COMANCHE PEAK REVIEW TEAM
POPULATION DESCRIPTION

POPULATION NAME: LARGE BORE PIPE SUPPORTS - NON-RIGID*

PREPARED BY: W. P. Fallon for J. Warrington
RESPONSIBLE QA/QC SUPPORT ENGINEER

DATE: JULY 23, 1985
REV: 1

SYSTEM, COMPONENTS, AND STRUCTURES:

- Supports for piping systems designated in Section 17A of the CPSES FSAR that are safety-related and are Safety Class 1, 2 and 3 and Seismic Category I (see attachment)

POPULATION BOUNDARY:

- Supports for large bore piping (2 1/2 inch nominal pipe size and larger) meeting the criteria for Class 1, 2 or 3 and Seismic Category I.
- Support components as shown on the pipe support drawings. (e.g., structural steel, NF welds, std. mfg. components, plates, bolting material, anchor bolts and nuts, Hilti type and Richmond studs, etc.).
- Supports which are construction complete and final QC inspected as of June 17, 1985.
- Supports located in Units 1, 2 and areas common to both.
- Supports which are safety-related and are Safety Class 1, 2 and 3 and Seismic Category I.
- Only supports which utilize constant or variable spring hangers or snubbers as components.

ITEMS NOT INCLUDED IN THE POPULATION:

- Small bore pipe supports.
- Large bore piping.
- Building structural members.
- Large bore pipe support-rigid and pipe whip and moment restraints.

APPROVED BY: Roger H. Brown
QA/QC LEAD DISCIPLINE ENGINEER

DATE: 7/24/85

APPROVED BY: Albert B. Potter
QA/QC REINSPECTION ENGINEERING SUPERVISOR

DATE: 7/24/85

COMANCHE PEAK REVIEW TEAM
POPULATION DESCRIPTION

POPULATION NAME: LARGE BORE PIPE SUPPORTS - NON-RIGID

PREPARED BY: _____
RESPONSIBLE QA/QC SUPPORT ENGINEER

DATE: JULY 23, 1985
REV: 1

SPECIFIC INTERFACES:

- Between pipe support components and pipe. Integral attachment members are included in this population.
- Between pipe support components and concrete. Embedment plates and concrete are included in their respective populations.
- Between pipe support components and building/supplementary steel.[1] Building steel is included in the structural steel population.
- Welds other than those covered by subsection NF are included in this population.

NOTE:

1. Where supplementary steel is included as part of the pipe support drawing, it will be included as a component on the reinspection checklist.

ATTACHMENT
(POPULATION DESCRIPTION)

System and Component 1	Safety Class (1)	Applicable Code or Std. (2)	Code Class	Seismic Category
1. Reactor Coolant System RCS)				
Supports for Class 1 piping	1	ASME III	1	I
Supports for Class 2 piping	2	ASME III	2	I
2. Chemical and Volume Control System (CVCS)				
Supports for Class 2 piping	2	ASME III	2	I
Supports for Class 3 piping	3	ASME III	3	I
3. Boron Thermal Regeneration Sub-system (BTRS)				
Supports for Class 2 piping	2	ASME III	2	I
Supports for Class 3 piping	3	ASME III	3	I
4. Safety Injection System (SIS)				
Supports for Class 1 piping	1	ASME III	1	I
Supports for Class 2 piping	2	ASME III	2	I
5. Residual Heat Removal (RHR) System				
Supports for Class 1 piping	1	ASME III	1	I
Supports for Class 2 piping	2	ASME III	2	I
6. Boron Recycle System (BRS)				
Supports for Class 3 piping	3	ASME III	3	I
7. Containment Spray System (CSS)				
Supports for Class 2 piping	2	ASME III	2	I
Supports for Class 3 piping	3	ASME III	3	I
9. Combustible Gas Control System				
Supports for Class 2 piping	2	ASME III	2	I
Supports for Class 3 piping	3	ASME III	3	I

