

U. S. ATOMIC ENERGY COMMISSION  
DIRECTORATE OF REGULATORY OPERATIONS

REGION I

RO Inspection Report No.: 50-286/72-05

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: A

Location: Buchanan, New York

Type of Licensee: PWR 1050 MWe (Westinghouse)

Type of Inspection: Routine, Unannounced

Dates of Inspection: Nov. 20, 21, 22, Dec. 1, Dec. 14, 1972

Dates of Previous Inspection: October 26, 1972

Principal Inspector: J. Allentuck

J. Allentuck, Reactor Inspector

Jan 10, 1973  
Date

Accompany Inspectors: E. M. Howard

E. M. Howard, Chief, FC & ES Br.

1-10-73  
Date

A. V. J. Burzi (for)  
A. V. J. Burzi, Reactor Inspector

F. F. Barker  
F. F. Barker, Reactor Inspector

1-10-73  
Date

Other Accompanying Inspectors: W. M. Hayward

W. M. Hayward, Reactor Inspector

Reviewed By: R. F. Heishman

R. F. Heishman, Senior  
Reactor Inspector

1-10-73  
Date

## SUMMARY OF FINDINGS

### Enforcement Action

- A. Contrary to the requirements of Appendix B, 10 CFR 50, Criterion II, the Wedco QA program does not include a requirement for regular review of the status and adequacy of the QA program and no evidence that such reviews are being accomplished was available during the inspection. (Report Details, Paragraph 3)
- B. Contrary to the requirements of Criterion V, Appendix B, 10 CFR 50, the following activities were performed without a procedure or were being performed in violation of approved procedures.
  1. Tack welding of carbon steel straps to stainless steel pipe for fitup, which was subsequently removed after fitup, had been performed without a procedure. The required procedure was made available to the inspector prior to his departure. No answer to this item is required. (Report Details, Paragraph 4)
  2. Wedco procedure No. QCG-2, Revision 2, dated October 18, 1972, entitled, "Weld Material Control Procedure", was not being adhered to in that loose and unidentified weld rod was located at several places where welding was in progress. (Report Details, Paragraph 5)
  3. Welder identification was not being accomplished in accordance with the requirements of Weld Procedure Specification No. 8. A revision to this procedure was made available to the inspector prior to his departure and no answer to this item is required. (Report Details, Paragraph 6)
  4. No procedure was available for determining that the current applied in welding was within the range required by the welding procedures. (Report Details, Paragraph 7)
  5. There was no procedure which required that space heaters be energized on all motors so equipped in accordance with Wedco requirement EC-1000. Such a procedure was made available to the inspector prior to his departure and no answer to this item is required. (Report Details, Paragraph 8)
  6. There was no procedure for verification of the minimum bend radius for cable prescribed in United Engineers and Constructors letter of November 17, 1972. Such a procedure was made available to the inspector prior to his departure. No answer to this item is required. (Report Details, Paragraph 9)

7. There is no procedure for periodic rotation of large motor shafts. However, there exists evidence that such rotation was being accomplished without a procedure. (Report Details, Paragraph 10)
  8. There is no procedure for the surveillance of instruments that require a special environment or temperature. (Report Details, Paragraph 11)
  9. There is no procedure for verifying that floor and wall penetrations are installed in accordance with the design. (Report Details, Paragraph 12)
  10. There are no procedures for verification that cable pulling tensions do not exceed the values recommended by the cable manufacturer. (Report Details, Paragraph 13)
  11. There are no procedures for verifying that design cable tray loadings are not exceeded. (Report Details, Paragraph 14)
  12. There are no procedures for verifying that two or more cable trays carrying redundant safety related circuits are not bridged by a non-safety related cable. (Report Details, Paragraph 15)
- C. Contrary to the requirements of 10 CFR 50, Appendix B, Criterion XIII, there is no procedure which assures that motors not equipped with space heaters are stored in such a manner as to prevent deterioration from moisture. (Report Details, Paragraph 16)
- D. Contrary to the requirements of 10 CFR 50, Appendix B, Criterion XVII, Consolidated Edison QA procedures do not contain requirements such as duration, location, and assigned responsibility for record retention, nor are minimum requirements for the data to be included in inspection and test records specified. Wedco procedures do not provide the requirements for the retention of audit records, qualification of personnel, or the qualification of processes and equipment. In addition, it fails to establish the minimum content of inspection and test records and does not establish the retention period for various records. (Report Details, Paragraph 17)
- E. Contrary to the requirement of 10 CFR 50, Appendix B, Criterion XVIII, Con Ed audits were not planned, performed, or scheduled on a periodic basis, nor did they verify compliance with all aspects of the QA program. A procedure for audits to be planned, performed and scheduled on a periodic basis and to cover all aspects of the QA program was made available to the inspector prior to his departure. No answer to this item is required. (Report Details, Paragraph 18)

