

UNITED STATES NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report of Construction Inspection

IE Inspection Report No. 50-346/77-15

Licensee: Toledo Edison Company
Edison Plaza
300 Madison Avenue
Toledo, OH 43652

Davis-Besse Nuclear Power Station
Oak Harbor, OH

License No. CPPR-80
Category: B

Type of Licensee: PWR (B&W) 2772 MWe

Type of Inspection: Routine, Announced

Dates of Inspection: March 18 and 23-25, 1977

Principal Inspector:

C. C. Williams
C. C. Williams

6/24/77
(date)

Accompanying Inspectors:

K. R. Naidu for
K. R. Naidu

6/29/77
(date)

F. J. Jablonski for
F. J. Jablonski

6/29/77
(date)

Other Accompanying Personnel: None

Reviewed By: *D. W. Hayes*
D. W. Hayes, Chief
Projects Section

7/1/77
(date)

8002040626

SUMMARY OF FINDINGS

Inspection Summary

Inspection on March 18, 23, 24 and 25, 1977, (Unit 1, 77-15): Review of resolution of previously identified unresolved matters, construction deficiencies reported pursuant to 10 CFR 50.55(c) and action relative to IE Bulletins and Circulars. Review of status of construction punch list items, observation and examination of work in various areas of the plant.

Enforcement Action

None identified.

Licensee Action on Previously Identified Enforcement Items

N/A.

Licensee Action on Previously Identified Deviations

- A. Electrical Fire Barriers (IE Inspection Reports No. 050-346/76-02, No. 050-346/76-18, No. 050-346/76-18, No. 050-346/76-25, and No. 050-346/77-08)

Matters relative to vertical panels and control panels are closed. Since a thorough installation program is in effect matters relative to cable tray and wireways are closed, even though all work has not been completed. Matters relative to conduit remain open. (Paragraph 1.a., Section II, Report Details)

- B. Design Controls - Cable Derating (IE Inspection Reports No. 050-346/76-25 and No. 050-346/77-08)

Corrective action, as outlined in the Toledo Edison Company (TECo) letter of March 9, 1977, in response to RIII's letter of February 3, 1977, was determined to be implemented adequately. This matter is closed. (Paragraph 1.b., Section II, Report Details)

Other Significant Items

- A. Systems and Components

1. 10 CFR 50.55(e) Reports (Review of Corrective Action)

- a. Diesel Generator Sequencer - Anti-Pump

Could not resolve. Resolution pending closeout of TECo non-conformance report (NCR) No. 249-76, i.e., all work performed

performed and testing completed. Reference TECo letter to NRC dated January 21, 1977.

b. Diesel Generator Sequencer - SFAS

Could not resolve. Resolution pending closeout of TECo NCR No. 77-77, i.e., all work performed and testing completed. Reference TECo letter to NRC dated March 23, 1977.

c. Westinghouse Motor Control Centers - 400 Amp Stabs

Could not resolve. Resolution pending TECo issuance of 30-day report to NRC and RIII's review of corrective action. Reference TECo NCR No. 104-77.

d. Veland Containment Isolation Valves

Certifications on the yoke material and replacement stems used on the Veland supplied valves and operators are considered incomplete. This matter is open.

e. High Pressure Injection Pumps

Certifications on the components used for the High Pressure Injection Pump Bearing Forced Lube Oil System are considered incomplete. This matter is open.

2. IE Circular 76-02

Westinghouse BF and BFD relays - Action taken relative to TECo letter to NRC dated March 24, 1977, was verified to have been implemented. This matter is resolved.

3. Unresolved Item - Fire Barrier Tests

Fire stop fire resistance tests did not appear to be truly representative of the as built installations or to demonstrate acceptability under the most adverse design conditions. (Paragraph 2, Section II, Report Details)

4. Unresolved Item - Motor Operators

Documents are required to certify that the motor-operators of the motor-operated dampers installed in safety related heating ventilation and air conditioning systems have been seismically qualified. (Paragraph 4, Section III, Report Details)

5. Unresolved - Valve Seismic Qualifications

Documents to adequately demonstrate conformance to seismic qualification requirements were incomplete. (See Paragraph 2, Section I, Report Details)

B. Facility Items

None.

C. Managerial Items

None.

D. Deviations

None.

