section III, Paragraph 6)
- F. Cable tray 59NDA passes within 7-1/2 inches of cable tray 21KFC without a requirement for a fire barrier. (Section III, Paragraph 2)

Licensee Action on Previously Identified Enforcement Matters

The weld rod control program discussed in the RO:I letter to Con Ed dated March 1, 1972, was verified to be in accordance with the commitments of the Con Ed reply, letter dated April 19, 1972. This item remains unresolved pending verification of implementation of the final weld rod control program. (Section II, Paragraph 4)

Unresolved Items

- A. The inspector queried the licensee regarding the use of membranes in storage tanks and was informed that three water storage tanks contained membranes. This item remains unresolved: (Section II, Paragraph 5)
- B. The inspector reviewed the licensee's plan for disposal of oil and chemicals. This item is considered resolved. (Section II, Paragraph 8)

Status of Previously Reported Unresolved ItemsA. Adequacy of Reactor Vessel Outside Painting

The inspector reviewed the engineering evaluation of the reactor vessel outside painting and considers this item resolved. (Section II, Paragraph 6)

B. Pressurizer Heater Cabling

The specifications for pressurizer heater cabling to be used inside containment was inspected and found to conform to temperature requirements which appear to be consistent with approved standards. This item is considered resolved. (Section II, Paragraph 7)

Design Changes

None

Unusual Occurrences

None

Persons Contacted

The following persons were contacted during the site inspection:

Con Ed

Mr. A. Kohler, Jr., Resident Construction Manager
Mr. F. Matra, Superintendent, IP-3
Mr. E. Dadson, Superintendent, QA
Mr. R. Noberini, QA Engineer (Electrical)
Mr. G. Coulbourn, Nuclear Startup Manager

Wedco

Mr. D. E. Anderson, Vice President
Mr. M. Snow, Manager, Reliability
Mr. W. Diebeler, Manager, Quality Control
Mr. C. Hughes, QC Engineer (Welding and NDT)

The following persons attended the management meeting conducted on June 1, 1972 at the Con Ed corporate office in New York, New York:

USAEC, Region I, Regulatory Operations

J. P. O'Reilly, Director
E. M. Howard, Chief, Reactor Construction Branch
R. F. Heishman, Principal Reactor Inspector

Con Ed

Mr. W. Cahill, Jr., Vice President
Mr. J. Marubbio, Project Manager, Construction
Mr. G. Beer, Manager, Quality Assurance
Mr. A. Kohler, Jr., Resident Construction Manager
Mr. G. Wasalinko, Quality Assurance Engineering, Manager
Mr. D. McCormack, Quality Assurance Construction Manager

Management Interview

The following subjects were discussed at the management interview conducted at the site on May 25, 1972:

- A. The inspector stated that the previously identified item relative to outside painting of the reactor vessel was considered resolved.

The licensee acknowledged the inspector's comment. (Section II, Paragraph 6)

- B. The inspector stated that the lack of the purchase order and QC plan on site relative to the refueling water storage tank appeared to be in violation of Criterion VII, 10 CFR 50, Appendix B and the specifications. The inspector queried the licensee as to the method used to provide the on-site quality control required by the QC plan and purchase order when these documents were not available. (Section II, Paragraph 3)

The licensee stated that the "QC Summary" was used and the purchase order may not have been issued, although the tank was built and partially tested. In addition, the licensee stated that the documents would be obtained.

C. The inspector stated that the following items were found to be in nonconformance with the specifications and drawings or in non-compliance with Appendix B, 10 CFR 50:

- 1. No instructions, procedures, or drawings containing appropriate quantitative or qualitative acceptance criteria for determining that cable trays, conduits and cable installation had been satisfactorily accomplished were found. (Section III, Paragraph 4)
- 2. Contrary to Westinghouse drawing A202452, Revision 4, and the UE&C procedure, cable tray 06QFA was physically attached to cable tray 15LFD. Procedures, instructions, or drawings do not provide for the identification and engineering evaluation of field changes in this area. (Section III, Paragraph 3)
- 3. The cable procured for installation inside containment does not contain documentation relative to continuity resistance or insulation resistance which is consistent with the procurement specification. (Section III, Paragraph 5)
- 4. The 600 volt cable contained documentation; however, the specification requirements referenced the IPCEA requirements. The IPCEA Standard was not available on site precluding a determination that cable met the specification requirements at the time of receipt. (Section III, Paragraph 6)
- 5. Cable tray 59NDA passes within 7-1/2 inches of cable tray 21KFC without a requirement for a fire barrier. (Section III, Paragraph 2)

Mr. Anderson stated that Westinghouse was not committed to Appendix B, 10 CFR 50 under the terms of their contract. In addition, the controls established in the form of the computer printout and cable pull cards was considered to be adequate to install the electrical and instrumentation components.

The inspector stated that this position was unacceptable and queried the licensee as to his position regarding this matter.

Mr. Kohler requested that this matter be deferred until a meeting could be scheduled with Con Ed management at which time the licensee's position would be provided. The inspector agreed to this request.

The following subject was discussed at the management meeting conducted at the Con Ed corporate offices in New York City on June 1, 1972

The inspector requested the licensee to reply to the question asked during the site exit interview relative to the Con Ed position on the applicability of Appendix B, 10 CFR 50 to the construction of the Indian Point 3 facility.

Mr. Cahill stated that the licensee's position was and has been that the requirements of Appendix B would be met. In addition, he stated that the contractual arrangements with Westinghouse as a "Turnkey" contractor were not as clearcut as present day non-turnkey contracts and added requirements had to be negotiated between Con Ed and Westinghouse. In order to provide the program required by Appendix B, a task force had been formed of Con Ed and Wedco personnel to establish the additional requirements and negotiate the contract changes required.