- F. The following items were noted as being contrary to the requirements of Section 6.2.1 of the FSAR which required that valves meet the requirements of ANSI B 16.5 (1955) and that piping meet the requirements of ANSI B 31.1.
1. Sharp transitions were observed on the bottom of several valve bodies in the safety injection system where reference surfaces had been machined. This appears to violate ANSI B 16.5, Paragraph 6.6, Figure 10 which shows a maximum transition angle of  $45^{\circ}$ . This apparent violation was observed on valve SI-895C at joint 1083. (Report Details, Paragraph 19)
  2. A circular undercut was found on weld No. 1061 in line 10 of the auxiliary coolant system which was measured to be  $3/32$ " below the outside surface of the pipe. This appears to violate the requirements of ANSI B 31.1.0 which states in paragraph 127.4.2(e), "sections of welds that are shown by examination to have any of the following imperfections shall be judged unacceptable . . . undercuts on the external surface of butt welds which are more than  $1/32$ " deep." (Report Details, Paragraph 20)
  3. Weld No. 1061 and 1062 in the auxiliary coolant line had weld reinforcement of  $3/16$ " and  $1/4$ ". This appears to violate the requirements of ANSI B 31.1.0 paragraph 127.4.2(d), which states in part, "The thickness of weld reinforcement shall not exceed the following: Considering the thickness of the thinner component being joined, component thickness over 1 to 2 inches, reinforcement thickness  $1/8$  inch." (Report Details, Paragraph 21)

#### Safety Items

##### A. Splice Insulation Used on Penetration Connections

Shrinkable sleeves incorporated in the insulation system used on penetration connections appear to be similar to those that were observed to fail a fire test previously conducted by the licensee. (Report Details, Paragraph 22)

##### B. Verification of Seismic Design of the Battery Room Walls

The battery room walls are constructed of cement block. Vertical reinforcement has not been included. Drawings require the installation of a truss-type reinforcement at horizontal joints every two courses. In addition, where concrete block walls butt the vertical surfaces of reinforced concrete walls, dovetail anchor slots in the reinforced concrete walls for galvanized metal wall ties are specified. No evidence was found that this design meets the seismic design criteria for this facility. (Report Details, Paragraph 23)

C. Location of Flywheel Motor Generator Sets in the Cable Spreading Room

The motor generator sets are aligned along the long axis of the cable spreading room. In the event of the failure of the flywheel of these sets considerable damage could be done to the cable trays located above this equipment. (Report Details, Paragraph 24)

Licensee Action on Previously Identified Enforcement Items

The licensee is now maintaining the reactor vessel in accordance with the applicable specification for cleanliness requirements during storage, erection, and startup. Cleanliness is consistent with on-going construction activity. This item is considered resolved subject to continued regulatory inspection. (Report Details, Paragraph 29)

Design Changes

None

Other Significant Findings

A. Current Findings

1. Cable Scrap in the Cable Storage Area

Short lengths of cable removed from reels of cable approved for use in the facility were observed in the cable storage area. The licensee stated that he was in the process of removing such scrap cable from the cable storage area. This matter is considered unresolved. (Report Details, Paragraph 25)

