

SUMMARY OF FINDINGS

Enforcement Action

Contrary to the requirements of Criterion V, 10 CFR 50, Appendix B, the licensee failed to implement the requirements of WEGR 0-21 by permitting a carbon steel wire rope and carbon steel wires to be wrapped about stainless steel pipes. (Details, Paragraph 3)

Licensee Action on Previously Identified Enforcement Items

- A. A procedure entitled "Equipment Storage and Maintenance Criteria for Class 1 Equipment" has been issued. This matter is resolved. (Details, Paragraph 4)
- B. The constructor has conducted an investigation which indicates that welds in the CVCS system, for which the interpass temperatures were recorded as exceeding the maximum indicated in the procedure, are indeed acceptable. This matter is resolved. (Details, Paragraph 5)
- C. The constructor has instructed the electrical subcontractor to insert new issuances of drawings into stick files immediately upon receipt and to audit drawing control monthly. He has instructed his own electrical QC personnel to use drawings from the QC files only. This matter is resolved. (Details, Paragraph 6)

Design Changes

Not applicable

Unusual Occurrences

Not applicable

Other Significant Findings

A. Current Findings

1. QC documentation for a spool piece and welds in that portion of the Waste Disposal System which is part of the reactor pressure boundary indicates no deficiencies. (Details, Paragraph 7)
2. QC documentation for valves in the Waste Disposal System which is part of the reactor pressure boundary are not available at

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the site nor does there exist evidence of licensee monitoring of these records. This matter is unresolved. (Details, Paragraph 8)

3. QC documentation for pipe hangers is not readily available when called for by pipe hanger number. This matter is unresolved. (Details, Paragraph 9)
4. A weld on the Diesel Engine No. 31 jacket cooling water system appeared to have a deep gouge. This matter is unresolved. (Details, Paragraph 10)
5. The constructor has found several welds associated with diesel engines to be unacceptable. This matter is unresolved. (Details, Paragraph 10)
6. A Certification of Conformance of certain cable does not appear to include "aging." This matter is unresolved. (Details, Paragraph 11)
7. Certification of tests performed on some 500,000 feet of safeguards cable is unavailable. This matter is unresolved. (Details, Paragraph 12)
8. QA/QC documentation of certain portions of the SIS indicates no deficiencies. (Details, Paragraph 13)
9. QA/QC documentation for certain portions of Channel 1, Power Source indicates no apparent deficiencies. (Details, Paragraph 14)
10. Instrument Bus 32 and associated cable are not listed as vital though load fed from it is considered essential. This matter is unresolved. (Details, Paragraph 18)
11. Approval of the QA/QC certification for certain cables is unavailable. This matter is unresolved. (Details, Paragraph 15)
12. The Quality Control Release (QCR) for Battery Charger No. 32 is unavailable. This matter is unresolved. (Details, Paragraph 16)
13. Approval of seismic data for Diesel Generator No. 32 is unavailable. The applicability of seismic criteria is unclear. This matter is unresolved. (Details, Paragraph 19)

14. The QCR for a 480 volt bus is unavailable. This matter is unresolved. (Details, Paragraph 16)
15. The QCR for Motor Control Center (MCC) -37 is unavailable. This matter is unresolved. (Details, Paragraph 16)
16. Seismic requirements for Battery Charger No. 32 have been eliminated. This matter is unresolved. (Details, Paragraph 17)
17. Stainless steel flanges in the CVCS are bolted with carbon steel bolts. This matter is unresolved. (Details, Paragraph 20)
18. Record review and visual inspection of welds in the CVCS system reveal no deficiencies. (Details, Paragraph 26)

B. Status of Previously Reported Unresolved Items

1. Reports of tests on safeguards cable performed at the site by Hypotronics have not been reviewed by the Architect-Engineer. This matter remains unresolved. (Details, Paragraph 21)
2. The adjustment of the limit switches on Copes-Vulcan valves has not been made. This matter remains unresolved. (Details, Paragraph 22)
3. The UT of the RC Pump flywheels has been performed though no formal report has been received. This matter is unresolved. (Details, Paragraph 23)
4. The licensee has requested the NSSS to review QCRs for unresolved matters. This item remains open. (Details, Paragraph 24)
5. The constructor has prepared a Nonconformance Report covering certain dimensional discrepancies in the Control Rod Drive mechanisms. This item is resolved. (Details, Paragraph 25)

Management Interview

Con Ed

- K. Ludwig, Project Manager
- B. Garrow, Construction Inspector
- D. Hartsfield, Superintendent
- J. Deane, QA Superintendent, Site

WEDCO

M. L. Snow, Reliability Manager
C. W. Hughes, QC Manager
J. Campbell, QA Manager

Items discussed are summarized below:

