

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-445/84-26

Construction Permit: CPPR-126

Docket: 50-445

Category: A2

Licensee: Texas Utilities Electric Company
Skyway Tower
400 North Olive Street
Lock Box 81
Dallas, Texas 75201

Facility Name: Comanche Peak Steam Electric Station (CPSES), Unit 1

Inspection At: CPSES, Unit 1, Glen Rose, Texas

Inspection Conducted: July 16 - September 28, 1984

Inspectors: *D M Hunnicutt* 1/16/85
for C. R. Oberg, Reactor Inspector, RIV Task Force Date

M E Skow 1/16/85
M. E. Skow, Reactor Inspector, RIV Task Force Date

Other

Accompanying

Personnel: W. R. Bennett, Reactor Inspector, RIV

Approved: *D M Hunnicutt* 1/16/85
D. M. Hunnicutt, Team Leader, RIV Task Force Date

Inspection Summary

Inspection Conducted July 16-September 28, 1984 (Report 50-445/84-26)

Areas Inspected: Special inspection of construction inside Unit 1 Auxiliary and Safeguards Buildings of piping and pipe supports, safety-related equipment, electrical raceway and supports, as-built program, and instrumentation. Expanded inspection of the containment building included piping and pipe supports, electrical conduit and supports, and instrumentation. The inspection involved 726 inspector-hours onsite by three NRC inspectors.

Results: Within the areas inspected, two violations and one resolved item was identified. One violation was identified in the electrical area pertaining to flexible conduit separation (445/8426-01, paragraph 9) and one violation pertaining to QC inspection of pipe supports and cable tray hangers (445/8426-02, paragraph 11).

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DETAILS

1. Persons Contacted

Principal Licensee Employees (TUGCO)

- *L. F. Fikar, Executive Vice President Engineering
- *J. T. Merritt, Assistant Project General Manager
- *B. R. Clements, Vice President Nuclear Operations
- *F. L. Powers, Unit 1 Building Manager
- J. A. Dittmar, Assistant Building Manager
- *A. Vega, Site QA Supervisor
- L. M. Popplewell, Project Engineering Manager
- C. G. Creamer, I&C Engineer
- B. C. Scott, QA Supervisor
- *C. H. Welch, Site QA Manager's Staff

Brown & Root (B&R)

- S. Wagner, QC Inspector
- J. Reynolds, Building Coordinator
- W. Young, Building Coordinator
- R. B. Kelley, Instrument Superintendent
- J. B. Leutwyler, QC Supervisor
- J. Christansen, I&C Engineer
- D. Hanke, QC Inspector
- F. Coleman, QC Inspector
- J. W. Wythe, Lead I&C Engineer
- R. Siever, QA Group Supervisor

Other Contractor Contacts

- R. E. Camp, Startup Manager (Impell Corporation)
- R. J. Vandergrift, Startup (Westinghouse)
- C. D. Bradbury, Plant Operations (Impell Corporation)
- D. C. Snyder, Assistant Building Manager, (UE&C)
- R. Moehler, Site Representative (Westinghouse)

The NRC inspectors also contacted other plant personnel including members of the construction, technical, quality assurance, and administrative staffs.

*Denotes those attending the exit interview on September 28, 1984.

2. Inspection Objectives and Scope

The objective of this inspection was to evaluate the completion of the Auxiliary and Safeguards Buildings. This objective was accomplished by examining four safety-related systems contained within those buildings. Selected samples of instrumentation, piping, and components were examined to ensure that the installation conformed with the FSAR commitments, approved design, and inspection documents.

The following systems were selected for review:

- Auxiliary Feedwater System (AFWS)
- Containment Spray System (CSS)
- Component Cooling Water System (CCWS)
- Chemical and Volume Control System (CVCS)

The selection of these systems was based on their importance to safety of operations and being representative of the type of other safety-related systems installed in the Auxiliary and Safeguards Buildings.

Inspection of conduits, conduit supports, and cable trays was included. A selected number of cable tray supports were examined to gain additional information relative to the problem previously identified in the containment room inspection (see NRC Inspection Report 50-445/84-16).

The major components, piping, instrumentation, and electrical portions of the 4 systems were contained in 17 rooms of the 2 buildings, as follows:

<u>Room Number</u>	<u>Description</u>
54	Containment Spray Pump Room (train A)
58	Component Cooling Water Drain Tank Room
65	Valve Isolation Tank Room (train A)
67	South Valve Room (train A)
69	RHR and CSS Heat Exchanger Room (train A)
70	N-S Corridor
71	E-W Corridor
72	Motor Driven Aux. FW Pump Room (train A)
73	Motor Driven Aux. FW Pump Room (train B)
74	Turbine Driven FW Pump Room
80	Valve Room
175	Heat Exchanger Room
179	Corridor
200	Centrifugal Charging Pump Room (train A)
203	Valve Room
205	Component Cooling Water Pump Room (train A)
206	Boric Acid Tank Room

Detailed inspection data sheets were prepared for each of the systems involved. These data sheets are included as attachments to this report. While not every component in each system was inspected, the number of items selected and inspected has permitted a broad overview of each system. A more detailed discussion of the inspection scope is given below.

Auxiliary Feedwater System

The auxiliary feedwater system can supply high pressure feedwater to the steam generators following a loss of normal feedwater. The system is used in the event of a main steam line break, feedwater line break, steam generator tube rupture, and as an alternate to the main feedwater system during normal hot shutdown, cooldown, and startup operations. Two motor driven pumps and one turbine driven pump provide a supply of feedwater. Each pump is located in a separate room in the Safeguards Building. The system is classified as nuclear safety-related and is designed to Seismic Category I requirements.

The condensate storage tank provides the normal source of feedwater. An alternate source is the service water system. Feedwater is supplied to all four steam generators. The auxiliary feedwater pumps start automatically after receipt of a signal indicating a main steam line break, a feedwater line break, or a loss of main feedwater pressure.

Auxiliary Feedwater Pump Turbine Steam Supply

Upstream of the main steam isolation valves, of steam generators No. 1 and No. 4, a four inch line is provided for supplying steam to the turbine drive of the auxiliary feedwater pump. Each line has an air operated, fail open valve which will admit steam to the turbine upon demand.

For inspection purposes, the AFWS can be considered to be composed of several subsystems or areas.

- Water sources (Condensate Storage Tank)
- Pump suction piping
- AFW pumps (2 electrical, 1 turbine driven)
- Pump discharge piping
- Instrumentation and instrumentation tubing
- Electrical power sources
- Main steam piping to turbine driven pump
- Steam turbine exhaust piping
- Valves and valve operators
- Air supplies to valve operators
- Piping supports and restraints

This system was examined in greater detail than the other three systems in response to a commitment made to the CPSES Hearing Board by Region IV management. The inspection began at the water source and ended at the junction between AFWS and Main Feedwater System (MFWS). Portions of all the above areas in train B and the turbine driven pump were examined in order to gain a comprehensive picture of the entire system.

Containment Spray System (CSS)

The CSS has a dual function for removing heat and fission products from containment in a post-accident situation. It is designed as two independent, redundant trains. In addition to circulating spray water, the CSS provides, by a subsystem, the addition of sodium hydroxide into the spray water to maintain its effectiveness. A CSS train is principally composed of a motor driven spray pump, a heat exchanger (cooled by the CCW system) and associated piping and valves. Only that part of train B outside of containment was examined during this inspection.

Component Cooling Water System (CCWS)

The CCWS is an intermediate cooling loop between radioactive or potentially radioactive heat sources and the ultimate heat sink water (station service water system). The CCWS provides cooling water to essential plant auxiliary components including containment spray pump heat exchangers, RHR pump seal coolers, safety-related chilled water seal coolers, and system condensers as well as control room AC unit condensers.

The portion of train B contained within the safeguards and auxiliary building was examined during this inspection. This included the CCW surge tanks, associated piping and valves, CCW pump, CCW heat exchanger, the containment spray (CSS) heat exchanger, and associated instrumentation.

Chemical and Volume Control System (CVCS)

The CVCS is designed to control and maintain reactor coolant inventory and to control the boron concentration in the reactor coolant. Part of the CVCS is a boric acid makeup and injection system. The portion of that system included in this inspection included a boric acid tank, a boric acid transfer pump, associated piping and valves, instrumentation and one centrifugal charging pump. The boric acid makeup and transfer capability is important to the overall CVCS system function.

Table (1) lists the inspection sample size.

Table 1

Sample Size of Inspection Areas

<u>System</u>	<u>Components</u>	<u>(Estimated) Pipe (FT)</u>	<u>Supports/ Restrains</u>	<u># Instruments/ FT Tubing</u>
AFWS	9	650	78	14/406
CSS	3	300	16	—
CCWS	5	300	37	5/115
CVCS	3	250	47	—
RCS	—	—	—	8/213

Other:

Cable Trays - 34 (~ 225')
Cable Tray Supports - 35
Conduits - 27 (~ 725')
Conduit Supports - 156

3. Status of Auxiliary and Safeguards Buildings

a. Open Items

The Master Data System (see NRC Inspection Reports 50-445/83-23 and 50-445/84-10) is used to monitor the status of open items pertaining to the Auxiliary and Safeguards Buildings. From a data report dated September 20, 1984, approximately 850 items had been identified in the Auxiliary Building for completion. This number includes Unit 2 items as well, since Units 1 & 2 share portions of the Auxiliary Building. Approximately 250 items had been identified in the Safeguards Building.

Construction work and testing were being done in these buildings during the entire NRC inspection; however, little work was being done on the systems involved in the inspection.

The "punch lists" items have been prioritized with five indications. From most urgent to less important:

- "Do It" (Requires Immediate Action)
- SU Real (Startup Requirement)
- OP Need (Needed for Operations)
- Pre-Fuel (Must be done prior to fuel load)
- Post Fuel (Can be delayed until after fuel is loaded)

The vast majority of the items are indicated as "post-fuel," or after fuel loading.

b. Room Area Inspections

There are 157 rooms/areas (NOTE: The total of 157 includes stairs and corridors) in the safeguards and auxiliary buildings that were subject to this room inspection. In order to obtain a picture of the overall condition of these two buildings, the inspectors made an effort to enter and inspect as many rooms/areas as was practical. The inspectors did enter 126 of these rooms/areas, or 80%. It was observed that construction in all the rooms/areas was generally complete. The more detailed inspection of the selected systems (described in paragraph 2) provided a concentrated inspection of 17 rooms. A small number of rooms still had work being performed, but it appeared to be local corrective rework.

Many of the same attributes of inspection discussed in other parts of this report were inspected here. The inspectors checked seismic pipe and electrical supports for general workmanship and completion; instrument tubing was checked for loose fittings and conformance to installation criteria; other items that appeared out of the ordinary were noted. The specific items noted are listed in Attachment H.

Many items noted as deficiencies in other parts of this report resulted from detailed inspection to drawing. This inspection was a walkdown without drawings and was not intended to identify problems that would be found using drawings.

4. Auxiliary Feedwater System (AFWS)

a. General

Inspection of the AFWS included a major portion of the associated water, main steam, instrumentation, and electrical subsystems. Inspection attributes are contained in the appropriate inspection data sheets. Items inspected and the results obtained are given in the following paragraphs.

b. Component Inspection

Inspection of the following AFWS components was conducted:

- (1) Auxiliary Feedwater Pumps - Two Electric and one steam turbine driven pump are used in the AFWS. All three pumps were inspected. The installation, alignment records, procurement records, modifications, and applicable NCRs were examined. The major components in the auxiliary feedwater system were identified by physically comparing each of the major components to drawings, specifications and procurement documents. Train A is located in Room 72, train B is located in Room 73. The steam turbine and its integral pump are located in Room 74. Each room is separated by concrete walls, and each is secured from entry by a locked door.

Pump alignments, coupling alignments and modifications were documented on "travelers". All NCRs were satisfactorily closed. The NRC inspector found that the AFW pumps, motors, and steam turbine were procured, installed, aligned, tested and made operable within the requirements and manufacturer's recommendations.

No deviations or violations were identified during this portion of the inspection. Specific items and documents reviewed are identified in Attachment A.

- (2) Main Steam Valves - Selected valve installations were examined by the NRC inspectors. The AFWS turbine is supplied steam from two of the four steam generators. The valves listed below are on these two lines.

1-MS-101	Manual, gear operated gate valve
1-HV-2452-1	Air operated steam supply valve, loop 4
1-MS-144	Manual, gear operated gate valve
1-MS-128	Manual, gear operated gate valve
1-MS-137	Manual, gear operated gate valve

The inspection included observation of the installed valves for general workmanships, conformance to vendor manual and drawings, and documents in the valve data package, such as installation travelers (see data sheets).

The valves were found to be installed in accordance with travelers and manufacturer's installation instructions.

Some minor problems were identified during the inspection. These were discussed with the licensee. The discrepancies and the licensee's action is indicated in Table 2.

c. AFWS Piping and Pipe Supports

Eighteen Brown & Root Hanger Location (BRHL) drawings were selected for an expanded review of the AFWS. The BRHLs had 265 supports identified; 78 were inspected to the vendor certified drawings (VCDs) and other QC inspection records in the documentation package. The findings of the inspection are documented on the inspection data sheets. Minor problems identified during the inspection were discussed with the licensee. The nature of those problems and the action taken by the licensee is indicated in Table 3.

d. Instrumentation

The following 14 AFWS instrumentation runs were selected for inspection.

<u>Instrument No.</u>	<u>Field Sketch Instrument (FSI) Number</u>
1-FT-2458(LP & HP)	2206-04-1-58 (2 sheets)
1-PS-2470A	2206-06-1-70A
1-PS-2470B	2206-06-1-70B
1-PI-2469	2206-06-1-69
1-PI-2488	2206-07-1-88
1-PT-2455	2206-03-1-55
1-PI-2468	2206-06-1-68
1-PT-2477	2206-06-1-77
1-PI-2390	2202-05-1-90
1-PT-2476	2206-06-1-76
1-FT-2457(LP & HP)	2206-04-1-57 (2 sheets)
1-PT-2392	2202-05-1-92
1-PS-2454A	2206-03-1-54A (2 sheets)
1-PS-2454B	2206-03-1-54B (2 sheets)

Specific minor problems identified in these runs are listed in Table 4. Action taken by the licensee on these items is noted.

As a result of the extensive use made of instrumentation drawings, the NRC inspector identified a concern involving the isometric or FSI instrument drawing. These drawings are generated by a draftsman and I&C Engineer from an examination of the as-installed instrument runs. The instrument tubing runs are "field runs" fabricated and installed by B&R I&C craftsmen using installation criteria generated by G&H. These documents include:

2323-I-001 Seismic Tubing Support Package
2323-I-002 Criteria for Seismic Tubing Support
 Placement
FSI-00069 Seismic Tubing Support Span Lengths

Drawing Series 2323-M1-2103, 2507, 2104 and others for
instrument tabulations and instrument details.

The above items are controlled, design documents, issued through the DCC. However, the FSIs are not controlled design documents and no QA program procedural requirements have been generated for them.

The TUGCO I&C Engineer indicated that the FSIs were being produced as "Information Only" drawings for operation. However, all drawings have been marked "Issued for As-Built". QC inspectors do not use the FSI for any purpose. All other materials, inspections, and design efforts come under the 10 CFR 50, Appendix B QA program. (See Section 10 also)

This item was discussed with the licensee. In response, the licensee has stated that the FSI drawings will have the "As-Built" notation deleted. A note will be added explaining the information nature of the drawings.

This is considered an unresolved item pending completion of the actions by the licensee and review during a subsequent inspection. (445/8426-03)

e. Summary

The major AFWS components inspected were found to be installed/aligned correctly. There were minor items found on two MS valves. The installed seismic Instrument Rack CP1-EIPRLI-31 had some welding and other minor problems. Thirteen pipe supports were found to have one or more discrepancies. Six NCRs were issued by the licensee on pipe supports. Discrepancies were found on thirteen of the instrument runs reviewed by the NRC inspectors. The discrepancies included hardware and paperwork problems. Of specific concern was the uncontrolled issue of instrumentation FSIs.

5. Containment Spray System (CSS)

a. General

Inspection of the containment spray system included a portion of one train involving a heat exchanger, a pump, piping and valve isolation tank, and motor operated valves. Sixteen piping supports were inspected.

b. CSS Component Inspection

The following components were inspected in regards to completeness, workmanship and documentation.

CP1-CTATVT-01 Containment Spray Valve Isolation Tank

CP1-CTAPCS-04 Containment Spray Pump

CP1-CTAHCS-02 Containment Spray Heat Exchanger

In general, the components were found to be installed in accordance with applicable drawings and vendors manuals. Specific problems found are shown in Table 5.

Of particular note was the power and instrumentation leads entering the spray valve isolation tanks. No permanent provision had been made for securing the leads away from the sharp edge of the electrical penetration pipe inside the tank. This item was identified to the licensee representative and was placed on the Master Data Base for action.

c. CSS Piping and Pipe Supports

Six Brown & Root Hanger Location (BRHL) drawings were selected for an expanded view of the containment spray system. The BRHLs had 62 supports identified; 16 were inspected to the vendor certified drawings and other QC inspection records in the documentation package. The findings of the inspection are documented on the inspection data sheets of Attachment B. Problems identified during the inspection were discussed with the licensee. The nature of those problems and the action taken by the licensee is indicated in Table 6. An item of importance is the missing welds on pipe support CT-1-014-015-S42K.

d. Summary

One important item was not identified during the licensee's QC inspection - missing welds on pipe support CT-1-014-015-S42K. Another notable problem was the hanging leads inside the valve isolation tanks.

6. Component Cooling Water System (CCWS)

a. General

A portion of the CCWS was operational during inspection of components and piping. The part of the CCWS chosen for the inspection included a pump, three valves, piping, and a heat exchanger. Additional inspection was conducted for CCWS pipe supports inside containment building.

b. CCWS Components Installation

The inspection of the components included the installation, electrical connections, workmanship and documentation. The components inspected include the following:

CP1-CCAPCC-02	Component Cooling Water Pump
CP1-CCAHHX-02	Component Cooling Water Heat Exchangers
ICC-048/ICC-055	24" Wafer Trunion Valves
1HV-4575	Motor Operated Valve
1FE-4537A	Orifice Plates (Inspected documentation package only)

Generally, these components were installed in accordance with the manufacturer's technical manual and applicable drawings. Some deficiencies were noted and are listed in Table 7.

c. CCW Piping and Pipe Supports

Twelve Brown & Root Hanger Location (BRHL) drawings were selected for an expanded view of the component cooling water system. The BRHLs had 166 supports identified; 37 were inspected to the vendor certified drawings and other QC inspection records in the documentation package. The findings are documented on the inspection data sheets of Attachment C. Problems identified during the inspection were discussed with the licensee. The nature of those problems and the action taken by the licensee is indicated in Table 8.

d. CCWS Instrumentation

Five CCWS instrumentation tube runs were selected for inspection. One of the runs was in the containment building as an expansion to the inspection scope to determine if problems similar to those in the auxiliary and safeguards building existed elsewhere. The following runs were examined:

<u>Instrument No.</u>	<u>FSI Number</u>
1-FIS-4537A (LP & HP)	2229-04-1-37A-1 (2 sheets)
1-FT-4537A (LP & HP)	2229-04-1-37A-2 (2 sheets)
1-PI-4523	2229-03-1-23
1-PT-4521	2229-03-1-21
1-FT-4680 (LP & HP)	2231-01-1-80

No hardware problems were identified. However, similar problems with the FSI were identified. These are listed in Table 9. This item is part of the open item regarding instrumentation FSIs.

e. Summary

The portion of the CCWS inspected was considered acceptable with the exception of those deficiencies listed.

7. Chemical and Volume Control System (CVCS)

a. General

A portion of the CVCS was selected for inspection that included a boric acid tank, a boric acid transfer pump, piping and supports, and a centrifugal charging pump.

b. CVCS Components Installation

The following components were inspected:

TBX-CSATBA-01 Boric Acid Tank
TBX-CSAPBA-01 Boric Acid Transfer Pump
TBX-CSAPCH-01 Centrifugal Charging Pump

Minor problems were identified on the charging pump and transfer pump. Specific items are given in Table 10. The findings of the inspection are documented in the inspection data sheets, Attachment D.

c. CVCS Piping and Pipe Supports

Twenty Brown & Root Hanger Location (BRHL) drawings were selected for an expanded view of the chemical and volume control system. The BRHLs had 176 supports identified; 47 were inspected to the vendor certified drawings and other QC inspection records in the documentation package. The findings of the inspection are documented on the inspection data sheets of Attachment D. Problems identified during the inspection were discussed with the licensee. The nature of those problems and the action taken by the licensee is indicated in Table 11.

d. Summary

Minor problems were identified while inspecting the CVCS components. Nonconforming items were identified for two CVCS supports. Two NCRs were issued by the licensee.

c. Electrical Raceways and Supports

This section of the report contains information regarding the inspection of cable trays, conduit runs, and their associated supports. Specific problems identified are contained in Table 12.

a. Attributes

Attributes for inspection are identified on the specific inspection data sheet. The following paragraphs give a detailed description of these attributes:

- Color Coding - Safety-related trains were indicated by the color as indicated below:

"A" train - orange - Ø

Associated "A" train - orange with white stripes

"B" train - green - G

Associated "B" train - green with white stripes

"C" train - black - K - non-Q

Instrument Channel I - Red-R

Instrument Channel II - White-W

Instrument Channel III - Blue-B

Instrument Channel IV - Yellow-Y

Cable trays and conduits were marked with unique identification numbers which include a train or color code designation. The use of color code assisted in the determination of acceptable separation achievement.

- Documentation - review of installation and inspection records to ensure that these records document the as-installed raceway and supports, and agree with the current approved design information.