E. Status of Previously Reported Unresolved Items

1. Reactor Protection and Safeguards System Cabinets (IE Inspection Reports No. 050-346/75-23, No. 050-346/75-24, No. 050-346/76-02, No. 050-346/76-13, No. 050-346/76-18, No. 050-346/76-25, and No. 050-346/77-08)

This item remains unresolved pending TECo's submittal of test criteria to NRR and approval of the criteria by NRR. Reference NRR-TECo meeting on March 17, 1977, Bethesda, Maryland, and item 7.2 of supplement No. 2 of the Safety Evaluation Report. Item 7.2 also includes the concern of common reactor coolant flow transmitter sensing lines.

2. Failure to Establish Control Systems (IE Inspection Reports No. 050-346/76-18 and No. 050-346/76-25)

A system to identify, document and inspect rework performed in accordance with resolutions provided for the Engineering Inspection Reports is now available for the mechanical piping contractor ITT Grinnell. This matter is considered resolved.

Management Interview

- A. The following principal persons among others attended the management interview at the conclusion of the inspection.

Toledo Edison Company

L. E. Roe, Vice President, Facilities Development
J. D. Lenardson, QA Manager
E. C. Novak, General Superintendent, Power Engineering and Construction
R. E. Blanchong, Construction Manager

Bechtel Corporation

C. L. Houston, Construction Manager
R. Rosenthal, Project Manager
P. P. Anas, Project Engineer
W. C. Lowery Quality Assurance Engineer
J. D. Heaton, Quality Control Engineer

B. Matters discussed during the interview were as follows:

1. The inspector stated that the status of completion of large and small piping hangars indicates that these items will have a significant impact on the fuel load critical path. He further indicated that RIII inspectors plan to perform a detailed inspection of a significant sample of these items.

The licensee acknowledged these remarks.

2. The inspector stated that the seismic calculations available for decay heat system valves #DH 11 and DH 12 was found to be incomplete.

The licensee acknowledged this remark and stated that corrective action has been initiated. (Paragraph 2, Section 1, Report Details)

3. The inspector recounted his understanding of the status of the reactor vessel internals repair activity and indicated that this entire matter would be documented in a separate report at the conclusion of these repairs.

The licensee acknowledged these remarks.

4. A short presentation was given by the RIII inspector relative to fire stop fire resistance tests to express concerns that the fire and hose stream tests performed did not appear to be truly representative of actual installations at Davis-Besse. A licensee representative stated that, except for the data provided to the RIII inspector, no other information was available to further demonstrate that the test data and installations

were compatible. The RIII inspector stated that this matter was unresolved.

5. The inspector stated he understood that silicone rubber fire barrier installations were reported to be 95% completed in the cable spreading room ceiling (control room floor). Only a minimum number of wall penetrations have been completed. Very few rooms in the entire plant have all penetrations completed.

The licensee acknowledged these remarks.

6. The inspector stated that the corrective action taken on items identified during a previous inspection were reviewed and determined to be satisfactorily closed. (Paragraphs 1 and 2, Section III, Report Details)
7. The inspector stated that during the review of Lumm-Irsay activities, he determined that the welding reinspections were progressing satisfactorily. One unresolved item was identified relative to seismic qualifications of motor operators. (Paragraphs 3, 4 and 5, Section III, Report Details)
8. The inspector stated he reviewed the status of EIRs 5000 series and 8000 series and determined that several EIRs remain open. (Paragraphs 6 and 7, Section III, Report Details)
9. The inspector stated that the documentation relative to Velan valves and field modification of High Pressure Injection Pump bearing oil pump continues to remain incomplete. (Paragraph 8, Section III, Report Details)
10. Other items discussed included:
 - a. Status of corrective action relative to 10 CFR 50.55(e) reports, IE Circulars and unresolved items.
 - b. Status of NRR concerns. (Paragraph 5, Section II, Report Details)

REPORT DETAILS

Section I

Prepared by C. C. Williams *C.C. Williams*
Reviewed by D. W. Hayes *6/24/77*

Persons Contacted

The following persons in addition to those principals listed in the Management Interview section of this report were contacted during this inspection.

Toledo Edison Company (TECo)

J. R. Baughman, QC Inspector

Bechtel Site

R. F. Kies, Mechanical Engineer

Inspection Results

1. Large and Small Piping Hangers and Anchors

The inspector examined the documentation system implemented for the control of piping hangers and anchors for large and small piping. This work involves three (3) site contractors (ITT Grinnel, Bechtel and Babcox-Wilcox). No deficiencies were identified relative to the documentation controls. A significant portion of the documentation and necessary rework remains to be finalized.