System and Component 1	Safety Class (1)	Applicable Code or Std. (2)	Code Class	Seismic Category
10. Component Cooling Water System				
Supports for Class 2 piping	2	ASME III	2	I
Supports for Class 3 piping	3	ASME III	3	I
11. Station Service Water System (SSWS)				
Supports for Class 3 piping	3	ASME III	3	I
12. Main Steam, Reheat and Steam Dump Station				
Supports for Class 2 piping	2	ASME III	2	I
Supports for Class 3 piping	3	ASME III	3	I
13. Auxiliary Feedwater System				
Supports for Class 2 piping	2	ASME III	2	I
Supports for Class 3 piping	3	ASME III	3	I
14. Steam Generator Feedwater System				
Supports for Class 2 piping	2	ASME III	3	I
15. Diesel Generator, Fuel Oil, and Auxiliary Systems				
Supports for Class 3 piping	3	ASME III&AISC	3	I
16. Spent Fuel Pool Cooling and Cleanup System				
Supports for Class 2 piping	2	ASME III	2	I
Supports for Class 3 piping	3	ASME III	3	I
17. Liquid Waste Processing System (LWPS)				
Supports for Class 3 piping	3	ASME III	3	I

System and Component 1	Safety Class (1)	Applicable Code or Std. (2)	Code Class	Seismic Category
18. Gaseous Waste Processing System (GWPS)				
Supports for Class 3 piping	3	ASME III	3	I
20. Demineralized and Reactor Make-up Water System				
Supports for Class 2 piping	2	ASME III	2	I
Supports for Class 3 piping	3	ASME III	3	I
21. Vents and Drains System				
Supports for Class 2 piping	2	ASME III	2	I
Supports for Class 3 piping	3	ASME III	3	I
32. Process Sampling System				
Supports for Class 2 piping	2	ASME III	2	I
32a Post Accident Sample Section				
Supports for Class 2 piping	2	ASME III	2	I
40. Plant Gas System				
a. Nitrogen system				
Supports for Class 2 piping	2	ASME III	2	I
b. Hydrogen system				
Supports for Class 2 piping	2	ASME III	2	I

NOTE
1. System and component numbering system corresponds to that shown in FSAR, Section 17A

EVALUATION RESEARCH CORPORATION

-QA/QC-RT-313

DESCRIPTION MEMORANDUM
FOR REINSPECTION OF
POPULATION: LARGE BORE PIPE SUPPORTS-NON-RIGID
CODE: LBSN

DATE: August 9, 1985

TO: A. A. Patterson, QA/QC Reinspection Engineering Supervisor

FROM: R. H. Brown, QA/QC Lead Structural Engineer

Please find attached the subject document for your approval.

The checklist and inspection procedure was developed using the following documents:

1. *Gibbs and Hill Specification 2323-MS-46A, Revision 6 dated June 26, 1984, "Nuclear Safety Class Pipe Hangers and Supports".

2. *Gibbs and Hill Specification 2323-MS-100, Revision 8 dated July 5, 1984, "Piping Erection Specification".

3. Brown and Root Construction Procedure CP-CPM-7.3, Revision 0 dated March 3, 1985, "General Fabrication Procedure."

4. Brown and Root Construction Procedure CP-CPM-7.3B, Revision 0 Dated March 3, 1984, "Fabrication of ASME Component Supports."

5. Brown and Root Construction Procedure CP-CPM-7.3D, Revision 0 dated March 3, 1985, "Welding and Related Process."

6A. Brown and Root Quality Instruction QI-QAP-11.1-28, Revision 31 dated June 30, 1985, "Fabrication and Installation Inspection of Safety Class Component Supports."

6B. Brown and Root Quality Instruction QI-QAP-11.1-28, Revision 29 dated January 25, 1985, "Fabrication and Installation Inspection of Safety Class Component Supports."

7. ASME Section III, Subsections NB, NC, ND and NF, 1974 Edition with applied addenda and DCA's.

8. Brown and Root Construction Procedure CP-CPM 9.10, Revision 14 dated June 4, 1985, "Component Support Installation."

* These documents were reviewed for Inspection Attributes but were not the basis for any attribute because they did not specify installation or inspection requirements for pipe supports.

9. Brown and Root Construction Procedure CP-CPM 9.10A, Revision 0 dated June 4, 1985, "Installation of Vendor Supplied Component Support Catalog Items."

10. Gibbs and Hill Specification 2323-SS-30, Revision 1 dated February 10, 1984, "Structural Embedments."

11. Brown and Root Procedure CEI-20, Revision 9 dated December 16, 1983, "Installation of 'HILTI' Drilled-In Bolts."

12. TUGCO Engineering Instruction CP-EI-4.5-1, Revision 12 dated April 10, 1985, "General Program for As-Built Piping Verification."