- Type and Size - This item pertains to the type and size of conduit or cable tray including fittings, splices, pull boxes, covers, offsets, and fasteners.
- Tray covers - Installed as required or identified as an open item.
- Grounding - Installed as required on all raceways. This grounding is primarily for personnel protection.
- Craftsmanship - All fasteners properly installed, raceways free of sharp edges and burrs, Galvinox protection, raceways free of damage, overall integrity of raceways, and proper bending of conduit. In addition, note was made of correctness of craft functions such as appropriate and adequate use of cable ties, crimping of connections, correct and clear identification of the cables, bend radius of cables, and surface condition of cable.
- Identification - Raceway identification and train or channel identification at each end and at the proper intervals in between as specified in IEEE 384.
- Supports - Proper type and spacing of raceway supports, material size and dimensions, welding, structural attachments, raceway attachments, location, bolt size, and spacing.

b. Electrical Raceway and Raceway Supports

The NRC inspectors selected sections of cable tray for inspection. The specific raceway sections inspected are identified on the raceway inspection data sheets of Attachment E of this report.

The NRC inspectors examined 35 cable tray sections, 34 cable tray supports, and approximately 225 feet of cable tray.

Two cable tray hangers (CTH) were found to deviate from their associated drawings. CTH 639 was missing a diagonal brace. In response, the licensee issued non-conformance report (NCR) number M84-100470. CTH 12416 was shown on its FSE-00159 sheet, FSE-00176 and on drawing 2323-E1-0601-01-S as the horizontal legs being aligned east-west. It was installed with a north-south alignment. In response, the licensee issued NCR M84-100476.

c. Electrical Conduit and Conduit Supports

The NRC inspectors physically walked down and inspected 29 conduit runs and approximately 156 conduit supports, totaling approximately 725 linear feet of conduit. The NRC inspectors utilized the current approved design information and the latest QC inspection report to determine the adequacy of installation and accuracy of documentation.

The clamp attaching the conduit to support C14B13160-5 was loose. NCR M84-100469 was issued to document this finding. One of the Hilti bolts on C14Ø10056-2 was not flush with its associated nut. NCR M84-100471 was issued. Conduit support C14Ø15121-3 was deleted and this was not properly documented. Other Component Modification Cards disagreed about the conduits size and indicated that some support types (CSM18c) should be installed. There were none used. NCR M84-100472 was issued to resolve these documentation deficiencies.

9. Electrical Separation

The NRC inspector conducted an inspection in the Auxiliary and Safeguards Building of Class IE circuit separation. Separation criteria for Class IE circuits for CPSES is contained in IEEE-384-1974 (draft). Typical separation details for cables and raceways is contained in G&H drawing 2323-E1-1702-02. This drawing was based on the Electrical Erection Specification 2323-ES-100, Section 4.11 "Separation Criteria". Additional criteria for separation is contained in Section 4.4 of this specification. The criteria contained in the above document was used as basis for examining train separation.

Within the buildings, several rooms were selected for close inspection. The rooms selected and the specific details of the inspection are included in Attachment H.

The discrepancies identified in the data sheets are not a complete list, but rather examples of the different types of discrepancies found. In total, these discrepancies represent a generic separation problem with flexible conduits. The flexible conduits could have met separation requirements at the time they were inspected by QC. However, because of their flexibility, the conduit can be moved to violate separation requirements. The details listed show examples where conduit had moved or could easily be moved to positions violating separation requirements. As an example of how this movement could occur, the NRC inspector observed an individual cleaning in the area of safety-related flexible conduit and noted him moving them as he cleaned. When questioned, the person said he had not received any direction or training relating to precautions for moving flexible conduits.

Section 4.4.6 of Specification 2323-ES-100 states:

"In no case shall any part of the conduit or the conduit support system come in direct contact with uninsulated equipment in the piping system or with pipe restraints or anchors." In addition, Section 4.11.3.2 of 2323-ES-100 specifies separation between conduits of different trains is one inch minimum for the examples listed.

QI-QP-19.5-1, Section 3.5, implements the electrical and mechanical separation requirements.

QI-QP-11.3-23, Section 3.9 specifies conduit separation per drawing 2323-EI-1702-02, which includes several detailed sketches. This erection specification and QC inspection procedures describe conduit separation requirements, but do not recognize the possible loss of separation if the conduit is moved within its arc of flexibility.

QI-QP-11.3-29.1, Revision 16, paragraph 3.1.7, states in part:

"In no case shall any part of the raceway or raceway support system come in direct contact with uninsulated equipment in the piping system or with pipe restraints or anchors unless otherwise approved by the owner."

QI-QP-11.1-28, Revision 25, paragraph 3.3.4.2, states in part:

"There shall be an air gap (i.e., no contact) between electrical conduit/conduit supports and piping component supports."

Specific examples of violations of these requirements are listed in Table 13.

In addition, scope and generic aspects of this problem were not recognized by the licensee until identified by the NRC inspector.

The failure to provide adequate QC inspection criteria and failure to meet minimum separation as required is a violation of Criterion V of Appendix B to 10 CFR 50 (445/8426-01).

NOTE: Generic NCRs for the electrical to electrical separation problem identified above have been issued and corrective action has started.

<u>Unit 1 Structure</u>	<u>NCR Number</u>
Safeguards Building	E-84-100309S
Reactor Containment	E-84-100310S
Service Water Initial	E-84-100311S
Control Building	E-84-100312S
Auxiliary Building	E-84-100313S
Fuel Building	E-84-100314S

Disposition of these NCRs was as follows:

Part 1: A team consisting of Engineering, QC and craft shall perform a walk-down of the buildings to identify any specific cases where flexible conduits could inadvertently be moved and cause a separation violation.

As these cases are encountered during the walk-down, QC shall document the problem on an electrical separation deficiency report (figure 2 of QI-QP-11.3-29) and Engineering will provide a disposition for each.

The majority of the problems can be resolved by installing a mechanical separator as shown in DCA-20,721. In these cases, after Engineering disposition of the deficiency report, craft shall install the separator and QC shall inspect the installation. Any remaining items will be handled on a case-by-case basis with an NCR hold tag attached to the affected raceway(s).

Upon completion of the walk-down, a part 2 disposition will be issued to document all violations found. This will be accomplished by attaching the deficiency reports to the NCR and sorted by room number.

DCA 20,721, Revision 1, dated September 18, 1984, approved a method for maintaining minimum separation distance between flex conduits of different trains/channels.

10. Reactor Coolant Instrumentation (Containment Building)

The inspection plan for instrumentation was expanded into the containment building to determine if problems similar to those identified in the Safeguards Building existed in other areas. The following instrument runs were examined:

<u>Instrument No.</u>	<u>Field Sketch Instrument (FSI) Number</u>
1-FT-434 (LP)	2250-04-1-34
1-FT-434 (HP)	2250-04-1-34
1-FT-436 (LP)	2250-04-1-36
1-FT-436 (HP)	2250-04-1-36
1-FT-424 (LP)	2250-04-1-24
1-FT-424 (HP)	2250-04-1-24
1-FT-426 (LP)	2250-04-1-26
1-FT-426 (HP)	2250-04-1-26

These included approximately 213 feet of tubing and 94 supports.

No hardware problems were identified. However, similar FSI problems to those specified in paragraph 4.d. were identified. These are listed in Table 14. This item is part of the unresolved item regarding instrumentation FSIs (see paragraph 4.d.).

11. QC Inspection

Criterion X of Appendix B to 10 CFR 50 requires that the inspection program of activities affecting quality shall be established and conducted in a manner to verify conformance with the documented instructions, procedures and drawings.

Several examples have been identified in other sections of this report that show failure of QC inspectors to identify nonconformances. Those nonconformances are detailed below along with the specific procedure that was violated.

- a. Cable Tray Hanger, CTH 639, was missing the diagonal brace called for on drawings 2323-E1-0601-01S and 2323-S-901. QI-QP-11.10-2, Revision 28, paragraph 3.1.4.2, Configuration, states:

"The QC Inspector shall verify the completed support is in accordance with the design drawing and applicable design change documents. This verification shall include the following attributes:

- a. Support type
 - b. Support Member(s) shape (i.e., angle, channel, etc) and size
 - c. Location of members in accordance with design drawing dimensions including "work points" when shown"
- b. Cable Tray Hanger, CTH 12416, had the horizontal legs aligned north-south vice east-west as called out on drawing 2323-E1-0601-01S and FSE-00159 sheet 12416. QI-QP-11.10-2, Revision 28, paragraph 3.1.4.1, Cable Tray Drawings, states:

"The QC Inspector shall use the FSE-00159 only for location of cable tray hanger, verify hanger unique number, and hanger elevation unless directed by the engineer and a Design Change Document regardless of the referenced document."

- c. The pipe support of drawing CT-1-014-015-S42K was missing two welds. Other weld deficiencies were noted on AF-1-026-005-S33R, MS-1-026-010-S75K, and instrument rack CP1-EIPRLI-31.

QI-QAP-11.1-28, Revision 25, paragraph 3.5.5.1, Weld Inspection, states:

"The fillet weld size shall be as specified on the drawing
. . . ."

- d. Base plate Hilti location dimension discrepancies were noted for Drawings AF-1-035-037-Y33R, AF-1-035-034-Y33R, and MS-1-028-047-S43K. QI-QAP-11.1-28, Revision 25, paragraph 3.3.1.1, Installation Tolerances, subparagraph 2 states:

Hole Location $\pm 1/4"$ or as shown on
the design drawing

- e. Dimensional discrepancies were noted for Drawings AF-1-026-003-S33R, CC-1-011-034-A63K, CC-1-043-013-A43K, MS-1-026-010-S75K, CC-1-236-700-C53R, CC-1-234-700-C53R, MS-1-025-009-R75K, CS-1-AB-208A-001, CC-1-238-004-C53R, CS-1-564-706-A33R. QI-QAP-11.1-28, Revision 25, paragraph 3.3, Material Dimensional Control, states:

"The completed hanger shall be inspected to ensure compliance with the dimensional sketch on the hanger drawing."

- f. The pipe clamp of drawing AF-1-103-036-S53K was resting on the adjacent floor penetration pipe. This could have caused the penetration pipe to support the system pipe. This violated QI-QAP-11.1-28, Revision 25, paragraph 3.3.1, which states in part:

"Fabrication and installation shall be performed in accordance with the drawing detail"

- g. Conduit support C140-10056-2 had a Hilti Bolt with insufficient thread engagement. QI-QP-11.2-1, pef. 16, paragraph 3.3.5 states in part:

"The engagement of the nut shall be such, that after torquing, the end of the bolt is not lower than flush with the top of the nut."

- h. The instrument tube from 1-FT-2488 (HP) touched a pipe support at a 90° bend about 4' 2-3/4" from valve 1AF-0039. QI-QP-11.8-5, Revision 14, paragraph 3.4.1.1 states in part:

"The QC Inspector shall verify proper air gap. The minimum air gap spacing shall always be 1/8 inch to allow each instrument sensing line to expand independently at all bends without striking adjacent sensing lines, other equipment, concrete or steel building members."

The tables included in this report provide details of the specific conditions noted, the tables also note the specific initial actions taken by the licensee in response to these conditions, such as listing the NCR number that was generated.

The failure to properly inspect quality attributes to the requirements is a violation of Criterion X of Appendix B to 10 CFR 50 (445/8426-02).

12. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether the items are acceptable or not. One unresolved item identified in paragraph 4.d. of this report (445/8426-03).

13. Exit Interview

On September 28, 1984, the NRC inspectors and other members of the Region IV staff including the Resident Inspectors met with the licensee personnel denoted in paragraph 1 of this report. The NRC inspectors discussed the findings of this report. The licensee acknowledged the unresolved item and the items of noncompliance.

Table 2

SYSTEM: AFWS Components

<u>ITEM DESCRIPTION</u>	<u>LICENSEE ACTION</u>
1-MS-137	
Packing gland appears to be resting on the bonnet with no room for more tightening of the packing. The packing gland retainer is not tight on the packing gland. The packing gland retainer nuts are painted over.	Has been listed on Master Data System Item #01975, and fixed.
Seismic Instrument rack CPI-EIPRLI-31	
1. Mark Box "O" bolts/nuts not fully engaged on the rack side. These bolts hold the terminal strips inside the box, not the box to the rack.	1. Issued NCR E84-100516S
2. Label missing at the top of the rack for 1-PI-2488.	2. Label replaced
3. U-bolt missing at the upper valve for 1-PS-2470A.	3. Will be reinspected per IR #I-1-0054422
4. Section "C-C" upper right - The stitch weld 3/16" 3"-7½" is only 2" to 2½" long.	4. NCR I-84-100493S issued
5. Section "C-C" center right - The stitch weld 3/16" 2" - 6" is only about 1¼ to 1½" long.	5. NCR I-84-100493S issued

Table 3

SYSTEM: AFWS Pipe Supports

<u>ITEM DESCRIPTION</u>	<u>LICENSEE ACTION</u>
AF-1-035-037-Y33R: Base plate Hilti dimensions not correct.	NCR-M 14,680N issued to revise Vendor Certified Drawing (VCD)
AF-1-035-034-Y33R: Base plate locations for Hilti anchors are not IAW VCD (rev 4) (2 1/8" vs 1 1/16" on VCD).	NCR-M 14,679N issued to revise VCD
AF-1-026-015-S33R: Sway strut binding.	Fixed
AF-1-026-003-S33R: VCD calls for max 1/2" grout. 1 1/8" grout exists.	VCD to be corrected -
AF-1-103-036-S53K: Pipe clamp is resting tight on floor penetration pipe. Snubber is not level.	NCR-M 14,756N issued
AF-1-102-013-S33R: Sway strut not level, outboard bearing dislodged.	NCR-M 14,757N issued

Table 3

-2-

SYSTEM: AFWS Pipe Supports

<u>ITEM DESCRIPTION</u>	<u>LICENSEE ACTION</u>
AF-1-102-028-S33R: 2 broken cotter keys.	Keys have been replaced.
MS-1-026-010-S75K: (Class 5) Oversized holes found in items 4 & 5, tube steel (4x4), holes should be 1 5/8", approx 1/4"+ oversize.	NCR M-15150 issued
MS-1-028-047-S43K: Hilti bolt placement dimensions not in accordance with drawing; upper right bolt of base plate (item 4) 3/8" more than stated. (tolerance $\pm 1/4$ ").	NCR M-14,842N issued
MS-1-025-009-R75K: Upper right Richmond insert indicated as 1 1/16" hole; a 1 1/2" Richmond insert exists.	NCR M-15151 to revise VCD

Table 4

SYSTEM: AFWS Instrumentation

<u>ITEM DESCRIPTION</u>	<u>LICENSEE ACTION</u>												
1-FT-2458 (HP): Line touches pipe support at 90° bend approx 4' 2-3/4" from 1AF-0039 (EL805'4").	Fixed												
1-PI-2469: Loose bolt on T092D1 support, first from 1AF-0147 EL 796' 9".	Fixed												
1-PT-2455: (a) Test tee below instrument was not shown on DWG. (b) A loose nut & bolt was found on T03P2025 support 2' 1/8" below valve HAG-25-6.	(a) Fixed (b) Fixed												
1-PI-2468: (a) The span between the first two supports off root valve AF-145 has been stepped on and bent. (b) Unions between last two supports before instrument rack not shown on FSI. (c) The fourth 3D support from Root Valve has a loose nut. (d) As-build and specified tube span lengths do not agree.	(a) Fixed (b, c, and d) FSI Resolution will delete "as-built" notation on FSI drawings and add disclaimer note.												
<table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 33%;"><u>Dimension from Root valve</u></th> <th style="text-align: left; width: 33%;"><u>Dimension as Shown on FSI</u></th> <th style="text-align: left; width: 33%;"><u>Dimension As-built</u></th> </tr> </thead> <tbody> <tr> <td>2nd</td> <td>7 3/4"</td> <td>10"</td> </tr> <tr> <td>4th</td> <td>7 3/8"</td> <td>3"</td> </tr> <tr> <td>5th</td> <td>1' 6 1/8"</td> <td>1' 7 1/2"</td> </tr> </tbody> </table>	<u>Dimension from Root valve</u>	<u>Dimension as Shown on FSI</u>	<u>Dimension As-built</u>	2nd	7 3/4"	10"	4th	7 3/8"	3"	5th	1' 6 1/8"	1' 7 1/2"	
<u>Dimension from Root valve</u>	<u>Dimension as Shown on FSI</u>	<u>Dimension As-built</u>											
2nd	7 3/4"	10"											
4th	7 3/8"	3"											
5th	1' 6 1/8"	1' 7 1/2"											
1-PT-2477: Elbow fitting immediately above root valve 1AF-0035 is not shown on FSI.	FSI Resolution												
1-PI-2390: (a) The first support back towards the root valve 1MS-0164 from the tee is loose. (b) The second span from root valve 1MS-0164 has less than 1/8" clearance from an adjacent support and can easily touch it.	(a) Fixed (b) Fixed												

Table 4

-2-

SYSTEM: AFWS Instrumentation

<u>ITEM DESCRIPTION</u>	<u>LICENSEE ACTION</u>
1-PT-2476: The 3' 1-13/16" span between the first two supports from root valve AF-026 has been stepped on and bent.	Fixed
1-FT-2457 (HP): (a) 45° offset not shown on FSI after 3rd support from root valve AF-053. (b) Union not shown on FSI, 2nd support from instr. rack.	(a and b) FSI Resolution
1-FT-2457 (LP): 45° off sets not shown on last span from root valve to point "B".	FSI Resolution
1-PT-2392: Last support from root valve 1-MS-0288 before the tee was loose.	Fixed
1-PS-2454 A & B: (a) There are two check valves on the "A" FSI which are labeled 1-AF-221 and 1-AF-222. As built, they have ID tags showing 1-AF219, and 220 respectively. The "B" FSI does not identify its two similar check valves, but the valves have ID tags installed which were supposed to be on the CH "A" valves. (b) CH "A", there is a 6½" length shown entering an air operated valve assembly on sheet 1 that is 4 3/4" as built. (c) CH "B", at the valve in the tube upstream of the two check valves on sheet 2, the upstream length is shown on the FSI as 1'1". It is 5" as built. (d) The length downstream from the same valve above, is shown as 2 9/16", it is 5½" as-built. (e) The tubing from the tee adjacent to Pt "A" leading to the fisher controls on valve 1-PV-2454B. Starting where the tube starts to run horizontal from the wall (the FSI shows 10 5/8"), the tubing deviates substantially from the FSI in routing and lengths of run.	(a) Correct per DWG TNE-M1-2120-01 (b, c, d, and e) FSI Resolution

Table 5

SYSTEM: CS Components

<u>ITEM DESCRIPTION</u>	<u>LICENSEE ACTION</u>
CP1-CTATVT-01, containment spray valve isolation tank: electrical leads hanging by a plastic strap. The strap could easily drop from its catch point and leave the wires draped over a sharp edge.	Put on Master Data Base
CP1-CTAPCS-04, containment spray pump S/N 15210088; conduit C14K30963, attached to pump, brace missing.	Has been put on Master Data Base

Table 6

SYSTEM: CS Pipe Supports

<u>ITEM DESCRIPTION</u>	<u>LICENSEE ACTION</u>
CT-1-014-015-S42K is missing two welds. They are both 5/16" fillet welds 2" long. They should be located at the top and bottom of the base plate (shown in section A-A of the support drawing) at the imbedded plate.	NCR M-14,722N issued

Table 7

SYSTEM: CCWS Components

<u>ITEM DESCRIPTION</u>	<u>LICENSEE ACTION</u>
CPI-CCAPCC-02, component cooling water pump S/N 14210677	
a. Ground wire from motor to feeder conduit has approx. 40% of strands out of clamp. (C11G08174)	a. Non-Q, Fixed
b. 1" Flex conduit (C13G08451) has small hole in sheath cover about 2" above 45° fitting.	b. NCR E84-100,492S issued
c. Flex conduit (C11G08174) has a small tear above 45° blend about 5".	c. NCR E84-100,491S issued
1-CC-048: a. Rust Present (not excessive)	a. Non-Q, Fixed
b. difficult to get to, no ladder provided	b. Non-Q, will be looked at during STA 802 walkdown
1-HV-4575, Motor Operated Valve	
a. Position indicator badly bent	a. Not critical - valve is either open all the way, or shut
b. Screws on electrical cover not snug and lock washers appear to be missing	b. On MDS Item 779S
c. Conduit separation violations (C13G04311 & C12G04691) conduit laying on handwheel, touching motor/gear housing	c. NCR-E84-100,490S fixed a broken fitting on conduit C13G04311, during this repair the separation problems were fixed.
d. Ground cable loose at ground lug on motor/gear box housing	d. Non-Q, Fixed
e. Unit needs cleaning/painting	e. Non-Q, Fixed

Table 8

SYSTEM: CCW Supports

<u>ITEM DESCRIPTION</u>	<u>LICENSEE ACTION</u>
CC-1-234-700-C53R, sheet 2, section C-C: The lower attachment bolts are 3 15/16" apart vice the 5 1/2" shown. The upper bolts are 3 7/8" apart. It should be noted that this problem is the result of conflicting dimensions. The plate is 8" wide. The bolt of CLs are to be 2" minimum from the edges of the plate. The remaining bolt separation then may only be 4" maximum. (in Containment)	NCR 15147 issued to revise VCD
CC-1-238-004-C53R: The 6" dimension from pipe CL to the S.E. strut is 7 7/8" as built. The strut separation at the opposite end from the pipe is 8" vice 9" shown. (in Containment)	NCR 15148 issued to revise VCD
CC-1-236-700-C53R: This support attaches to an existing support with a 5" overlap of vertical members, per plan. However, the vertical distance shown from pipe CL to the bottom of the existing support of 21 5/8" is the measurement from pipe CL to the top of the 5" overlap as installed. (Drafting Error) (in Containment)	NCR 15149 issued to revise VCD
CC-1-011-034-A63K, The 2' 7" distance from the wall to the snubber connecting pin CL is 2' 5 1/8" as installed.	NCR M-14,745N issued
CC-1-043-013-A43K: The dimension from the wall that is shown as 7'3" is 7'5".	NCR M-14,744N issued

Table 9

SYSTEM: CCW Instrumentation

<u>ITEM DESCRIPTION</u>	<u>LICENSEE ACTION</u>
FSI-2229-04-1-37A-1: The distance from component 1FIS-4537A to valve assembly FAQ 27-6 is shown on sheet 1 (LP) as 10 3/8" and on sheet 2 (HP) as 1'0". Both lines run side by side and are the same length, 10 3/8" as built.	FSI Resolution
FSI-2229-04-1-37A-2: The last span entering valve 1-CC-0051 is routed differently than shown on the FSI.	FSI Resolution