The following is the current assessment of work remaining:

Large Pipe Hangers and Anchors

ITT Grinnell

Hangers: Total - 1970
Complete - 1529
Not finalized - 431
To be installed - 33

Babcox & Wilcox Company

Hangers: Total - 120
All completed

ITT Grinnel

Fuel Load Anchors: Total - 259
20 QC accepted
58 not QC accepted

Small Pipe Hangers and Anchors

Within the "Fuel load" systems there are a total of 194 FSK drawings averaging about 6 hangars each. 123 FSK drawings have been completed. The licensee has indicated that the following piping systems will be complete prior to fuel load:

Decay heat removal
Spent fuel cooling
Component cooling water

A sample of twenty hangars and anchors were selected from the Decay Heat, Component Cooling Water and spent fuel removal system for detail review and examination by the NRC inspector. These 20 items were in various states of completion.

A number of minor discrepancies were noted during this inspection. However, the status of completion of the work was such that these items would have been identified and corrected by the normal process of completing the work.

2. Valve Seismic Qualifications - Unresolved Matter

Review of the seismic documentation for valves No. DH 12 and DH 11 in line CCA4, within the Decay Heat system showed that the seismic model did not consider the as-built orientation of these valves. The model showed the valves to be installed with the valve stem normal to the longitudinal axis of the pipe, whereas the valves are actually installed at 45 degrees to this axis. During the course of the inspection the licensee produced interim calculations (Teletyne Engineering Services letter dated March 25, 1977) to demonstrate that this condition had been previously considered, and is inconsequential. However, a conforming math model is to be produced and made available at the site. This matter will be reviewed during a subsequent inspection.

3. Status of Core Support Assembly (CSA) Repairs March 23, 1977

a. Galled Keys, Keyways and Outlet Nozzles

The outlet nozzles, keys and keyways that were galled and gouged during removal of the CSA have been repaired and are satisfactory.

b. Lug Chamfer

The 15° x 1/2" chamfer on the bottom of the vessel, which were omitted during shop fabrication, were completed and are satisfactory.

c. High Pressure Injection Nozzle Sleeves

During examination after hot functional testing, one nozzle sleeve was found to be loose. All nozzle sleeves were reinspected and rolled. These repairs are satisfactory.

d. Alignment and Repairs to Guide Blocks

Eight guide blocks on the right side have been rebored, the proper clearance set and installed on the CSA. Other work involving these repairs is in progress. Repair to the CSA Guide Blocks is being performed in accordance with field change package No. 111 and procedure No. 332. Rev. 1 through 7 QC and QA surveillance of activities by the licensee, conforms to NRC and code requirements.

The full details of this repair activity is to be reported under a separate NRC document when this entire effort is complete.

4. Component Cooling Water Pump Bearings

The licensee concluded that this item is not a 50.55(e) reportable matter on March 11, 1977. The inspector re-reviewed the documentation associated with this repair and discussed the circumstances with the licensee's representatives. The inspector concurs with licensee's representatives. The inspector concurs with their assessment and this matter is considered resolved.

5. Rework Small Class 1, 2 and 3 Valves

During this inspection the licensee reported that a number of Class 1, 2 and 3 small valves are in the process of being reworked. There are about 13 Class 1 valves in this group and approximately 50 Class 2 and 3 valves. This rework and associated documentation will be reviewed during subsequent NRC inspections.

REPORT DETAILS

Section II

Prepared By: F. J. Jablonski

6/29/77
(Date)

Reviewed By: R. F. Heishman

(Date)

Persons Contacted

The following persons in addition to those listed in the Management Interview section of this report, were contacted during this inspection.

Bechtel Corporation (Bechtel)

R. E. Glass, Lead Electrical Field Engineer
T. Horst, Lead Civil Field Engineer

Brand Industrial Services, Inc. (BISCO)

N. H. Miller, Quality Assurance Manager
W. Zmed, Quality Control Inspector

Inspection Results

1. Enforcement Status (Deviations)

- a. Fire Barriers - As stated in Paragraph 6.d, Section III, Report Details of IE Inspection Report No. 050-346/76-25, and reported subsequently in Paragraph 1.d, Section II of IE Inspection Report No. 050-346/77-08, this subject, concerns Items 6 and 15 of the minutes of NRR's October 6-8, 1976 visit. Item 6 concerns separation between redundant Class 1E and non Class 1E circuits within enclosures and item 15 concerns separation criteria for cable tray, wireway and metal conduit. In order to complete verification of Item 6, pages 8-22.a.(2) and 8-22.a.(3) of the Davis-Besse Unit 1 Final Safety Analysis Report (FSAR) were used as reference. The following list indicates status:

