BROWN & ROOT, INC. CPSES JOB 35-7195 DCN #1	PROCEDURE NUMBER	REVISION	ISSUE DATE	PAGE
	CP-CPM 6.9F	0	02-06-80	1 of 9

TITLE:
CP-CPM 6.9F
(APPENDIX F)
FABRICATION AND
INSTALLATION OF
COMPONENT SUPPORTS

ORIGINATOR: _____ 3/20/80 DATE

REVIEWED BY: _____ 3-27-80 DATE

APPROVED BY _____ 3/20/80 DATE
CONSTRUCTION PROJECT MANAGER

6.9 F-III Pacific Scientific Corp. "Instruction Manual - Installation and Maintenance Mechanical Shock Arrestors," Rev. 1, May 1977

6.9F-IV ITT Grinnell Corp, Procedure PHE-7594-1, Maintenance and Installation Manual ITT Grinnell Fig. 306 and 307 Mechanical Shock and Sway Suppressor," Rev. 2

6.9-V Inspection of ASME Component Supports (QI-QAP-11.1-20)

1.0 INTRODUCTION

This appendix to procedure CPM-6.9 has been prepared to delineate requirements for the fabrication and installation of ASME Component Supports at CPSES. Attention should also be directed to Supplement 6.9F-V for additional acceptance criteria.

2.0 GENERAL

2.1 APPROVAL AUTHORITY

The origination, review and approval of this document shall be indicated as required by procedure CPM-6.1.

2.2 RESPONSIBILITY

The General Mechanical Superintendent shall be responsible for fabrication and installation of Component Supports at CPSES.

3.0 PROCEDURE FOR THE FABRICATION AND INSTALLATION OF PIPING AND COMPONENT SUPPORTS

EXCLUSION: Instrument Tubing Support fabrication is excluded from the provisions contained herein.

Class 1 Component Supports ("Q") that are to be fabricated and/or installed onsite shall have all work performed to an "Operation Traveler" prepared in accordance with CPM-6.3.

All fabrication and installation work shall be within the tolerances given in Supplement 6.9F-I and Table 6.9F-1.

Verification and inspections of Class 1 "Q" supports shall be documented on the Operation Traveler or Figure 6.9F-1. Verification and documentation of Class 2 and 3 supports shall be documented on the MWDC.

NOTE 1: Cleanliness and Fit-up inspections may be performed simultaneously by QC when required.

All welding on "Q" supports shall be per Appendix 6.9D of this procedure using requirements defined as "NF" in the left-hand margin which are in accordance with ASME BPV Code, Section III, Subsection NF, Winter 1974 addenda unless other later addenda are approved for use.

NOTE 2: Craft personnel are expected to be familiar with the inspection requirements of Supplement 6.9F-V.

All documentation describing the fabrication/installation of component supports shall be assembled into component support traveler packages. WDCs and MWDCs to be included in the CSTP are originated as delineated in Appendix 6.9G.

3.1 TRAVELER CONTROL

Component Support Traveler Packages for Class 1 supports shall be controlled as follows:

1. The traveler shall be prepared in accordance with Procedure CPM-6.3. The traveler package for supports shall contain a copy of the latest design drawing including all design changes, CMCs, etc., controlled in accordance with the applicable procedures. All drawings and design changes (except three-part CMCs) in the package shall be marked with the departmental "Drawing Control" stamp. If a three-part CMC is used, the canary copy may be considered the "controlled copy" and need not be replaced by a "Drawing Control" stamped copy. After the traveler has been prepared, the number and status shall be entered into a control log.

2. Welding Engineering shall prepare the Multiple Weld Data Card and add it to the traveler package.

3. The traveler package shall be forwarded to QA/QC for surveillance and ANI review as applicable. ANI review may be waived by the ANI when specified in writing. Associated WDC review shall be as described in Appendix 6.9G.

4. The traveler package shall be returned to Welding Engineering for issuance to the craft.

5. When it becomes necessary to revise the traveler package as a result of a design change such as a CMC or drawing revision, the following shall be accomplished:

a. Voided welds will be noted as such on the applicable traveler package by the QC Inspector in the field, initialed and dated. QC/ANI review of voided welds is not required at this point.

b. For any added welds:

1. Welding Engineering shall prepare Weld Data Cards as well as a "Bill of Materials" (MRS portion of the MWDC or drawing, etc.) for any additional materials.

2. The Weld Data Cards and CMC are routed to QC and ANI as required by Sections 2.6 and 2.7 of this procedure.

3. The resulting Weld Data Cards, Bill of Materials, etc., are then routed to the field and incorporated in the traveler package by the QC Inspector.

4. Work may proceed on unaffected parts of the support while these changes are being made.

6. The routing of the traveler package as detailed above shall be statused in a control log. This status log shall serve as the drawing control log so that in the case of a drawing revision, the traveler package may be located immediately and the new drawing or design inserted into the package.

7. All the applicable requirements of Procedures DCP-4 and 5 shall be met for adequate control of the drawings in the traveler packages.

3.1.1 Hanger Package for Class 2 & 3 Component Supports

1. A controlled BRH shall be used to prepare the Hanger Package which shall consist of the WDC, WFML, BRH and BOM.

2. Welding Engineering shall enter weld numbers on the BRH for welds to pressure retaining members, full penetration welds except flare beveling on structural tubing, hangers with multiple processes or multi filler materials, or welds requiring unique numbers.

3. Once prepared, the HP will be submitted to the HP Distribution Center wnere it shall be logged and filed until requested. A list of all HP's sent to the distribution center should be sent to the Hanger Dept. by Welding Engineering.

4. Upon completion of the hanger installation the HP shall be returned to the Distribution Center. At this point the BRH and CMCs shall be reviewed by Welding Engineering and weld numbers entered on the BRH, CMC and Weld Data Card for those welds requiring NDE in excess of a Visual Inspection.

3.2 REVIEW OF THE CSTP or HP

The following items must be included in the Component Support Operation Traveler (Class 1 supports) or the Hanger Package (Class 2 and 3 supports):

1. An operation for verification of materials in accordance with the support drawing "Bill of Materials," the Material Requisition. Vendor-supplied supports identification tags shall be verified.

   NOTE 1: A copy of the data report may be attached.

   NOTE 2: The Bill of Materials on the MRS portion of the back of the MWDC may be used, or a separate Bill of Materials may be attached.

2. An operation to verify material traceability.

   NOTE 3: Class 1 supports require heat number traceability. A listing of heat numbers and QC verification shall be required within the Operation Traveler package. For Class 2 and 3 supports, only verification of the correct material specification and grade is required.

3. All nondestructive and visual examinations shall be QC hold points.

4. Verify that all necessary MWDCs or WDCs are present.

5. Provisions shall be made as required on the Operation Traveler the Component Support Installation Mechanical Inspection Checklist or the Hanger Package to verify design location and the tolerances given in Supplement 6.9F-I as applicable.

   For Group 1 supports that do not have a specific design location, verification for location shall be for maximum span only.

6. When spring hangers or mechanical snubbers are part of the support, provisions shall be made to verify stop installation or correct operating configuration in accordance with the Manufacturer's Instructions.

7. When bolted connections are used, provisions for verification shall be made of:

   - At least one complete thread engaged beyond face of the nut.

   - Lock nut or double nut system used.

   - Surface contact of nut aligned with plate and flush within a 1:20 slope.

   - Bolt hole size within tolerance listed in Supplement 6.9F-I. This verification shall be required on the traveler.

   - Material traceability for bolting materials as required above.

   If the CSTP or Hanger Package Multiple Weld Data Card is acceptable, the cognizant personnel shall indicate such by initialing and dating "reviewed by" block on the Operation Traveler or MWDC pages and checklists.

3.3 COMPONENT SUPPORTS GENERAL REQUIREMENTS

3.3.1 Base Plates

When field personnel determine that the original pipe hanger base plate cannot be installed as designed, design modification may be made in accordance with the "Base Plates Installation Guidelines" (Supplement CPM-6.9F-II). If a modification to the design can be accomplished within the guidelines, a CMC shall be used to make the modification in accordance with applicable controlled Engineering documents. If the modification cannot be made within the guidelines the problem will be turned over to the Responsible Mechanical Engineer.

Changes necessary to the Component Support Traveler to document this change shall be made in accordance with CPM 6.3.

3.3.2 Lost and Damaged Material

Hanger material that has been lost, damaged, or otherwise rendered useless after being cut and assigned to a support may be replaced by the following methods without a CMC provided the following is accomplished.

1. The responsible craft foreman shall complete a material requisition to replace the lost or damaged item. The MR shall contain sufficient information for the Misc. Fab Shop to fabricate the piece of material, and shall indicate the disposition of the original piece. The Fab Shop on the strength of the MR shall fabricate the replacement material. The QC Inspector in the Fab Shop shall review the MR and piece fabricated and signify his acceptance by signing and dating the MR. The field QC Inspector should attach the MR to the data package when the replacement piece is installed.

2. Alternatively, the responsibile craft foreman may return the component support data package to the Fab Shop. The Fab Shop QC Inspector will line out the signoff on the bill of materials in the normal line entry manner and add the replacement item on the bill of material indicating that the original item was lost or damaged and an acceptable replacement piece was issued. This entry shall be documented in the normal manner.

3. The traveler shall be revised in accordance with CPM 6.3.

4. If B&R welds were involved, the weld information on the WDC shall be lined through, initialled and dated, and the same weld number and holdpoints re-entered for the replacement welds.