Table 10

SYSTEM: CVCS Components

<u>ITEM DESCRIPTION</u>	<u>LICENSEE ACTION</u>
Boric Acid Transfer Pump, TBX-CSAPBA-01: Room 79	
a. Boric acid solution is seeping out of drain valve (ICS-075) and through instrumentation connections.	a. on Master Data Base, has been fixed
b. Rear bolt is not tight, the lock washer not compressed.	b. Traveler issued to inspect and tighten as required
c. Drain valve ICS-075 (and others) not over drain.	c. Non-Q, SWA 23317 will fix
d. Equipment drain has lip (about 1") preventing water from draining.	d. Non-Q, SWA 23317 will fix
Centrifugal Charging Pump, TBX-CSAPCH-01: Room 200	
a. Lo Lo Temp Probe - C13K13847 conduit loose.	a. Non Q-Fixed
b. L. O. pressure gage line out of support.	b. Fixed
c. C14K30590 resting on probe protection bracket. Hole could result.	c. Non Q
d. Ground cable hanging in air.	d. Non Q-Fixed
e. C14K30591 conduit loose in coupling.	e. Non Q-Fixed
f. C12K05018 LBD loose.	f. Non Q-Fixed
g. Valve 1SW-408 flange - Strainer Drain; 1 nut bolt not flush with nut top.	g. on MDB subsystem 0402 item 205S
h. Coupling cover bolt on 1 leg not installed.	h. Non Q-Fixed

Table 11

SYSTEM: CVCS Supports

<u>ITEM DESCRIPTION</u>	<u>LICENSEE ACTION</u>
CS-1-AB-208A-001:	
a. The 1'0" (REF) dimension for the distance from an adjacent bracket is only 9 7/8" as installed.	NCR M-14,713N issued to change VCD
b. The 3½" dimension from the same adjacent bracket to the near end of pc 1 is 1½" as installed. This appears to have been created by NCR #AM-01001.	NCR M-14,713N issued to change VCD
CS-1-564-706-A33R: The distance from the wall to the CL of the joint of the perpendicular member and diagonal brace is 2'10" vice 2'8" as installed.	NCR M-14,712N issued to change VCD

Table 12

SYSTEM: Electric Cable Trays (supplemental)
Room 65 - Safeguards

<u>ITEM DESCRIPTION</u>	<u>LICENSEE ACTION</u>
CTH 639: The diagonal brace shown is not installed.	NCR M84-100470 issued
CTH 12416: The structure is rotated 90° to a North-South alignment.	NCR M84-100476 issued

Table 12

SYSTEM: Conduit (supplemental)

-2-

<u>ITEM DESCRIPTION</u>	<u>LICENSEE ACTION</u>
C14010056-2: One of the Hilti bolts not flush with its associated nut.	NCR M84-100471 issued
C14015121-3: Conduit not attached to support.	NCR M84-100472 issued
C14015121: CMC 64790 specifies 1" conduit and 2 supports built to S-910 drawing CMC18c specification. C14015121 is in fact 1½" conduit and no CSM18c supports are in the conduit run. Two separate inspection reports, however, did reference CMC64790.	NCR M84-100472 issued
C14B13160-5: Clamp attaching conduit to support was loose.	NCR M84-100469 issued

Table 13

SYSTEM Electrical Separation

FLEXIBLE CONDUIT ITEM DESCRIPTION
NUMBER

C13G07743	Flex rests on pipe bracket to valve 1-HV-5365.
C13G07744	Flex rests on pipe bracket next to valve 1-HV-5365.
C14021161	Flex rests on pipe support for 1-MS-030 and 1-MS-268.
C13G12499	Flex rests on support for JB1S 455G.
C13G08781	Flex touches corner of support for valve 1-HV-4179.
C12005387	Flex touches pipe at elbow passing near valve 1-HV-8106.
C13015915	Flex resting on top of actuator for valve 1-HV-2188.
C13G21323	Flex touching flange of support next to valve 1-FV-2196.
C13G06734	Flex rests against unistrut below valve 1-FV-4537.
C12G04690	Flex conduit rests on fire pipe.
C13G06834	Flex wraps around adjacent support.
C14G20503	Flex rests on valve body.
C12002856	Flex contacts 1-HV-2480.
C13007415	Flex touches the mounting bracket for the limit switch from C13G07413. 1" airspace between the two trains of flexible conduit not maintained.
C13G20208	Flex contacts C13011132 flex.

Table 14

SYSTEM: Reactor Coolant Instrumentation (Containment)

<u>ITEM DESCRIPTION</u>	<u>LICENSEE ACTION</u>
FSI-2250-04-1-34: Elbow fittings on both lines at the instrument are not shown on the FSI.	FSI Resolution
FSI-2250-04-1-36: Elbow fittings on both lines at the instrument are not shown on the FSI. Union between the first two supports from valve 1-RC-6061C are not shown on the FSI.	FSI Resolution
FSI-2250-04-1-24: Sheet one shows the lines leaving the instrument on the horizontal for 4 $\frac{1}{4}$ " then turn down. The elbow is not shown on the FSI. Sheet 2 shows both lines leaving the instrument going down. They are not consistent. Valve FAQ27-23 is shown on sheet 1 as FAQ27-33	FSI Resolution
FSI-2250-04-1-26: Elbow fittings on both lines at the instrument are not shown on the FSI. Union below first support below valve HAG22-21 not shown. Union below first support below valve HAG23-22 not shown.	FSI Resolution

INSPECTION DATA SHEETS

SYSTEM AFWS

AREA COMPONENTS

ATTACHMENT A

COMPONENT INSPECTION DATA SHEET

ROOM 72, 73, 74 SAFEGUARDS BLDG. DATE July 28, 1984

COMPONENT IDENTIFICATION: AUX FEED WATER PUMPS

NAME PLATE DATA

Room 72	A TRAIN -	Prime Mover - Model HSDF S/N 1S-79 Style 79L11488-A	Pump - Ingersoll Rand S/N 057633 NB S/N 324 1600 psi @ 150°F
Room 73	B TRAIN -	Prime Mover - Model HSDF S/N 2S-79 Style 79L11488-B	Pump - IR S/N 057634 NB S/N 325 1600 psi @ 150°F
Room 74	TURBINE PUMP	Pump - S/N 057635 GPM=1145 RPM=4075 3160 feet head	Bearing No. SKF 7411DB SKF 6212 2550 psi hydro

ATTRIBUTES INSPECTED: INSTALLATION, ALIGNMENT, MAINTENANCE
INCLUDE NCRs; QC INSPECTION/ACCEPTANCE.

ACCEPTANCE CRITERIA: The NRC inspector reviewed the installation, design, procurement, inspection, and acceptance criteria related to the two electric (prime mover) motors, the steam (prime mover) turbine and the three associated pumps. The pumps were manufactured by Ingersoll Rand.

RESULTS: The components (pumps and prime movers, and associated valves and piping) were found to be as described in the procurement documents, installation specifications, and appropriately identified and installed. The NRC inspector verified the following:

1. ANI involved in specified reviews.
2. Equipment as specified
3. Alignment satisfactory
4. Installation satisfactory
5. Cleanliness of area and components
6. Material traceability satisfactory
7. Modification of AFW pump coupling guard as described
8. Hot alignment and checks satisfactory
9. Base of AFW turbine modified and Ingersoll-Rand field engineer concurred in modification - Modification was found to be as specified.
10. NCR - Yoke cap with void area (casting flaw)
Spring bushing nut damaged
Nozzle load calculations (component weights)
Unsupported pipe to FW pump turbine driver causing indetermined stresses
~~Resolution~~ Turbine drive not certified to ASME III
Motors not properly covered prior to installation of permanent covers
Vendor lug on T-1 motor lead bent
Peckerhead covers missing from equipment and conduit covers missing from equipment.

RESOLUTION: The NRC inspector determined that each of the above NCRs had been properly identified, evaluated and resolution had been completed and accepted. Maintenance was being performed as requirement and all areas and equipment was clean. Doors were locked to assure equipment was not unnecessarily subjected to unauthorized personnel.
INSPECTION REPORT NO. 50-445/84-26 PAGE NO A1 INSPECTOR D. M. Hunnicutt

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: The major components in the Auxiliary Feedwater System (AFW) were inspected and identified by physically comparing each of the major components to drawings, specifications, procurement documentation, design requirements, and drawings. Train "A" of the AFW is located in Room 72. Train "B" is located in Room 73. The steam turbine and its integral pump are located in Room 74. Each of these rooms is separated by concrete barrier walls and each is secured from entry by a locked door.

Pump/prime mover alignments were verified by review of travelers Nos. MP-83-2954A-3700, MP-81-2954-3700, MP-83-2116C-3700, MP-82-2116B-3700, and MP-80-2116-3702. These travelers indicate that the ANI was involved and reviewed the documentation.

Traveler ME-84-1071-3703 documents and provided instructions on the modification of the AFW feed pump coupling guard.

The hot alignment of the turbine driven feedwater pump was checked and documented on traveler MC-83-1080-3700. Rechecking of the turbine driven feed pump after adjustment of spring cams is documented on traveler MC-83-1043-3700.

Traveler ME-81-1127-3700 documents modification, by routing of a drain line in the base of the AFW turbine. ~~After~~ ^{Prior to} modification Ingersoll-Rand verified that the modification would not adversely affect seismic or operating qualifications of the pump by letter dated 10/23/81. Subsequently TUSI opted not to use the modification, but their QA program required a written approval of the final as-built configuration to insure integrity of any modified vendor equipment.

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INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: Documentation describing the equipment level, location, elevation, and orientation of the two electric and one steam driven prime movers and their respective integral pumps was reviewed.

Equipment inspection reports, all nonconformance reports related to the AFW major equipment, equipment removal and replacement, alignment record charts, and rotating equipment alignment charts were reviewed.

The NRC inspector determined that the AFW motors, pumps, and steam turbine were procured, installed, aligned, tested, and made operable within the requirements and manufacturer's recommendations for these major components.

The NRC inspector did not identify any deviations or violations during this portion of the inspection.

DATA SHEET - DOCUMENTS REVIEWED

Room SAFEGUARDS BLDG System AFWS

Traveler No. MP-83-2954A-3700

Traveler No. MP-81-2954-3700

Traveler No. MP-83-2116C-3700

Traveler No. MP-82-2116B-3700

Traveler No. MP-81-2116A-3700

Traveler No. MP-80-2116-3702

Speed Indicator (tachometer) 2-SI-2452-C

Turbine Trip Valve CP2-AFAPTD-01

Traveler No. ME-84-1071-3703

Traveler No. ME83-1080-3700

Traveler No. ME83-1043-3700

Traveler No. ME82-3505-3700

Traveler No. ME-81-1127-3700

Traveler No. ME 81-1090-3700

Traveler No. ME78-133-3704

Traveler No. CE-80-235-3700

Traveler No. EE80-237-3700

NCR No. E-82-00464 S

Traveler No. Z-1124

Traveler No. MEV-83-0191-3700

Operator Stem Shaft E/Split Ring CPI-MSTD AF-01

DATA SHEET - DOCUMENTS REVIEWED

Room _____ System _____

NCR No. M84-00273

IR No. E60041

IR No. E^{8/1/84}~~600~~60449

TRAVELER No. Z-1124

TRAVELER No. MEV-83-0191-3700

PET #1003 *Substitution of operator stem shaft*
and Split Ring (REFERENCE: TRAVELER MEV-83-203-3700)

TRAVELER No. ME-82-1054-3700

TRAVELER No. ME-83-1033-3700

TRAVELER No. ME-83-1032-3700

TRAVELER No. ME-83-1023-3700

TRAVELER No. CE-82-549-8903

TRAVELER No. Z-904

TRAVELER No. ^{MEV-}83-203-3400

NCR No. M-7264 R-1

NCR No. M-2210

TRAVELER No. ME 81-1480-3700

NCR No. M-2191

NCR No. M-7583

IR No. E-23593, E-60344 and E-60267

TRAVELER No. EE-0387-3702

DATA SHEET - DOCUMENTS REVIEWED

Room SAFEGUARDS BLDG System AFWS

NCR No. E-82-01676 S + E-81-01139

NCR No. E-81-00058 R.1

TRAVELER No. ME-78-038-3702

TRAVELER No. ME 82-1325-3700

COMPONENT INSPECTION DATA SHEET

ROOM 74, SAFEGUARDS BUILDING

DATE 8/28/84

COMPONENT IDENTIFICATION: SEISMIC INSTRUMENT RACK CPI-EIPRLI-31

ATTRIBUTES INSPECTED: INSTALLED PER DRAWING 2323-M1-2855

ACCEPTANCE CRITERIA: INSTALLED PER DRAWING 2323-M1-2855

- RESULTS: • 1) MARK BOX "O" BOLTS/NUTS NOT FULLY ENGAGED, ON THE RACK SIDE, THESE BOLTS HOLD THE TERMINAL STRIPS INSIDE THE BOX, NOT THE BOX TO THE RACK.
- 2) LABEL MISSING AT THE TOP OF THE RACK FOR I-P1-2488.
- 3) U-BOLT MISSING AT THE UPPER VALVE FOR I-PS-2470A.
- 4) SECTION "C-C" UPPER RIGHT - THE STITCH WELD $\frac{3}{16}$ " 3"-7 $\frac{1}{2}$ " IS ONLY 2" TO 2 $\frac{1}{2}$ " LONG. (P: B-18 to B-14) (A: B-21 to B-17)
- 5) SECTION "C-C" CENTER RIGHT - THE STITCH WELD $\frac{3}{16}$ " 2"-6" IS ABOUT 1 $\frac{1}{4}$ TO 1 $\frac{1}{2}$ "

RESOLUTION: 1) NCR E84-100516S ISSUED, HAS BEEN FIXED.

2) LABEL HAS BEEN REPLACED.

3) REINSPECTED AND REPAIRED UNDER IR # I-1-0054422.

4+5) NCR I84-100,403 S ISSUED

COMPONENT INSPECTION DATA SHEET

ROOM SAFEGUARDS BUILDING DATE 8/31/84

COMPONENT IDENTIFICATION: MOMENT RESTRAINT CP1-MSSSME-06

ATTRIBUTES INSPECTED: DOCUMENTATION, WELDS, WORKMANSHIP, DIMENSIONS

ACCEPTANCE CRITERIA: DRAWING MSB-0688-028 SHEET E-43

RESULTS: NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N.A.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO A-8 INSPECTOR SKOW

COMPONENT INSPECTION DATA SHEET

ROOM SAFEGUARDS DATE 8/31/84

COMPONENT IDENTIFICATION: 1-MS-101

ATTRIBUTES INSPECTED: DOCUMENTATION, OBSERVATION OF INSTALLED
COMPONENTS, WORKMANSHIP

ACCEPTANCE CRITERIA: VENDOR'S MANUAL DRAWING 79294-75600-2

RESULTS: NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N.A.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO A-9 INSPECTOR SKOW

COMPONENT INSPECTION DATA SHEET

ROOM 109 SAFEGUARDS BLDG DATE 9/4/84

COMPONENT IDENTIFICATION: 1 HU-2452-1 Steam Supply Valve
(Steam Generator No 4), S/N 6511673

ATTRIBUTES INSPECTED: INSTALLATION; NCRs; QC INSPECTION

RESULTS;

ACCEPTANCE CRITERIA: MFG ^{CP-600} INST MANUAL / DRAWINGS

RESULTS: NO DEVIATIONS OR VIOLATIONS NOTED.

RESOLUTION: N.A.

DATA SHEET - DOCUMENTS REVIEWED

Room 109 SG BLDG

System MS - 1 HV-2452-1

IR-E-27084; E-60248

NCR M-82-01196

NCR I-84-007005 (R.1)

B+R NCR M-9596 (R.1)

NCR I-84-007465

NCR E-81-001065 (R5)

COMPONENT INSPECTION DATA SHEET

ROOM SAFEGUARDS ROOM 74 DATE 8/31/84

COMPONENT IDENTIFICATION: I-M S-144

ATTRIBUTES INSPECTED: DOCUMENTATION, OBSERVATION OF INSTALLED COMPONENTS,
WORKMANSHIP

ACCEPTANCE CRITERIA: VENDOR'S MANUAL DRAWING 79294-75600-2

RESULTS: PACKING GLAND RETAINER NUTS PAINTED OVER.
PACKING GLAND CORRODED.

RESOLUTION: NON Q

INSPECTION REPORT NO. 50-445/84-26 PAGE NO A-12 INSPECTOR SKOW

COMPONENT INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/31/84

COMPONENT IDENTIFICATION: 1-MS-128 (SN 18200)

ATTRIBUTES INSPECTED: DOCUMENTATION, OBSERVATION OF INSTALLED COMPONENTS, WORKMANSHIP

ACCEPTANCE CRITERIA: VENDOR'S MANUAL DRAWING 79294-75600-2

RESULTS: NO VIOLATIONS OR DEVIATIONS NOTED.

RESOLUTION: N.A.

COMPONENT INSPECTION DATA SHEET

ROOM SAFEGUARDS ROOM 74

DATE 8/31/84

COMPONENT IDENTIFICATION: I-MS-137

ATTRIBUTES INSPECTED: WORKMANSHIP; DOCUMENTATION

ACCEPTANCE CRITERIA: VENDOR'S MANUAL DRAWING 79294-75600-2

RESULTS: PACKING GLAND APPEARS TO BE RESTING ON THE BONNET WITH NO ROOM FOR MORE TIGHTENING OF THE PACKING. THE PACKING GLAND RETAINER IS NOT TIGHT ON THE PACKING GLAND. THE PACKING GLAND RETAINER NUTS ARE PAINTED OVER.

RESOLUTION: HAS BEEN PUT ON MASTER DATA SYSTEM, ITEM # 0197 S.
HAS BEEN FIXED.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO A-14 INSPECTOR SKOVV

DATA SHEET - DOCUMENTS REVIEWED

Room SAFEGUARDS

System MS VALVES

1-MS-101 DEFICIENCY & DISPOSITION REPORTS M-459 and M-555

1-MS-128 CONSTRUCTION OPERATION TRAVELER No. MW81-2249-3401

1-MS-137 CONSTRUCTION OPERATION TRAVELER No. 2-891

NCR M45635

INSPECTION DATA SHEETS

SYSTEM

AFWS

AREA

SUPPORTS

ATTACHMENT A

DATA SHEET - DOCUMENTS REVIEWED

Room SAFEGUARDS BLDG

System AFWS

AFWS - SUPPORTS

NOTE: DOCUMENTATION FOR AN INSTALLATION
PACKAGE IS TYPICALLY COMPOSED OF ALL OR
A PORTION OF THE FOLLOWING DOCUMENTS:

- MANUFACTURING RECORD SHEET (MRS)
- WELD DATA CARDS (WDC) WELD NO(S)
- WELD FILLER MATERIAL LOG (WFML)
- MATERIAL IDENTIFICATION LOG (MIL)
- NON-DESTRUCTIVE EXAMINATION REPORT (NDER)
- INSPECTION REPORT (IR)
- NON CONFORMANCE REPORT (NCR)
- VENDOR DOCUMENTATION (PROCUREMENT)
- REPAIR PROCESS SHEET (PPS) WELD NO(S)
- OPERATION TRAVELER (OT)
- DRAWING (INCLUDING CMC)
- MATERIAL REQUISITION (MR)
- MISCELLANEOUS (DESCRIBED ON DOCUMENTATION
CHECK LIST)

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: SUPPORTS (BRHLs) INSPECTED / ON BRHL

AF-1-YD-002	6	19
AF-1-YD-001	6	16
AF-1-SB-006	6	11
AF-1-SB-035	2	6
AF-1-SB-014	3	12
AF-1-SB-036	6	6
AF-1-SB-025	7	23
AF-1-SB-023	4	18
AF-1-SB-011	4	7
AF-1-SB-013	2	11
AF-1-SB-010	4	13
AF-1-SB-015	5	21
MS-1-SB-054	4	17
MS-1-SB-002B	3	8
MS-1-SB-015	3	13
MS-1-SB-014	4	18
MS-1-SB-007	6	25
MS-1-SB-002A	3	31
	<u>78</u>	<u>265</u>

TOTALS

INSP. RPT. NO: 50-445/84-26 PAGE: A-17 INSPECTOR: OBERG

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: NUMBER OF SUPPTS/RESTRAINTS - EFWs

BRHL-AF-1-SB-031	7	} NONE OF THESE WERE INSPECTED. NOT IN AREA OF INTEREST.
-031A	2	
-019	19	
-009	5	
-007	6	
-004	9	
<u>-001</u>	<u>10</u>	
TOTAL -	68	

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SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG.

DATE 8/1/84

- ① SUPPORT NUMBER/CLASS/SYSTEM: AFWS ; BRHL-AF-1-YD-002 (REU3)
 (1) AF-1-001-020-Y33K ; (2) AF-1-001-021-Y33K ; (3) AF-1-001-025-Y33R
 (4) AF-1-001-028-Y43K ; (5) AF-1-001-030-Y33R ; (6) AF-1-001-036-Y33R

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
 PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
 WORKMANSHIP CLEARANCES BRROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 19 SUPPORTS INDICATED ON BRHL. INSPECTED
6. NO PROBLEMS NOTED. INSTALLED IN ACCORDANCE WITH DESIGN
DRAWINGS (VCDS)

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/1/84

② SUPPORT NUMBER/CLASS/SYSTEM: AFWS; BRHL-AF-1-4D-001 (REV 4)
AF-1-035-035-Y33K ; AF-1-035-037-Y33R ; AF-1-035-034-Y33R
AF-1-035-003-Y33R ; AF-1-035-032-Y33R ; AF-1-035-001-Y33R
(16 SNUBBERS/RESTRAINTS ON BRHL)

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS INSPECTED 6 OF 16.