Enclosures

(1) Panels C5702 through C5720

- (a) All of the vertical panels had the cable runs in the base enveloped with silicone rubber foam up to a height level with the base of the panel.
- (b) All of the control consoles had the cable runs in the base of the consoles enveloped with silicone rubber foam up to the top of the cable tray in the base of the consoles.
- (c) All of the essential cable conduits in the base of cabinets and consoles had been sealed with silicone rubber foam.
- (d) All of the essential cable runs had been coated with silicone rubber foam up to eight inches above the base of panel. This eight inches provides the necessary fire stops for cable crossover between essential channels and between control panels.

(2) Panel C5716

- (a) A vertical barrier is installed to complete the sides of this panel and C5716 is isolated from C5715 and the void between C5716 and C5717.
- (b) All joints in barriers and voids around cables penetrating the center barriers are sealed with silicone rubber.

(3) Panels C5715 through C5718

Smoke detectors are installed to maintain fire detection now that these panels are completely isolated.

Based on the above, Item 6 of NRR's visit is considered closed.

Cable Trays and Wireways

- (1) Risers to the control room floor blockouts from the cable spreading room were covered with solid metal covers.

- (2) Wireways containing intercommunicating cables of the reactor protection system (RPS) and/or safety features actuation system (SFAS) were covered by metallic covers and filled with silicone foam materials.
- (3) Cable trays were covered wherever separation criteria had been compromised.
- (4) Cable trays which were not covered by solid metallic covers were covered by a minimum one inch thick thermal blanket.
- (5) Exposed cables at riser/tray interfaces were covered by thermal blankets.
- (6) The items above, (1) through (5), were observed in the cable spreading room. Installations were virtually completed and in compliance with figures 8-18A, 8-18B, and 8-18C of the Final Safety Analysis Report (FSAR). Installation of thermal blanket materials was not observed in areas other than the cable spreading room, however, an adequate system was noted to be in effect.

Except for observation outside of the spreading room, this matter, i.e., NRR Item No. 15 relative to Cable Trays and Wireways, is considered closed.

Conduit

- (1) Fishbach and Moore (F&M) had identified 2,495 cases of conduit installations which had separations less than one inch. Identification was made in accordance with F&M procedure IIP-7749-E14-7a.002. Findings were recorded on log sheets. The logs were submitted to Bechtel, Gaithersburg Power Division (GPD) for analysis.
- (2) GPD performed an analysis in accordance with TECo letter Serial No. 205, dated January 31, 1977. Of the 2,495 cases identified, 2,458 were determined to be acceptable as found. Thirty-seven required separation.
- (3) Separation included, in 19 cases, loosening of clamps and movement of the conduit. Eighteen cases required further detail for purposes of analysis. This information was recorded on F&M nonconformance reports (NCR's) B390, B409, B410, and B411.

- (4) NCR B390 had been dispositioned and work begun. NCR's B409, B410, and B411 had not been dispositioned, however, the RIII inspector was informed that all rework relative to NCR B390 had been stopped on March 21, 1977. GPD had informed the Bechtel Lead Electrical Field Engineer that further analysis may indicate that all of the conduits would be accepted "as is."
- (5) Separation criteria for conduit, based upon TECO's test and analysis program, is delineated in TECO's letter Serial No. 205 to NRR, dated January 31, 1977. (Item (2) above). Neither the test program results nor separation criteria had been accepted by NRR. This concern is identified as Item 7.9.2 of the Davis-Besse, Unit 1 Safety Evaluation Report Supplement No. 2.

It appeared to the RIII inspector that if the criteria and test data were accepted by NRR, the conduit separation problem will no longer exist. (See Item (4) above).

This matter, i.e., NRR Item No. 15 relative to Conduit remains open.

b. Design Controls - Cable Derating

The RIII inspector reviewed Bechtel letter No. 6967, Bechtel Interoffice Memorandum No. 9900; Bechtel drawing change notices (DCN) No. 2741 and 2775; and construction work permit (CWP) No. 60E33. The four power cables which exceeded ampacity ratings had been removed. New cables had been pulled, terminated and tested in accordance with approved procedures. This matter is closed.