3.3.3 Additional Requirements

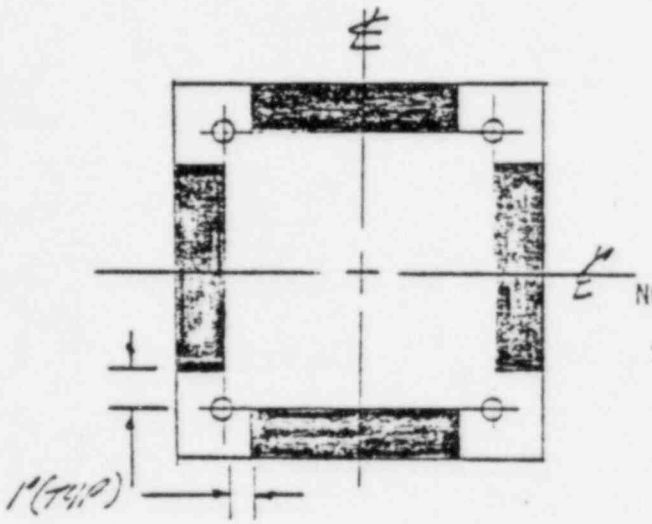
3.3.3.1 Shimming/Grouting.

Component support wall or ceiling plates that do not fit flush against concrete mating surfaces do not require shims unless the gap exceeds 1/16 inch. Shim material may consist of shim plates or washers of a size necessary to allow proper Hilti bolt torquing without base plate deformation.

Component support wall and ceiling plates must have a minimum of 80% bearing surface against the concrete face. The maximum allowable gap, for the remaining portion of the plate, shall not exceed 1/16 inch. If this criteria cannot be met, the plate must be grouted with a non-shrink epoxy grout.

Grouting shall be accomplished as follows:

1. Drill a ½" hole outside the bolt hole pattern at the void. Do not drill within 1" of a concrete anchor. (See figure below)



NOTE: Shaded areas represent allowable ½" fill hole locations.

2. Provide a "dam" along the plate edge as required.

3. Inject expoxy grout through the hole, completely filling the void. The drilled holes do not require weld repair.

4. Repeat at other plate locations as required.

NOTE: Floor plates are not subject to the requirements discussed above and will be grouted as required in accordance with CCP-12.

3.3.3.2 Marking.

During fabrication each component shall be marked with the applicable support number. The components shall be identified by die-stamping, vibroetching, or stamped metal tagging. Component material less than ¼-inch thick may not be die-stamped. All stamping shall be applied to areas by means of roundnose or interrupted-dot die.

3.3.3.3 Threaded Surfaces.

Threaded portions of rod, bolting, etc., shall not be used as a load-bearing surface unless otherwise specified on design drawings.

3.4 MATERIAL SALVAGING

Salvaging of Component Support Materials shall be in accordance with Appendix 6.9E, Section 3.13 of this procedure.

3.5 SEISMIC LIMITERS/SWAY STRUTS

Sway struts and seismic limiters shall be installed and inspected to the drawing using the criteria set forth in the individual manufacturer's catalogs or instructions. Requirements for seismic limiters are delineated in the applicable supplements.

3. Levelness

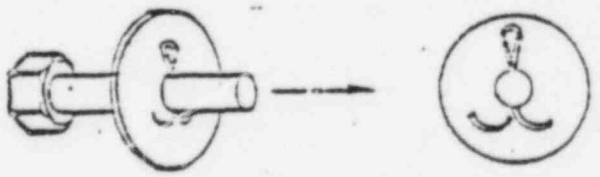
Attachement for sliding supports, anchor bases, floor stands, etc.	1/16" Max. in. every 12"

4. Clearance

Between outside of pipe (or insulation to inside of the structure member.)	± 1/8"

5. Cotter pins should be fully opened to the extent that they cannot become dislodged from the pin or bolt they are securing, and such that they do not present a hazard to personnel. See Example:

EXAMPLE



6. Cotter pins shall be the maximum size the cotter pin hole will permit.

7. Tolerances for seismic restraints to allow for radial pipe expansion shall be 1/16 inch on three sides with the pipe support.

HANGER NUMBER: AF-1-002-033-Y33K

FILE NUMBER. 17.1.37.13

SUBFILE NO. HANGER NUMBER.

ARMS
INDEXED

DATE:

FOR OR NO. 2978 / AAA-2012

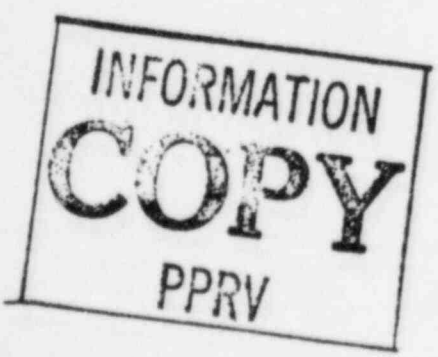
REF. HANGER NO. AF-1-002-033-Y33K

FILE: 17.1.37.13

SUBFILE: REF. HANGER NUMBER

RIR NUMBER: 17298

MRR NUMBER: CP-9898



TEXAS UTILITIES GENERATING COMPANY

2001 BRYAN TOWER · DALLAS, TEXAS 75201

QAA- 2012

PERM. PLT. RECORD

ITN 2	TU FILE LOC. 17.1.32.13
SUBFILE LOC.	AE-1002-033-X33K

TEXAS UTILITIES GENERATING COMPANY
COMANCHE PEAK STEAM ELECTRIC STATION
1981-83 2300 MW INSTALLATION
PURCHASE ORDER NO. CP-0046A.1
AUTHORIZATION FOR SHIPMENT

By copy of this letter TUGCO Quality Assurance releases the following equipment to be shipped by NPSI Austin, Texas :

45 Pipe Hangers and Supports - See Attachment "A"

27 Snubbers - See Attachment "B"

658 Sales Release Items - See Attachment "C"

[X] Final shipment inspected, QAR No. 2978

[ ] Final inspection waived

Richard Bate
TUGCO QA Inspector

11/6/81
Date

GIBBS & HILL
QUALITY ASSURANCE RELEASE

QAR NO. 297S

COMPONENT NAME OR ITEM: Pipe hangers and supports	CONTRACTOR: NPSI
G&H SPEC. NO: CP-0074 R.1 TITLE: Same as above	REVISION: 3
	PROJECT: Concorde Pools SES. JOB NO: 2223

DRAWING(S): Same as Mark Number

QTY RELEASED: 730

SERIAL NO'S OR IDENTIFICATION NO: See attachment "A"

Review Checklist

The attributes listed below have been reviewed by G&H Q.A. and acceptance is indicated by letter "A" contingency by letter "C", and "W" indicate that review of attributs was waived by G&H Q.A. Non-applicable items are lined out. Items not included in form but applicable will be inserted in blank spaces.

A Approved Drawings	~~Mechanical Tests Record~~	A Visual Inspection
~~Approved Design Analysis~~	~~Electrical Tests Records~~	A Dimensional Inspection
~~Approved Stress~~ Reports	~~Performance Tests Records~~	A Cleanliness
~~Approved Deviations~~		
A Supplier's Certificate of Conformance	~~Pressure Test Records~~	
A* Material Certifications	~~Seat Tightness Test Records~~	A Painting
~~Heat Treat Records~~		W Packing
~~RT Film and Records~~		
~~PT/MT/UT Records~~		
~~NDE Personnel Qualification Record~~		
A* Welding Procedure and Personnel Qualification Record		
~~Bending, Storage & Installation Liner.~~	A ~~Code~~ Data Package	

Remarks: Record of approved deviations, notes or instructions:
Mark-up Data Package

Supplier's Statement: As authorized representative of NPSI I hereby certify that the equipment and material released, meets all quality assurance requirements for the purchase order, applicable drawings, and specifications. Approved deviations, if any, are listed above.

Supplier's authorized signature Terry J. Ibrull Date 11/6/81 Title Q.A. Engineer

The equipment identified herein is released by Tyco Quality Control, ~~subject to subsequent for shipment by G&H Purchasing Department.~~ The Contractor has certified that the above equipment meets all quality assurance requirements of the purchase order, applicable drawings and specification. ~~G&H~~ Quality Control has reviewed evidence supporting this release, and except as specified above, has detected no deviation. However, this release does not relieve the contractor from full responsibility for furnishing material or services or both in compliance with the terms and conditions of the purchase order, nor does it impose such responsibility upon Gibbs & Hill, Inc.