- (1) AF-1-035-035-Y33K - (a) AC SETTING = 9 1/2" NO 8 9/16" ON VCD ✓
- (b) DISTANCE FROM 3" PIPE (Ø) TO PIN ON
SNUBBER 12 1/2" NO 11" SPECIFIED ON VCD
(b) BASE PLATE HILTI DIMENSIONS NOT CORRECT.
- (2) AF-1-035-037-Y33R - (a) SWAY STRET CANNOT TURN IN BRACKET.
- (3) AF-1-035-034-Y33R - BASE PLATE LOCATIONS FOR HILTI ANCHORS (CONT)

RESOLUTION:

(1)(a) COLD SETTING OF SNUBBERS WILL CHANGE SLIGHTY AFTER HEAT-UP
AND COOL DOWN, BASED ON EXPERIENCE OF TEST GROUP, THIS APPEARED
REASONABLE. ITEM RESOLVED (b) RESOLVED: QI-QAP 11.1.26 ± 2"
TOLERANCE PERMITTED.

INSPECTION DATA CONTINUATION SHEET

②

INSPECTION ELEMENT: BRHL- AF-1-YD-001 (REV 4)ARE NOT IAW VCD (REV 4) (2 1/2" vs 1 1/16" on VCD)AF-1-035-003-Y33R - SATISFACTORY - IAW VCDAF-1-035-032-Y33R - " " "AF-1-035-001-Y33R - " " "(2) ITEM (2) SWAY STUT DOES TURN WITH STRAP WRENCH.RESOLVED. IN ADDITION NCR 14,680 WAS ISSUED ON 8/2/84 FOR
BASE PLATE/HILT DIMENSIONS. VCD TO BE REVISED.(3) NCR 14,679N WAS ISSUED ON 8/2/84. VCD TO BEREVISED TO SHOW CORRECT BASE PLATE DIMENSIONS; NSDATA REPORT TO BE AMENDED; SUBSYSTEM DATA REPORTTO BE AMENDED.INSP. RPT. NO: 50-441/84-26 PAGE: A-21 INSPECTOR: OBERG

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFE GUARDS BLDG

DATE 8/1/84

- ③ SUPPORT NUMBER/CLASS/SYSTEM: AFWS; BRHL-AF-1-SB-006 (REV 3)
AF-1001-702-S33R; AF-1-001-014-S33R; AF-1-001-015-S33R
AF-1-001-700-S33K; AF-1-001-017-S33K; AF-1-059-003-S33R

ATTRIBUTES:

- ✓ WELDING ✓ HARDWARE ✓ CONNECTIONS (WALL/CEILING, ETC)
✓ PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ✓ ATTACHMENTS ✓ BASE PLATES
✓ WORKMANSHIP ✓ CLEARANCES ✓ GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 11 SUPPORTS ON BRHL - INSPECTED 6

- (1) AF-1-001-702-S33R - CLEARANCE ON SIDE + TOP NOT IN W VCD ✓
(REQUIRES 1/16 TOP + 2 SIDES)
(2) AF-1-001-015-S33R (a) CLEVIS WELDED TO EDGE OF 4 1/2 X 4 1/2 PLATE
INSTEAD OF CENTER
(b) SWAY STRUT BINDING - CLAMP TWISTED.

RESOLUTION: (1) TRASH + DEBRIS REMOVED - SIDE = 5/32" TOTAL
CLEARANCE; TOP = 1/8"; SATISFACTORY RESOLUTION - CLOSED

(2) (a) Engineering evaluated and found weld acceptable.

INSPECTION DATA CONTINUATION SHEET

③ INSPECTION ELEMENT: BHRL-AF-1-SB-006 (Rev 3)AF-1-001-014 - S33K - SATISFACTOR, INSTALLED IAW VCDAF-1-001-200 - S33K - " " "AF-1-001-017 - S33K - " " "AF-1-059-003 - S33R - " " "

2(b) CLAMP WAS FOUND TO BE TWISTED. SWAY STOUT
WILL NOW SIMBLE. RESOLVED

INSP. RPT. NO: 50-445/84-26 PAGE: A-23 INSPECTOR: OBERG

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/1/84

④ SUPPORT NUMBER/CLASS/SYSTEM: AFWS; BRHL-AF-1-SB-035 (Row 2)

AF-1-035-700-S33R

AF-1-035-701-S33K

ATTRIBUTES:

WELDING

HARDWARE

CONNECTIONS(WALL/CEILING,ETC)

PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS)

ATTACHMENTS

BASE PLATES

WORKMANSHIP

CLEARANCES

GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)

MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS INSPECTED 2 OF 6 SUPPORTS IDENTIFIED ON BRHL.

AF-1-035-700-S33R - INSTALLED IAW DESIGN UCD.

(1) AF-1-035-701-S33K - HILTI BOLT LOCATIONS NOT CORRECT

IAW UCD.

RESOLUTION: (1) BASE PLATE FURNISHED FOR AF-1-035-703-

S33K. DIMENSIONS CORRECT - ITEM RESOLVED

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SUPPORT/HANGER INSPECTION DATA SHEET

5 ROOM SAFEGUARDS BUILDING

DATE 8/1/84

SUPPORT NUMBER/CLASS/SYSTEM: AFWS; BRHL - AF-1 - SB - 014

AF-1-011-011-S33R

AF-1-025-002-S33K

AF-1-025-001-S33S

ATTRIBUTES:

WELDING	HARDWARE	CONNECTIONS(WALL/CEILING,ETC)
PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS)	ATTACHMENTS	BASE PLATES
WORKMANSHIP	CLEARANCES	GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS INSPECTED 3 OF 12 HANGERS/SUPPORTS.

AF-1-011-011-S33R - INSTALLED IAW VCD

AF-1-025-002-S33K - INSTALLED IAW VCD.

AF-1-025-001-S33S - INSTALLED IAW VCD

RESOLUTION: N/A

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/1/84

⑥ SUPPORT NUMBER/CLASS/SYSTEM: AFWS; BRHL-AF-1-SB-036 (REV 3)

AF-1-026-005-S33R; AF-1-026-003-S33R; AF-1-026-001-S33R

AF-1-026-004-S33R; AF-1-027-004-S33R; AF-1-027-003-S33R

AF-1-027-005-S33R; AF-1-027-006-S33R

ATTRIBUTES:

✓ WELDING

✓ HARDWARE

✓ CONNECTIONS (WALL/CEILING, ETC)

✓ PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS)

✓ ATTACHMENTS

✓ BASE PLATES

✓ WORKMANSHIP

✓ CLEARANCES

✓ GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)

MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS INSPECTED 8 OF 8 RESTRAINTS/SUPPORTS ON BRHL.

① AF-1-026-005-S33R - 3/16" FILET WELD AT JUNCTION OF ITEM NO 2 AND NO 8 BELOW SIZE. SPACE BETWEEN MEMBERS > 3/32", FILET DOES NOT GO UP ON PIECE 8" ON BOTTOM WELD AN EQUIVALENT AMOUNT.

② AF-1-026-003-S33R - VCD CALLS FOR MAX 1/2" GROUT. (CONT)

RESOLUTION: (1) ENGINEERING DETERMINED WELD IS ACCEPTABLE

(2) SET NEXT SHEET

INSPECTION DATA CONTINUATION SHEET

(6) INSPECTION ELEMENT: AFWS; BRHL-AF-1-SB-036 (REV 3)
AF-1-026-003-S33R (CONT) - 1 1/2" GROUT EXISTS.

(3) AF-1-026-001-S33R - CLEARANCE ON TOP < 1/32" AS PER
QC CHECKLIST (6. b.) - ATTACHMENT 5

(4) AF-1-027-004-S33R - STRUT WILL NOT MOVE IN GIMBAE

(5) AF-1-027-003-S33R - SWAY STRUT APPROX 1/4" FROM CONDUIT
SAT - PER QI-QAP-11.1-28

(6) REMAINING 2 SUPPORTS SATISFACTORY - CONSTRUCTED
IAW VCD.

(2) VCD to be corrected. According to licensee, grout
is not impacted from VCD.

(3) CLEANED; 1/32" AFTER

(4) GIMBLE/STRUT CAN MOVE. RESOLVED

(5) SAT PER QI-QAP-11.1-28 and engineering evaluation.

(6) N/A

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SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/7/84

⑦ SUPPORT NUMBER/CLASS/SYSTEM: AFWS; BRHL-AF-1-SB-025

AF-1-020-001-S62R; AF-1-055-015-S62R; AF-1-111-002-S63R

AF-1-103-044-S63R; AF-1-103-030-S53K; AF-1-103-026-S53K

AF-1-103-025-S43R

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) - ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 23 SUPPORTS ON BRHL. INSPECTED 7.

SNUBBER SER# 12994
(1) AF-1-103-026-S53K - (a) AC = 13 5/16 IN 12 7/8" AS CALLED
FOR ON DWG. (b) PIPE CLAMP IS RESTING ON FLOOR
TIGHT
PENETRATION PIPE. SNUBBER IS NOT LEVEL.

(2) AF-1-103-030-S53K - BASE PLATE CALLS FOR 1 1/2" DRILLED
HOLES FOR 1" HILTI (INSTALLED). CANNOT TELL ACTUAL
SIZE DRILLED.

RESOLUTION: (1)(a) SEE RESOLUTION FOR (3)(1)(a) (AF-1-035-035-Y33R)

(1)(b) NCR 14,756 WAS ISSUED 8/14/84. REINSPECTION BY QC FOUND
THAT THE SNUBBER WAS OFFSET 6 1/2°; PIPE CLAMP MOVED DOWN
AND RESTING ON PIPE SLEEVE; SEALANT + PAINT MATERIAL ON CLAMP &
SNUBBER. TUGCO START UP TO ISSUE 2 TRAVELER, TIGHTEN

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: SUPPORT AF-1-103-026-553K

(CONT) SCREW IN DUST COVER, RE-ADJUST PIPE CLAMP
AND REMOVE SEALANT,

(2) COPY OF DRAWING WAS POOR. ORIGINAL CALLS FOR
1 1/8" HOLES. RESOLVED.

(3) DRAWING USED WAS POOR COPY - CORRECT
SIZE INDICATES 1 1/8" - RESOLVED.

INSP. RPT. NO: 50-445/84-26 PAGE: A-29 INSPECTOR: OBERG

SUPPORT/HANGER INSPECTION DATA SHEET

⑧ ROOM SAFEGUARDS BLDG

DATE 8/7/84

SUPPORT NUMBER/CLASS/SYSTEM: AFWS; BRHL-AF1-SB-023

AF-1-102-010-553R ; AF-1-102-009-553R

AF-1-102-008-553K ; AF-1-102-037-553K

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS(WALL/CEILING,ETC)
- PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS)-ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 18 SUPPORTS ON BRHL; INSPECTED 4. No discrepancies identified. All conformed in accordance with VCD's.

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/7/84

⑨ SUPPORT NUMBER/CLASS/SYSTEM: AFWS; BRHL - AF-1-SB-011 (REV 3)
AF-1-011-007-S33S; AF-1-011-008-S33R
AF-1-011-007-S33R; AF-1-011-005-S33R

ATTRIBUTES:

- WELDING
- HARDWARE
- CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS)
- ATTACHMENTS
- BASE PLATES
- WORKMANSHIP
- CLEARANCES
- GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 7 SUPPORTS ON BRHL. INSPECTED 4

AF-1-011-008-S33R (REV 5) of 8/17/83 - THE DIMENSIONS AS SHOWN
BETWEEN PIPE AF-1-98-2002-3 AND POSITION OF RESTRAINT DO NOT
AGREE. DRAWING CALLS FOR 6" (ACTUAL = 11 5/16") ON RIGHT
AND 6" ON LEFT (ACTUAL = 2 5/8"); ALSO POSITION FOR CLAMP
AK AF-1-011-033-S33R (REV 1) NOT CORRECT (9" vs 4 1/2")
ALSO CLOSE B WELD.

RESOLUTION: THE DIMENSIONS IN QUESTION ARE NOT "CRITICAL" TO
SUPPORT PROPER FUNCTION OR PLACEMENT (FOUND ON BRHL DWGS)
INFORMATIONAL USE ONLY AND NOT MAINTAINED (PER WIG. REP.
ON 8/31/84.)

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/15/84

(10) SUPPORT NUMBER/CLASS/SYSTEM: AFWS; BRHL-AF-1-SB-013
AF-1-SB-013-001-5; AF-1-SB-013-002-5

DRAWINGS: H-AF-SB-013-002-5; H-AF-1-SB-013-001-5

ATTRIBUTES:

- WELDING
- HARDWARE
- CONNECTIONS(WALL/CEILING,ETC)
- PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS)
- ATTACHMENTS
- BASE PLATES
- WORKMANSHIP
- CLEARANCES
- GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 11 SUPPORTS ON BRHL; INSPECTED 2
NO DEFICIENCIES OR VIOLATIONS NOTED

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/2/84

(11) SUPPORT NUMBER/CLASS/SYSTEM: AFWS: BRHL-AF-1-SB-010

AF-1-009-020-S33R ; AF-1-009-018-S33S

AF-1-009-017-S33R ; AF-1-009-023-S33R

ATTRIBUTES:

WELDING

HARDWARE

CONNECTIONS(WALL/CEILING,ETC)

PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS)

ATTACHMENTS

BASE PLATES

WORKMANSHIP

CLEARANCES

GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)

MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 13 SUPPORTS ON BRHL; INSPECTED 4.

- MK# AF-1-009-023-S33R - SWAY STAVTS ARE NOT EQUAL AS COMPARED TO DWG (REV3) ± 3/4" DIFFERENCE.

RESOLUTION: WITHIN TOLERANCE, RESOLVED

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/2/84

⑫ SUPPORT NUMBER/CLASS/SYSTEM: AFWS; BRHL-AF-1-SB-015 (REV 3)

AF-1-082-004-S33R; AF-1-102-028-S33R; AF-1-102-013-S33R
AF-1-102-022-S33R; AF-1-102-015-S33R; AF-1-102-026-S33R
AF-1-102-023-S33R; AF-1-102-016-S33R

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 21 SUPPORTS IDENTIFIED ON BRHL. INSPECTED 5, reviewed
documents of 3 additional supports.

(1) AF-1-082-004-S33R - DWG INFO ITEM 3 NOT CORRECT. 10" x 1 7/8"

(2) AF-1-102-013-S33R - SWAY STRUT NOT LEVEL. OUTBOARD
BEARING DISLOADED.

(3) AF-1-102-028-S33R - 2 BROKEN COTTER KEYS

RESOLUTION: (1) COPY OF DWG NOT CLEAR (COULD BE 7 5/8") - BILL OF
MATERIALS NOT KEPT CURRENT - RESOLVED.

(2) NCR 14,757N ISSUED ON 8/14/84. STRUT WAS REMOVED.
SPHERICAL BEARING RESTAKED AND REINSTALLED TO LEVEL
CONDITION ON 8/22/84 (INSPECTOR OBSERVED) THIS ITEM

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. A-34 INSPECTOR OBORG

INSPECTION DATA CONTINUATION SHEET

12 INSPECTION ELEMENT: AFWS (AF-1-102-013)

(CONT) IS RESOLVED. REF: CP-QAP 16.1 (REV 21) PARA
3.2.2.1.

(3) BROKEN COTTER KEY REPLACED - ITEM RESOLVED.
MINOR PROBLEM

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE _____

⑬ SUPPORT NUMBER/CLASS/SYSTEM: EFWS (MAIN STEAM EXHAUST)
BRHL-MS-1-SB-048 (REV3) BRHL-MS-1-SB-054 (REV1)
MS-1-416-019-S73R ; MS-1-416-018-S73R ;
MS-1-416-002-S33K ; MS-1-415-001-S33S

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 17 SUPPORTS ON BRHL'S, INSPECTED 4 NO DEFICIENCIES
IDENTIFIED.

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/13/84

⑭ SUPPORT NUMBER/CLASS/SYSTEM: EFWS/MS; BRHL-MS-1-SB-002B
MS-1-028-034-S33K; MS-1-028-03J-S33S; MS-1-028-03I-S33S

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 8 SUPPORTS ON BRHL. INSPECTED 3, NO DEVIATIONS
OR DEFICIENCIES IDENTIFIED

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

15

ROOM SAFEGUARDS BLDG

DATE 8/13/84

SUPPORT NUMBER/CLASS/SYSTEM: EFWS/MS; BRHL-MS-1-SB-008 (REV 2)

IS MS-1-027-042-S33K; MS-1027-024-S33R (LINEAR SUPPORT-CL 3)

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 28 Supports on BRHL, Inspected 2 FOR DOCUMENTED
QC INSPECTION RESULTS ONLY. NO PROBLEMS NOTED,
UNABLE TO OBTAIN ACCESS FOR MEASUREMENT

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/13/84

(16) SUPPORT NUMBER/CLASS/SYSTEM: EFWS/MS; BRHL-MS-1-SB-015 (REV3)
MS-1-026-008-S72K; MS-1-026-010-S75K (REV3) (CLASS 5)
MS-1-026-009-S75K (CLASS 5 SUPPORT)

ATTRIBUTES:

WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
 PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
 WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 13 Supports on BRHL; inspected 3.

^{REV}
(1) MS-1-026-010-S75K (1) OVERSIZED HOLES FOUND IN
ITEM 4+5 - TUBE STEEL (4X4), HOLES SHOULD BE 1 5/8" - APPROX
> 1/4" OVERSIZE. (2) FOUR 4" WELDS BETWEEN ITEMS 3+11
NOT SHOWN ON VCD.

^(REV3)
(2) MS-1-026-009-S75K - ELEVATIONS FOR PIECES 2 AND 4 INDICATE

RESOLUTION: (1)(1) NCR M-15150 ISSUED

(1)(2) NOT REQUIRED TO BE SHOWN ON VCD, WELDS ARE NOTED

IN THE INSPECTION PACKAGE.

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INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: SUPPORTS/HANGER INSPECTION (EFWS/MS) (16)

THEY SHOULD BE SEPARATED 2' 5 1/16". ACTUAL MEASUREMENT
SHOWS 2' 9". CLASS 5 SUPPORT (DOWNGRADED)

Lined area for handwritten notes.

INSP. RPT. NO: 50-445/84-26 PAGE: A-40 INSPECTOR: OBORG

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/13/84

(17) SUPPORT NUMBER/CLASS/SYSTEM: EFWS/MS; BRHL-MS-1-SB-014 (REV 3)
MS-1-027-009-563R; MS-1-027-011-553S; MS-1-027-016-553S
MS-1-027-021-543R

ATTRIBUTES:

WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
 PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
 WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS-18 Supports on BRHL; inspected 4

(1) MS-1-027-016-553S (a) WIRE TIED FROM CONDUIT (SR) TO
HANGER; (b) FOAM INSULATION WAS IN CONTACT WITH
HANGER

RESOLUTION: (1) (a) WIRE REMOVED (b) FOAM DID NOT
RESTRICT MOVEMENT OF HANGER/SUPPORT.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. A-41 INSPECTOR OBERG

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/13/84

① SUPPORT NUMBER/CLASS/SYSTEM: AFWS/MS; BRHL MS-1-SB-007

MS-1-025-004-S72K; MS-1-025-009-S75K; MS-1-028-001-S73R

MS-1-028-039-S63K; MS-1-028-047-S43R; MS-1-028-012-S53S

ATTRIBUTES:

WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
 PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
 WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 25 supports on BRHL. Inspected 6

(1) MS-1-028-047-S43K MULTI BOLT PLACEMENT DIMEN-
SIONS NOT IN ACCORDANCE WITH DRAWING; UPPER RIGHT
BOLT OF BASE PLATE (ITEM 4) 3/8" MORE THAN STATED.
(TOLERANCE IS ± 1/4")

(2) MS-1-025-004-S72K - AC SETTING 17 1/32" vs 16 1/16"

RESOLUTION: (1) NCR 14842N ISSUED.

(2) RESOLVED - NO PROBLEM

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: EFWS/MS BRHLMS-1-SB-007

REV 3
(3) MS-1-025-009-575K - UPPER RIGHT RICHMOND
INSERT INDICATED AS 1 1/16" HOLE; A 1 1/2" RICHMOND
INSERT EXISTS. VCD STATES: "FIELD DRILL (1)
1 1/16" Ø HOLE." (CLASS 5 SUPPORT - DOWNGRADED)

(4) MS-1-028-039-563K AC SETTING = 17 1/32"
NO 17 3/16 - NO PROBLEM - RESOLVED

(3) NCR M-15151 TO FIX VCD.

INSP. RPT. NO: 50-445/84-26 PAGE: A-43 INSPECTOR: ORBERG

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/13/84

(19) SUPPORT NUMBER/CLASS/SYSTEM: EFWS/MS; BRHL-MS-1-SB-002A
MS-1-028-037-S33R; MS-1-028-019-S33R
MS-1-028-030-S33K;

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 21 Supports on BRHL; inspected 3

(1) MS-1-028-030-S33K - AC SETTING ON TOP 11 1/16" ^{me} 11 5/16";
ON BOTTOM AC = 11 1/16" ^{me} 11 5/16" - NO ^{SIGNIFICANT} PROBLEM DUE TO
MOVEMENT OF PIPE DURING HEAT UP/COOL DOWN.

(2) MS-1-028-037-S33R AND MS-1-028-019-S33R WERE NOT
INSPECTED EXCEPT FOR REVIEW OF DOCUMENTS. SUPPORTS WERE
NOT ACCESSIBLE - IN TRENCH.

RESOLUTION: _____

1) RESOLVED

INSPECTION DATA SHEETS

SYSTEM AFWS

AREA INSTRUMENTATION

ATTACHMENT A

DATA SHEET - DOCUMENTS REVIEWED

Room SAFEGUARDS

System AFWS/INST

1. THE FOLLOWING ARE TYPICAL RECORDS REVIEWED FOR THE INSTRUMENTATION INSTALLATION.

- INSPECTION REPORTS (QC) - VARIOUS SUBJECTS
- INSTRUMENTATION TUBING MANUFACTURING RECORD
- INSTRUMENT INSTALLATION CHECKLIST
- NCRs
- PRESSURE TEST DATA SHEETS
- IRN (INSPECTED ITEM REMOVAL NOTICE)

2. IN ADDITION THE FOLLOWING DOCUMENTS WERE REVIEWED:

- SEISMIC TUBE SUPPORT PACKAGE (2323-I-001)
- CRITERIA FOR SEISMIC TUBING SUPPORT PLACEMENT (2323-I-002)
- FSI-00069 SEISMIC TUBING SUPPORT SPAN LENGTHS

THE ABOVE DOCUMENTS CONTAIN CRITERIA FOR THE INSTALLATION OF INSTRUMENTATION TUBING.