- A. The inspector stated that he had observed a carbon steel wire rope as well as carbon steel wires in close contact with stainless steel pipes. This is contrary to WEGR 0-21 and is a violation of 10 CFR 50, Appendix B, Criterion V. (Details, Paragraph 3)
- B. The inspector stated that he had examined the constructor's procedure entitled "Equipment Storage and Maintenance Criteria for Class 1 Equipment" and noted no deficiencies. This matter is resolved. (Details, Paragraph 4)
- C. The inspector stated that he had examined the documentation of the constructor's investigation which indicated that welds in the CVCS, for which the interpass temperatures were recorded as exceeding the maximum indicated in the procedure, are indeed acceptable. He noted no deficiencies. This matter is resolved. (Details, Paragraph 5)
- D. The inspector stated that he had examined the Constructor's letter to the electrical subcontractor and memorandum to his own employees relative to drawing control, and had noted no deficiencies. This matter is resolved. (Details, Paragraph 6)
- E. The inspector stated that he had examined the QA/QC documentation for a spool piece and certain welds on that portion of the Waste Disposal System (WD) which is part of the reactor pressure boundary and noted no deficiencies. (Details, Paragraph 7)
- F. The inspector stated that he had been informed that no QCRs were available at the site for certain valves in the WD system nor had quality control been monitored for these valves by U. S. Testing. The inspector asked whether or not the licensee would undertake auditing quality documentation for these items. The licensee stated that he would take this matter under consideration. This item is unresolved. (Details, Paragraph 8)
- G. The inspector stated that he had asked to examine QC documentation for the fabrication of pipe hangers and had been informed that it was difficult to associate records with hanger numbers. The licensee

stated that this was correct and that he was devising a cross referencing scheme which would facilitate this association. This matter is unresolved. (Details, Paragraph 9)

- H. The inspector stated that he had examined a weld in the jacket water cooling system of Diesel Engine No. 31 which appeared to have a deep gouge. The licensee stated that the weld referred to had not been inspected but that there were several welds in engine cooling water systems which appeared defective and which would be repaired. This matter is unresolved. (Details, Paragraph 10)
- I. The inspector stated that a letter attesting to the compliance with IPCEA testing requirements of certain safeguards cable failed to include "aging." The licensee stated that he would verify and document compliance with "aging" requirements. This matter is unresolved. (Details, Paragraph 11)
- J. The inspector stated that certification of tests on safeguards cable manufactured by Lewis Engineering was unavailable. The licensee agreed that this was correct. This matter is unresolved. (Details, Paragraph 12)
- K. The inspector stated that he had examined the QA/QC documentation of certain portions of the SIS and had noted no deficiencies. (Details, Paragraph 13)
- L. The inspector stated that he had examined the QA/QC documentation of certain portions of the Channel 1 Emergency Power Source. Matters requiring resolution are indicated in Paragraphs M-Q, inclusive. (Details, Paragraph 14)
- M. The inspector stated that Instrument Bus No. 32 was not listed as vital. The licensee stated that he would evaluate this matter. This item is unresolved. (Details, Paragraph 18)
- N. The inspector stated that he had noted that the certification and approval of the certification for certain safeguards cable was unavailable. The licensee stated that he would attempt to obtain the required documentation. This item is unresolved. (Details, Paragraph 15)
- O. The inspector stated there was no evidence at the site that the A-E had approved the seismic data for Diesel Generator No. 32. The licensee stated that he would attempt to clarify this matter. This item is unresolved. (Details, Paragraph 19)

- P. The inspector stated that the QCRs for a 480 V bus, a 480 V Motor Control Center, and a battery charger are unavailable. The licensee stated that he would attempt to obtain these documents. This matter is unresolved. (Details, Paragraph 16)
- Q. The inspector stated that seismic requirements for Battery Charger No. 32 had been eliminated and that the reason for this was unclear. The licensee stated that he would clarify this matter. This item is unresolved. (Details, Paragraph 17)
- R. The inspector stated that he had noted that stainless steel flanges in the CVCS are bolted with carbon steel bolts. The licensee stated that he would evaluate this application of materials and inform the inspector of his conclusions at a subsequent inspection. This matter is unresolved. (Details, Paragraph 20)
- S. The inspector stated that he had requested the documentation of tests performed at the site of safeguards cable by Hypotronics and had been informed that it was unavailable. The licensee stated that the A-E was reviewing this material. This matter is unresolved. (Details, Paragraph 21)
- T. The inspector stated that adjustment of the limit switches on Copes-Vulcan valves had not been accomplished. The licensee stated that this was correct. (Details, Paragraph 22)
- U. The inspector stated that though the UT of the RC Pump flywheels had been performed, no formal report had been received. The licensee stated that this was correct. This matter is unresolved. (Details, Paragraph 23)
- V. The inspector stated that the licensee had requested the NSSS to review QCRs for unresolved items. The licensee stated that this was correct. This matter is unresolved. (Details, Paragraph 24)
- W. The inspector stated that the constructor had prepared an NCR covering certain dimensional discrepancies in the Control Rod Drive Mechanisms (CRDM). This item is resolved. (Details, Paragraph 25)