2. Unresolved Item - Fire Barrier Tests

In preparation for inspection closeout of silicone rubber fire barrier installations, the RIII inspector performed a detailed review of: Bechtel Specification No. 7749-M-255; Factory Mutual Research (FMR) test report Serial No. 24963 (4510); and Brand Industrial Services, Inc. (BISCO) test report project No. 4835-02-1. Specification 7749-M-255, above, requires that materials used as fire stops must withstand a three hour fire test and hose stream test in accordance with ASTM-E-119-73. The FMR test was a fire stop resistant test and the BISCO test was a hose stream test.

The following apparent discrepancies were noted.

- a. No floor test (fire) of a penetration was performed.
- b. Wall test penetrations were filled with silicone foam with the penetration held vertical, not as done in the field.
- c. Test specimens were not truly representative of actual construction in either cable configuration or tray installation in the wall openings.
- d. Test penetrations were faced with a fire resistant damming material which is not in use at Davis-Besse.
- e. Flexible ceramic fibers which are in use in certain installations at Davis-Besse were not tested.
- f. The hose stream test did not fully comply with ASTM E-119-73 requirements since the tested cable tray installation was not truly representative of the actual construction either in cable configuration or tray installation.

It is the licensee's position that based upon NELPIA's acceptance of the silicone foam penetration seal materials no further action is required. It is RIII's concern that neither the Fire Stop Resistance Test nor Hose Stream Test appeared to be "truly representative of the construction for which classification (was) desired" (quoted from ASTM E-119-73) or, since these were "prototype tests", "under the most adverse design conditions" (quoted from 10 CFR 50, Appendix B, Criterion III).

This matter has been forwarded to headquarters for consideration and resolution.

3. Licensing Concerns (Status)

Meeting Minutes of NRR Site Visit, October 6-8, 1976

- a. Item No. 16 - Drawing No. P&ID M012, Revision 17, and system Revision Notice No. 203J, documents changes that were made in order to provide redundant level instrumentation for the service water intake canal. The drawing, above, indicated that the following instrumentation was provided for the three bays:

<u>Bay 1</u> <u>Annunciator</u>	<u>Bay 2</u> <u>Indication</u>	<u>Bay 3</u> <u>Computer</u>
1. LAL (Lev Al Lo)	Visual Indicator	1. LAL
2. LAH (Lev Al Hi)		2. LAH
3. LALL (Lev Al Lo/Lo)		3. LALL

The RIII inspector verified that all of the above instrumentation was installed including annunciation, indication and computer print out. The instruments had not, as yet, been calibrated, nor tested. Annunciator points and computer input/output (I/O) points had been provided. This matter is closed.

- b. The following information is provided to provide overall status of licensing concerns expressed in Nuclear Reactor Regulation's (NRR's) Summary of site visit, October 6-8, 1976. RIII was assigned responsibility for verification of implementation.
- (1) Item No. 3 - "Half-Trip Status" - Responsibility changed to RIII Operations Branch.
 - (2) Item No. 5 - "RPS-SFAS Noise" - See Item E, Other Significant Findings, this report. (OPEN)
 - (3) Item No. 6 - "Separation" - See Item 1.a, Enclosures, Report Details of this report. (CLOSED)
 - (4) Item No. 11 - "Barriers, Manhole 3001" - Reported in Paragraph 2.a, Section II of IE Inspection Report No. 050-346/77-08. (CLOSED)
 - (5) Item No. 12 - "Control Rod Breakers" - Reported in Paragraph 5.a, Section III of IE Inspection Report No. 050-346/76-25. (CLOSED)
 - (6) Item No. 14 - "Main Steam Isolation Valves" - Reported in Paragraph 2.b, Section II of IE Inspection Report No. 050-346/77-08. (CLOSED)
 - (7) Item No. 15 - "Separation" - See Item 1.a, Cable Trays and Wireways, and Conduit, of this section. Cable trays and wireways (CLOSED); Conduit (OPEN).
 - (8) Item No. 16 - "Intake Level" - See Item 3.a, of this Section. (CLOSED)

4. Other Observations - Cable Spreading Room

- a. In Section 8.3.1.2.20 of the Davis-Besse No. 1 FSAR, it is documented that there exists a 15 KVA dry type lighting transformer. In fact, the transformer was observed to be 30 KVA. No other energy sources were observed, i.e., rotating machinery, high energy or temperature piping, etc.
- b. Piping observed in the cable spreading room was reported on April 13, 1976, as Engineering Inspection Report (EIR) No. 5451. An analysis performed on December 24, 1976, indicated that in the event of failure, safety related components would be compromised.
- c. Status of penetration sealing, i.e., silicone rubber fire barriers, is reported in the Management Interview section of this report.