Tyco ~~G&H~~ Q.A. Representatives signature Richard Batte Date 11/6/81

Form F-806, 4-75

QAR-2975
QAA-2012

Attachment "A"

November 4, 1981

TUSI SUPPORTS READY FOR SOURCE INSPECTION

1. CC-X-014-700-A43S Rev. 0A
2. CC-1-162-716-A43S Rev. 0A
3. MS-1-03-010-C72K Rev. 1
4. MS-1-04-006-C72K Rev. 2
5. CT-1-038-447-C62A Rev. 0
6. ~~CH-2-206-704-A33S Rev. 0A~~
7. SI-1-088-016-C42R Rev. 0
8. FW-2-99-405-C62S Rev. 2
9. SI-1-029-030-Y32R Rev. 2A
10. SI-2-031-437-A32R Rev. 0A
11. CT-1-089-009-S33R Rev. 1A
12. MS-1-04-003-C72S Rev. 4
13. CC-1-012-006-A43A Rev. 1A
14. BR-X-106-051-S43S Rev. 0A
15. AF-2-011-406-S33S Rev. 0
16. CS-2-077-405-C42R Rev. 0
17. CS-2-085-406-A42R Rev. 0
18. CC-2-164-406-A63R Rev. 1
19. CT-2-074-402-C82R Rev. 1
20. CC-2-69-407-S33K Rev. 3
21. CC-1-234-017-C53R Rev. 0
22. CC-1-284-402-A33R Rev. 0A → RIR 17299
23. CT-2-135-420-C72R Rev. 0
24. CC-1-028-715-S33R R.1A
25. CT-2-128-402-Y52R R.3
26. CT-2-128-401-Y62R R.3
27. CT-2-039-432-C42K R.1
28. AF-1-002-033-Y33K R.3A
29. CC-1-019-003-A33R R.2A
30. MS-1-04-008-C72K R.2
31. SW-1-132-720-S43A R. 0
32. CT-2-049-401-C82S R.1
33. CH-2-206-704-A33S R.0A
34. CT-2-049-402-C82R R.1
35. SI-1-121-004-C52R R.0
36. CS-2-240-403-A42K R.0
37. CS-2-240-406-A42K R.0
38. CC-2-057-701-A33K R.0A
39. CC-1-070-701-A43K R.0A
40. CT-2-135-403-C72R R.0
41. FW-2-98-403-C62R R.0
42. CS-2-076-403-A42R R.1 → RIR-17299
43. CS-1-063-045-S22S R.1A
44. CC-2-057-010-A33K R.0A
45. CT-2-005-405-S22S R.0A

TOTAL: 44

QAL-2978
QAA-2012

Attachment "B"

TUSI SNUBBERS READY FOR SOURCE

1.	CT-2-117-415-C62K	Rev. 1	SMA-1	Qty-2
2.	SW-2-001-700-F33K	Rev. 0A	SMS-35	Qty-1
3.	SW-2-001-701-F33K	Rev. 0A	SMS-35	Qty-1
4.	SW-2-002-700-F33K	Rev. 0A	SMS-35	Qty-1
5.	SW-2-011-703-F33K	Rev. 0A	SMS-35	QTY-1
6.	SW-2-012-701-F33K	Rev. 0A	SMS-35	QTY-1
7.	SW-1-001-700-F33K	Rev. 0A	SMS-35	QTY-1
8.	SW-1-001-701-F33K	Rev. A	SMS-35	QTY-1
9.	SW-1-002-700-F33K	Rev. 0A	SMS-35	QTY-1
10.	SW-1-012-701-F33K	Rev. 0A	SMS-35	QTY-1
11.	SW-1-011-701-F33K	Rev. 0A	SMS-35	QTY-1
12.	SW-1-002-701-F33K	Rev. 0A	SMS-35	QTY-1
13.	VA-X-05-709-A73K		SMA-3	
14.	SF-X-034-020-F43K		SMA-3	
15.	SW-1-132-722-S43K		SMA-3	
16.	MS-1-076-009-S52K		SMA-3	
17.	MS-1-073-009-S52K		SMA-3	
18.	FW-1-106-014-S62K		SMA-3	
19.	FW-1-104-014-S62K		SMA-3	
20.	FW-1-105-011-S62K		SMA-3	
21.	FW-1-103-014-S62K		SMA-3	
22.	CT-2-002-703-S22K		SMA-3	
23.	CC-2-010-706-A43K		SMA-3	
24.	CC-2-010-707-A43K		SMA-3	
25.	CC-2-046-702-A43K		SMA-3	
26.	SW-2-002-019-A33K		SMA-3	
27.	CC-2-015-700-A43K		SMA-3	

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AUSTIN, TEXAS 78703

nps industries, inc.

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c/o B&R
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Glen Rose, TX

SPECIAL INSTRUCTIONS

DATE SHIPPED	PURCHASE ORDER NO.	PROJECT TITLE	SALES REL. NO.	PROD. REL. NO.	SALES ACCT. NO.
	CP-0046A.1	TUSI	ASME		
	SHIPPED - VIA CARRIER	F.O.B.	☐ PREPAID ☐ ADDED ☐ COLLECT		

ITEM NUMBER	ORDER QUANTITY	QUANTITY SHIPPED	QUANTITY B.O.	DESCRIPTION/ASSEMBLY MARK#, REV.	COMMENTS
	2	2	0	SMA-1 for CT-2-117-415-C62K rev.1 ✓	
	1	1	0	SMF-35 for SW-2-001-700-F33K rev.0A ✓	
	1	1	0	SMF-35 for SW-2-001-701-F33K rev.0A ✓	
	1	1	0	SMF-35 for SW-2-002-700-F33K rev.0A ✓	
	1	1	0	SMF-35 for SW-2-011-703-F33K rev.0A ✓	
	1	1	0	SMF-35 for SW-2-012-701-F33K rev.0A ✓	
	1	1	0	SMF-35 for SW-1-001-700-F33K rev.0A ✓	
	1	1	0	SMF-35 for SW-1-001-701-F33K rev.1A ✓	
	1	1	0	SMF-35 for SW-1-002-700-F33K rev.0A ✓	
	1	1	0	SMF-35 for SW-1-012-701-F33K rev.0A ✓	
	1	1	0	SMF-35 for SW-1-011-701-F33K rev.0A ✓	
	1	1	0	SMF-35 for SW-1-002-701-F33K rev.0A ✓	
	1	1	0	SMA-3 for VA-X-05-709-A73K rev.0A ✓	
	2	2	0	SMA-3 for SF-X-034-020-F43K rev.0A ✓	
	1	1	0	SMA-3 for SW-1-132-722-S43K rev.0A ✓	
	1	1	0	SMA-3 for MS-1-076-009-S52K rev.0A ✓	
	1	1	0	SMA-3 for MS-1-073-009-S52K rev.0A ✓	
	1	1	0	SMA-3 for FW-1-106-014-S62K rev.0A ✓	
	1	1	0	SMA-3 for FW-1-104-014-S62K rev.0A ✓	
	1	1	0	SMA-3 for FW-1-105-011-S62K rev.0A ✓	
	1	1	0	SMA-3 for FW-1-103-014-S62K rev.0A ✓	
	2	2	0	SMA-3 for CT-2-002-402-S22K rev.2 ✓	
	2	2	0	SMA-3 for CC-2-010-706-A43K rev.0A ✓	
	1	1	0	SMA-3 for CC-2-010-707-A43K rev.0A ✓	
	1	1	0	SMA-3 for CC-2-046-702-A43K rev.0A ✓	
	2	2	0	SMA-3 for SW-2-002-019-A33K rev.3A ✓	
	2	2	0	SMA-3 for CC-2-015-700-A43K rev.0A ✓	

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AUSTIN, TEXAS 78745

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Comanche Peak Steam Elec Stat
Glen Rose, Tx.

SPECIAL INSTRUCTIONS

DATE SHIPPED	PURCHASE ORDER NO.	PROJECT TITLE	SALES REL. NO.	PROD. REL. NO.	SALES ACCT. NO.
	CP0046 A,1	TUSI	ASME		
	SHIPPED - VIA CARRIER	F.O.B.	☐ PREPAID ☐ ADDED ☐ COLLECT		

ITEM NUMBER	ORDER QUANTITY	QUANTITY SHIPPED	QUANTITY B.O.	DESCRIPTION/ASSEMBLY MARK#, REV.		COMMENTS
1		1		CC-X-014-700-A43S✓	0A	1557
1		1		CC-1-162-716-A43S	0A	1595
1		1		MS-1-03-010-C72K	1	1129A
1		1		MS-1-04-006-C72K	2	1220C
1		1		CT-1-038-447-C62A	0	1217
1		1		CH-2-206-704-A33S	0A	1595
1		1		SI-1-088-016-C42R	0	1143
1		1		FW-2-99-405-C62S	2	1118A
1		1		SI-1-029-030-Y32R	2	1559
1		1		SI-2-031-437-A32R	0A	1617
1		1		CT-1-089-009-S33R	1A	1687
1		1		MS-1-04-003-C72S	4	1087B
1		1		CC-1-012-006-A43A✓	1A	1569B
1		1		BR-X-106-051-S43S✓	0A	1422
1		1		AF-2-011-406-S33S✓	0	1011
1		1		CS-2-077-405-C42R	0	1102
1		1		CS-2-085-406-A42R	0	1120
1		1		CC-2-164-406-A63R	1	1003
1		1		CT-2-074-402-C82R	1	1112
1		1		CC-2-68-407-S33K	3	1121
1		1		CC-1-234-017-C53R	0	1207
1		1		CC-2-28-402-A33R→RIR-17299	0A	1645
1		1		CT-2-135-420-C72K	2	1093
1		1		CC-1-028-715-S33R	1A	1602

INFORMATION COPY PPRV

nps industries, inc.
10420 metric boulevard
austin, texas 78758
telephone 512-836-4161

PERM. PLT. RECORD

RTN	
2	17.1.37.13
FILE LOC.	
AF-1-002-033-V33K	

TUGCO P.O. # CP-0046A.1
ASME DOCUMENTATION CHECKLIST

NPS INDUSTRIES CERTIFICATE OF COMPLIANCE	X
CODE DATA REPORT	N/A
MATERIAL RECORD	X
SHOP DRAWINGS	X
NONDESTRUCTIVE TESTING REPORT	N/A
NONCONFORMANCE REPORT	N/A
WELD REPAIR REPORT	N/A
WELD DATA SHEET	N/A
CERTIFIED MATERIAL TEST REPORTS	
MATERIAL SUPPLIER CERTIFICATE OF COMPLIANCE	N/A

We certify that Support Mark No. AF-1-002-033-V33K Rev. 3A on our Shipping Notice AUS-11699 FDA has been fabricated in accordance with GIBBS & HILL SPECIFICATION 2323-MS-46A and conforms to ANSI 45.2, 10CFR50 Appendix B and Section III, Division 1 of the ASME Boiler and Pressure Vessel Code, Subsection NF 2000/4000, 74 Edition Winter 1974 Addenda.