13. TUSI Instruction CP-EI-13.0-3, Revision 1 dated January 5, 1982, "Grouted Threaded Rods Pull Tests."

14. TUGCO Instruction CP-QP-11.2-1, Revision 18 dated June 7, 1985, "Installation of 'HILTI' Drilled Bolts."

15. Gibbs and Hill Specification 2323-MS-43A, Revision 5 dated July 3, 1984 "Piping-Nuclear".

The specific sources for attributes which are included are shown in Attachment "A".

Those attributes which were considered, but subsequently excluded and reasons for exclusion are contained in Attachment "B".

There were no attributes for which alternate accept/reject criteria was provided.

Robert H. Brown

R. H. Brown
QA/QC Lead Structural Engineer

RHB/smr

Attachments

cc: ERC File

ATTACHMENT "A"
Large Bore Pipe Supports-Non-Rigid Population
List of Source Document for Each Attribute

Attribute	Source*
1. Identification	B&R QI-QAP 11.1-28, Rev. 31, Section 3.2
2. Location and Orientation	B&R CP-CPM 9.10, Rev. 14, Section 4.7 (Unit 2) TUGCO CP-EI-4.5-1, Rev. 12, Sections 3.2.3, 3.2.4 (Unit 1 and Common) G&H 2323-MS-43A, Rev. 5, Section 3.5.3 (for pipe nominal wall thickness)
3. Configuration	
A. Components	B&R QI-QAP 11.1-28, Rev. 31, Section 3.3
B. Material	B&R QI-QAP 11.1-28, Rev. 31, Sections 3.2 and 3.3
C. Installation	B&R QI-QAP 11.1-28, Rev 31, Attachment 3
D. Clearances	B&R CP-CPM 9.10, Rev. 14, Sections 4.7.4, 4.7.5, and 4.11.1
E. Baseplates	B&R CP-CPM 9.10, Rev. 14, Sections 4.9 and 4.10
4. Bolting	
A. Engagement	B&R QI-QAP 11.1-28, Rev. 31, Section 3.3.1.4
B. Contact	B&R CP-CPM 9.10, Rev. 14, Section 4.12
C. Richmond Inserts	B&R CP-CPM 9.10, Rev. 14, Section 4.12.4
D. Locking Devices	ASME III, Subsection NF B&R CP-CPM 9.10, Rev. 14, Section 4.17
E. U- Bolts	B&R CP-QP 11.2-1, Rev. 18, Section 3.10 B&R QI-QAP 11.1-28, Rev. 31, Section 3.3.1.4
F. Torque	B&R CP-CPM 9.10, Rev. 14, Section 4.13
G. Edge Distance	B&R QI-QAP-11.1-28, Rev. 29, Section 3.3.3
H. Grout-In Anchors	TUSI CP-EI-13.0-3, Rev. 1, Section 3.1.2
5. Piping Welds	
A. Location	B&R QI-QAP 11.1-28, Rev. 31, Section 3.4.4
B. Size C. Profile	ASME III, Subsection NB, NC, ND, Paragraphs 4427 B&R QI-QAP 11.1-28, Rev. 31, Section 3.4.4.