2. Cable Ends

Cable ends on reels in the cable storage area were not sealed. The licensee agreed to seal cable ends on all reels in the cable storage area. This matter remains unresolved. (Report Details, Paragraph 26)

3. Traceability of Cable Reels

Cable reels in the cable storage area are traceable to receiving documents in Wedco's file. This item is considered resolved. (Report Details, Paragraph 27)

4. Seismic Criteria for Process Instrument Lines

A draft copy of a procedure entitled "Design and Installation of Class 1 Instrument Tubing" did not include seismic criteria. The licensee stated that he would investigate this matter further. This item is considered unresolved. (Report Details, Paragraph 28)

5. Barton Model 386 Water Level Transmitter

The licensee stated no Barton Model 386 water level transmitters were included in IP#3. (Report Details, Paragraph 30)

Management Interview

An exit interview was conducted at the site on December 14, 1972 with the following individuals:

Con Ed

A. Kohler, Jr., Resident Construction Manager  
G. Coulbourn, Jr., Manager IP-3 Construction  
E. Dadson, Superintendent, QA  
L. Daly, QA Engineer  
T. Houlihan, Chief, Construction Inspector  
J. Dean, Site QA Superintendent

Wedco

M. Snow, Manager QA (part-time)  
W. Diebler, Manager QC

Items discussed are summarized below:

- A. The inspector stated that contrary to the requirements of Criterion II, Appendix B, 10 CFR 50, the Wedco QA program did not include a requirement for regular review of the status and adequacy of the QA program and no evidence that such reviews are being accomplished was available during the inspection. (Report Details, Paragraph 3)
- B. The inspector stated that the following activities appeared to be in violation of Criterion V, Appendix B, 10 CFR 50:
  1. Tack welding of carbon steel straps to stainless steel pipes for fitup which was subsequently removed after fitup, had been performed without a procedure. The required procedure was made available to the inspector prior to his departure, no response to this item would be required. (Report Details, Paragraph 4)
  2. Wedco procedure No. QCG-2, Revision 2, dated October 18, 1972, entitled "Weld Material Control Procedure" was not being adhered to in that loose and unidentified weld rod was located at several places where welding was in progress. (Report Details, Paragraph 5)

3. Welder identification was not being accomplished in accordance with the requirements of Weld Procedures Specification No. 8. Since a revision to this procedure was made available to the inspector prior to his departure, no answer to this item is required. (Report Details, Paragraph 6)
4. There was no procedure available for verifying that the current actually used in welding was within the range required by the Weld Procedures Specification. (Report Details, Paragraph 7)
5. There was no procedure which required that space heaters be energized on all motors so equipped in accordance with the licensee's requirement EC-1000. However, since prior to his departure, such a procedure was made available to the inspector, no answer to this item would be required. (Report Details, Paragraph 8)
6. There was no procedure for verifying that the minimum bend radius for cable as prescribed in "United Engineers and Constructors" letter of November 17, 1972, was being accomplished. Since such a procedure was made available to the inspector prior to his departure, no answer to this item is required. (Report Details, Paragraph 9)
7. There is no procedure for periodic rotation of large motor shafts. However, there exists evidence that such rotation was being accomplished without a procedure. (Report Details, Paragraph 10)
8. There was no procedure for the surveillance of instruments that require special environment or temperature. (Report Details, Paragraph 11)
9. There is no procedure for verifying that floor and wall penetrations are installed in accordance with the design. (Report Details, Paragraph 12)
10. There was no procedure for verifying that cable pulling tensions do not exceed the values recommended by the cable manufacturer. (Report Details, Paragraph 13)
11. There was no procedure for verifying that design cable tray loadings are not exceeded. (Report Details, Paragraph 14)
12. There was no procedure for verifying that two or more cable trays carrying redundant safety related circuits are not bridged by a non-safety related cable. (Report Details, Paragraph 15)