CONSTRUCTION COPY RPAV

Prepared By: Catherine Cranor Date: 11/5/81

QA Approval: Gloria Yukovich Date: 11/5/81

MATERIAL RECORD

MARK NO. AE-1-002-033-Y33K REV. 3A PROD. RELEASE 15045 CODE ASME III/3

ITEM NO.	01	02	03	04	05	06	07	08	09	10
MIC NO.	—	—	—	—	—	—	4668 NW ✓	4668 NW ✓	443 NT 552 NT	5317 NE
ITEM NO.	11	12	13	14	15	16	17	18	19	20
MIC NO.	*	*	5477 NE ✓	5710 NE ✓	4648 NW					
ITEM NO.	21	22	23	24	25	26	27	28	29	30
MIC NO.										

SUBASSEMBLIES

DRAWING/ITEM NO. *11	
MATERIAL	MIC NO.
Insulation	Redempt
Bar Rst	3244 NH ✓
Pin	5370 NR ✓

DRAWING/ITEM NO. *12	
MATERIAL	MIC NO.
Clamp	5759 NF ✓
Nuts	5635 NB
Bolts	5491 NB
Pin	5370 NR ✓
Spacer	Redempt

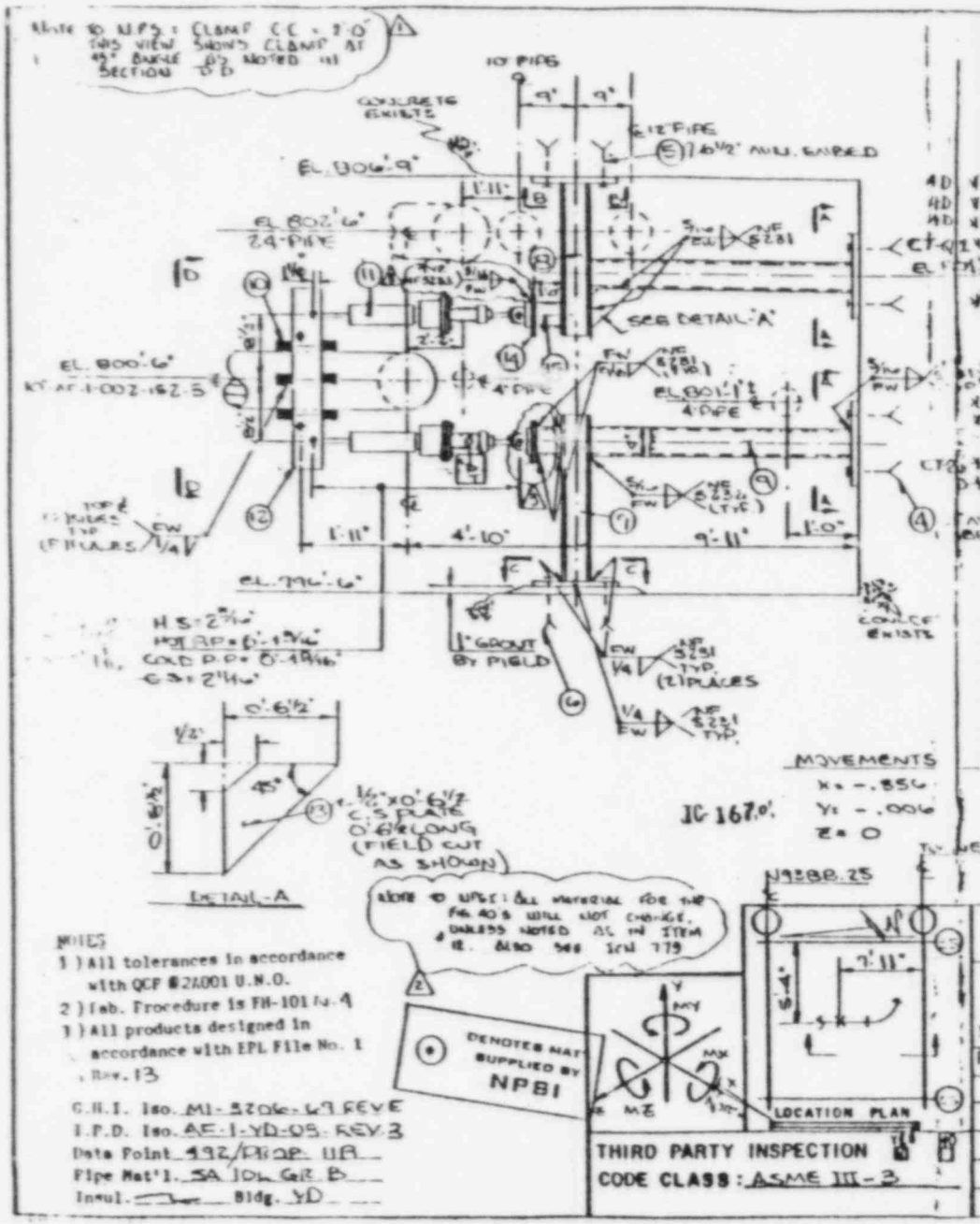
DRAWING/ITEM NO.	
MATERIAL	MIC NO.

DRAWING/ITEM NO.	
MATERIAL	MIC NO.

INFORMATION COPY PPRV

S. A. REVIEW K Craver DATE 11/5/81

S. E. REVIEW _____ DATE _____



ITEM NO.	NO REQ'D	PART CALL OUT	DESCRIPTION	MATERIAL	MISC WT	WEIGHT
1	P	PL 1¼" x 19½" x 19½"	(By Field)	SA36		
2	1	PL ¾" x 11" x 11"	(By Field)	SA36		
3	1	PL ⅜" x 8" x 8"	(By Field)	SA36		
4	8	BSA-1-9	(By Field)	1141		
5	4	BSA-SB-B12	(By Field)	1141		
6	4	BSA-12-7	(By Field)	1141		
7	1	W4 x 15 x 3'-4¾"		SA36	10310	45
8	1	W4 x 13 x 5'-8½"		SA36	10310	75
9	2	TS 6 x 4 x ⅜ x 9'-7⅞"		A500 GR B	10410	446
10	8	FD-1¼" x 2½ x 3¾"	32" Q-1	SA515 GR 70	10743	27
11	2	SMA-3-80	SNUBBER			110
		C-C (MID RANGE) = 61"				
12	1	PRH-100-A	RISER CLAMP	SA36		750
		SOR2B G = 1 C-C = 2'-0"				
		B = 1½ x 6 E = 2⅛"				
		A = 1⅛"				
13	1	PL ½" x 6½" x 6½"	4D 7"	SA36	10714	6
14	2	PL ¾" x 6" x 6"	4D	SA36	10390	16
15	2	W4 x 13 x 1'-0"	4D	SA36	10390	26
	2	PROVIDE TEMPORARY SNUBBER SPACER C-C = 61"				
11	2	10838 63"Lg	TEMP. SNUBBER			
11	2	36080	RWA BRACKET			

NPSI CERTIFIES THAT THE SUBSTITUTIONS IN HARDWARE AND MATERIAL SPECIFIED IN THE BILL OF MATERIAL ARE EQUIVALENT TO THOSE SPECIFIED BY THE DESIGNER AND SUITABLE FOR THE INDICATED LOADINGS.

9-18-81
DATE

FOR PROJECT MANAGER

PENALTY SCHEDULED
RMR. DATE
OCT 8 1981

PRH 15045

SEISMIC ASSEMBLY SKETCH AND ENGINEERING BUNDLE AND TAG / MARK #AF-1-002-033-Y33K

Apply one coat of Carbo Zinc #11 to above mat'l except th'ds which shall be coated w/a rust preventative.