D.	Reinforcement	ASME III, Subsections NB, NC, ND, Paragraphs 4426
E.	Undercut	ASME III, Subsections NB, NC, ND, Paragraphs 4424(c)
F.	Surfaces	ASME III, Subsections NB, NC, ND, Paragraphs 4424
G.	Offsets	ASME III, Subsections NB, NC, ND, Paragraphs 4232, Table 4232-1
H.	Cracks/Fusion	ASME III, Subsections NB, NC, ND, Paragraphs 5300, 5352
I.	Welder ID	ASME III, Subsections NB, NC, ND, Paragraphs 4322.1
6.	Support Welds	B&R QI-QAP 11.1-28, Rev. 31, Section 3.4
A.	Location	B&R QI-QAP 11.1-28, Rev. 31, Section 3.4
B.	Size	ASME III, Subsection NF, Paragraph 4427
C.	Profile	
D.	Reinforcement	ASME III, Subsection NF, Paragraph 4426
E.	Undercut	ASME III, Subsection NF, Paragraph 4424
F.	Surfaces	ASME III, Subsection NF, Paragraph 4424
G.	Offsets	ASME III, Subsection NF, Paragraph 4232
H.	Cracks/Fusion	ASME III, Subsection NF, Paragraph 5360
I.	Welder ID	ASME III, Subsection NF, Paragraph 4322.1
7.	Concrete Expansion Anchors	
A.	Size and Number	TUGCO CP-QP-11.2-1, Rev. 18, Section 3.1
B.	Embedment Length	TUGCO CP-QP-11.2-1, Rev. 18, Section 3.2.3, 3.2.4
C.	Bolt Spacing	TUGCO CP-QP-11.2-1, Rev. 18, Section 3.1, 3.4
D.	Angularity	TUGCO CP-QP-11.2-1, Rev. 18, Section 3.1
E.	Concrete Damage	TUGCO CP-QP-11.2-1, Rev. 18, Section 3.9
F.	Nut Engagement/ Bearing	B&R QI-QAP 11.1-28, Rev. 31, Section 3.3.1.4
8.	Component Support Catalog Items	
A.	Snubbers	B&R QI-QAP 11.1-28, Rev. 31, Section 3.3.3 B&R CP-CPM 7.3B, Rev. 0, Section 6.0, 7.0, 7.1, 7.2 B&R CP-CPM 9.10A, Rev. 10, Section 3.0

B.	Sway Struts	B&R QI-QAP 11.1-28, Rev. 31, Section 3.3.2 B&R CP-CPM 7.3B, Rev. 0, Section 5.1, 7.0, 7.1, 7.4 B&R CP-CPM 9.10A, Rev. 10, Section 4.0
C.	Spring Can/ Constant Support	B&R QI_QAP 11.1-28, Rev. 31, Sections 3.3.4, 3.3.5 B&R CP-CPM 7.3B, Rev. 0, Section 5.1.7 B&R CP-CPM 9.10A, Rev. 10, Section 5.0
D.	Low Friction Bearing Plates	B&R QI-QAP 11.1-28, Rev. 31, Section 3.3.6 B&R CP-CPM 9.10A, Rev. 10, Section 7.0 B&R CP-CPM 7.3B, Rev. 0, Section 3.3.2

* Attribute may be delineated in several source documents, but only one source may be listed.

ATTACHMENT "B"
EXCLUDED ATTRIBUTES

The following attributes were considered for inclusion in the checklist, but were subsequently excluded for the reasons presented.

1. TORQUE CHECK OF SA193 GR.B7 USED IN FRICTION CONNECTIONS

   The required tightening of these connections is by the turn-of-nut method. Rechecking based on this method will not give meaningful results as any calculated torques would be an approximation. One method would be to disassemble and retighten, but this does not meet criteria given in current action plan(s).