13. There was no procedure to assure that motors not equipped with space heaters were stored in such a manner as to prevent deterioration from moisture. (Report Details, Paragraph 16)
- C. The inspector stated that procedures for record retention and record content did not conform to the requirements of Criterion XVII, 10 CFR 50, Appendix B, in that, the duration, location, and assigned responsibilities for record retention as well as minimum requirements for the data to be included in inspection and test records were not specified. In addition, Wedco Procedure, WQA 2-1 did not provide the requirements for the retention of audit reports, qualification of personnel or the qualifications of processes and equipment. In addition, it failed to establish the minimum content of inspection and test records nor did it establish retention periods for various records. (Report Details, Paragraph 17)
- D. The inspector stated that contrary to the requirements of Criterion XVIII, 10 CFR 50, Appendix B, Consolidated Edison audits were not planned, performed or scheduled on a periodic basis nor did they verify compliance of all aspects of the QA program. However, since prior to his departure, the inspector was shown a Con Ed procedure which required that audits be planned, performed and scheduled on a periodic basis and that they cover all aspects of the QA program, no answer to this item is required. (Report Details, Paragraph 18)
- E. The inspector stated that certain activities appeared to be in violation of the commitments in the FSAR, in that, Section 6.2.1 of the FSAR requires that valves be according to ANSI B16.5 (1955) and that piping be according to ANSI B31.1 (1955). Contrary to these requirements, sharp transitions were observed on the bottom of several valve bodies and safety injection systems. In addition, a circular undercut was found on weld No. 1061 which was measured to be 3/32" below the outside surface of the pipe. Furthermore, weld No. 1061 and weld No. 1062 in the auxiliary cooling line had weld reinforcement of 3/16" and 1/4". (Report Details, Paragraph 19, 20 and 21)
- F. The inspector stated that certain items appeared to raise questions concerning the adequacy of construction:
  1. Shrinkable sleeves incorporated in the insulation system used on penetration connections appear to be similar to those that were observed to fail in a fire test previously conducted by the licensee. (Report Details, Paragraph 22)
  2. The battery room walls were apparently constructed without vertical reinforcing steel. The licensee was asked to verify that seismic design criteria had been met in the design and construction of the battery room walls. (Report Details, Paragraph 23)



3. Since the motor generator sets were aligned along the long axis of the cable spreading room, the failure of a flywheel might cause considerable damage to the cable trays located above this equipment. (Report Details, Paragraph 24)
- G. The inspector stated that short lengths of cable which had been removed from cable reels approved for installation in the facility were observed in the cable yard. The licensee agreed to remove all cable from the cable yard which was not on reels. This matter remains unresolved. (Report Details, Paragraph 25)
- H. The inspector stated that cable ends in the cable yard had not been sealed. The licensee stated that he would seal cable ends on cable reels. This matter remains unresolved. (Report Details, Paragraph 26)
- I. The inspector stated that he had determined that cable reels in the cable yard were traceable to receiving documents in the Wedco file. This matter is resolved. (Report Details, Paragraph 27)
- J. The inspector stated that a draft of a procedure entitled "Design and Installation of Class 1 Instrument Tubing" did not include seismic criteria. The licensee stated that he would pursue this matter further. This matter is considered unresolved. (Report Details, Paragraph 28)
- K. The inspector stated that he had observed that the cleanliness of the reactor pressure vessel was consistent with on-going construction activity. (Report Details, Paragraph 29)
- L. The inspector stated that he had informed the licensee of a problem involving maloperation of a Barton Model 386 Water Level Transmitter. The licensee informed him that this equipment was not included in IP#3. (Report Details, Paragraph 30)

## REPORT DETAILS

### 1. Persons Contacted

#### Con Ed

A. Kohler, Jr., Resident Construction Manager  
G. Coulbourn, Jr., Manager IP-3 Construction  
E. Dadson, QA Supervisor  
J. Dean, QA Supervisor Site  
T. Houlihan, Chief, Construction Inspector  
G. Beer, QA Director, Home Office  
B. Garow, Staff Assistant

#### Wedco

M. Snow, Manager Reliability  
W. Diebler, Manager QC  
C. Hughes, QC Engineer  
V. Montoya, Electrical Designer

#### Brand Laboratories, Incorporated

D. Holmes, NDT Supervisor

### 2. Status of Construction

The licensee reported that the overall status of construction was 76% complete, mechanical was 35%, structural 80%, and electrical 30%.