The inspector stated that the program deficiencies as identified during this inspection required timely action to preclude continued installation and provide assurance of quality during installation.

Mr. Cahill stated that interim plans may have to be implemented to control the construction pending the implementation of the task force recommendations. In addition, Mr. Cahill stated that the requirements would be met in some manner.

The inspector stated that this matter would be reviewed during subsequent inspections.

SECTION II

Prepared By: R. F. Heishman

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

1. General

The licensee reported that the status of construction was 64%.

2. Refueling Water Storage Tank

a. A review of the QC system in the following areas was conducted.

- (1) Qualification of welders.
- (2) Qualification of weld procedures.
- (3) Qualification of NDT techniques.
- (4) Qualification of NDT technicians.
- (5) Identification of weld location.
- (6) Identification of welder.
- (7) Identification of NDT technicians.
- (8) Identification of NDT procedures.

b. 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) Radiograph quality.
- (2) Evaluation of weld quality.
- (3) Dye penetrant examination.

Details of Subjects Discussed in Section I

3. Refueling Water Storage Tank

The inspector reviewed the documents available on site relative to fabrication of the refueling water storage tank. The documents reviewed included UE&C specification 9321-05-246-4 with Addenda 1 and 2; correspondence approving the welding and NDT procedures, quality control plan, and welder qualifications; NDT records; and fabrication drawings.

Criterion VII, Appendix B, 10 CFR 50 states in part, " . . . documentary evidence shall be retained at the nuclear powerplant site and shall be sufficient to identify the specific requirements, . . . "

Contrary to the above, the purchaser approved quality control plan and the purchase order were not available on site for use by the quality control inspectors during receipt inspection, fabrication, and testing, or for inspection by the RO inspector.

4. Weld Rod Control

The previously identified matter relative to traceability of weld rod was inspected and found to conform to the commitments contained in the Con Ed letter to the Director, RO:I, dated April 19, 1972. The interim procedures implemented consist of the recording of welding rod heat numbers on field welding records and review of the mill certs for each heat. These records are being maintained by Con Ed personnel pending finalization of contractual arrangements between Wedco and Con Ed. This item remains unresolved pending implementation of the revised Wedco procedures for weld rod control and traceability.

5. Membranes in Storage Tanks

The inspector requested information from the licensee relative to the use of membranes in storage tanks. The licensee stated that the condensate storage, primary water, and monitored water tanks contain membranes. The licensee stated that information relative to the estimated life expectancy of the membranes, the data to support this estimate, and the surveillance program to be used to monitor the condition of the membranes would be provided during subsequent inspections.

6. Reactor Vessel Outside Painting

An engineering evaluation to the adequacy of the outside painting of the reactor vessel prior to shipment to the site was reviewed by the inspector. The evaluation concludes that the painting accomplished prior to shipment and supplemented at the site prior to and after installation, was in accordance with the requirements of the purchase specifications.

7. Pressurizer Reactor Cabling

Specification No. 9321-05-113-3 states in paragraph VIII that cable shall be suitable for wet or dry locations exposed in cable trays, or pulled in conduit. Maximum copper temperature of 125°C (257°F). Ambient conditions other than the above were not specified in the purchase documents. This cabling will be inspected during the routine inspection of electrical systems and any deviations for acceptable standards will be resolved at that time.

8. Chemical Discharge to the Environment

The inspector reviewed the licensee's plans for discharge of oil or chemicals to the river. The plans include the installation of oil booms in the discharge canal. The licensee has established stringent controls regarding the discharge of cleaning agents containing chemicals and maintains close coordination with New York State officials. Releases are made utilizing large dilution factors after hold up and constant sampling is used during discharge. Detailed records are maintained of all sampling and quantities of materials released to the environment.

SECTION III

Prepared By: E. M. Howard

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

1. General

The inspection was directed toward the implementation of the inspection activities which are being performed to assure that the electrical and instrumentation cable trays, conduits, and cables are installed in accordance with commitments. Considerable progress has been made in the installation of the cable trays with only a few cables presently installed.

Details of Subjects Discussed in Section I

- 2. During a review of the cable tray installation, cable tray 59NDA, which is a vertically oriented tray, passes within 7-1/2 inches of cable tray 21KFC. Review of all drawings depicting this section failed to reveal a requirement for a metal barrier. A review of the applicable procedures, UE&C procedure entitled, "Electrical Separation Implementatation Design Guide", requires a vertical separation of one foot and a horizontal separation of three feet or where this separation is not possible, the use of metal barriers is required.
- 3. Westinghouse drawing A202452, Revision 4, shows cable tray 06QFA separated from cable tray 15LFD by approximately two feet. The actual installation has cable tray 06QFA physically attached to cable tray 15LFD. There is no documentation indicating that this had been identified as a deviation or that this field change had been identified to the group which made the original design.
- 4. There were no procedures for assuring that the electrical and instrumentation cable trays, conduits, or cable had been installed in accordance with commitments. Inspections are being performed; however, there was no means to provide qualitative or quantitative evidence of work performed or provide guidance to the inspector.

5. A review of Purchase Order 9321-05-113-5-WEC19 for Kerite cable revealed that continuity resistance and insulation resistance was a requirement for the specific cable ordered; however, the information provided was for "production tests" and not for the particular cable reviewed on site.

6. Purchase Order 475A-9321-05-113-7 for 600 volt cable specified that the insulation meet IPCEA No. S-61-402, part 3, paragraph 3.8 through 3.8.3.3 inclusive; mechanical properties meet IPCEA Pub. No. S-61-402, paragraph 4.3.1; and all applicable tests outlined in IPCEA Pub. No. S-61-402, part 6. The cable was onsite, containing certain documentation; however, the IPCEA document was not onsite precluding proper acceptance inspection.