2. TYPE 2 SKEWED WELDS

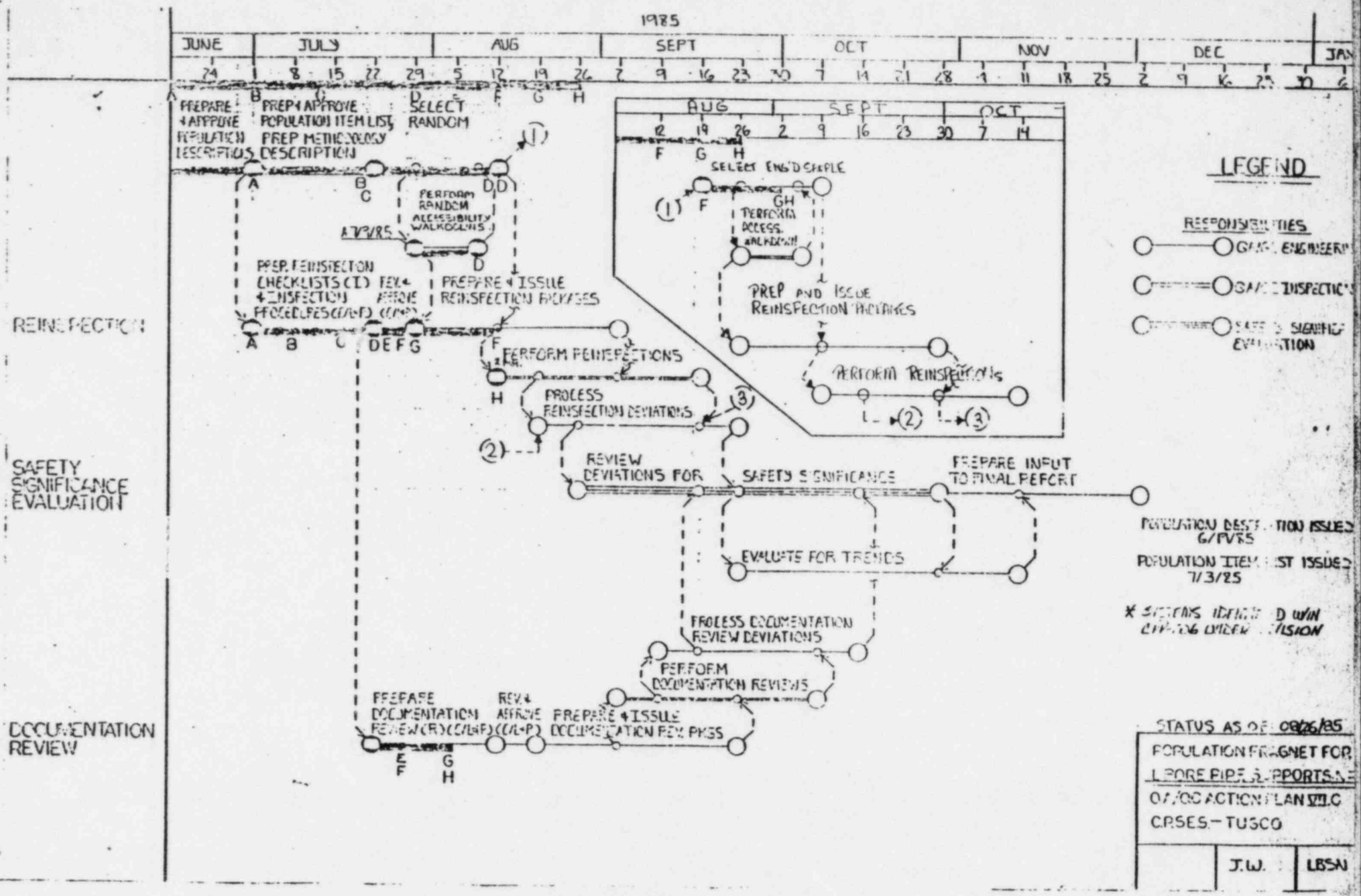
   These welds are covered under Action Plan V.a and QI-006 that consider these welds a separate population.

3. TORQUE CHECK ON PAINTED CONNECTIONS

   Torque check on painted connections will not be performed because the break-away torque requirements for connections which have been painted exceeds the initial installation torque requirements. Retorquing would not verify the installation torque.

4. LOAD SETTINGS ON SPRINGS IN UNIT 1 AND COMMON

   Unit 1 and Common have undergone Hot Functional Testing. Springs were reset during this testing. The conditions under which the springs were reset is non-recreatable and cannot be verified.


1985
JUNE
JULY
AUG
SEPT
OCT
NOV
DEC
JAN
REINSPECTION
SAFETY SIGNIFICANCE EVALUATION
DOCUMENTATION REVIEW
PREPARE & APPROVE POPULATION DESCRIPTIONS
PREP & APPROVE POPULATION ITEM LIST, PREP METHODOLOGY DESCRIPTION
SELECT RANDOM
PERFORM RANDOM ACCESSIBILITY WALKDOWNS
PREP REINSPECTION CHECKLISTS (CI) & INSPECTION PROCEDURES (CI/QF)
REV & APPROVE (CI/QF)
PREPARE & ISSUE REINSPECTION PACKAGES
PERFORM REINSPECTIONS
PROCESS REINSPECTION DEVIATIONS
REVIEW DEVIATIONS FOR SAFETY SIGNIFICANCE
PREPARE INPUT TO FINAL REPORT
EVALUATE FOR TRENDS
PROCESS DOCUMENTATION REVIEW DEVIATIONS
PERFORM DOCUMENTATION REVIEWS
PREPARE DOCUMENTATION REVIEW (CR) (CI/QF)
REV & APPROVE (CI/QF)
PREPARE & ISSUE DOCUMENTATION REVIEWS
SELECT ENG'D SAMPLE
PERFORM ACCESS. WALKDOWNS
PREP AND ISSUE REINSPECTION PACKAGES
PERFORM REINSPECTIONS
LEGEND
RESPONSIBILITIES
POPULATION DESCRIPTION ISSUED 6/PVRS
POPULATION ITEM LIST ISSUED 7/3/85
STATUS AS OF 08/26/85
POPULATION FRAGNET FOR LARGE BORE PIPE SUPPORTS AT OCONEE ACTION PLAN VII.C CASES - TUSCO
J.W.
LBSN