### 3. Wedco Management Review of QA Program

An examination of Wedco Procedures failed to disclose any requirement on the part of Wedco Management for a regular review of the status and adequacy of the QA Program. The Consolidated Edison Procedure did indicate that such a requirement was part of the QA Program.

### 4. Attachment and Removal of Temporary Alignment Clips

The inspector noted that tack welding of carbon steel straps on stainless steel pipes used to secure pipes for fitup which were subsequently removed after fitup had been performed without a procedure. Prior to the departure of the inspector, Wedco produced a

procedure entitled "Procedure for Attachment and Removal of Temporary Alignment Clips, Braces, etc" dated 12/13/72.

5. Control of Weld Filler Metal

The inspector observed loose and unidentified weldrod located at several places where welding was in progress. A significant amount of loose weldrod was located in the area of joint #13 on line 32 of the main coolant piping. This joint was being welded at the time of the inspection. The inspector also observed unidentified weldrod in the area immediately adjacent to joint #41 in the main steam line. This condition is in violation of Wedco Procedure No. QCG-2, Revision 2, dated 10/18/72, "Weld Material Control Procedure" which require the subcontractor to assure that weldrod will be controlled and identified by retaining the weldrod in the rod heater at the work station. The licensee's representative acknowledged these observations.

6. Welder Identification

The inspector conducted a review of the weld procedure specification used for mechanical piping systems installation. Procedure Specification No. 8, Paragraph 14, Identification Status states in part, "Butt weld joints shall be marked with the identifying symbol of the welder or the welders who performed the work and with the weld number with low stress stamp or with the vibro tools."

Contrary to the above, on November 20 and 21 the inspector observed several joints being welded using Procedure Specification No. 8 which were not identified as required by Paragraph 14 of the Specifications. The inspector questioned the licensee concerning the situation and was told that the required records were being maintained on an isometric drawing of the plant piping system and would be transferred to the joint at the time of final inspection of the piping. On 11/22/72, the inspector was shown a letter which stated that Procedure Specification No. 8 would be revised to eliminate the requirements of Paragraph 14. The inspector stated that this revision and the procedure for documentation of the records would be reviewed at a subsequent inspection. Until such time, this matter would be considered unresolved.

7. Procedure for Determining Welding Current

The inspector checked the ampere setting on a welding machine being used to weld joint #14 on main coolant piping loop 32. This joint required that it be welded according to Procedure Specification No. 8. The procedure stated that the proper welding current would be established by the field engineer. Table I included in this Procedure Specification recommended a welding current of 80-95 amperes

when welding with 1/8" diameter electrode. The inspector observed that the welding current setting on the machine was 70 amperes. This was brought to the licensee's attention and the inspector was told that Wedco personnel were responsible for periodically auditing actual current being used by the welder. The inspector requested this information from the Wedco representative and was informed that this function was being audited by the Courter Company. The inspector observed the Courter record and it appeared that no formal procedure is in existence to insure that welding was being performed within the parameter recommended in the licensee's procedure and specification.

8. Space Heaters on Motors

Wedco Procedure EC-1000 requires that space heaters be energized in all motors that are so equipped. There were no procedures which require verification of initial energizing of space heaters or subsequent verification that space heaters are energized or the frequency with which verification is to be made. There was no documentation relative to inspections made of space heater operations for engineered safeguard motors excluding the reactor coolant pump motors. Prior to the inspector's departure, a procedure was made available to him which addressed these matters.

9. Cable Bend Radius

Procedures which require verification that the actual bend radius used on safeguard cables comply with the criteria presented in United Engineer and Constructor's letter dated 11/17/72 were not available at the time of the inspection. Such a procedure was made available to the inspector prior to his departure.

10. Rotation of Large Motor Shafts

There were no procedures relative to a requirement for rotation or frequency of rotation of large motor shafts. Despite the absence of such procedure, certain large motor shafts were rotated as evidenced by a log maintained at the site.