QUAN	SHIP
1	
1	

FOR MATERIALS AND OPERATIONS SEE SKETCH NO. SHEET OF

MOVEMENTS
X = -.856
Y = -.006
Z = 0

IC 167.0'

NOTE TO UPS: ALL MATERIAL FOR THE PRH 40'S WILL NOT CHANGE, UNLESS NOTED AS IN ITEM 12. ALSO SEE ICN 779

REV.	DATE	ENG BY	ENG CHK.	DWN BY	CHK BY	DESCRIPTION
0	4/16/81	BWS	JWC	MEH	ABT	
1	7/9/81	BP	JRL	—	—	
2	9/18/81	SP	SSH	—	—	
3	7/8/81	SSH	TMH	—	—	
4						

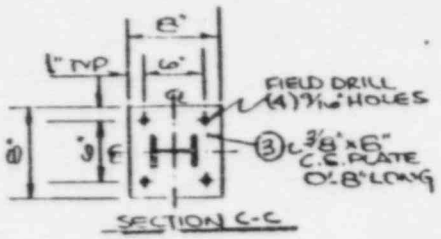
ITT GRINNELL
IC 167 PIPE HANGER DIVISION

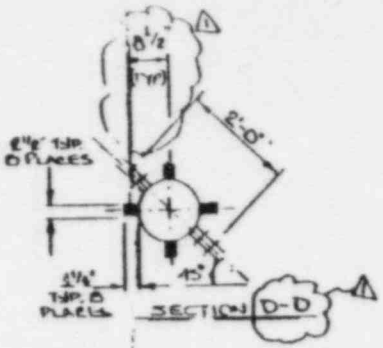
REF. DRAWING NUMBERS

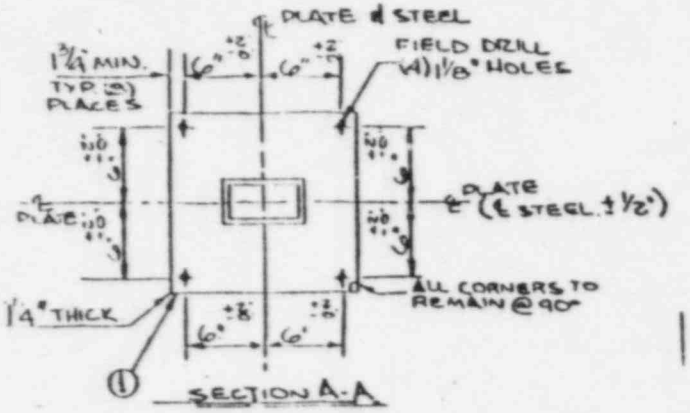
PIPE: M1-1006 REV. 7 ELECT:
STEEL: 21-0315-REV. 8 HVAC:

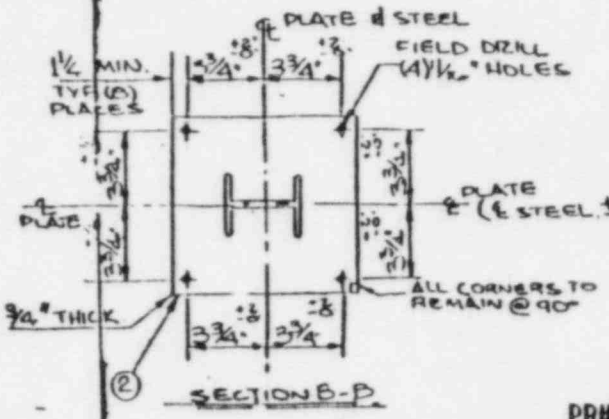
CONDITIONS	Fx	Fy	Fz	Mx	My	Mz
DESIGN						
NORMAL OPERATING	+1245					
EMERGENCY	+445					
FAULTED						

CUSTOMER: Texas Utilities Service, Inc.
ORDER OR CONT NO: CP-0046
JOB NAME: Comanche Peak 1 & 2
MARK NO: AF-1-002-033-Y33K
SKETCH NO.
SHEET 1 OF 2 REV. 1









PENALTY
REMEDIED SHIP. DATE
OCT 8 1981

NPS INDUSTRIES INC
60 19124
AUG 4 1981
RECEIVED

NPSI CERTIFIES THAT THE SUBSTITUTIONS IN HARDWARE AND MATERIAL SPECIFIED IN THE BILL OF MATERIAL ARE EQUIVALENT TO THOSE SPECIFIED BY THE DESIGNER AND SUITABLE FOR THE INDICATED LOADINGS.

5-18-81
DATE

FOR PROJECT MANAGER

PRELIMINARY INFORMATION

PRELIMINARY
Approved By: DCP
Date: 11/21/80

ITT GRINNELL
PIPE HANGER DIVISION
REF. DRAWING NUMBERS
PIPE STEEL:
ELECT:
H.V.A.C.:

CUSTOMER: Texas Utilities Service, Inc.
ORDER OR CONT. NO. CP-0046
JOB NAME: Comanche Peak 1 & 2
MARK NO. SF-1-0C2-033-Y55K
SKETCH NO.
SHEET 1 OF 2 REV. 34

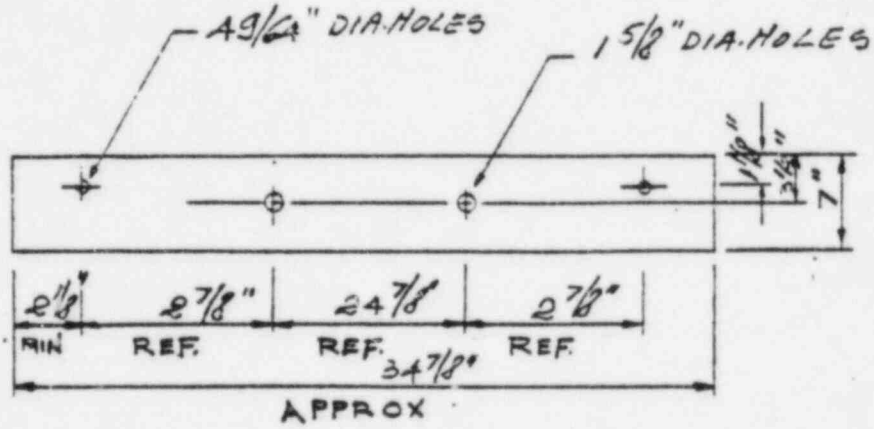
⊙ DENOTES MATL SUPPLIED BY NPSI

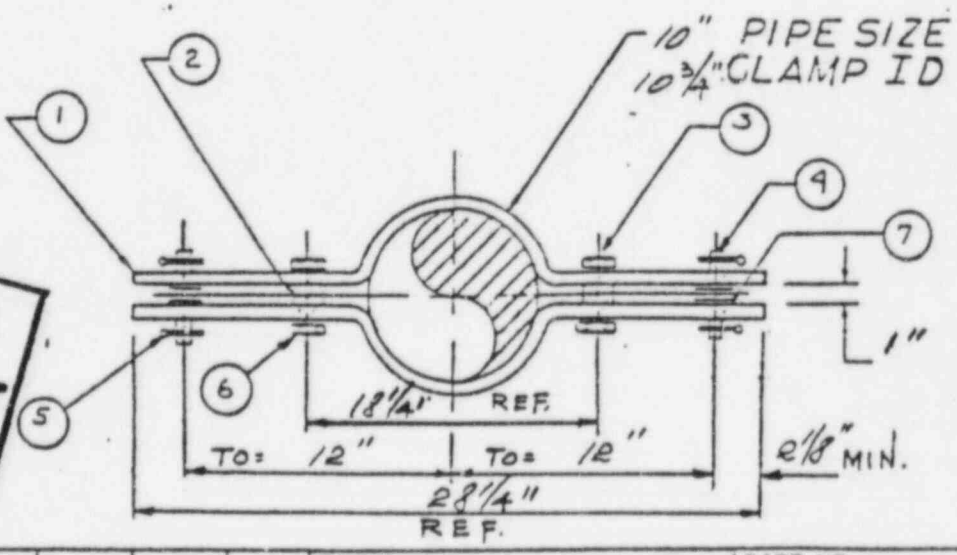
IC-1670

REV.	DATE	CHD BY	ENG CHK	DWN BY	CHK BY	DESCRIPTION
0	11/21/80	DAK	JWL	VEH	ACST	
1	1/5/81	AP	KRL	—	—	
2	1/29/81	SP	SJH	—	—	
3	7/21/81	SJH	JWL	—	—	
4						

THIRD PARTY INSPECTION YES ☐ NO ☐
CODE CLASS: ASME III-3

ITEM NO.	QTY.	PART NO.	DESCRIPTION	MATERIAL SPEC.	UNIT WT.	REQ. NO.
1	2	10732	PL 1" x 7" x 34 7/8" APPROX.	SA-36	138.3	CT-3
2	2	P1 1/2 SCH 80 x 1"	SPACER 10036	SA106GR B	0.5	4D
3	2	FXB 1 1/2" x 6" LG	HEX BOLT	A307GR A	7.9	
4	2	15041	PIN	SAE 3 B7	1.0	
5	4	15502	COTTER PIN 5/32" x 2"	—	—	
6	2	FXN - 1 1/2	HEX NUT	A-307	1.9	
7	4	15205	SPACER	SA106GR B	—	





CODE CLASS ASME III-3

REV	DESCRIPTION	BY	DATE	APP'D

TITLE: PRH-100-A FOR MK. NO AF-1-002-033-Y33K REV 3

PART NO.