DETAILS

1. Persons Contacted

Con Ed

K. Ludwig, Project Manager
J. P. Deane, Supervisor, QA
D. L. Hartsfield, Superintendent, Construction
W. Geider, Chief Construction Inspector
B. Garrow, Construction

WEDCO

M. L. Snow, Reliability Manager
J. B. Campbell, QA Manager
C. W. Hughes, QC Manager
J. Smart, QA, Electrical

2. Status of Construction

The construction is reported to be 82% complete.

3. Carbon Steel Wire in Contact with Stainless Steel Pipe

At elevation 46, in the electrical penetration area, the inspector observed carbon steel wire used to temporarily attach a wooden work platform to a stainless steel pipe. In addition, a carbon steel wire rope was in contact with stainless steel pipe. This is contrary to the requirements of WEGR 0-21, Paragraph 4.1.5 and a violation of 10 CFR 50, Appendix B, Criterion V.

4. Equipment Storage of Class 1 Equipment

The inspector examined procedure WEGR 0-21 entitled "Equipment Storage and Maintenance Criteria for Class 1 Equipment." Issue date was September 10, 1973. There was no apparent deficiency.

5. Interpass Temperature on CVCS Welds

The inspector examined WEDCO's Audit Report 3-104 dated October 5, 1973. The QC inspector, who had entered on inspection forms a maximum interpass temperature greater than the maximum specified was interrogated as to procedure requirements. His knowledge of these

requirements was ascertained. An audit of his record included a sample of 84 welds which indicated no errors. The conclusion reached was that the incorrect entries were recording errors rather than welding or inspection errors. This matter is resolved.

6. Drawing Control

The inspector examined a WEDCO letter EC-2397, dated September 10, 1973, to Fischbach and Moore, the electrical subcontractor, which directed the subcontractor to insert revised drawings on stick files immediately upon receipt. The subcontractor was directed to audit these files monthly. WEDCO directed its own QC inspectors to use only drawings from QC files.

7. Spool Pieces and Welds in Waste Disposal System

The inspector visually examined and reviewed the QC documentation for welds WD-254, -255, -256, -257, -258.

In addition, he examined the QA/QC documentation for spool piece WD-82-01 including material certifications and NDT data. He noted no deficiencies.

8. Valves in the Waste Disposal System

The inspector asked to see the QA/QC documentation for valves in that portion of the Waste Disposal System which is a portion of the Reactor Coolant Boundary designated WD 505 A and WD 505 B. There was no quality documentation available aside from a material receiving report. This conforms with the commitments contained in the licensee letter to the AEC dated March 22, 1971.

9. Availability of QA/QC Documentation on Pipe Hangers

The inspector sought the QA/QC documentation for the following pipe hangers:

CH-H-17B-4-V
CH-R-17B-16A-H
CH-H&R-17B-10-H
MS-R-1027-7-H
MS-H-1026-1-V
HMS-4
HMS-18

WEDCO informed him that documentation currently could not conveniently be located by hanger number. A cross-referencing system to facilitate such association was being installed.

10. Welds in Diesel Cooling Water Systems

The inspector visually inspected the weld on valve SWN-63 in the cooling water system of Diesel Generator No. 31. This weld appeared defective. The licensee stated that it had not been inspected. In addition, the licensee stated that several other welds in the cooling systems of the Diesel Generators appeared defective and would be evaluated.

11. "Aging" Test for Safeguards Cables

The inspector examined the Revere letter dated November 2, 1973 which certified that cable procured under Purchase Order 9321-05-113-9 had been tested in accordance with the requirements of IPCEA S-61-402. An enumeration of the properties tested in the above letter included all the requirements of the standard with the exception of aging.

12. Cable Tests by Lewis Engineering

The inspector examined correspondence relating to cable purchased from Lewis Engineering under Purchase Orders 9321-05-113-6 and -9 covering more than 500,000 ft of 4/c and 2/c safeguards cable. This material indicated that no material certifications were available. In addition, United Engineers had recommended acceptance of the cable on the basis of a letter transmitted by Lewis from a former employee attesting that the material had conformed to test requirements. The licensee has not accepted this recommendation.

13. QA/QC Documentation of SIS System

The inspector examined QA/QC documentation for the following welds, spool pieces and valves in the Safety Injection System Line No. 358:

<u>Welds</u>	<u>Valves</u>	<u>Spool Piece</u>
SI 1369	SI 899A	SI-358-01
SI 1370	SI 838C	
SI 1077		

For the valves, he examined QCR 14218; for the spool piece, QCR 2137. Weld inspection reports were also examined. No apparent deficiencies were identified.