INSTRUMENTATION INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/14/84

INSTRUMENTATION NUMBER/SYSTEM 1-FT-2458(LP); 1 FT-2458(HP)

FSI-2206-04-1-58 (SHEET No 1 + No 2)

ATTRIBUTES (✓) Equipment Condition; (✓) Workmanship; (✓) Nonconforming Items Resolved; (✓) Installation IAW Requirements; (✓) Temporary Conditions (Jumpers, Bypass Lines) Identified; (✓) Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

(OI-QP-19.5-1 PARA 3.6 ^{AND 3.4.1.1} REQUIRES MIN. OF 1/8")

RESULTS: ● CHANNEL NO. 1-FT-2458(HP) LINE CONTACTS
PIPE SUPPORT AT 90° BEND APPROXIMATELY 4' 2 3/4"
FROM IAF-0039 (EL 805'4"). NCR M-82-00683S
WAS ISSUED ON 6/1/82 REGARDING INSTRUMENT SUP.
PARTS. CALCULATION REVEALED SUPPORTS (MULTI BOLTS)

RESOLUTION: Tube was adjusted to provide clearance.

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: WERE ACCEPTABLE. THE EVALUATION
WAS REVIEWED AND APPROVED. (SER # FSEG IE-2)
NCR
I-83-012945 (5/9/83) WAS CONCERNED WITH UNUSED
Holes IN INSTRUMENT SUPPORTS. ENGINEERING EVALUATED
THE SUPPORTS. CMCs WERE ISSUED TO DISPOSITION NCR
(CMC 73043, 73045, 72661 R-1, AND 73029)

INSTRUMENTATION INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG.

DATE 8/14/84

INSTRUMENTATION NUMBER/SYSTEM 1-PS-2470A / 1-PS-2470B (HP)

FSI-2206-06-1-70A ; FSI-2206-06-1-70B

ATTRIBUTES (Equipment Condition; (Workmanship; (Nonconforming Items Resolved; (Installation IAW Requirements; (Temporary Conditions (Jumpers, Bypass Lines) Identified; (Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: (a) IR-I-8415 (3/11/83) Unset condition - "Verify inst-
ments are securely mounted and supports are intact" (Item 18)
Open - IR closed 3/15/83, In "NA" on 2/14/84. (OI-QP-11.8-5, R11)

(b) LENGTH OF SUPPORT FROM IAF-0186 TO FIRST SUPPORT
APPEARS EXCESSIVE. (2'2 1/2") WITHOUT SUPPORT.

RESOLUTION: (b) Length of support meets criteria - Engineering
evaluated as acceptable (8/00/84)

(a) RESOLVED.

INSPECTION REPORT NO. 50-544/84-26 PAGE NO. A-48 INSPECTOR OBERG

INSTRUMENTATION INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/14/84

INSTRUMENTATION NUMBER/SYSTEM 1-PI-2469; FSI-2206-06-1-69

ATTRIBUTES (Equipment Condition; (Workmanship; (Nonconforming Items Resolved; (Installation IAW Requirements; (Temporary Conditions (Jumpers, Bypass Lines) Identified; (Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: LOOSE BOLT ON T09 ZDI SUPPORT - FIRST FROM IAF-0147 (ELEV. 796.9"), OTHER ATTRIBUTES SATISFACTORY.

RESOLUTION: BOLT HAS BEEN TIGHTENED.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. A-49 INSPECTOR OBERG

INSTRUMENTATION INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/14/84

INSTRUMENTATION NUMBER/SYSTEM 1-PI-2488; FSI-2206-07-1-88

ATTRIBUTES (✓) Equipment Condition; (✓) Workmanship; (✓) Nonconforming Items Resolved; (✓) Installation IAW Requirements; (✓) Temporary Conditions (Jumpers, Bypass Lines) Identified; (✓) Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: TUBING INSTALLED IAW FSI.

RESOLUTION: N.A.

INSTRUMENTATION INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/14/84

INSTRUMENTATION NUMBER/SYSTEM 1-PT-2455; FSI-2206-03-155; AFWS

ATTRIBUTES (✓) Equipment Condition; (✓) Workmanship; (✓) Nonconforming Items Resolved; (✓) Installation IAW Requirements; (✓) Temporary Conditions (Jumpers, Bypass Lines) Identified; (✓) Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: • TEST "T" BELOW INSTRUMENT 1-PT-2455
WAS NOT SHOWN ON DIAGRAM. • A LOOSE NUT + BOLT
WAS FOUND ON T03 PRODS SUPPORT 2 1/8" BELOW VALVE
HAG-25-6 (REF FSI DWG NOTED ABOVE)

RESOLUTION: "FSI POSITION" IS THAT THE FSI'S ARE FOR INFORMATION
ONLY. "AS-BUILT" NOTATION WILL BE DELETED AND A NOTE ADDED TO
DESCRIBE THE INFO ONLY PURPOSE.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. A-51 INSPECTOR OBORG

INSTRUMENTATION INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/15/84

INSTRUMENTATION NUMBER/SYSTEM 1-PI-2468 ; AFWS

FSI-2206-06-1-68

ATTRIBUTES (✓) Equipment Condition; (✓) Workmanship; (✓) Nonconforming Items Resolved; (✓) Installation IAW Requirements; (✓) Temporary Conditions (Jumpers, Bypass Lines) Identified; (✓) Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: • THE SPAN BETWEEN THE FIRST TWO SUPPORTS OFF ROOT VALVE
AF-145 HAS BEEN STEPPED ON AND BENT SO THAT
CONTINUOUS SLOP IS NOT MAINTAINED.

• UNIONS BETWEEN LAST TWO SUPPORTS BEFORE INSTRUMENT BANK NOT SHOWN ON FSI

• THE 4TH 3D SUPPORT FROM ROOT VALVE HAS A LOOSE NUT.

RESOLUTION: 1) SPAN HAS BEEN REPAIRED.

2,3,4) "FSI POSITION"

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. A-52

INSPECTOR OBERG
SKOW

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: SAFEGUARDS BLDG - INSTRUMENT I-PI-2468 -

RESULTS CONTINUED:

- AS BUILT AND SPECIFIED TUBE SPAN LENGTHS DO NOT AGREE.

<u>DIM. FROM ROOT VALVE</u>	<u>AS SHOWN ON P&I</u>	<u>AS BUILT</u>
<u>2ND</u>	<u>7^{3/4}"</u>	<u>10"</u>
<u>4TH</u>	<u>7^{3/8}"</u>	<u>3"</u>
<u>5TH</u>	<u>1' 6^{1/8}"</u>	<u>1' 7^{1/2}"</u>

INSP. RPT. NO: 50-445/84-26 PAGE: A-53 INSPECTOR: OBORG/SKOW

INSTRUMENTATION INSPECTION DATA SHEET

ROOM SAFEGUARD BLDG

DATE 8/15/84

INSTRUMENTATION NUMBER/SYSTEM 1-PT-2477 ; FSI-2206-06-1-77

AFWS

ATTRIBUTES (✓) Equipment Condition; (✓) Workmanship; () Nonconforming Items Resolved; (✓) Installation IAW Requirements; (✓) Temporary Conditions (Jumpers, Bypass Lines) Identified; (✓) Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: ^{FITTING} ELBOW IMMEDIATELY ABOVE ROOT VALVE IAF-0035
IS NOT SHOWN ON FSI DRAWING.

RESOLUTION: "FSI POSITION"

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. A-54 INSPECTOR OBERG SKOW

INSTRUMENTATION INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/15/84

INSTRUMENTATION NUMBER/SYSTEM AFWS; I-PI- 2390; FSI-2202-05-1-90

ATTRIBUTES (✓) Equipment Condition; (✓) Workmanship; (✓) Nonconforming Items Resolved; (✓) Installation IAW Requirements; (✓) Temporary Conditions (Jumpers, Bypass Lines) Identified; (✓) Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: • THE FIRST SUPPORT BACK TOWARDS THE ROOT VALVE
IMS-0164 FROM THE TEE IS LOOSE. (1ST SUPPORT OUT OF 5TH SERIES)
• THE SECOND SPAN FROM ROOT VALVE IMS-0164 HAS LESS
THAN 1/8" CLEARANCE FROM AN ADJACENT SUPPORT AND
CAN EASILY TOUCH IT.

RESOLUTION: 1+2) ITEMS HAVE BEEN REPAIRED.
3) FSI POSITION

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. A-55

INSPECTOR OBERG
SKOW

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: SAFEGUARDS BLDG - I-PI-239D —

RESULTS (CONT) • THE 2'-5 7/8" SPAN, JUST BEFORE THE FIRST SUPPORT
FROM THE ROOT VALVE, MEASURES 2' 8 1/2" AS BUILT.

INSP. RPT. NO: 50-445/84-26 PAGE: A-56 INSPECTOR: OBERG
SKOW

INSTRUMENTATION INSPECTION DATA SHEET

ROOM SAFEGUARD BLDG

DATE 8/15/84

INSTRUMENTATION NUMBER/SYSTEM AFWS; 1 PT-2476; FSI-2206-06-1-76

ATTRIBUTES (Equipment Condition; (Workmanship; (Nonconforming Items Resolved; (Installation IAW Requirements; (Temporary Conditions (Jumpers, Bypass Lines) Identified; (Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: * THE 3' 1³/₁₆" SPAN BETWEEN THE FIRST TWO SUPPORTS FROM ROOT VALVE AF-026 HAS BEEN STEPPED ON AND BENT SO THAT THE UNION IS A LOW POINT IN THE SPAN.

RESOLUTION: SPAN HAS BEEN REPAIRED.

INSPECTION REPORT NO. SD 445/84-26 PAGE NO. A-57 INSPECTOR OBERG SKOW

INSTRUMENTATION INSPECTION DATA SHEET

ROOM SAFEGUARD BLDG

DATE 8/15/84

INSTRUMENTATION NUMBER/SYSTEM 1-FT-2457 (LP); 1-FT-2457 (HP)
FSI-2206-04-1-57 (SHEETS 1+2) (AFWS)

ATTRIBUTES (✓) Equipment Condition; (✓) Workmanship; (✓) Nonconforming Items Resolved; (✓) Installation IAW Requirements; (✓) Temporary Conditions (Jumpers, Bypass Lines) Identified; (✓) Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: 1-FT-2457(HP) • 45° OFF SET NOT SHOWN ON FSI AFTER THIRD
SUPPORT FROM ROOT VALVE AF-053.

• UNION NOT SHOWN ON FSI BEFORE SECOND
SUPPORT FROM INSTRUMENT RACK.

1-FT-2457(LP) • 45° OFF SETS NOT SHOWN ON LAST SPAN FROM ROOT VALVE TO POINT "B".

RESOLUTION: FSI POSITION

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. A-58 INSPECTOR OBERG SKOW

INSTRUMENTATION INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/15/84

INSTRUMENTATION NUMBER/SYSTEM AFWS/MS; 1-PT-2392;

FSI-2202-05-1-92

ATTRIBUTES (✓) Equipment Condition; (✓) Workmanship; (✓) Nonconforming Items Resolved; (✓) Installation IAW Requirements; (✓) Temporary Conditions (Jumpers, Bypass Lines) Identified; (✓) Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: (a) LAST SUPPORT FROM ROOT VALVE 1-MS-0288 BEFORE THE TEE WAS LOOSE

(b) THE SECOND SPAN FROM THE ROOT VALVE IS MADE UP OF TWO DIMENSIONS 3' 3" and 2 7/8" WHICH TOTAL 3' 5 7/8". TOO LONG PER FSI-00069

RESOLUTION: (b) DIMENSION WAS MEASURED AS CORRECT. CLAMP TO CLAMP, INSIDE DIMENSIONS - SATISFACTORY RESOLUTION

a) SUPPORT BOLT HAS BEEN TIGHTENED.

INSPECTION REPORT NO. 50445/84-26 PAGE NO. A-59

INSPECTOR OBERG SKOW

INSTRUMENTATION INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/17/84

INSTRUMENTATION NUMBER/SYSTEM 1-PS-2454-A; 1-PS-2454-B (AFWS)

FSI-2206-03-1-54A (2 SHEETS)

FSI-2206-03-1-54B (2 SHEETS)

ATTRIBUTES (Equipment Condition; (Workmanship; (Nonconforming Items Resolved; (Installation IAW Requirements; (Temporary Conditions (Jumpers, Bypass Lines) Identified; (Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: (a) THERE ARE TWO CHECK VALVES ON THE CHANNEL "A" FSI DRAWING WHICH ARE LABELED 1-AF-221 and 1-AF-222. AS BUILT, THEY HAVE ID TAGS SHOWING 1-AF-219 AND 220, RESPECTIVELY. THE CH "B" FSI DOES NOT IDENTIFY ITS TWO SIMILAR CHECK VALVES, BUT ^{THE VALVES} HAVE ID TAGS INSTALLED WHICH WERE SUPPOSED TO BE ON THE CH "A" VALVES. (CONT NEXT PAGE)

RESOLUTION: VALVE ID TAGS HAVE BEEN CHECKED AND FOUND TO BE ON THE CORRECT LINES, PER DRAWING TNE-MI-2120-01.
ALL OTHER ITEMS COVERED BY FSI POSITION.

INSPECTION REPORT NO. 50-544/84-26 PAGE NO. A-60 INSPECTOR SKOW

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: SAFEGUARDS -- INSTRUMENT # 1-PS-2454A, 1-PS-2454B

RESULTS (CONT) (b) CH "A", THERE IS A 6 1/2" LENGTH SHOWN ENTERING
AN AIR OPERATED VALVE ASSEMBLY ON SHEET 2 THAT IS 4 3/4" AS BUILT.

(c) CH "B", AT THE VALVE IN THE TUBE UPSTREAM OF THE
TWO CHECK VALVES ON SHEET 2, THE UPSTREAM LENGTH IS SHOWN ON
THE FSI AS 1'1", IT IS 5" AS BUILT.

(d) THE LENGTH DOWNSTREAM FROM THE SAME VALVE, ABOVE,
IS SHOWN AS 2 9/16", IT IS 5 1/2" AS BUILT.

(e) THE TUBING FROM THE TEE ADJACENT TO PT "A" LEADING
TO THE FISHER CONTROLS ON VALVE 1-PV-2454B, STARTING WHERE
THE TUBE STARTS TO RUN HORIZONTAL FROM THE WALL ALONG WHAT
THE FSI SHOWS AS 10 5/8", DEVIATES FROM THE FSI
IN ROUTING AND LENGTHS OF RUN. THERE IS NO RESEMBLANCE UPON WHICH
DETAILS CAN BE COMPARED.

INSP. RPT. NO: 50-544/84-26 PAGE: A-61 INSPECTOR: SKOW

INSPECTION DATA SHEETS

SYSTEM CS

AREA COMPONENTS

ATTACHMENT B

COMPONENT INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/30/84

COMPONENT IDENTIFICATION: CP1-CTATVT-01 CONTAINMENT
 SPRAY VALVE ISOLATION TANK

ATTRIBUTES INSPECTED: GENERAL WORKMANSHIP -- COMPLETENESS OF
 ACTIONS;

ACCEPTANCE CRITERIA: PENET. ASSMBLY DWGS 50021690 (2 sheets);
 DWG 5699 (CP-1); 2323-EI-0601-02; 2323-MI-0522
 SPECIF. ES-28

RESULTS: • TAPE COVERS THE TANK DRAIN HOLE.

• CONDUIT NOT INSTALLED INSIDE OR OUTSIDE THE TANK
 FROM THE PENETRATION.

• ELECTRICAL LEADS HANGING BY A PLASTIC STRAP. THE STRAP
 COULD EASILY SLIP FROM ITS CATCH POINT AND LEAVE THE
 WIRES DRAPED OVER A SHARP EDGE.

• ZERK FITTINGS ON THE VALVE OPERATOR MOTOR ARE PAINTED OVER.

RESOLUTION: 1) REMOVED

2) NOT REQUIRED

3) THIS CONCERN APPLIED TO THE 4 ISOLATION TANK ASSEMBLIES

FOR BOTH CS AND RHR SYSTEMS. THE ITEMS HAVE BEEN LISTED IN THE MASTER DATA BASE'S

TANK:	SUB SYSTEM:	ITEM #:
CP1-CTATVT-01	4802	0773S
-02	4802	0774S
CP1-RHATVT-01	5801	0422A
-02	5801	0423A

4) NON Q - HAS BEEN CLEANED

INSPECTION REPORT NO. 50-445/84-26 PAGE NO B-1 INSPECTOR OBERG
 SKOW

DATA SHEET - DOCUMENTS REVIEWED

Room SAFEGUARDS BLDG System CONTAINMENT SPRAY
- CS VALVE ISOLATION TANK (CPI-CTATUT-02) -

CONST OPER. TRAVELER ME-79-230-4800

RIR-03223

CONST OPER. TRAVELER ME-82-1378-4800

CONST OPER. TRAVELER ME-82-1150-4800

" " " ME-82-3502-4800

" " " ME-84-1088-4800

" " " ME-84-1066-4800

B+R DDR M-316 7/9/76

B+R DDR M-403 10/26/76

B+R DDR M-428 11/15/76

NCR's: M-2878; M-13501;

WDC's: 43468; 43472; 43475; 432020; 6398213

68245; 682146; 684511;

COMPONENT INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG Room 51

DATE 9/4/84

COMPONENT IDENTIFICATION: CPI-CTAPCS-04 CONTAINMENT
SPRAY PUMP (SER # 15210088)

ATTRIBUTES INSPECTED: WORKMANSHIP; DOCUMENTATION

ACCEPTANCE CRITERIA: MFG TECH MANUAL; APPL DWGS

RESULTS: (1) CLAMPS FASTENING "DRAIN" LINE (UNISTRUT) ON BACKWARDS
(2) CONDUIT C19K30963 - ATTACHED TO PUMP - BRACE MISSING

ALIGNMENT + INSTALLATION COMPLETED IAW VENDOR DRAWINGS
AND BINGHAM-WILLIAMSITE MANUAL. GROUTING IAW TRAVELED
ME-82-1415-4800

RESOLUTION: 1) NON Q - ANY DIRECTION IS OK

2) HAS BEEN PUT ON MASTER DATA BASE FOR REPAIR.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO B-3 INSPECTOR OBERG/SKOW

DATA SHEET - DOCUMENTS REVIEWED

Room 51 SAFEGUARDS BLDG System CONTAINMENT SPRAY
PUMP CPI-CTAPCS-04

TRAVELERS: ME-83-1214-4800 (BEARING COOLERS)

ME-84-1075-4800

ME-79-285-4800

ME-84-1093-4800

ME-82-1415-4800

NCRs: M-2574 (R2) (B+R)

ME-82-1049-4800

M-81-00172

ME-82-1053-4800

E-81-00058 (R1)

ME-82-1167-4802

M-34855 (B+R)

ME-82-1127-4802

C-82-01252

ME-82-1112-4802

E-82-016765

M-7064 (R1) (B+R)

M-44015 (R1) (B+R)

M-11532 (B+R)

DCA 14198 (R1)

COMPONENT INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG. Rm 68 DATE 9/13/84

COMPONENT IDENTIFICATION: CPI-CTA HCS-02 CONTAINMENT STRAY
HEAT EXCHANGER S/N 2275-2

ATTRIBUTES INSPECTED: WORKMANSHIP, DOCUMENTATION

ACCEPTANCE CRITERIA: J. OATES DWGS

RESULTS: NO DEFICIENCIES OR VIOLATIONS NOTED

RESOLUTION: NA

INSPECTION REPORT NO. 50-445/84-26 PAGE NO B-5 INSPECTOR OBERG

DATA SHEET - DOCUMENTS REVIEWED

Room 68 SAFEGUARDS BLDG System CONT. SPRAY

HEAT EXCHANGER CPI-CTAHCS-02

<u>NCR (B+R)</u>	<u>M-1976</u>	<u>M-5233</u>
	<u>M-2120</u>	<u>M-5181S R-1</u>
	<u>M-2306</u>	<u>M-9790</u>
	<u>M-5099S</u>	<u>M-13940</u>

CONSTRUCTION TRAVELERS : ME 78-171-4800 ; ME 82-1161-4800
ME 83-1153-4800

INSPECTION DATA SHEETS

SYSTEM

CS

AREA

SUPPORTS

ATTACHMENT B

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/7/84

(A) SUPPORT NUMBER/CLASS/SYSTEM: CS/BRHL - CT-1-RB-047
(IN SAFEGUARDS BLDG) CT-1-002-008-532R

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 2 SUPPORTS ON BRHL - INSPECTED 1
NO VIOLATIONS OR DEVIATIONS NOTED.

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/7/84

① SUPPORT NUMBER/CLASS/SYSTEM: CS/BRAH CT-1-SB-011 (REV1)

CT-1-002-001-S32S

CT-1-002-004-C32K

CT-1-002-007-S22R

ATTRIBUTES:

WELDING

HARDWARE

CONNECTIONS (WALL/CEILING, ETC)

PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS)

ATTACHMENTS

BASE PLATES

WORKMANSHIP

CLEARANCES

GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)

MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 6 SUPPORTS ON BRAH; INSPECTED 3

NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/6/84

③ SUPPORT NUMBER/CLASS/SYSTEM: _____

NO SUPPORTS IN AREA OF CONCERN

ATTRIBUTES:

WELDING

HARDWARE

CONNECTIONS(WALL/CEILING,ETC)

PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS)

ATTACHMENTS

BASE PLATES

WORKMANSHIP

CLEARANCES

GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)

MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 10 SUPPORTS ON BRHL - NONE IN AREA OF CONCERN. DATA SHEET SUBMITTED FOR CONTINUITY.

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/7/84

③ SUPPORT NUMBER/CLASS/SYSTEM: CS/ BRHL CT-1-SB-016 (Rw-3)
CT-1-008-003-522S; CT-1-008-007-522K
CT-1-008-008-522K; CT-1-008-001-522S

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 8 supports on BRHL; inspected 4
NO DEVIATIONS OR VIOLATIONS NOTED

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/7/84

④ SUPPORT NUMBER/CLASS/SYSTEM: CS/BRHL CT-1-SB-014

CT-1-012-004 - S22K CT-1-025-009 - S32K

CT-1-025-006 - S22K CT-1-012-005 - S22K

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 17 SUPPORTS ON BRHL; INSPECTED 4

NO VIOLATIONS OR DEVIATIONS NOTED.