EVALUATION RESEARCH CORPORATION

QA/QC-RT-561

DESCRIPTION MEMORANDUM FOR
DOCUMENT REVIEW OF
POPULATION: SMALL BORE PIPE SUPPORTS
CODE: SBPS
PROCEDURE: QI-020, REV. 0

September 18, 1985

TO: A. Patterson

FROM: R. H. Brown

Attached is a copy of Change Notice 001 for QI-020 for your review and approval.

The following is an itemized list of changes made:

PARAGRAPH	CHANGE/REASON
5.6.B(2)	Changed wording of paragraph to reflect final mark-up not incorporated.
5.7.A	Changed word - typographical error.

Prepared By: John Peter Patterson
QA/QC Discipline Engineer

Approved By: Roger H. Brown
QA/QC Lead Discipline Engineer

Albert A. Patterson
QA/QC Engineering Supervisor

cc: ERC File

RHB/rr

EVALUATION RESEARCH CORPORATION

QA/QC-RT-611

DESCRIPTION MEMORANDUM FOR
REINSPECTION OF
POPULATION: LARGE BORE PIPE SUPPORTS - RIGID
CODE: LBSR
INSTRUCTION: QI-027, REV. 1

September 25, 1985

TO: A. A. Patterson

FROM: R. H. Brown

SUBJECT: The subject document is herewith transmitted to you for your approval. The following is an itemized list of changes made in this revision:

Paragraph		Change/Reason
Old	New	
5.2.2.A.1	5.2.2.A.1	Deleted "For ASME Class 1" to extend applicability of location tolerance to Classes 2 and 3. Location tolerances given in Rev. 0 of QI-027, Paragraph 5.2.2.A.2 were in error as the tolerances are only applicable to Small Bore Pipe Supports (See B&R CP-CPM 9.10, Rev. 14, Section 4.7.2).
5.2.2.A.2	5.2.2.A.2	Deleted separate location tolerance for classes 2 and 3 in accordance with the above change, retained tolerance on angularity which is still applicable.
NONE	5.3.1D	Added Attachment 6.23 for ITT Grinnell Component Verification.
5.3.5.B.1	5.3.5.B.1	5/32" clearance has been changed to 3/16". 5/32" was in error; see B&R QI-QAP-11.1-28, Rev. 31, Section 3.3.1.1.1.

Paragraph Old	Paragraph New	Change/Reason
5.5.7	5.5.7	Added instructions to identify welder symbols for integral attachment welds to distinguish them from welders for support welds.
5.6.2	5.6.2	Corrected spelling - Valve changed to Value.
5.6.7	5.6.7	Change welder ID instruction from Verification to Information with no Accept/Reject criteria. ASME III Subsection NF, Paragraph 4322.1 does not mandate that the welder symbol be marked.
NONE	5.5.8	Added rust as an attribute for stainless steel only. Ref: G&H Specification 2323-MS-100, Revision 8, Paragraphs 2.6.11, 4.24.11 and 4.24.12.
5.8	5.8	Added Attachment 6.23.
5.8.1.A.1 5.8.1.A.2 5.8.1.G	5.8.1.A.1 5.8.1.A.2 5.8.1.G	Changed spelling - Grinnell.
NONE	5.8.1.L	Added Torque Requirements for NPS Super Stiff Clamps and Western Pipe Clamps.
NONE	5.8.1.M	Added Acceptance Criteria for Clamp Parallelism.
NOTE 1 NOTE 2	NOTE 1 NOTE 2	Deleted, no longer needed. Originally used with paragraph 5.2.2.A.2 which has been revised.
NOTE 6	NOTE 6	Deleted verification of correct size spacer. Extended note to include more than one size spacer.
NOTE 25	NOTE 25	Added reference to Attachment 6.23, for ITT Grinnell component supports used in Unit 1.