SCALE: NONE	DATE
DRAWN JS	8-27-81
CHK'D DC	8-23-81
APP'D PAC	9/11/81

DWG. NO. SCP-499 REV 0

SHT 1 OF 1

nps industries inc.
ONE HARMON PLAZA
SECAUCUS, NEW JERSEY

a subsidiary of
nuclear power engineering

FORM W-662 R2

R-2137

PHOENIX STEEL CORPORATION
CLAYMONT, DELAWARE 19703
MATERIAL TEST REPORT

MIC NO 5317NF

SPECIFICATION ASME SA 515 GR 70 Per ASME SECT II & SECT III DIV. 1 Summer 1979 Addenda. Bend Tests Per SA-20 S.14 Silicon Quality Steel

November 20, 1980 P. L. NO. 59137N

CUSTOMER ORDER NO. 896-KSN

SOLD TO Mills Alloy Steel Co.
P.O. Box 46448
Bedford, Ohio 44146

MILL ORDER NO. 25534-23

CAR NO. Truck

BEND TEST: OK ✓

HOMOGENITY TEST:

HEAT NO.	SLAB NO.	CHEMICAL ANALYSIS C	MN	P	S	SI.	CU.	NI.	CR.	MO.	YIELD STRENGTH P.S.I.	TENSILE STRENGTH P.S.I.	% ELONG. 2"	% ELONG. 8"	SIZE
81262-23	84344	.23	.71	.012	.011	.20					47900	78100		28.0	2- 1-1/4"x96"x240
"	84343										50400	78800		22.5	2- "
"	84342										50200	78400		22.5	1- "

NPSI RECV INSPECTION
CODE ACCEPTED
NPI ☐ QI ☒ QCC ☐
QC [signature] DATE 5-16-81

NPS AUSTIN
MIC NO. 5317NF
PO NO. AUS 2458
SHEET 1 OF 1

MATERIAL MANUFACTURED TO THE QUALITY ASSURANCE REQUIREMENTS OF SECTION III NCA 3800 ONLY.

"This material was manufactured in accordance with a Quality Assurance Program documented by the Quality Assurance Manual, effective date 5/15/80."

AUDITED AND ACCEPTED BY CUSTOMER 7/15/80

SUBSCRIBED AND SWORN TO BEFORE ME
THIS 29 DAY OF Nov 1980
Christine A Kreag
NOTARY PUBLIC

QA REVIEWED MASS. 12/4/80

I CERTIFY THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION.
[signature]
EXPERT OF TESTING, METALLURGICAL DEPT.

INFORMATION COPY PHOENIX

MATERIAL RECORD

MARK NO. AE-1-002-033-Y33K REV. 3A PROD. RELEASE 15045 CODE ASME III/3

ITEM NO.	01	02	03	04	05	06	07	08	09	10
MIC NO.	—	—	—	—	—	—	4668 NW	4668 NW	493 NF 552 NF	5317 NE
ITEM NO.	11	12	13	14	15	16	17	18	19	20
MIC NO.	*	*	5477 NE	5710 NE	4648 NW					
ITEM NO.	21	22	23	24	25	26	27	28	29	30
MIC NO.										

SUBASSEMBLIES

DRAWING/ ITEM NO. *11	
MATERIAL	MIC NO.
Pump Rubber	Redempt
Bearing	3244 NH
Pin	5370 NR

DRAWING/ ITEM NO. *12	
MATERIAL	MIC NO.
Clamp	5759 NF
Nuts	5635 NB
Bolts	5491 NB
Pin	5370 NR
Spacer	Redempt

DRAWING/ ITEM NO.	
MATERIAL	MIC NO.

DRAWING/ ITEM NO.	
MATERIAL	MIC NO.

Q. A. REVIEW K Craner DATE 11/5/81

S. T. REVIEW _____ DATE _____

nps industries, inc.

10420 metric boulevard
austin, texas 78758
telephone 512-836-4161

TUGCO P.O. # CP-0046A.1

ASME DOCUMENTATION CHECKLIST

CODE DATA REPORT	N/A
MATERIAL RECORD	X
SHOP DRAWINGS	X
NONDESTRUCTIVE EXAMINATION REPORT	N/A
NONCONFORMANCE REPORT	N/A
WELD REPAIR REPORT	N/A
WELD DATA SHEET	N/A
CERTIFIED MATERIAL TEST REPORTS	X
CERTIFICATES OF COMPLIANCE	X
NPSI CERTIFICATE OF CONFORMANCE	X

We certify that Support Mark No. A7-1-002-033-Y33K Rev. 3A on our Shipping Notice AUS-11699 /TDA has been fabricated in accordance with Gibbs & Hill Specification 2323-MS-46A and conforms to ANSI N45.2,-10CFR50 Appendix B and Section III, Division I of the ASME Boiler and Pressure Vessel Code, Subsection NF 2000/4000, 1974 Edition, Winter 1974 Addenda.

Prepared by: Melissa Peterson Date: 3/11/82

Q.A. Approval: Susan Gray Date: 3/13/82

nps industries, inc.
10420 metric boulevard
austin, texas 78758
telephone 512-836-4161

DATE: 3/11/82

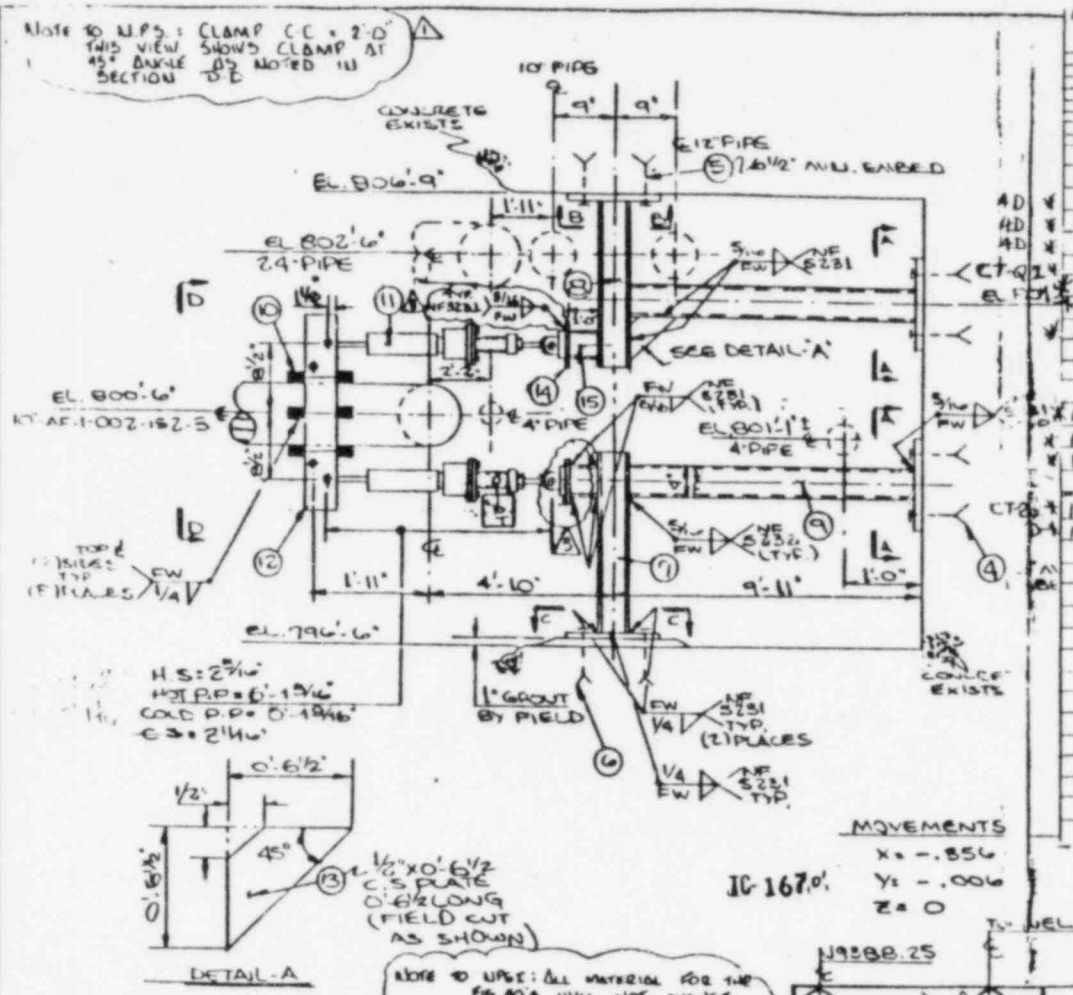
CERTIFICATE OF CONFORMANCE

REFERENCE: Texas Utilities Services, Inc.
P.O. Number CP-0046A.1

We certify that material supplied for Support Mark No. A7-1-002-033-H33K Rev. 0 on Shipping Notice AUS-11699/TDA conforms to the referenced purchase order and to the applicable requirements of ASME Section III, Subsection NF, Class 3, 1974 Edition, Winter 1974 Addenda.

Plant Manager of Quality Assurance

ASME Quality System Certificate (Materials) Number QSC-372-2
Expires April 8, 1984



ITEM NO.	NO. REQ'D	PART CALL OUT	DESCRIPTION	MATERIAL	HIC NO	WEIGHT	PC	L	CS	PRIM	SEC	I
1	8	PL 1¼" x 19½" x 19½"	(By Field)	SA36			X			X		
2	1	PL ¾" x 14" x 14"	(By Field)	SA36			X			X		
3	1	PL ¾" x 8" x 8"	(By Field)	SA36			X			X		
4	8	BSA-1-9	(By Field)	1144					X			
5	4	BSA-SB-B12	(By Field)	1144					X			
6	4	BSA-12-7	(By Field)	11L41					X			
7	1	W4x15 x 3'-4 5/4"		SA36	10310	45	X		X	X		
AD 8	1	W4 x 13 x 5'-8½"		SA36	10310	75	X		X	X		
AD 9	2	TSG x 4 x ¾ x 9'-7 11/16"		A500GR B	19410	446	X		X	X		
10	8	FD-1¼" x 2½ x 3¾"	32" G-1	SA515 GR70	10723	27			X			
11	2	SMA-3-80	SNUBBER			110			X			
		C-C (MID-RANGE) = 61"										
12	1	PRH-100-A	RISER CLAMP	SA36		130						
		SOB2B G=1" C-C=2'-0"										
		B=1½ x G E=2⅛"										
		A=1⅛"										
13	1	PL ½" x G½" x G½"	4D 7"	SA36	10214	6	X			X		
14	2	PL ¾" x G" x G"	4D	SA36	10500	16	X			X		
15	2	W4 x 13 x 1'-0"	4D	SA36	10310	26		X		X		
	2	PROVIDE TEMPORARY SNUBBER SPACER C-C=61"										
11	2	10838 63"LG	TEMP. SNUBBER									
11	2	35020	RMA BRACKET									

NPSI CERTIFIES THAT THE SUBSTITUTIONS IN HARDWARE AND MATERIAL SPECIFIED IN THE BILL OF MATERIAL ARE EQUIVALENT TO THOSE SPECIFIED BY THE DESIGNER AND SUITABLE FOR THE INDICATED LOADINGS.