REPORT DETAILS

Section III

Prepared by K. R. Naidu
Reviewed by R. F. Heishman

Persons Contacted

The following persons, in addition to those listed in the Management Interview section of this report, were contacted during this inspection.

Bechtel Corporation (Bechtel)

Engineering Inspection Team, Gaithersburg Power Division (EIT)

J. R. DeVoge, Civil Engineer
R. E. McDonald, Supervisor, Civil Engineering

Bechtel Site

W. B. Daley, Welding QC Engineer
L. Jensen, Field Engineer

Lumm-Irsay (LI)

J. Robertson, QC Technician
D. M. Steindam, QC Technician

Results of Inspection

1. Repairs to Personnel Hatch Expansion Bellows

During a previous inspection (IE Inspection Report No. 050-346/77-04, paragraph 1.i.(5)) it was reported that field patches at three locations on the expansion bellows had separated. During the current inspection, the inspector reviewed NCR-745 (19 pages) documenting the nonconformance condition and covering the rework and reinspection relative to the patching of the bellows and determined that the documented Johns Manville (the manufacturer) repair procedures were followed to patch the bellows. The inspector visually examined the personnel hatch expansion bellows and determined that the repair was satisfactory.

2. Revision to Drawing C-173

During a previous inspection, an "Item to be Checked" was noted relative to revising drawing C-173 to reflect the as-built

condition of the work performed on NCR-8-170. (Refer to IE Inspection Report No. 050-346/77-04, paragraph 1.a.(4)). During the current inspection, the inspector determined that Revision 13 of drawing C-173 issued on March 22, 1977, was revised reflecting the asbuilt condition due to NCR-8-170.

3. Review of Lumm-Irsay Welding Reinspections

a. Review of Welding Reinspection Procedure

The inspector reviewed Lumm-Irsay procedures titled "Seismic Support Reinspection Procedure" dated February 14, 1977, and determined that the inspection requirements were adequately defined to conduct a reinspection of the seismic supports installed prior to December 1976. Lumm-Irsay was required to reinspect welds on safety related supports installed prior to December 1976 as a result of findings documented in IE Inspection Report No. 050-346/76-25.

b. Review of Reinspection Implementation

The inspector selectively inspected the weldments on the seismic supports for the following equipment (which were installed prior to December 1976) relative to the size, length, location and quality of the weld and noted that LI QC technicians adequately documented their findings:

- (1) Support arrangements for damper HV-5216A for Low Voltage Switchgear Room Ventilation System in room 428.
- (2) Support arrangements for dampers HV-5305A and HV-5305B in room 429.
- (3) Support arrangement for fan C-71-1 in room 429 (the drawing had to be updated to reflect weld attachments installed instead of originally designed bolting)
- (4) Support MK-410-01-C-31-F in room 515 (elevation 623') (two previously omitted angle braces have since been installed, inspected and determined satisfactory)
- (5) Accessible weldments on supports 451-11-2 and 451-11-3 for 18" x 36" control room return ductwork in room 501.
- (6) Supports for fan C-56-1, Containment Recirculation Fan, at elevation 653'.

c. Review of Documentation on Reinspection

The reinspection reports documented the following:

- (1) Hanger number.
- (2) Date of reinspection.
- (3) Intermittent weld symbol, Wear plate/Angle.
- (4) Structural weld symbol.
- (5) Weld size.
- (6) Weld length.
- (7) Weld location.
- (8) Weld type.
- (9) Welds clean and primed.
- (10) Location room number and system number.