ATTACHMENT/PAGE		Change/Reason
NOTE 33	NOTE 33	Added, "Where not applicable, enter N/A".
NONE	NOTE 36	Added note to eliminate size and profile attributes for Type 2 Skewed Welds. Type 2 Skewed Welds were listed as an exclusion in Memo QA/QC-RT-326. However, the general condition of the weld was not within the objective of ISAP V.a and should be addressed.
NONE	NOTE 37	Added note to require inspector to identify and record rear bracket item number, where 2 or more brackets are used.
6.0	6.0	Added Attachment 6.23.
6.1/1, 2, 3		Replace CQF-QAI-003.1 with CPP-007.1A and CPP-007.1B as applicable in accordance with latest CPRT procedure.
6.1/2		Added Attribute 5J, Rust
6.3/1, 2		Added Verification Package No. and Inspector Signature and Date Entries. These were inadvertently omitted in Rev. 0.
6.14/1		Revised Table in order to record the number of Bearing Spacers installed on each side of the Spherical Bearing.
6.2/1, 6.3/1, 2, 6.5/1, 6.6/1, 6.10/1, 6.11/1, 6.12/1, 6.14/1, 2, 6.21/1		Added I-S-LBSR-_____ next to Verification Package No. This was added for simplicity in filling out Verification Packages.
6.21/1		Added Note to resolve discrepancies which may exist between the QI and the Typical Inspection Dwg's.

6.22/1	Added to facilitate identification of Rust (New attribute).
6.23/1,2,3,4,5,6	Added Attachment to include ITT Grinnell Component Standard Supports for inspection purposes.

NOTE: Items reinspected prior to the issue date of this memorandum shall be reinspected for the added and/or revised instructions, as required.

Prepared by: John Green

Approved by: Roger H. Brown
QA/QC Lead Discipline Engineer

Albert A. Peters
QA/QC Engineering Supervisor

cc: ERC File
VII.c
Large Bore Pipe Supports - Rigid Population

RHB/sep

C. Hailey

EVALUATION RESEARCH CORPORATION

QA/QC-RT-619

TO: Roger H. Brown

FROM: F. Kovensky

DATE: September 28, 1985

SUBJECT: **Reinspection package preparation for Concrete Placements**

This memo outlines the steps involved in preparing the subject packages using TUGCO assistance.

1) A list of concrete pours is provided to Fred Powers/Designee (Curtis Hailey for Unit 1 and Larry Smith for Unit 2) by my group.

2) For each item on the list, F. Powers/Designee prepares a list that contains all related drawings and applicable DCA's that will define the extent and nature of the placement. The list goes to Tom Hood directly.

3) For each list given to Tom Hood, he

   a) obtains drawings and DCA's

   b) obtains all related NCR's from Doug Snow

   c) adds checklist and other attachments from QI-043

   d) assembles all the above information into a Reinspection Package (this involves labelling each page, filling out table of contents, punching holes, etc.) and forwards to my group.

4) My group, for each reinspection package

   a) marks up and describes the extent of pour on the applicable drawings

   b) reviews all contents (drawings, DCA's, NCR's, etc.) for applicability, completeness and legibility

c) forwards for reinspection per project procedure.

F. Kovensky

cc: ERC File
Tom Hood
C. Hailey
L. Smith
D. Snow
A. Patterson
D. Alexander

FK/feo

ERC EVALUATION RESEARCH CORPORATION

QA/QC-RT- 628

DATE: 10/01/85

TO: C. Hale, T. Tyler, D. Snow, R. Williams, J. Honekamp (3)

FROM: QA/QC Review Team-
Records Management

SUBJ: Document Transmittal

The following documents are attached:

Population Items List - Fuel Pool Liner

Approval Date - 9/30/85

If you have any questions regarding this transmittal, please call extension 331.

C.M. Thompson
Records Management
QA/QC Review Team

Attachments

cc: ERC File

Distribution

J.L. Hansel
J.D. Christensen
V. Hoffman
D. Alexander
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J. Adam (4)
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