9-18-79
DATE

FOR PROJECT MANAGER

PENALTY SCHEDULED SHIP. DATE OCT 8 1981

PRH 15045

SEISMIC ASSEMBLY SKETCH AND ENGINEERING	1									
BUNDLE AND TAG / MARK@AF-1-002-033-Y3JK	1									
Apply one coat of Carbo Zinc #11 to above mat'l except th'ds which shall be coated w/a rust preventative. APP'D 11/21/79	QUAN.	SHIP.	P&S	L	CS§	PRIM	SEC.	AISC		

FOR MATERIALS AND OPERATIONS SEE SKETCH NO. SHEET OF

NOTES
1) All tolerances in accordance with QCP #2A001 U.N.O.
2) Fab. Procedure is FH-101 N-4
3) All products designed in accordance with EPL File No. 1, Rev. 13

G.H.I. Iso. MI-3206-69 REV E
I.P.D. Iso. AF-1-YD-09-REV 3
Data Point 492/P102 IIB
Pipe Mat'l. SA 106 GR B
Insul. — Bldg. YD

THIRD PARTY INSPECTION
CODE CLASS: ASME III-3

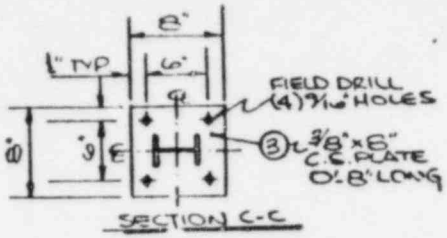
ITT GRINNELL
IC-167 PIPE HANGER DIVISION

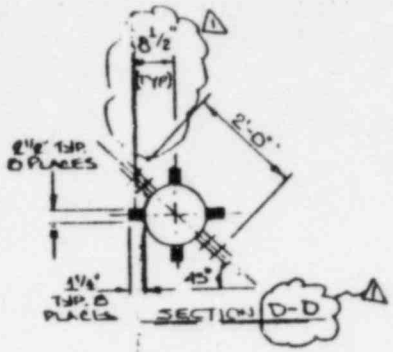
REF. DRAWING NUMBERS
PIPE: MI-1026 REV 7 ELECT:
STEEL: MI-0310-REV 5 H.V.A.C.:

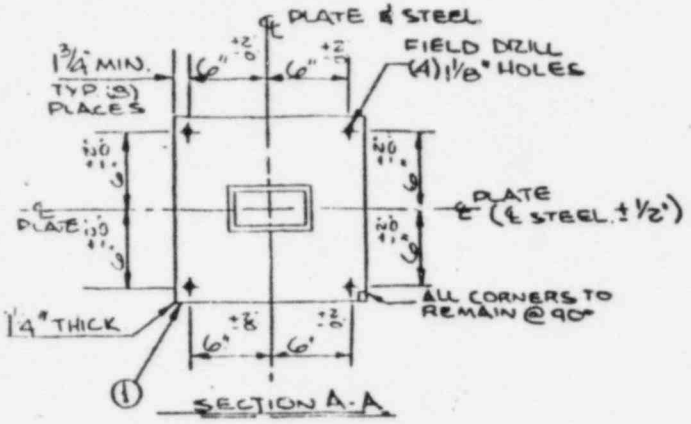
REV.	DATE	ENG BY	ENG CHK.	DWN BY	CHK BY	DESCRIPTION
0	10/16/79	RW	JVL	[illegible]	ABT	[illegible]
1	7/9/80	BP	JRL	—	—	[illegible]
2	9/19/80	SP	SJH	—	—	[illegible]
3	7/8/81	SJH	MMF	—	—	[illegible]
4						

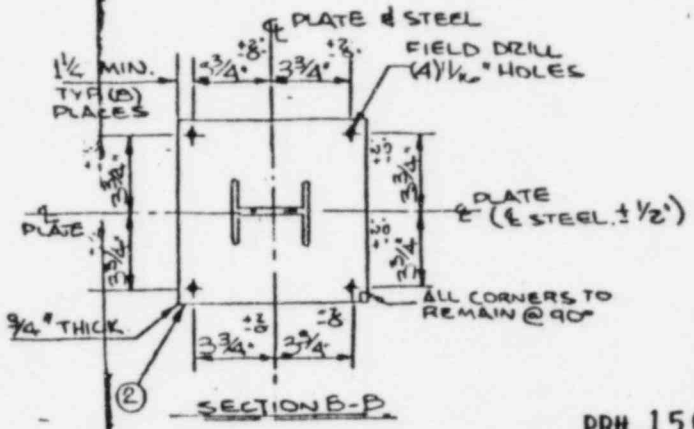
CONDITIONS	Fx	Fy	Fz	Mx	My	Mz
DESIGN						
NORMAL						
EMERGENCY						
FAULTED						

CUSTOMER Texas Utilities Service, Inc.
ORDER NO. CONT NO. CP-0046
JOB NAME Comanche Peak 1 & 2
MARK NO. AF-1-002-033-Y3JK
SKETCH NO.
SHEET 1 OF 2 REV. 1









PENALTY
RESCHEDULED SHIP. DATE
OCT 8 1981

NPS INDUSTRIES, INC.
60 19124
AUG 4 1981
RECEIVED

PRH 15045

Approved By: DCP
Date: 11/21/79

NPSI CERTIFIES THAT THE SUBSTITUTIONS IN HARDWARE AND MATERIAL SPECIFIED IN THE BILL OF MATERIAL ARE EQUIVALENT TO THOSE SPECIFIED BY THE DESIGNER AND SUITABLE FOR THE INDICATED LOADINGS.

9-18-81
DATE

M.W.
FOR PROJECT MANAGER

⊙ DENOTES MATL SUPPLIED BY NPSI

TC-1670

REV.	DATE	ENG. BY	ENG CHK.	DWN. BY	CHK. BY	DESCRIPTION
0	11/21/79	DWK	JWL	WEH	ACST	
1	7/3/80	SP	JWL	—	—	
2	11/24/80	SP	SJH	—	—	
3	7/21/81	SJH	DWK	—	—	
4						

THIRD PARTY INSPECTION YES ☒ NO ☐
CODE CLASS: ASME III-3

ITT GRINNELL
PIPE HANGER DIVISION

REF. DRAWING NUMBERS
PIPE: ELECT:
STEEL: H.V.A.C.:

CUSTOMER Texas Utilities Service, Inc
ORDER OR CONT. NO. CP-0046
JOB NAME Comanche Peak 1 & 2
MARK NO. AF-1-OC2-033-Y33K
SKETCH NO.
SHEET 2 OF 2 REV. 3A

INFORMATION ONLY

Bethlehem Steel Corporation

BETHLEHEM, PA. 18016

February 26, 1981

Howard J. Price
Q.A. Manager
Pressure Vessel Nuclear Steels Inc.
460 Hillside Ave.
Hillside, N.J. 07205

Mr. Price:

The material supplied on Bethlehem Steel Corporations Orders UA001-5992 dated 5/27/80 (PVN order 5155) and UA001-7198 dated 10/3/80 (PVN order 3425) was produced in accordance with Bethlehem Steel Corporations "Quality Assurance Program For Steel Plants" (Rev. 0 dated 11/1/78) which you audited on 1/22/80 and approved (letter dated 1/31/80) at the Bethlehem Plant (Plant Manual dated 1/19/79).