11. Environmental Control for Special Instruments

There are no procedures pertaining to the surveillance or frequency of surveillance of instruments that require control of environment or temperature.

12. Installation of Floor and Wall Penetration

There are no procedures relating to verification that floor and wall penetration are installed in accordance with design objectives.

13. Cable Pulling Tension

There is no readily available data pertaining to the maximum pulling tension to which the cable may be subjected nor is there a requirement to verify that manufacturers recommended tension has not been exceeded. The architect engineer is developing computational methods to demonstrate that the design will never impose excessive strain during cable pulling. The licensee maintained that the designer has considered tension in making the tray and conduit system layout. For these reasons the licensee maintains that there is no need to use a dynamometer in affecting cable pulls. RO:I does not agree with this position.

14. Cable Tray Loading

There are no procedures concerning verification of design cable tray loading objectives. The architect engineer specified two kinds of limitations on cable tray fill. One is specified as percent of width while the other specified a percent of area. The power cable may be installed in either a single or double layer in the tray giving 100% or 200% respectively of width. Remaining cables are limited to a fill of 60% of the tray area. The licensee states that computer methods are used to assure that these maxima are not exceeded. The need for verifying by visual inspection that over short runs these maxima are not exceeded has not been addressed by an inspection procedure.

15. Safeguard Tray Bridging by Non-Safeguards Cables

There are no procedures for verifying that two or more cable trays carrying redundant safety circuits are not bridged by a non-safety related cable. There is an admonition against this in Wedco Procedure EC-1000 but no requirement in either procedures or a check list that quality control verified this condition.

16. Care of Safeguards Motors In Storage

Measures have not been established to assure that motors not equipped with space heaters were stored in such a manner as to prevent deterioration from moisture, nor were motors requiring such care, identified.

17. Quality Assurance Records

The inspector observed that contrary to the requirements of Appendix B, 10 CFR 50, Criterion XVII, neither Section 2.18 of the Consolidated Edison QA Procedure nor Con Edison Procedure 8 contains requirements such as duration, location and assigned responsibility for record

retention, nor were minimum requirements for the data to be included in inspection and test records specified. In addition, Wedco Procedure WQA 2-1 does not provide requirements for the retention of audit reports, qualification of personnel or the qualification of processes and equipment. In addition, it failed to establish the minimum content of the inspection and test record and did not establish retention periods for various records.

18. Audits

The inspector observed that contrary to the requirements of 10 CFR 50, Appendix B, Criterion XVIII, a comprehensive system of planned and periodic audits to verify compliance with all aspects of the QA program had not been performed. Neither Consolidated Edison or Wedco audits were planned, performed or scheduled on a periodic basis, nor did they verify compliance with all aspects of the QA program. A procedure for audits to be planned, performed and scheduled on a periodic basis was made available to the inspector prior to his departure.

19. Sharp Transitions on Valve Bodies

The inspector observed sharp transition zones on the bottom of valves in the safety injection system. Two valves which were examined in detail were Valve SI-895c and SI-894d. The transitions in question are flats machined on the bottom of the valve at the butt end weld preparations of the valve. Visual observation disclosed that there was no gradual blending of the transition in the wall thickness, but in fact, the transition appeared to be a 90° step from the machine surface to the thicker "as-cast" surface of the valve body. On valve SI-895c at joint 1083 this step was measured to be 1/16" and appears to be in violation of USAS B16.5, Paragraph 6.6, Figure 10, which shows a maximum transition angle of 45°. The inspector called this condition to the attention of the licensee's representative and was informed that this was a typical condition; no non-conformance reports were in evidence to indicate that the conditions had been previously identified on this system. The licensee's representative stated that a non-conformance had been issued for this condition on another system.