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/7/84

⑤ SUPPORT NUMBER/CLASS/SYSTEM: CS/BRHL CT-1-SB-009 (REV 3)
CT-1-014-015-S42K ; CT-1-014-025-S32K
CT-1-014-019-S32R

ATTRIBUTES:

WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
 PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
 WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 12 SUPPORTS ON BRHL; INSPECTED 3

• SUPPORT # CT-1-014-015-S42K IS MISSING TWO WELDS. THEY ARE
BOTH 5/16" FILLET WELDS 2" LONG, THEY SHOULD BE LOCATED AT THE
TOP AND BOTTOM OF THE BASE PLATE (SHOWN IN SECTION A-A OF THE SUPPORT
DRAWING) AT THE IMBEDDED PLATE.

RESOLUTION: NCR M-14, 722N WAS WRITTEN 8/8/84 BY THE LICENSEE TO
DOCUMENT THE TWO MISSING WELDS. WELDS REQUIRED, THE NCR
DISPOSITION IS "TO MAKE WELDS IN QUESTION." THIS PROBLEM WAS
IDENTIFIED BY THE NRC INSPECTOR.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. B-12 INSPECTOR SKDW

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG

DATE 8/7/84

⑥ SUPPORT NUMBER/CLASS/SYSTEM: OS/BEHL-CT-1-SB-010
CT-1-014-008-542K

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 7 Supports on BEHL; Inspected 1
NO VIOLATIONS OR DEVIATIONS NOTED.

RESOLUTION: N.A.

INSPECTION DATA SHEETS

SYSTEM CCW

AREA COMPONENTS

ATTACHMENT C

COMPONENT INSPECTION DATA SHEET

ROOM 198 Aux Bldg 810'6" ELEV DATE 8/9/84

COMPONENT IDENTIFICATION: CPI-CCAPCC-02 COMPONENT COOLING
WATER PUMP S/N 14210677

ATTRIBUTES INSPECTED: INSTALLATION, DOCUMENTATION (ALIGNMENT
-BOLTING TO FOUNDATIONS, WORKMANSHIP

ACCEPTANCE CRITERIA: TECH MANUAL

NOTE: PUMP ON LINE DURING INSPECTION - SMOOTH RUNNING

RESULTS: 1) GROUND WIRE FROM MOTOR TO FEEDER CONDUIT WAS
APPROXIMATELY 40% OF STRANDS OUT OF CLAMP (C11G08174)
2) 1" FLEX CONDUIT (C13G08451) HAS SMALL HOLE IN
SHEATH COVER ABOUT 2" ABOVE 45° FITTING.
3) FLEX CONDUIT (C11G08174) HAS SMALL TEAR ABOVE
45° BEND ≈ 5" ABOVE

RESOLUTION: 1) NON Q - HAS BEEN REPAIRED

2) NCR E84-100, 492S ISSUED.

3) NCR E84-100, 491S ISSUED.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO C-1 INSPECTOR OBERG/SKOW

DATA SHEET - DOCUMENTS REVIEWED

Room 198 AUX BLDG

System CCWPUMP

MFG INST MANUAL - CP-001-002 (B-W) BINGHAM-
WILLAMETTE CO.

RIR NO 07108

ME TRAVELER - 78-034-1101

ME " - 83-1519-1101

ME " - 81-1574-1101

ME " - 80-1448A-1100

ME " - 80-1189A-1100

NCR M-1158 (9/15/78)

MP TRAVELER - 79-1448-1101

MP TRAVELER - 79-1189-1101

COMPONENT INSPECTION DATA SHEET

ROOM AUX. BLDG.

DATE 8/20/84

COMPONENT IDENTIFICATION: CPI- CCAHX-02 : COMPONENT COOLING
WATER HEAT EXCHANGER. MFG BY STRUTERS WELLS
COPP.

ATTRIBUTES INSPECTED: INSTALLATION DOCUMENTATION; WORKMAN-
SHIP.

ACCEPTANCE CRITERIA: TECHNICAL MANUAL CP-049-001 ; DWG 1-74-06-32
467D1-R-7

RESULTS: FOUND INSTALLATION TO CONFORM TO REQUIREMENTS
OF TECH MANUAL FOR INSTALLATION. DOCUMENTATION INDICATED
THAT SLIDING FEET ARE FREE TO MOVE. NO DEVIATIONS/DESCRIP-
ANCIES IDENTIFIED.

RESOLUTION: N.A.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO C-3 INSPECTOR BERG

DATA SHEET - DOCUMENTS REVIEWED

Room AUX BLDG System CCW

CP1-CCAHHX-02 CCW HEAT EXCHANGER

• TRAVELER ME-80-1541-1101

• STRUTHERS WELLS CORP. INSTALLATION, OPERATING AND
MAINTENANCE INSTRUCTION MANUAL (P.O. CP-0049)

• MATERIAL/EQUIPMENT CONTROL HISTORY REPORT (6/1/76)

• NCR #: M 681, R1 6/29/77

 " M 902, R1 2/16/78

 M-898, R1 3/14/78

 M-2651, 2/9/81

 M-2879S 7/29/81

 M-3217 2/16/82

 M-3331S 3/19/82

 M-13926 5/16/84

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. C-4 INSPECTOR OBERG/SKOW

COMPONENT INSPECTION DATA SHEET

ROOM SAFEGUARDS BLDG.

DATE

9/4/84

COMPONENT IDENTIFICATION: CCWS / (1) ICC-048 (2) ICC-055

WAFFER TRUNNION VALVES 24"

ATTRIBUTES INSPECTED: DOCUMENTATION; OBSERVATION OF INSTALLED COMPONENTS; WORKMANSHIP

ACCEPTANCE CRITERIA: TECH MANUAL; DWG 11633 (PDSI-SEAL)

PDSI SEAL INTERNATIONAL, INC. DWG # 11633 REV D

RESULTS: PADLOCKS NOT INSTALLED ON EITHER VALVE.

ICC-055 - SATISFACTORY.

ICC-048 - ^{(NOT EXCESSIVE} RUST PRESENT; DIFFICULT TO GET TO - NO LADDER PROVIDED; SCREWS HOLDING HANDWHEEL TO LOCKING DEVICE.

NOTE: LOCKING DEVICE ON ICC-055 HELD ON BY SCREWS - CAN BE EASILY REMOVED

RESOLUTION: ICC-048 - RUST CLEANED, PAINTED

- LADDER WILL BE CONSIDERED DURING STA 802 WALKDOWN.

- LOCKING DEVICE ADEQUATE.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO C-5 INSPECTOR OBERG/SKOW

DATA SHEET - DOCUMENTS REVIEWED

Room SAFEGUARDS BLDG System CCWS

• ICC-055 + ICC-048

TRAVELER MP-82-16478-1100

NCR-M591 (4/18/77)

RIR 03061

PCSI SEAL INTERNATIONAL INC. DWS 11633

COMPONENT INSPECTION DATA SHEET

ROOM AUXILIARY BLDG 790' LEVEL DATE 8/9/84

COMPONENT IDENTIFICATION: LHV-4575 MOTOR OPERATED VALVE
CCW SYSTEM (TYPE SMB-00/10)

ATTRIBUTES INSPECTED: INSTALLATION, ELECTRICAL CONNECTIONS,
DOCUMENTATION PACKAGE (INCLUDED NCR CLOSURE), WORKMAN-
SHIP

ACCEPTANCE CRITERIA: IEEE 336; VALVE MANUAL CP600-01

RESULTS: (1) POSITION INDICATOR BADLY BENT (2) SCREWS ON
ELECTRICAL COVER NOT SNUG AND LOCK WASHERS APPEAR TO BE
MISSING (3) SEPARATION VIOLATIONS (CONDUITS C13G 04311 AND
C12G 04691) - CONDUIT LAYING ON HAND WHEEL; TOUCHING
MOTOR/GEAR HOUSING CASE. (4) GROUND CABLE LOOSE AT
GROUND LUG ON MOTOR/GEAR BOX HOUSING. UNIT NEEDS
CLEANING/PAINTING; NCR'S CLEARED; VALVE OPERATOR NOT

RESOLUTION: 1) NOT CRITICAL - VALVE IS EITHER OPEN OR CLOSED. 2) MDD SUB SYS 1101 ITEM 7795.
3) NCR EB4-10049DS ISSUED TO REPAIR CONDUIT C13G04311. AS A SIDE RESULT,
SEPARATION VIOLATIONS WERE CLEARED UP. 4) + 5) NON-Q - HAVE BEEN REPAIRED
6) VALVE IS INSTALLED PER DOCUMENTATION, POSITION SHOULD NOT INTERFERE WITH
OPERATION, MAY ONLY LEAK SOME OIL.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO C-7 INSPECTOR CLOWARD/BERG

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: 1-HV-4575 MOV TYPE SMB-00/10

INSTALLED IN RECOMMENDED POSITION. (SEE TECH MANUAL
SMB/170, PG 3 + 9)

INSP. RPT. NO: 50-445/84-26 PAGE: C-8 INSPECTOR: CLOWARD / OBERG

INSTRUMENTATION INSPECTION DATA SHEET

ROOM AUX BLDG - 74

DATE _____

INSTRUMENTATION NUMBER/SYSTEM 1 FE - 4537A ORFICE PLATES

CCWS

ATTRIBUTES (Equipment Condition; () Workmanship; (Nonconforming Items Resolved; () Installation IAW Requirements; () Temporary Conditions (Jumpers, Bypass Lines) Identified; (Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: THE AREA IN WHICH THE ORFICE PLATES ARE INSTALLED,
HAVE BEEN COVERED WITH INSULATION, NO VISUAL INSPECTION COULD
BE PERFORMED. DOCUMENTATION REVIEWED INCLUDED: NCR
I-81-016105, R2; RIR 15998; 19413; NCR M-3317 R1;
NCR M-4636, R-11; IR-I-4605 - ALL ITEMS SATISFACTORY.

RESOLUTION: N.A.

INSPECTION REPORT NO. 50-WR/84-26 PAGE NO. C-9 INSPECTOR OBERG

INSPECTION DATA SHEETS

SYSTEM CCW

AREA SUPPORTS

ATTACHMENT C

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM AUXILIARY BLDG

DATE 8/7/84

① SUPPORT NUMBER/CLASS/SYSTEM: CCW/BELH-CC-1-AB-045 (Rev 6)

CC-1-949-703-A13K

CC-1-011-034-A63K

ATTRIBUTES:

WELDING HARDWARE CONNECTIONS(WALL/CEILING, ETC)
 PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
 WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 19 supports on BRHL. Inspected 2

SUPPORT # CC-1-011-034-A63K, THE 2'7" DISTANCE FROM THE
WALL TO THE SNUBBER CONNECTING PIN CENTER LINE IS 2'5 1/2"
AS INSTALLED.

RESOLUTION: NCR#14745N WAS WRITTEN TO DOCUMENT THE PROBLEM.

THIS WAS IDENTIFIED BY THE NRC INSPECTOR. VCD WILL BE
REVISED.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM Aux BLDG

DATE 8/7/84

② SUPPORT NUMBER/CLASS/SYSTEM: CCW; BRHL CC-1-AR-063

CC-1-011-031-A63R; CC-1-011-030-A63R; CC-1-011-029-A53R

CC-1-011-007-A53R; CC-1-011-008-A53R; CC-1-011-027-A63R

CC-1-011-026-A53R; CC-1-011-025-A53K; CC-1-011-019-A53R

ATTRIBUTES:

- WELDING
- HARDWARE
- CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS)
- ATTACHMENTS
- BASE PLATES
- WORKMANSHIP
- CLEARANCES
- GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 20 supports on BRHL. Inspected 9

SUPPORT # CC-1-011-026-A53K PIECE 7 IS 6 1/4" LONG, THE
MATERIALS LIST CALLS FOR 8" LONG.

RESOLUTION: THE LENGTH OF PIECE ⑦ IS ALLOWED TO VARY BY ±2" TO
COVER THE PIPE INSTALLATION LOCATION TOLERANCE PER QI-QAP-11.1-26,
IF 3.3.4. RESOLVED

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM AUX. BLDG

DATE 8/7/84

③ SUPPORT NUMBER/CLASS/SYSTEM: CCW; BRHL-CC-1-AB-002
CC-1-047-001-A435; CC-1-047-010-A43K

ATTRIBUTES:

WELDING HARDWARE CONNECTIONS(WALL/CEILING,ETC)
PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 15 Supports on BRHL; inspected 2.
NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM AUX BLDG

DATE 8/7/84

④ SUPPORT NUMBER/CLASS/SYSTEM: CCW; BRHL CC-1-AB-006
CC-1-050-700-A43K; CC-1-050-006-A435
CC-1-050-002-A43K; CC-1-050-005-A43R

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ~~ATTACHMENTS~~ BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 12 supports on BRHL; inspected 4
NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM AUX BLDG

DATE 8/7/84

⑤ SUPPORT NUMBER/CLASS/SYSTEM: CCW; DRHL-CC-1-AB-010
CC-1-050-002-A43R

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 1 Support on DRHL - Inspected 1 support.
NO VIOLATIONS OR DEVIATIONS NOTED.

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM AUX BLDG

DATE 8/7/84

⑥ SUPPORT NUMBER/CLASS/SYSTEM: CCW; BRHL-CC-1-AP-011
CC-1-056-003-A33R

ATTRIBUTES:

WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
 PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
 WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 4 supports on BRHL - inspected!
FOR SUPPORT CC-1-056-003-A33R, NO WELD WAS CALLED OUT
FOR THE CONNECTION OF PIECE 19 TO PIECE 21. A 5/16" FILLET
WELD ALL AROUND THE JOINT APPEARS INSTALLED.

RESOLUTION: THE WELD IS CALLED OUT AS "TYP" IN ANOTHER LOCATION
ON THE SKETCH. THIS IS NOT A PROBLEM.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM AUX. BLDG.

DATE 8/7/84

⑤ SUPPORT NUMBER/CLASS/SYSTEM: CCW; BRHL CC-1-AB-012 (Rev-6)
CC-1-057-017-A33A; CC-1-057-010-A33R;
CC-1-057-006-A33R

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 25 Supports on BRHL - Inspected 3
NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM AUX BLDG

DATE 8/7/84

⑧ SUPPORT NUMBER, CLASS/SYSTEM: CCW; BEHL CC-1-SB-006
CC-1-057-020-533R ; CC-1-057-019-533R

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
 PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
 WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 10 Supports on BEHL; inspected 2;
NO VIOLATIONS OR DEVIATIONS NOTED.

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM Safeguards Bldg

DATE 8/7/84

⑨ SUPPORT NUMBER/CLASS/SYSTEM: CCW; BRHL CC-1-SB-007
CC-1-065-005-533K

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
 PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
 WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 12 supports on BRHL; inspected 1
NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFE GUARDS BLDG

DATE 8/7/84

⑩ SUPPORT NUMBER/CLASS/SYSTEM: CCW; BRHL CC-1-SB-021
CC-1-068-004-S335; CC-1-068-008-543K

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 15 SUPPORTS ON BRHL; INSPECTED 2
NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM Aux BLDG

DATE 8/7/84

(11) SUPPORT NUMBER/CLASS/SYSTEM: CCW; BRHL-CC-1-AB-043.

CC-1-043-026-A33R; CC-1-043-027-A33R;

CC-1-043-030-A33K; CC-1-043-023-A33R

ATTRIBUTES:

- | | | |
|--|---|---|
| <input checked="" type="checkbox"/> WELDING | <input checked="" type="checkbox"/> HARDWARE | <input checked="" type="checkbox"/> CONNECTIONS (WALL/CEILING, ETC) |
| <input checked="" type="checkbox"/> PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) | <input checked="" type="checkbox"/> ATTACHMENTS | <input checked="" type="checkbox"/> BASE PLATES |
| <input checked="" type="checkbox"/> WORKMANSHIP | <input checked="" type="checkbox"/> CLEARANCES | <input checked="" type="checkbox"/> GROUTING |

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 9 Supports on BRHL - Inspected 4

- SUPPORT CC-1-043-030-A33K, PIECE 13, IS LISTED AS 22" LONG.
AS INSTALLED, IT IS ONLY 13 1/2" LONG. NO "*" SHOWING FIELD CUT TO
SUIT.

RESOLUTION: A SPECIAL NOTE IS NOT REQUIRED TO CUT DOWN THE LENGTH OF
MATERIALS ON THE LIST OF MATERIALS, PROVIDED NO DIMENSIONS SPECIFIED
ON THE DRAWING ARE AFFECTED. IN THIS CASE, THE DIMENSION GIVEN FROM
THE BASE TO THE SUPPORT BRACKET WAS NOT VIOLATED. THIS PROBLEM IS RESOLVED.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM Aux. BLDG

DATE 8/7/84

⑫ SUPPORT NUMBER/CLASS/SYSTEM: CCW; BRHL - CC-1-AB-004
CC-1-043-012-A43R; CC-1-043-013-A43K; CC-1-043-008-A43S
CC-1-043-014-A43K; CC-1-043-019-A43R; CC-1-043-018-A43R

ATTRIBUTES:

WELDING	HARDWARE	CONNECTIONS(WALL/CEILING,ETC)
PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS)	ATTACHMENTS	BASE PLATES
WORKMANSHIP	CLEARANCES	GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 24 Supports on BRHL - inspected 6

SUPPORT # CC-1-043-013-A43K, THE DIMENSION FROM THE WALL
THAT IS SHOWN AS 7'3" IS 7'5" AS INSTALLED.

RESOLUTION: NCR-14744N HAS BEEN WRITTEN TO DOCUMENT THE PROBLEM.
THIS PROBLEM WAS IDENTIFIED BY THE NRC INSPECTOR.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. C-21 INSPECTOR SKOW

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/11/84

SUPPORT NUMBER/CLASS/SYSTEM: BRHL-CC-1-RB-058B SAFETY CLASS 3 (CCWS)

SUPPORTS: CC-1-234-016 - C53R

CC-1-234-017 - C53R

CC-1-234-018 - C53R

ATTRIBUTES:

WELDING

HARDWARE

CONNECTIONS(WALL/CEILING,ETC)

PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS) ATTACHMENTS

BASE PLATES

WORKMANSHIP

CLEARANCES

GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)

MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 7 SUPPORTS ON BRHL, 3 INSPECTED

NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N/A

2

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/11/84

SUPPORT NUMBER/CLASS/SYSTEM: BRHL-CC-1-RB-065 SAFETY CLASS 3/CCWS
SUPPORT CC-1-234-700-C53R

ATTRIBUTES:

WELDING	HARDWARE	CONNECTIONS(WALL/CEILING,ETC)
PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS)	ATTACHMENTS	BASE PLATES
WORKMANSHIP	CLEARANCES	GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 4 SUPPORTS ON BRHL, 1 SUPPORT INSPECTED

- CC-1-234-700-C53R, SHEET 2, SECTION C-C — THE LOWER ATTACHMENT BOLTS ARE 3 15/16" APART VICE THE 5 1/2" SHOWN. THE UPPER BOLTS ARE 3 7/8" APART. IT SHOULD BE NOTED THAT THIS PROBLEM IS THE RESULT OF CONFLICTING DIMENSIONS. THE PLATE IS 8" WIDE. THE BOLT ARE TO BE 2" MINIMUM FROM THE EDGES OF THE PLATE.

RESOLUTION:

NCR 15147 ISSUED TO REV VCD

2

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: RESULTS CC-1-234-700-C53R (CONTINUED)

THE REMAINING BOLT SEPARATION THEN MAY ONLY BE 4" MAXIMUM.

Handwritten lines for data entry, currently blank.

INSP. RPT. NO: 50-445/84-26 PAGE: C-24 INSPECTOR: SKOW

3

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/11/84

SUPPORT NUMBER/CLASS/SYSTEM: BRHL-CC-1-RB-069 / SAFETY CLASS 3 / LCWS

SUPPORTS: CC-1-237-13-C53R

ATTRIBUTES:

WELDING	HARDWARE	CONNECTIONS (WALL/CEILING, ETC)
PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS)	ATTACHMENTS	BASE PLATES
WORKMANSHIP	CLEARANCES	GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)

MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 9 SUPPORTS ON BRHL, 1 INSPECTED

NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N/A

4

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/11/84

SUPPORT NUMBER/CLASS/SYSTEM: BRHL-CC-1-RB-057 / SAFETY CLASS 3 / CCWS

SUPPORTS CC-1-242-004-C53R, CC-1-237-005-C53R

CC-1-242-005-C53R, CC-1-239-009-C53R

ATTRIBUTES:

WELDING	HARDWARE	CONNECTIONS(WALL/CEILING,ETC)
PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS)	ATTACHMENTS	BASE PLATES
WORKMANSHIP	CLEARANCES	GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 16 SUPPORTS ON BRHL, 4 INSPECTED

NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N/A

5

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/11/84

SUPPORT NUMBER/CLASS/SYSTEM: BRHL-CC-1-RB-070A / CLASS 3 / CCWS

SUPPORTS: CC-1-239-007-C53K

CC-1-238-004-C53R

ATTRIBUTES:

WELDING	HARDWARE	CONNECTIONS(WALL/CEILING,ETC)
PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS)	ATTACHMENTS	BASE PLATES
WORKMANSHIP	CLEARANCES	GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 7 SUPPORTS ON BRHL, 2 INSPECTED

* CC-1-238-004-C53R - THE 6" DIMENSION FROM PIPE ϕ TO THE S.E.
STRUT IS 7 ⁷/₈" AS BUILT. THE STRUT SEPARATION AT THE OPPOSITE
END FROM THE PIPE IS 8" VICE 9" SHOWN.

RESOLUTION: NCR 15148 ISSUED TO REV NCR.

6

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/11/84

SUPPORT NUMBER/CLASS/SYSTEM: BRHL-CC-1-RB-070B / CLASS 3 / CCWS

SUPPORTS : CC-1-268-004-C53R

CC-1-268-002-C53R

ATTRIBUTES:

WELDING	HARDWARE	CONNECTIONS(WALL/CEILING,ETC)
PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS)	ATTACHMENTS	BASE PLATES
WORKMANSHIP	CLEARANCES	GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 5 SUPPORTS ON BRHL, 2 INSPECTED

NO VIOLATIONS OR DEVIATIONS NOTED.