The measured sizes and lengths of the welds have been recorded and are currently being evaluated by applying the stipulated tolerances. The RIII inspector will review the results of reinspection during a subsequent inspection.

d. Status of the Reinspection

The status of the LI reinspection is as follows:

Total number of hangers involved in the inspection:	264
Total number of inaccessible hangers:	85
Total number of hangers reinspected:	179
Total number of hangers acceptable:	21
Total number of hangers requiring asbuilts:	140
Total number of hangers requiring rework:	18

4. Review of QA Records on Motor Operated Dampers (MODs)

The inspector reviewed the QA records on MODs HV-5314A, HV-5017, HV-5018, HV-5025, HV-5029, HV-5261, HV-5262, HV-5305A, HV-5305B, HV-5056 and HV-5057. The records included the following documents:

- a. Receipt inspection reports.
- b. Calibration certification of Flowmeter serial No. 1, 2 and 3, Model TM-2, Series 3.
- c. Welding procedure for Metal Inert gas dated November 6, 1973.
- d. Weldor qualification records.
- e. Test reports - Reliance Electric Company - on motors used in Limitorque operator.

- f. Material Certifications from Pacific Air Products Company (PAPCo).
- g. Certified Test Reports for maximum air loss.
- h. Seismic analysis of the dampers prepared by Robert Lawson, Structural Engineer, California.

The inspector determined that the data package was incomplete since the seismic qualifications for the motor operators were not included therein. The licensee stated that the necessary certifications would be obtained.

This item is considered unresolved and the licensee was so informed. Corrective action taken will be reviewed during a subsequent inspection.

5. Review of Containment Isolation Valves QA Records

The inspector reviewed Redock package No. 649 which contained the following QA records on pneumatic operated Containment Isolation Valves No. HV-5005, 5006, 5007 and 5008 and determined that the records reflected the applicable requirements.

- a. Receipt Inspection Reports indicated no damage during transit.
- b. Certificates of conformance on welding material.
- c. Certifications on materials.
- d. Radiographic Test reports on welds.
- e. Charpy V notch impact test reports.
- f. Heat treatment records.
- g. Outside inspector's reports.
- h. NPV-1 Manufacturer's Data Report.
- i. Certification that elastomer in the rubber formulation and specification for Resiloseal "W" is ethylene-propylene-terpolymer.
- j. Letter from Bechtel GPD approving the seismic analysis.
- k. Performance test - hydrostatic and cycle time.

6. Review of Status of EIR Items (5000 Series)

The inspector reviewed the corrective action taken on items identified in the Engineering Inspection Reports and the current update of the status is as follows:

Total EIRs Open:	206
Number of EIRs requiring rework:	204
Number requiring work by conduit support team (CST):	1
Number awaiting reinspection:	1

Included above are resolutions to EIRs 5489, 5460, 5452, 5496, 5677 and 5514 which involve items inside the containment which were formerly reported incomplete.

7. Review of Status of EIR Items (8000 Series)

These Engineering Inspection Reports identified possible adverse environment caused to small safety related pipes and HVAC ducts. A total of 182 reports were prepared and to date 111 of them are resolved. Work is reported complete on 3 EIRs which involved work inside the containment. The engineering review is reported complete on all EIRs. The inspector selectively reviewed the records of closed EIRs and determined that the resolutions were acceptable. The following is the current status:

Total EIRs open:	71
Number of EIRs requiring rework:	70
EIRs requiring reinspection:	1

8. Status of Incomplete Documentation on Velan Valves and High Pressure Injection Pump Bearing Modification (10 CFR 50.55(e)) Reports

a. Velan Valves with Kieley Mueller Operators

As reported previously (IE Inspection Report No. 050-346/77-09) Quality Assurance documents available at Babcock & Wilcox (B&W) Lynchburg were reviewed and considered incomplete. The current status of this matter is that B&W will furnish the required documents by April 4, 1977, as indicated in B&W letter BWT/QA-13 dated March 22, 1977 to TECo.

b. High Pressure Injection Pump Bearing Modification

As reported previously (IE Inspection Report No. 050-346/77-09) the QA documentation on the components used for field modification of High Pressure Injection Pump (HPI) bearing forced lube oil system was incomplete. The licensee informed the inspector that he is awaiting documents from B&W Lynchburg. During the current inspection, the inspector verified that the A.C. and D.C. lubrication pump motors for the two HPI pump bearings were fed from essential buses. Drawing Change Notice 2782 dated March 9, 1977, indicated that DC lube oil pump motors 1 and 2 schemes were

changed from D136 and D236 to D106 and D206 and were supplied from essential channels 1 and 2. Drawing E52B Sh 63, Rev. 2 indicated that AC lube oil pump motors 1 and 2 were supplied from Channel 1 Motor Control Center (MCC) E12E compartment BE 1296, and Channel 2 MCC 412A, compartment BF 1231, respectively.