20. Undercuts at Weld

A circular undercut was found on weld #1061 in line 10 of the auxiliary coolant system which was measured to be 3/32 of an inch below the outside surface of the pipe. ANSI B31.1.0, Paragraph 127.4.2(e), states in part, "Sections of welds that are shown by examination to have any of the following types of imperfection shall be judged unacceptable ... "Undercuts in the external surfaces

of the butt weld which are more than 1/32 inch deep." The above mentioned weld had been visually inspected and signed off as acceptable by the Wedco inspector. There was no evidence that a non-conformance report had been issued to document the condition by the licensee. A licensee's representative indicated to the inspector that a non-conformance would be written.

21. Excessive Weld Reinforcements

The inspector observed two adjacent finished welds that appeared to exhibit weld reinforcement on the outside diameter in excess of code allowances. Two adjacent welds, No. 1061 and 1062, in the auxiliary coolant line were measured by the inspector to have weld reinforcement of 3/16" to 1/4" in local areas of the weld. USAS B31.1.0, Paragraph 127.4.(d), states in part, "The thickness of weld reinforcements shall not exceed the following considering the thickness of the thinner component being joined. . . Component thickness over 1-2 inches, reinforcement thickness, maximum 1/8". The visual inspection of the weld surfaces has been signed off as satisfactory by the Wedco representative. There was no evidence available to indicate that any non-conformance report had been written to document this condition by the licensee. The licensee's representative indicated to the inspector that a non-conformance would be written.

22. Splice Insulation Used on Penetration Connections

Shrinkable sleeves incorporated in the insulation system used on penetration connections appear to be similar to those that were observed to fail in a fire test conducted previously by the licensee.

23. Verification of Seismic Resistant Design for the Battery Room Wall

The inspector noted that the battery room walls were constructed of cement blocks. The licensee informed him that there was no vertical reinforcing steel. United Engineers and Constructor's drawing No. 9321-F-13803 bore a note which stated "Horizontal joints in concrete block walls shall have a truss type reinforcement every two courses of block, extra heavy duro wall or equal." Note 4 stated, "Where concrete blocks butt the vertical surfaces of reinforced concrete walls, provide dovetail anchor slots in the reinforced concrete walls for galvanized metal wall ties." The inspector requested that the licensee verify that design and construction meet the seismic criteria for this facility.

24. Location of Flywheel Motor Generator Sets in the Cable Spreading Room

The motor generator sets are aligned along the long axis of the cable spreading room. In the event of failure of the flywheels of these sets, considerable damage could be done to the cable trays located above this equipment. The licensee stated that he was investigating this matter further.

25. Scrap Cable In Cable Storage Yard

The inspector observed that short lengths of cables which had been removed from cable reels were stored in the cable yard associated with the reels from which they had been removed. These short lengths were observed not to be tagged. The inspector stated that this material was not properly stored. The licensee stated that the material would be removed. This matter remains unresolved.

26. Cable Ends

The inspector observed that cable ends on reels in the cable storage yard were not sealed. The licensee agreed to seal cable ends on the reels in the cable storage yard. This matter remains unresolved.

27. Traceability of Cable

The inspector tested the capability of the system for tracing cable approved for use, back to receipt and test documents in Wedco's QC file. It was determined that Wedco's systems were capable of accomplishing the required traceability.

28. Seismic Criteria for Design & Installation of Class 1 Instrument Tubing

The inspector observed a draft copy of the procedure entitled "Design and Installation of Class 1 Instrument Tubing." The procedure failed to include seismic criteria for tubing systems. The licensee stated that he would investigate this matter further. This matter is considered unresolved.

29. Reactor Vessel Cleanliness

The inspector observed that fluid runs which had been visible on the previous inspection had been removed. In addition, a letter had been received by RO:I detailing a partial analysis of the removed foreign material. The inspector further observed that cleanliness was maintained consistent with on-going construction activity. Subject to completion by the licensee of analysis of removed material and con-



tinued inspection by RO:I of cleanliness in the vessel, this matter is considered resolved.

30. Barton Model 386 D/P Cells

The inspector inquired whether or not the licensee had planned to install Barton Model 386 water level transmitter and whether or not he was apprised of their maloperation at another site. The licensee informed the inspector that there would be no installation of this equipment at IP#3.