RESOLUTION: N/A

7

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/11/84

SUPPORT NUMBER/CLASS/SYSTEM: BRHL-CC-1-RB-067 / CLASS 3 / CCWS

SUPPORT CC-1-236-700-C53R

ATTRIBUTES:

WELDING	HARDWARE	CONNECTIONS(WALL/CEILING,ETC)
PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS)	ATTACHMENTS	BASE PLATES
WORKMANSHIP	CLEARANCES	GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 3 SUPPORTS ON BRHL, 1 INSPECTED

- THIS SUPPORT ATTACHES TO AN EXISTING SUPPORT WITH A 5" OVERLAP OF VERTICAL MEMBERS, PER PLAN. HOWEVER, THE VERTICAL DISTANCE SHOWN FROM PIPE ϕ TO THE BOTTOM OF THE EXISTING SUPPORT OF 21 5/8" IS THE MEASUREMENT FROM PIPE ϕ TO THE TOP OF THE 5" OVERLAP AS INSTALLED.

RESOLUTION: NCR-15149 ISSUED TO REV NCR.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/11/84

SUPPORT NUMBER/CLASS/SYSTEM: BRHL-CC-1-RB-052A / CLASS 3 / CCWS

SUPPORT: CC-1-233-002-C53R

ATTRIBUTES:

WELDING

HARDWARE

CONNECTIONS(WALL/CEILING,ETC)

PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS) ATTACHMENTS

BASE PLATES

WORKMANSHIP

CLEARANCES

GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 5 SUPPORTS ON BRHL, 1 INSPECTED

NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N/A

8A

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/11/84

SUPPORT NUMBER/CLASS/SYSTEM: GHH-CC-1-RB-058A - CCWS -

CLASS 5 CLASS 5

SUPPORTS: H-CC-1-RB-058A-002-3, H-CC-1-RB-058A-003-3

CLASS 5 CLASS 3

H-CC-1-RB-058A-009-3, CC-1-233-001-053R

ATTRIBUTES:

WELDING	HARDWARE	CONNECTIONS(WALL/CEILING,ETC)
PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS)	ATTACHMENTS	BASE PLATES
WORKMANSHIP	CLEARANCES	GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 11 SUPPORTS ON GHH, 3 INSPECTED, 1 ADDITIONAL ATTACHED SUPPORT
INSPECTED.

NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N/A

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/11/84

SUPPORT NUMBER/CLASS/SYSTEM: GHH-CC-1-RB-066 CLASS 5, CCWS

SUPPORTS H-CC-1-RB-066-003-3

H-CC-1-RB-066-004-3

ATTRIBUTES:

WELDING	HARDWARE	CONNECTIONS(WALL/CEILING,ETC)
PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS)	ATTACHMENTS	BASE PLATES
WORKMANSHIP	CLEARANCES	GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 9 SUPPORTS ON GHH, INSPECTED 2

NO VIOLATIONS OR DEVIATIONS NOTED.

RESOLUTION: N/A

10

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/11/84

SUPPORT NUMBER/CLASS/SYSTEM: GHH-CC-1-RB-068 CLASS 5 / CCWS

SUPPORTS H-CC-1-RB-068-009-3

H-CC-1-RB-068-008-3

H-CC-1-RB-068-007-3

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)

MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 9 SUPPORTS ON GHH, INSPECTED 3

NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N/A

INSPECTION DATA SHEETS

SYSTEM CCW

AREA INSTRUMENTATION

ATTACHMENT C

INSTRUMENTATION INSPECTION DATA SHEET

ROOM AUX BLDG

DATE 8/17/84

INSTRUMENTATION NUMBER/SYSTEM 1-FIS-4537A (LP) + (HP)
1-FT-4537A (LP) + (HP)

FSI-2229-04-1-37A-2 (2 SHEETS)

FSI-2229-04-1-37A-1 (2 SHEETS)

(LOCATED ABOVE COMPONENT COOLING WATER HEAT EXCHANGER)

ATTRIBUTES (✓) Equipment Condition; (✓) Workmanship; (✓) Nonconforming Items Resolved; (✓) Installation IAW Requirements; (✓) Temporary Conditions (Jumpers, Bypass Lines) Identified; (✓) Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: FSI-2229-04-1-37A-1(a) THE DISTANCE FROM COMPONENT 1-FIS-4537A TO VALVE ASSEMBLY FAQ 27-6 IS SHOWN ON SHEET 1 (LP) AS 10³/₈" AND ON SHEET 2 (HP) AS 1'0". BOTH LINES RUN SIDE BY SIDE, AND ARE THE SAME LENGTH, 10³/₈" AS BUILT.

FSI-2229-04-1-37A-2(b) THE SPAN FOR BOTH THE HP AND LP

RESOLUTION: NOTE 1 - PER WAY MEASUREMENTS ARE MADE (FACE TO FACE)

OTHER ITEMS COVERED BY FSI POSITION.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. C-34 INSPECTOR SKOW

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: AUX BLDG - INSTRUMENTATION 1-FIS-4537A +1-FE-4537A

RESULTS (CONT): BETWEEN THE FIRST 3D AND 2D SUPPORTS AFTER THE TEE
BELOW 1-FE-4537A IS SHOWN AS 3'8⁵/₁₆" , WHICH IS LONGER THAN THAT
MAX SPAN ALLOWED PER FSI-00069 OF 3'8". (NOTE 1)

• THE LAST SPAN ENTERING VALVE ICC-0050 IS LONGER THAN
3'8". (NOTE 1)

• THE LAST SPAN ENTERING VALVE ICC-0051 IS ROUTED
DIFFERENTLY THAN SHOWN ON THE FSI.

INSTRUMENTATION INSPECTION DATA SHEET

ROOM Aux Bldg

DATE 8/17/84

INSTRUMENTATION NUMBER/SYSTEM CCW; 1-PI-4522; FSI-2229-02-1-23; CCW PUMP OUTPUT PRESSURE

ATTRIBUTES (✓) Equipment Condition; (✓) Workmanship; (✓) Nonconforming Items Resolved; (✓) Installation IAW Requirements; (✓) Temporary Conditions (Jumpers, Bypass Lines) Identified; (✓) Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N/A

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. C-36 INSPECTOR SKOW

INSTRUMENTATION INSPECTION DATA SHEET

ROOM Aux Room

DATE 8/12/84

INSTRUMENTATION NUMBER/SYSTEM IPT-4521 (CCW PUMP OUTPUT)

FSI-2229-03-1-21

ATTRIBUTES (✓) Equipment Condition; (✓) Workmanship; (✓) Nonconforming Items Resolved; (✓) Installation IAW Requirements; (✓) Temporary Conditions (Jumpers, Bypass Lines) Identified; (✓) Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N/A

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. C-37 INSPECTOR SKOW

INSTRUMENTATION INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/20/84

INSTRUMENTATION NUMBER/SYSTEM 1-PT-4680 (HP+LP)

FSI-2231-01-1-80

ATTRIBUTES () Equipment Condition; () Workmanship; () Nonconforming Items Resolved; () Installation IAW Requirements; () Temporary Conditions (Jumpers, Bypass Lines) Identified; () Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: INSTALLED PER FSI,

RESOLUTION: N/A

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. C-38 INSPECTOR SKOW

INSPECTION DATA SHEETS

SYSTEM

CVCS

AREA

COMPONENTS

ATTACHMENT D

COMPONENT INSPECTION DATA SHEET

ROOM AUX BLDG 790' RM 179 DATE 8/9/84

COMPONENT IDENTIFICATION: TRX-C 54PBA-01 BORIC ACID TRANSFER
PUMP. (Seal-less Leakproof Canned motor pump - Crane
Chem pumps)

ATTRIBUTES INSPECTED: INSTALLATION, workmanship, document-
ation.

ACCEPTANCE CRITERIA: MFG INST MANUAL (CP-001-022); BRP-
CS-1AB-20PA (RS);

RESULTS: 1) Boric acid solution is seeping out of drain
valve (ICS-075) and three instrumentation connections.
(2) Rear bolt is not tight. lock washer not compressed.
(3) Drain valve ICS-075 (and others) not over drain
(4) Floor drain has lip (x 1") preventing water from
draining (designed?)

Levelness of pump was IAW vendor manual & procedure for

RESOLUTION: installation.

RESOLUTION: 1) TIGHTENED FITTINGS, 2) TRAVELER ISSUED TO INSPECT & TIGHTEN/

AS NECESSARY 3) + 4) NON Q SWA 23317 TO MOVE DRAIN LINES OVER FLOOR

DRAIN & TEST 4 THEN GOES AWAY.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO D-1 INSPECTOR OBBERG

COMPONENT INSPECTION DATA SHEET

ROOM AUX BLDG - RM 206

DATE 9/8/84

COMPONENT IDENTIFICATION: CPX - CSATBA-01 BORIC ACID TANK

ATTRIBUTES INSPECTED: DOCUMENTATION; INSTRUMENTATION ATTACHMENTS; FOUNDATION BOLTS/ANCHOR BOLT RING WELDING

ACCEPTANCE CRITERIA: CBI DWG 73122

RESULTS: NO DEVIATIONS OR VIOLATIONS NOTED.

RESOLUTION: N.A.

INSPECTION REPORT NO. 50445/84-26 PAGE NO D-2 INSPECTOR OBERG

DATA SHEET - DOCUMENTS REVIEWED

Room AUX BLDG - RM 206

System CVCS

NG DATA REPORT FOR STORAGE TANKS 11/30/78

NCR 10,833; 10,834

NCR M-4357S (B+R REPORT)

NCR M-3792S (RI)

WDC 12266

CBI DWG 73122

COMPONENT INSPECTION DATA SHEET

ROOM 200 - AUXILIARY BUILDING (810' ELEV) DATE 8/9/84

COMPONENT IDENTIFICATION: CENTRIFUGAL CHARGING PUMP TBX - CSAP-
CH-01) S/N 51681

ATTRIBUTES INSPECTED: INSTALLATION, DOCUMENTATION (INCLUDING
NCRs)

ACCEPTANCE CRITERIA: VENDOR'S INSTRUCTION MANUAL (CP-0001-024)

- RESULTS: (1) LO LO TEMP PROBE - C13K13P47 CONDUIT LOOSE
(2) L.O. PRESSURE GAGE LINE OUT OF SUPPORT
(3) C14K30590 RESTING ON PROBE PROTECTION BRACKET
HOLE COULD RESULT
(4) GROUND CABLE HANGING IN AIR
(5) C14K30591 CONDUIT LOOSE IN COUPLING
(6) C12K05018 LBD LOOSE

RESOLUTION: ITEMS 1, 3, 4, 5, 6 & 8 NOW Q, have been repaired.

2) HAS BEEN REPAIRED

7) PUT ON NDB SUBSYSTEM 0402 ITEM 2059.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO D-4 INSPECTOR OBERG/SKOW

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: CENT. CHG. PUMP (CVCS) TBX-CSAPCH-01

(7) VALVE 1SW 408 FLANGE - STRAINER DRAIN; 1 NUT BOLT
NOT FLUSH WITH NUT TOP

(8) COUPLING COVER - BOLT ON 1 LEG NOT INSTALLED.

DOCUMENTATION REVIEWED - SEE NEXT PAGE

DATA SHEET - DOCUMENTS REVIEWED

Room 200 - AUX BLDG

System CVCS CENT CHG PUMP

(TBX-CSARCH-01)

MANUAL CP-0001-024

RIR 03664

NCR M-656

TRAVELER ME78-026-4901 - SETTING + ALIGNING MOTOR -
REDUCER - PUMP

NCR M-3134 R3

TRAVELER ME83-1535-4900 HOT ALIGNMENT DOWEL
GEAR + MOTOR

NCR E-81-00058 R1

NCR E-2171 (4/8/80)

NCR M-2257 R1

NCR M-2067 R1

NCR M-3093

NCR M-83-03011

OPERATIONS TRAVELER MP-83-2159C-4900

INSPECTION DATA SHEETS

SYSTEM

CVCS

AREA

SUPPORTS

ATTACHMENT D

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM Aux BLDG

DATE 8/6/84

① SUPPORT NUMBER/CLASS/SYSTEM: CVCS/RRHL CS-X-AB-004

CS-X-004-005-A33R

CS-X-004-003-A33R

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 11 SUPPORTS ON RRHL; INSPECTED 2

NO VIOLATIONS OR DEVIATIONS NOTED

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM AUX BLDG

DATE 8/6/84

② SUPPORT NUMBER/CLASS/SYSTEM: CVCS/BRHL-CS-1-AB-208A

CS-1-AB-208A-1

CS-1-AB-208A-3

CS-1-AB-208A-5

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
 PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
 WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 6 SUPPORTS ON BRHL; INSPECTED 3

● PROBLEMS WITH DIMENSIONS OF SUPPORT CS-1-AB-208A-001 WERE NOTED.

1. THE 1'0" (REF) DIMENSION FOR DISTANCE FROM AN ADJACENT BRACKET
IS ONLY 9 7/8" AS INSTALLED.

2. THE 3 1/2" DIMENSION FROM THE SAME ADJACENT BRACKET TO THE NEAR
END OF PIECE 2 IS 1 1/2" AS INSTALLED. THIS APPEARS TO HAVE BEEN CREATED
BY NCR # AM-01001.

RESOLUTION: _____

NCR M-14,713 N WAS WRITTEN ON 8/7/84 TO DOCUMENT BOTH PROBLEMS
ABOVE. DISPOSITION IS TO REVISE THE FRD, AMEND N-5 DATA REPORT,
AND AMEND SUBSYSTEM DATA REPORT. THIS PROBLEM WAS IDENTIFIED
BY THE NRC INSPECTOR.

INSPECTION REPORT NO. 50445/84-26 PAGE NO. D-8 INSPECTOR SKOW

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM Aux BLDG

DATE 8/6/84

④ SUPPORT NUMBER/CLASS/SYSTEM: CVCS/BRHL-CS-1-AB-227B
CS-1-564-705-A33R ; CS-1-564-702-A43R
CS-1-900-701-A43R ; CS-1-900-700-A43R

ATTRIBUTES:

- WELDING
- HARDWARE
- CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS)
- ATTACHMENTS
- BASE PLATES
- WORKMANSHIP
- CLEARANCES
- GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 9 SUPPORTS ON BRHL ; INSPECTED 4
THE BRACKETS FOR THE 2 STRUTS THAT ARE WELDED TO PIECE (2) HAVE
STEEL PLATE AS SHIMS BETWEEN THE TUBE STEEL MEMBER AND THE
BRACKET. THIS IS NOT SHOWN ON THE DRAWING FOR SUPPORT CS-1-564-705-A33R.

RESOLUTION: FOR THE PARTICULAR STRUTS USED, THE PIECE THAT WAS CONSIDERED
A SHIM IS PART OF THE BRACKET ASSEMBLY. PER THE MAT'L ID LOG, THE TWO STRUTS WERE
SALVAGED FROM OTHER SUPPORTS, AF-1-099-011-533R AND AF-1-097-014-533R.
THESE INSPECTION PACKAGES CLEARLY SHOW THE BRACKET ASSEMBLY. RESOLVED.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. D-10 INSPECTOR SKOW

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM AUX BLDG

DATE 8/6/84

⑤ SUPPORT NUMBER/CLASS/SYSTEM: QVCS/BRHL - CS-1-AB-227B
CS-1-227-700-A43R

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 4 SUPPORTS ON BRHL. INSPECTED 1
NO VIOLATIONS OR DEVIATIONS NOTED.

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM AUX. BLDG

DATE 8/6/87

⑥ SUPPORT NUMBER/CLASS/SYSTEM: (GHH) CVCS/BRHL-CS-1-AB-209A
(SMALL BORE PIPE SUPPORTS) H-CS-1-AB-209A-010-3,
H-CS-1-AB-209A-009-3, H-CS-1-AB-209A-008-3

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
 PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
 WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 10 SUPPORTS ON GHH-CS-1-AB-209A (SMALL BORE
PIPE SUPPORTS), INSPECTED 3.

NO DEVIATIONS OR VIOLATIONS NOTED.

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM AUX BLDG

DATE 8/6/84

⑦ SUPPORT NUMBER/CLASS/SYSTEM: CVCS BRP-CS-1-AB-210 (Rm-3)
(Small Bore Pipe Supports)
CS-1-AB-210-1

ATTRIBUTES:

- WELDING HARDWARE CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
- WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 7 supports on BRP; Inspected 1.
NO VIOLATIONS OR DEVIATIONS NOTED.

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM Aux BLDG

DATE 8/6/84

⑧ SUPPORT NUMBER/CLASS/SYSTEM: CVCS / BRHL-CS-1-AB-002 (Rev-4)
CS-1-063-703-A42R

ATTRIBUTES:

WELDING HARDWARE CONNECTIONS(WALL/CEILING,ETC)
PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS) ATTACHMENTS BASE PLATES
WORKMANSHIP CLEARANCES GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
 MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 15 supports on BRHL; only 1 in area of interest
NO VIOLATIONS OR DEVIATIONS NOTED.

RESOLUTION: N.A.

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM AUX BLDG

DATE 8/6/84

⑨ SUPPORT NUMBER/CLASS/SYSTEM: CVCS/BRHL-CS-1-AB-003 (Rev 5)
CS-1-240-006-A42K; CS-1-240-005-A42R
CS-1-240-003-A42K; CS-1-240-700-A42K

ATTRIBUTES:

- WELDING
- HARDWARE
- CONNECTIONS (WALL/CEILING, ETC)
- PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS)
- ATTACHMENTS
- BASE PLATES
- WORKMANSHIP
- CLEARANCES
- GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 20 Supports on BRHL; inspected 4.

NO VIOLATIONS OR DEVIATIONS NOTED.

RESOLUTION: N.A.

INSPECTION DATA SHEETS

SYSTEM ELECTRICAL RACEWAYS
 AND SUPPORTS

AREA

ATTACHMENT E

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM AUX + SAFEGUARD BLDGS

DATE 8/7/84

SUPPORT NUMBER/CLASS/SYSTEM: CABLE TRAY HANGERS:

FSE-00159 SHEETS 489, 1687, 1068, 1069, 585, 586,
12492, 12493, 12494, 12619, 1060, 1061.

ATTRIBUTES:

WELDING	HARDWARE	CONNECTIONS(WALL/CEILING,ETC)
PHYSICAL CONDITIONS(DIMENSIONS/LOCATIONS)	ATTACHMENTS	BASE PLATES
WORKMANSHIP	CLEARANCES	GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)
MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS THE INSPECTOR LOOKED AT 12 CABLE TRAY HANGERS, AND THEIR
ASSOCIATED DRAWINGS, (LISTED ON CONTINUATION SHEET) ALSO, FOR CABLE TRAY
HANGERS 12492, 12619, 1687 and 489, THE INSPECTION PACKAGES WERE
ALSO INSPECTED. THE HILT BOLTS FOR CTH 12492 AND 12619, THE LOWER TWO
BOLTS DID NOT APPEAR TO HAVE COMPLETE THREAD ENGAGEMENT IN THE NUTS. THIS
THREAD ENGAGEMENT SITUATION WAS ALSO NOTED ON AN ADJACENT CONDUIT SUPPORT FOR
CONDUIT C14K 19268.

RESOLUTION: THE HILT BOLT THREAD ENGAGEMENT IS ACCEPTABLE PER QI-QP-11.2-1
REV 16 IP 3.3.5. THE END OF THE STUD ONLY NEEDS TO BE FLUSH WITH THE SURFACE
OF THE NUT. THESE MET THE REQUIREMENT. NO DEVIATIONS OR VIOLATIONS WERE
NOTED.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. E-1 INSPECTOR SKOW

DATA SHEET - DOCUMENTS REVIEWED

Room AUX + SAFEGUARDS BLDGS

System CABLE TRAY HANGERS

DRAWINGS

2323-EI-0712-11

2323-EI-0700-12

2323-EI-0601-12

2323-EI-0716-12

2323-EI-0602-11

2323-EI-0602-12

FSE-00195

FSE-00187

FSE-00176

FSE-00174

2323-EI-0700-015

FSE-00190

2323-EI-0712-015

2323-S-0901

2323-S-0902

2323-S-0903

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. E2 INSPECTOR SKOW

RACEWAY INSPECTION DATA SHEET

ROOM: Safeguards DATE: 9/13/84

RACEWAY NUMBER/TYPE: (~~Tray~~, Conduit)

C13φ12159, C14φ10056, C12φ02856, C13G10757, C14φ30484,
C12φ15632, C14φ15121, C13φ17417, C13φ16988, C13G10957,
C14G08270, C13G11406, C13G07225, C13G13013, C13φ14165,
C13φ10874

ATTRIBUTES:

Type & Size	Identification	Documentation (Installation & Inspection)
Tray Covers	Fill Factor	Connections
Grounding	Supports	Separation (Physical/Electrical)
Craftsmanship		"

ACCEPTANCE CRITERIA:

FSAR Section 8.3 R.G. 1.75
 IEEE 384
 Specification ES 100 Procedure QI-QP-11.3-23, QI-QP-11.3-40
QI-QP-11.10-1

RESULTS: All of the conduit (16 sections) and the associated supports
were inspected to S-910 drawings and appropriate design drawings. The NRC
inspectors identified the following discrepancies: 1) one of the
hilti bolts on C14φ10056-2 was not flush with its associated
nut; 2) conduit was not attached to support C14φ15121-3;

RESOLUTION: 1) NCR M84-100471 dated 9/20/84 DOCUMENTS HILTH
NOT FLUSH. 2) and 3) NCR M84-100472 dated 9/20/84 DOCUMENTS
PROBLEMS. THE CLAMP WAS NOT MISSING, THE HANGER OBSERVED WAS FOR DIFFERENT
CONDUITS. THE HANGER EXPECTED TO BE IN THE SAME AREA WAS DELETED WITHOUT
PROPER DOCUMENTATION. THE NCR WILL CAUSE DOCUMENTATION TO MATCH FIELD

INSP. RPT. NO: 50-445/84-26 PAGE NO: E-3 INSPECTOR: Bennett/skow

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: SAFEGUARDS RACEWAY INSPECTION (CONTINUED)

RESULTS

3) Component Modification Card (CMC) 64790, applicable to C14Ø15121, specifies 1" conduit and 2 supports built to S-910 drawing CSM18c specifications. C14Ø15121 is, in fact, 1½" conduit and no CSM18c supports are in the conduit run. 2 separate inspection reports, however, did reference CMC 64790.