14. Quality Documentation of an Emergency Power Source

An audit was conducted by the inspector of documentation associated with the Channel 1, (red), Emergency Power System. Equipment selected for audit was as follows: Diesel Generator No. 32, 480 V Bus 6A, MCC No. 37, Battery Charger No. 32, d-c Panel No. 32, Inverter No. 2, Instrument Bus No. 32, and Battery No. 32. Documentation for the interconnecting cable and trays associated with the cable were also audited.

Documents examined were as follows:

For selected cables:

- a. Pull slips
- b. Pull checklists
- c. Megger slips
- d. Termination slips
- e. Termination checklists
- f. Tray installation slips
- g. Vendor Cable Certification with engineering approval
- h. Engineering approval of cable certifications

For selected equipment:

- a. Procurement specifications
- b. Receiving reports
- c. Quality Control Releases (QCR)
- d. Test data with engineering approval
- e. Vendor inspection reports
- f. Seismic test reports or calculations with engineering approval

The deficiencies disclosed by the audit are noted in Paragraphs 15-19.

15. Lack of Engineering Approval for Cable Certifications

During the audit of cable documentation, it was noted that of the seven cables audited three were missing engineering approval of the certifications. Approval letters had been requested by the licensee when these omissions were discovered. The cables involved were as follows:

<u>Cable No.</u>	<u>Type</u>	<u>Reel No.</u>
PC2-PC4	DA00	6036
GD2-PE9	DA04	6069
GD2-PC2	DA02	5398

The inspector stated that this data would be reviewed at a future inspection.

16. QCRs Unavailable at the Site

The licensee stated that he was committed to supply a quality control release, a purchase order and specification at the site for all equipment delivered to the site after July 1970. Records at the site for equipment delivered before this date would not always be available nor would be required. The licensee's letter to the AEC containing this commitment was shown to the inspector. QCRs for the following items were unavailable:

Battery Charger No. 32
MCC No. 37
480 Volt Bus No. 6A

It was not clear whether or not the above commitment was applicable to the items listed. The licensee stated that he would attempt to obtain the QCRs.

17. Deletion of Seismic Requirement for the Battery Charger

The inspector noted that an amendment to the purchase order for the battery charger deleted the requirement for seismic shock capability. The justification for this deletion was unknown to the licensee's representative.

18. Classification of Instrument Busses as Non-Vital

While selecting equipment for documentation audit, the inspector noted that while Inverter No. 2 was considered vital the Instrument Bus No. 32 and cable connecting it to the inverter were not and that there were no QC documents for these items.

19. Lack of Engineering Approval of Seismic Data for Diesel Generators

The inspector noted a letter from the vendor in the diesel generator data package attesting to the seismic shock resistance of the unit. The letter had been forwarded without comment or approval by the engineer. The applicability of seismic criteria to this equipment is unclear.

20. Carbon Steel Bolts in CVCS

The inspector observed stainless steel flanges on the CVCS bolted with carbon steel bolts. The licensee stated his engineering department had approved this application. The inspector requested that this matter be re-evaluated.

21. Cable Test Data from Hypotronics

Some 120 reels of safeguards cable to be used within the containment procured from Revere under Purchase Order PO-9321-05-113-9 have been tested at the site by Hypotronics. Data remains to be reviewed and approved by the A-E.

22. Limit Switches on Copes-Vulcan Valves

Limit switches on Copes-Vulcan valves are to be readjusted in accordance with an approved WEDCO procedure to avoid damage experienced at another site. This work has not yet been accomplished. This matter continues unresolved.

23. UT of Reactor Pump Flywheels

The UT of the flywheels was performed under Field Job Order FJO 1621. An informal report dated September 27, 1973 indicated that an indication of recordable size noted in bottom plate (of Loop 3 flywheel) at 1000 repetitions could not be found after recalibration at 250 repetitions. This matter will be reviewed when a formal report is available.

24. Unresolved Items in NSSS QCRs

In a previous report* the inspector noted an unresolved item in an NSSS QCR. The inspector examined a licensee letter to WEDCO, IPR-4950 dated September 26, 1973 which required a review by the NSSS of open items on QCRs. This matter continues unresolved.

25. Dimensional Discrepancy in CRDMs

The inspector examined NCR 3-323 which related to the discrepancies reported in Report No. 50-286/73-09. The licensee stated that NCRs would continue to be the vehicle for resolving such discrepancies.

* RO-286/73-09, Details, Paragraph 16.

26. Welds in CVCS System

The inspector examined QA/QC records and made visual inspection of the following welds:

CH-3962
-3964
-3965

He noted no deficiencies.