RESOLUTION:

CONDITIONS FOR BOTH PROBLEMS.

RACEWAY INSPECTION DATA SHEET

ROOM: Containment Bldg. DATE: 9/13/84

RACEWAY NUMBER/TYPE: (~~Tray~~, Conduit)

C13φ 06903, C13G 06832, C13G 06833, C13G 06834, C13G 06835,
C13G 06836, C13G 06837, C14G 20503, C14B13160, C13G 07687,
C16B 09458, C16B 09457, C16B 09456,

ATTRIBUTES:

Type & Size	Identification	Documentation (Installation & Inspection)
Tray Covers	Fill Factor	Connections
Grounding	Supports	Separation (Physical/Electrical)
Craftsmanship		"

ACCEPTANCE CRITERIA:

FSAR Section 8.3 R.G. 1.75
 IEEE 384
 Specification ES 100 Procedure QI-QP-11.3-23, QI-QP-11.3-40
QI-QP-16.10-1

RESULTS: All of the conduit (13 sections) and the associated supports
were inspected to S-910 drawings and appropriate design drawings. The
following discrepancies were discovered by the NRC inspectors: 1) Conduit is not
located between the hilti bolts on support C13φ 06903-10 as required by
S-910 general notes; 2) Cover screws loose on junction box on C13φ 06903-11;

RESOLUTION: 1) THE REQUIREMENT DOES NOT APPLY TO THIS TYPE (CA-26)
OF SUPPORT.

2) SCREWS HAVE BEEN TIGHTENED.

3) NCR M 84-100469 DATED 9/20/84 DOCUMENTS LOOSE CLAMP.

INSP. RPT. NO: 50-445/84-26 PAGE NO: E-5 INSPECTOR: Bennett/skow

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: CONTAINMENT RACEWAY INSPECTION (CONTINUED)

RESULTS

3) Clamp attaching conduit to support C14B13160-5
was loose.

INSP. RPT. NO: 50-445/84-26 PAGE: E-6 INSPECTOR: Bennett/skow

SUPPORT/HANGER INSPECTION DATA SHEET

ROOM SAFEGUARDS BUILDING (ROOM 65)

DATE 9/17/84

SUPPORT NUMBER/CLASS/SYSTEM: CABLE TRAY HANGERS - FSE-00159 SHEETS:

639, 640, 642, 643, 685, 686, 687, 688, 689, 690, 691, 692,

693, 694, 696, 707, 798, 799, 818, 3298, 3938, 12416

ATTRIBUTES:

WELDING

HARDWARE

CONNECTIONS (WALL/CEILING, ETC)

PHYSICAL CONDITIONS (DIMENSIONS/LOCATIONS) ATTACHMENTS

BASE PLATES

WORKMANSHIP

CLEARANCES

GROUTING

ACCEPTANCE CRITERIA

FSAR SECTION: 3.6B

SPECIFICATION(S) MS-46A (Nuclear Safety Class Hanger & Supports)

MS-94 (Pipe Whip Restraints)

ASME SECT III, Subsection NF; VCD/DRD's; Procedures: QI-QAP 11.1-28

RESULTS 22 CABLE TRAY HANGERS INSPECTED. THE FOLLOWING WAS NOTED:

• CTH 639 - THE DIAGONAL BRACE SHOWN, IS NOT INSTALLED.

• CTH 12416 - THE STRUCTURE IS ROTATED 90° TO A N-S ALIGNMENT

RESOLUTION: • CTH 639 - NCR M84-100470 dated 9/20/84 WAS WRITTEN TO DOCUMENT THE MISSING BRACE.

• CTH 12416 - NCR M84-100476 dated 9/21/84 WAS WRITTEN TO DOCUMENT THE ALIGNMENT. ACTUAL INSTALLATION WAS CORRECT, THE DRAWINGS SHOWED THE WRONG ALIGNMENT.

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. E-7 INSPECTOR SKOW

RACEWAY INSPECTION DATA SHEET

ROOM: SAFEGUARDS BUILDING (ROOM 65) DATE: 9/17/84RACEWAY NUMBER/TYPE (Tray, ~~Conduit~~)T11 Ø SAA SECTIONS 24-27 , T12 Ø SBC SECTIONS 54-67T13 Ø SCC SECTIONS 32-43 , T14 Ø SDA SECTIONS 02-06

ATTRIBUTES

Type & Size	Identification	Documentation (Installation & Inspection)
Tray Covers	Fill Factor	Connections
Grounding	Supports	Separation (Physical/Electrical)
Craftsmanship		

ACCEPTANCE CRITERIA

FSAR Section 8.3	R.G. _____
IEEE 384	
Specification _____	Procedure _____

RESULTS: THE INSPECTOR INSPECTED 35 CABLE TRAY SEGMENTS OF
FOUR TRAY SYSTEMS FOR A TOTAL OF ABOUT 225 LINEAR FEET OF
CABLE TRAY. NO VIOLATIONS OR DEVIATIONS WERE NOTED.

RESOLUTION: NAINSP. RPT. NO: 50-445/84-26 PAGE NO: E-8 INSPECTOR: SKOW

DATA SHEET - DOCUMENTS REVIEWED

Room SAFEGUARDS (ROOM 65)

System ELECTRICAL CABLE TRAYS

DRAWINGS:

FSE 00159, SHEETS LISTED ON HANGER DATA SHEET

2323-EI-0601-01

2323-EI-0601-11

2323-EI-0601-12

2323-EI-0601-13

2323-EI-0601-01-S

FSE-00176

INSPECTION DATA SHEETS

SYSTEM ELECTRICAL

AREA SEPARATION

ATTACHMENT F

CABLE & RACEWAY SEPARATION INSPECTION DATA SHEET

Room: SAFEGUARDS & AUX BLDG

Date: 8/14/84

AREAS EXAMINED:

FLEXIBLE CONDUITS - SEPERATION CRITERIA

ATTRIBUTES:

Physical (Mechanical, Train) Documentation (Installation & Inspection)
Electrical (Instrument/Power)
Thermal
Safety/Safety; Safety/Nonsafety

ACCEPTANCE CRITERIA:

FSAR Section 8.3 R.G.
IEEE 384, 420, 422 Specifications ROOM 88
QI-QP-19.5-1 QI-QP-11.3-23
Procedures QI-QAP-11.1-28 2323-E1-1702-02

RESULTS: C13607415 - FLEX TOUCHES THE MOUNTING BRACKET FOR THE LIMIT SWITCH C13607413. THE MAJOR COMPONENT IS VALVE HV-2399.
C13608783 - FLEX TOUCHES LIMIT SWITCH BRACKET ON VALVE 1-HV-4711.

RESOLUTION: THOSE ITEMS LISTED IN "RESULTS" ARE A COLLECTION OF TYPICAL EXAMPLES OF QUESTIONS RELATING TO FLEXIBLE CONDUIT SEPARATION. OF THE 29 EXAMPLES LISTED, 11 HAD BEEN PREVIOUSLY INCLUDED ON THE "PUNCH LIST" AT LEAST ONCE, CORRECTED AND CLOSED OUT. SOME OF THE ITEMS WERE NOTED ONLY BECAUSE OF FEATURES OF INTEREST TO THE INSPECTOR THAT WERE NOT VIOLATIONS. SOME OTHER ITEMS, WHILE NOT ACTUALLY A SEPARATION VIOLATION AS INSPECTED AT THE TIME, COULD BE MOVED INTO A VIOLATION POSITION.

RESOLUTION CONTINUED ON PAGE F-5

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: CABLE TRAYWAY SEPARATIONS

ROOM 88, FLEXIBLE CONDUIT RESULTS, CONTINUED -

- C13G07743 FLEX RESTS ON PIPE BRACKETED NEXT TO VALVE 1-HV-5365
- C13G07744 FLEX RESTS ON PIPE NEXT TO VALVE 1-HV-5365.

ROOM 110 - • C13Ø11628 FLEX CAN TOUCH SUPPORT UNDER VALVE HV-2333A ACTUATOR.

- C14Ø21161 FLEX RESTS ON PIPE SUPPORT FOR IMS-030 AND IMS-268.

- C13G12499 FLEX RESTS ON SUPPORT FOR JBIS 455 G.

• C13Ø11132 FLEX TOUCHES TUBE STICKING OUT OF LOWER PART OF HYDRAULIC ACTUATOR NEXT TO HV-2333A. IN THE SAME IMMEDIATE AREA, POSSIBLE CONTACTS MAY OCCURE BETWEEN ORANGE AND BLACK, GREEN AND BLACK, AND ORANGE AND GREEN.

ROOM 109 • C13G07646 ^{FLEX} CAN TOUCH LIMIT SWITCH ON IMS-258.

- C14W13311 ^{FLEX} CAN TOUCH IMBEDDED STEEL PLATE.

• C14R13293 FLEX HAS A SUPPORT HOLDING IT FROM MOVING TO TOUCH SOMETHING ELSE ALTHOUGH SOME MOVEMENT WITHIN THE CLAMP IS ALLOWED.

• C14W13312 FLEX IS SIMILAR TO THE ONE ABOVE BUT DOES NOT HAVE A SUPPORT RESTRICTING MOVEMENT, AS A RESULT FLEX TOUCHES UNISTRUT FOR PRESSURE DATA IPT-533/1763.

INSP. RPT. NO: 50-445/84-26 PAGE: F-2 INSPECTOR: SKOW

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: CABLE & RACEWAY SEPARATION

ROOM 77N • ES 862 FLEX RUBS ON SCREW THREADS ON CLAMP
ON C13604677 NEAR VALVE 1-8802B.

• C12604671 FLEX CAN TOUCH UNINSULATED PART
OF PIPE NEAR 1-HV-800.

• C136-18888-3 FLEX FROM JBIS-2286 TOUCHES PIPE
NEAR VALVE 1-8888.

• C136-18888-1 TOUCHES TOP OF OPERATOR ASSY TO
VALVE No. 1-8888.

• C13608781 FLEX TOUCHES CORNER OF SUPPORT FOR
VALVE No. 1-HV4179.

ROOM 77S • C12605387 TOUCHES PIPE AT ELBOW PASSING
NEAR VALVE 1-HV-8106.

• FLEX FROM TOP OF VALVE 1-8802A ACTUATOR RESTS ON
TOP OF ACTUATOR. IT ALSO HAS ABOUT 2 FT OF 2 IN THICK
THERMO LAG WHICH IS CRACKED AT THE JUNCTION NEAR THE TRAY.
THE THERMO LAG LIMITS FLEX MOVEMENT.

• C136181521 FROM JBIS-2206 RUBS ON EDGE OF
ANGLE SUPPORT FOR INSTRUMENT LINES.

ROOM 205 • C13605634 FLEX HAS SUPPORT C13605634B, FLEX
CAN MOVE WITHIN THE CLAMP. ADJACENT TO VALVE 1-FV-4536.

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INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: CABLE + RACEWAY SEPARATION

ROOM 100A • C13Ø15915 FLEX RESTING ON TOP OF ACTUATOR FOR VALVE 1-HV-2188.

• C13Ø15916 FLEX CAN TOUCH ACTUATOR FOR VALVE 1-HV-2188.

• C13G15905 FLEX CAN TOUCH ACTUATOR FOR VALVE 1-HV-2188.

• C14Ø-21806 FLEX CAN REST AGAINST ACTUATOR FOR 1FW-089.

• C13G21323 FLEX TOUCHING FLANGE OF SUPPORT NEXT TO VALVE 1-FV-2196.

CORRIDOR 207 • C13G06734 RESTS AGAINST UNISTRUT BELOW VALVE 1FV-4537.

• C13Ø09593 CAN TOUCH SUPPORT FOR GAGE 1-PS-4250.

• C12G04690 FLEX CONDUIT RESTS OF FIRE PIPE

NOTED DURING RACEWAY INSPECTION:

• C13Ø06903 FLEX RESTS ON ADJACENT INSTRUMENT

• C13G06834 FLEX WRAPS AROUND ADJACENT SUPPORT

• C14G20503 FLEX RESTS ON VALVE BODY

• C14Ø30489 FLEX CAN TOUCH WALL AND INSTRUMENT TUBING

• C13Ø12159 FLEX CAN TOUCH INSTRUMENT TUBING AND OTHER CONDUIT

• C12Ø02856 FLEX CONTACTS 1HV2480

THESE DISCREPANCIES REPRESENT A GENERIC PROBLEM AT CPSES.

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INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: CABLE & RACEWAY SEPARATION

RESOLUTION CONTINUED: MOVEMENT OF THE FLEXIBLE CONDUIT
COULD BE CAUSED BY MACHINERY VIBRATION, OR PERSONS WORKING
IN THE AREA. THE INSPECTOR OBSERVED A PERSON CLEANING MOVE
A FLEXIBLE CONDUIT. WHEN QUESTIONED, THE CLEANING PERSON
STATED THAT HIS TRAINING DID NOT INCLUDE HOW THE FLEXIBLE
CONDUIT SHOULD BE HANDLED. THE POINT BEING RAISED HERE IS THAT
WHILE SOME OF THE FLEXIBLE CONDUITS MAY ONCE HAVE BEEN IN A STATIC
AND SATISFACTORY POSITION, IN MANY CASES THERE IS NOW A VIOLATION
(AT THE TIME THIS INSPECTION OCCURRED) OR THE POTENTIAL FOR A VIOLATION
TO OCCUR. OF THE ITEMS LISTED, THERE ARE ENOUGH VIOLATIONS TO
INDICATE A GENERIC PROBLEM IN FLEXIBLE CONDUIT SEPARATION.

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INSPECTION DATA SHEETS

SYSTEM

RC

AREA

INSTRUMENTATION

ATTACHMENT G

INSTRUMENTATION INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/20/84

INSTRUMENTATION NUMBER/SYSTEM 1-FT-434 (LP & HP)

FSI-2250-04-1-34

ATTRIBUTES Equipment Condition; Workmanship; Nonconforming Items Resolved; Installation IAW Requirements; Temporary Conditions (Jumpers, Bypass Lines) Identified; Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: ELBOW FITTINGS ON BOTH LINES AT THE INSTRUMENT

ARE NOT SHOWN ON THE FSI

RESOLUTION: FSI POSITION

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. G-1 INSPECTOR SKOW

INSTRUMENTATION INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/20/84

INSTRUMENTATION NUMBER/SYSTEM 1-FT-436 (LP+HP)

FSI-2250-04-1.36

ATTRIBUTES (✓) Equipment Condition; (✓) Workmanship; () Nonconforming Items Resolved; (✓) Installation IAW Requirements; () Temporary Conditions (Jumpers, Bypass Lines) Identified; () Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: • ELBOW FITTINGS ON BOTH LINES AT THE INSTRUMENT ARE NOT SHOWN ON THE FSI.

• UNION BETWEEN FIRST TWO SUPPORTS FROM VALVE 1-RC-6061 C NOT SHOWN ON FSI.

RESOLUTION: FSI POSITION

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. G-2 INSPECTOR SKOW

INSTRUMENTATION INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/20/84

INSTRUMENTATION NUMBER/SYSTEM 1-FJ-424 (LP+HP)

FSI-2250-04-1-24

ATTRIBUTES (✓) Equipment Condition; (✓) Workmanship; () Nonconforming Items Resolved; (✓) Installation IAW Requirements; () Temporary Conditions (Jumpers, Bypass Lines) Identified; () Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: • SHEET ONE SHOWS THE LINES LEAVE THE INSTRUMENT ON THE HORIZONTAL ^{FOR} 4 1/2" THEN TURN DOWN, THE ELBOW FITTINGS ARE NOT SHOWN.
SHEET 2 SHOWS BOTH LINES LEAVING THE INSTRUMENT GOING DOWN, THEY ARE NOT CONSISTENT.

• VALVE FAR 27-23 IS SHOWN ON SHEET 2 AS FAR 27-33.

RESOLUTION: FSI POSITION

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. G-3 INSPECTOR SKOW

INSTRUMENTATION INSPECTION DATA SHEET

ROOM CONTAINMENT

DATE 9/20/84

INSTRUMENTATION NUMBER/SYSTEM 1-FT-426 (LP + HP)

FSI-2250-04-1-26

ATTRIBUTES Equipment Condition; Workmanship; Nonconforming Items Resolved; Installation IAW Requirements; Temporary Conditions (Jumpers, Bypass Lines) Identified; Documentation

ACCEPTANCE CRITERIA

FSAR SECTION: 7.0; Safety Guide 1.30; IEEE-336

SPECIFICATION:

RESULTS: • ELBOW FITTINGS AT THE INSTRUMENT NOT SHOWN ON FSI.

• UNION BELOW FIRST SUPPORT BELOW VALVE HAG-22-21 NOT SHOWN.

• UNION BELOW FIRST SUPPORT BELOW VALVE HAG-23-22 NOT SHOWN.

RESOLUTION: FSI POSITION

INSPECTION REPORT NO. 50-445/84-26 PAGE NO. G-4 INSPECTOR SKOW

INSPECTION DATA SHEETS

SYSTEM

MISCELLANEOUS

AREA

ATTACHMENT H

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: CCWS EXPANSION TANK

• 2ND FLANGE FROM EAST (E-2) NUTS/BOLTS NOT
ENGAGED; 1 LOOSE ; 1 NOT FULLY ENGAGED

INSP. RPT. NO: 50-445/84-26 PAGE: H-1 INSPECTOR: OBERG

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: ROOM 71 E-S CORRIDOR 790' ELEV.

• COZØ01313 + COZØ01314 CABLES GO INTO CABLE
TRAY WITH NO CABLE PROTECTION - RUBS AGAINST
SHARP EDGE

INSP. RPT. NO: 50-445/84-26 PAGE: H-2 INSPECTOR: BENNETT/SKOW
OBERG

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: MISCELLANEOUS (ROOM 72)

- C1309783 FLEXIBLE CONDUIT TOUCHES CONCRETE WALL.
- C1409814 TOUCHES INSTRUMENT BRACKET.
- INSTRUMENT RACK CPI-EIPRL1-33 HAS SEVERAL CONDUIT SEPARATION VIOLATIONS - FLEX TO RACK, FLEX TO INSTRUMENT TUBE, AND FEX TO VALVE.
- C13012160 HITS VALVE BODY AND WALL
- C1309782 CAN RUB AGAINST VALVE BODY

INSPECTION DATA CONTINUATION SHEETINSPECTION ELEMENT: MISCELLANEOUS (ROOM 73)

- LOOSE LOCK NUT ON SUPPORT TYPE PSA-1 S/N 12020 LOCATED
IN FRONT OF INSTRUMENT RACK CPI-EIPRL1-30.
- INSTRUMENT RACK CPI-EIPRL1-30 HAS SEVERAL FLEXIBLE CONDUIT
SEPARATION VIOLATIONS - FLEX TO RACK, FLEX TO INSTRUMENT TUBE, AND
FLEX TO VALVE.
- CHILLED WATER SUPPLY "U" BOLT SUPPORT NOT TIGHT;
NEXT TO VALVE 1CH503

INSP. RPT. NO: 50-445/84-26 PAGE: H-4 INSPECTOR: OBORG
SKOW

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: MISCELLANEOUS (ROOM 74)

• SOME UNIONS IN INSTRUMENT TUBE RUNS THAT RUN ALONG A WALL, TOUCH THE WALL.

• CONDUIT C13012161 FLEX TOUCHES VALVE BODY.

• CONDUIT C13614386 FLEX TOUCHES VALVE BODY.

• INSTRUMENT RACK CP1-E1PRLI-31 HAS SEVERAL FLEXIBLE CONDUIT SEPARATION VIOLATIONS - FLEX TO RACK, FLEX TO INSTRUMENT TUBE, AND FLEX TO VALVES.

R1

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: MISCELLANEOUS ROOMS

ROOM 54: INSTRUMENT LINE 2ND SUPPORT ABOVE VALVE

HAG 87-18 IS LOOSE

ROOM 67: SECOND PIPE SUPPORT FROM VALVE I-FCV-61D,

STRUT S/N 15323 JAM NUT IS NOT TIGHT.

ROOM 70: STRUT NUTS NOT TIGHT ON DEMIN WATER PIPE

IN FRONT OF ELECTRIC PANEL CPI-EPMCEB-03.

ROOM 78: A LOT OF LEAKAGE FROM GRAB SAMPLE HOOD ASSEMBLY

CPI-PSMEPS-01.

SOME INSTRUMENTS MISSING FROM SAMPLE CONDITIONING RACK

CPI-PSMEPS-02.

ROOM 100A: SAFETY WIRE BROKEN ON SNUBBER MOUNTING PLATE

FW-1-092-700-562K.

ROOM 164: INSTRUMENT LINE FROM ROOT VALVE XSB-020 TO

X-PI-5211 — FIRST SUPPORT FROM ROOT VALVE IS LOOSE.

ROOM 230: EAST CORRIDORE - COTTER PIN MISSING ON SEISMIC STRUT

LOWER END, S/N 22769. (NORTH END OF EAST CORRIDORE)

EAST CORRIDORE (CENTER NEAR GAI-TRONICS) — COPPER AIR

TUBE (FOR CS-2-AB-016 AND ANOTHER UNLABELED VALVE) RUBS

ON A VALVE REMOTE OPERATING ROD.

WEST CORRIDORE - VALVE ISB-085 VALVE STEM MISSING, THE

RESULTING HOLE IN THE PACKING GLAND RETAINER IS TAPED OVER.

INSP. RPT. NO: 50-445/84-26 PAGE: H-6 INSPECTOR: SKOW

INSPECTION DATA CONTINUATION SHEET

INSPECTION ELEMENT: MISCELLANEOUS ROOMS

ROOM 242: FIRST INSTRUMENT SUPPORT FROM VALVE XGH 7962
FOR X-PI-1093 IS LOOSE. A YELLOW TAG IS HANGING ON
THE SUPPORT THAT SAYS THE INSTRUMENT IS COMPLETED,
SIGNED 10/31/81.