Sincerely,

BETHLEHEM STEEL CORPORATION

G. S. Hagaman
Chief Metallurgist

WRGuyer:cmh

NPSI RECV INSPECTION
CODE ACCEPTED
NPT ☐ Q-1 ☒ OTHER
QC QAC DATE 3-3

NPSI AUSTIN
MIC NO. 4668 NW
PO NO. AUS 2177 Co#1
SHEET 2 OF 2

DOCUMENT REVIEWED BY
Q.A. JW DATE 3/6/81

INFORMATION COPY PPRV

TELECOPY RECEIVED
Date 3-3 Time 11:20

REPORT OF MECHANICAL AND CHEMICAL TESTS

BETHLEHEM STEEL CORPORATION
METALLURGICAL DEPARTMENT

169 PAGE 1

PURCHASE ORDER NO.	BSC ORDER NO.	SHIPPER'S NO.	SHIPPED FROM	DATE SHIPPED
[illegible]	001-5992	104-49242-21701	BETHLEHEM	6/14

SOLD TO
PRESSURE VESSEL-NUCLEAR STEELS INC
460 HILLSIDE AVE
HILLSIDE NJ 07205

SHIP TO
PRESSURE VESSEL-NUCLEAR STEELS INC
460 HILLSIDE AVE
HILLSIDE NJ 07205

SPECIFICATION

ASME II-SA36 III-NCA3800 1977 THRU WINTER 79
10CFR21 ASTM A36-77A

MERCURY, RADIUM OR ALPHA SOURCE
ERIALS IN ANY FORM HAVE NOT BEEN
USED IN THE PRODUCTION OF THIS O

INSPECTION—TEST REPORTS

10560 6 SWORN TEST REPORTS

HEAT NO.	NO. PIECES	DESCRIPTION	LENGTH Feet	LENGTH In.	LENGTH Prct.	WEIGHT	YIELD POINT	TENSILE STRENGTH	ELONG %	ELONG IN
173K555	1	▭12X26	40			1040	43000	65500	27.0	8
174K163	1	▭4X13	40			520	40600	62500	27.0	8
174K174	19	▭4X13	40			880	41700	63000	27.0	8

3 Pcs W4X13X20'

NPSI AUSTIN
MIC NO. 46e8 NW
PO NO. AUS 2177 60#
SHEET 1 OF 2

PRESSURE VESSEL-NUCLEAR STEELS, HILLSIDE, N. J. 07205
QUALITY SYSTEM CERTIFICATE (MATERIALS) NUMBER N-2282
EXPIRES MARCH 5, 1982

PVN QA APPROV.
DATE 6/23/80
BY [illegible]

NPSI RECV INSPECTION
CODE ACCEPTED
NPT ☐ Q-1 ☒ QCC ☐
QC QAC DATE 3-6-81

SUBSCRIBED AND SWORN TO BEFORE ME
JUN 18 1980
William A. Ruth
Notary Public
My Commission Expires June 28, 1981
City of Bethlehem
Northampton County

COPY

CHEMICAL ANALYSIS

HEAT NO.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	N	Ti	Zr
173K555	.23	.81	.010	.024									
174K163	.21	.74	.009	.023									
174K174	.20	.67	.009	.028									

PRESSURE VESSEL-NUCLEAR STEELS, HILLSIDE, N. J. 07205
QUALITY SYSTEM CERTIFICATE (MATERIALS) NUMBER QSC-366
EXPIRES MARCH 5, 1982

DOCUMENT REVIEWED BY
Q.A. [illegible] DATE 3/6/81

PVN-Pressure Vessel-Nuclear Steels, Inc REF # 4334
M.P.S. Industries P.O. AUS 2177

I CERTIFY THAT THE ABOVE RESULTS ARE A TRUE AND CORRECT COPY OF RECORDS PREPARED AND MAINTAINED BY BETHLEHEM IN COMPLIANCE WITH THE REQUIREMENTS OF THE SPECIFICATION CITED ABOVE.

CHIEF METALLURGIST L.S. Hagaman

The Copperweld Tubemakers

REGAL TUBE COMPANY

7401 South Linder Avenue
Chicago, Illinois 60638 U.S.A.

Customer Order No. AUS 1512

Regal Order No. 045949

Invoice No. _____

TEST REPORT

Date 7-18-78

Customer:

NPS Ind. Inc.
10420 Metric Lane
Austin, Tx 78758

Specification:
6 x 4 x 3/8 structural tubing
ASTM A 500 77 Grade B

HEAT NO.	NPSI-AUSTIN MIC NO.	CHEMICAL ANALYSIS, % C ✓	Mn	P ✓	S ✓
38714	493NTA	.20	.80	.008	.030

NPSI AUSTIN
MIC NO. 493 NT
PO NO. Aus 1512
SHEET 1 OF 1

NPSI RECV INSPECTION CODE ACCEPTED
NPT ☐ C-1 ☐ QCC ☒
QC LL DATE 1-5-81

MECHANICAL PROPERTIES

HEAT NO.	LAB NO.	YIELD STRENGTH PSI ✓	TENSILE STRENGTH PSI ✓	ELONGATION % ✓	HARDNESS R_b
38714	13041	62,800	64,900	30	

INFORMATION COPY PPRV

YIELD STRENGTH IS 0.2% OFFSET — ELONGATION IN 2 INCHES

Other Tests

RECEIVED BY N.P.S.I
JUL 20 1978
AUSTIN, TEXAS

DOCUMENT REVIEWED BY
Q.A. DMH DATE 8-14-78

Subscribed and sworn to before me a Notary Public in and for the State of _____ County of _____ this _____ day of _____ 19 _____

D. Lichtman
Metallurgist

FORM #81

The Copperweld Tubemakers

REGAL TUBE COMPANY

7401 South Linder Avenue
Chicago, Illinois 60638 U.S.A.

RECEIVED BY N.P.S.I.
SEP 6 RECD
AUSTIN, TEXAS

Customer Order No. AUS 1512
045950
Regal Order No. [illegible]
Invoice No. _____

TEST REPORT

Date 8-31-78

Customer:

NPS Ind. Inc.
10420 Metric Lane
Austin, Tx. ;78758

Specification:

6 x 4 x 3/8 structural tubing
ASTM A 500 77 Grade B

MIC NO. 552NT thru 555NT
PO NO AUS-1512
SHEET 1 of 1

CHEMICAL ANALYSIS, %

HEAT NO.	C	Mn	P	S
NPSI-AUSTIN MIC NO. 552NT 38714	.20	.80	.008	.030
NPSI-AUSTIN 61980 MIC NO. 553NT	.22	.75	.008	.012
NPSI-AUSTIN MIC NO. 554NT W74137	.20	.75	.007	.027
NPSI-AUSTIN D65463 MIC NO. 555NT	.19	.71	.010	.026

NPSI RECEIVING INSPECTION CODE ACCEPTED
NPT ☐ QA ☐ QC X
QC [illegible] DATE 9/11/78

MECHANICAL PROPERTIES

HEAT NO.	LAB NO.	YIELD STRENGTH PSI	TENSILE STRENGTH PSI	ELONGATION %	HARDNESS R_b
38714	13041	62,800	64,900	30	
61980	11528	59,900	65,600	40	
W74137	13510	61,800	69,500	34	
D65463	13509	58,800	61,500	30	

INFORMATION COPY PPRY

YIELD STRENGTH @ 0.2% OFFSET ELONGATION IN 2 INCHES

Other Tests

DOCUMENT REVIEWED BY
Q.A. [illegible] DATE 9/26/78

Subscribed and sworn to before me a
Notary Public in and for the
State of _____ County of _____
this _____ day of _____ 19 _____

D. Lichtman
Metallurgist

FORM 461

MIC NO. 552NT

FORM W-662 R2

R-2137

PHOENIX STEEL CORPORATION
CLAYMONT, DELAWARE 19703
MATERIAL TEST REPORT

MIC NO 5317NF

SPECIFICATION ASME SA 515 GR 70 Per ASME SECT II & SECT III DIV. 1 Summer 1979 Addenda. Bend Tests Per SA-20 S.14 Silicon Quality Steel

November 20, 1980 B. L. NO. 59137N

CUSTOMER ORDER NO. 896-KSN

SOLD TO Mills Alloy Steel Co.
P.O. Box 46448
Bedford, Ohio 44146

MILL ORDER NO. 25534-23

CAR NO. Truck

BEND TEST: OK ✓

HOMOGENITY TEST:

HEAT NO.	SLAB NO.	CHEMICAL ANALYSIS C	MN	P	S	SI.	CU.	NI.	CR.	MO.	YIELD STRENGTH P.S.I.	TENSILE STRENGTH P.S.I.	% ELONG. 2"	% ELONG. 8"	SIZE
81262-23	84344	.23	.71	.012	.011	.20					47900	78100		28.0	2- 1-1/4"x96"x240
"	84343										50400	78800		22.5	2- "
"	84342										50200	78400		22.5	1- "

NPSI REC'V INSPECTION
CODE ACCEPTED
NPT ☐ QA ☒ QCC ☐
QC [illegible] DATE 5-16-81

NPS AUSTIN
MIC NO. 5317NF
PO NO. AUS 245B
SHEET 1 OF 1

"This material was manufactured in accordance with a Quality Assurance Program documented by the Quality Assurance Manual, effective date 9/15/80."

MATERIAL MANUFACTURED TO THE QUALITY ASSURANCE REQUIREMENTS OF SECTION III NCA 3800 OF THE CODE

AUDITED AND ACCEPTED BY CUSTOMER 7/15/80

SUBSCRIBED AND SWORN TO BEFORE ME
THIS 29 DAY OF Nov 1980
Christine A Juneau
NOTARY PUBLIC

QA REVIEWED 12/4/80

INFORMATION ONLY

I CERTIFY THE ABOVE FIGURES ARE CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION.
[signature]
SUPT. OF TESTING, METALLURGICAL DEPT.

01 000.0772

United States Steel Corporation

Test Report

MIC NO

JOB CONTRACT NO.	P.O. DATE	PURCHASE ORDER NO.
		J-172 07/17/79

SHIPPERS NO.		MILL ORDER NO.	INVOICE NO.
51553	8/29/79	DA50705	163-73678
VEHICLE IDENTITY	473259		160

VENDOR

HOMESTEAD WORKS
HOMESTEAD, PA. 15120

SOLD TO

EARLE M JORGENSEN CO
ALLAN UNITED STEEL DIV
26900 RICHMOND ROAD
BEDFORD HEIGHTS OHIO 44146

SHIP TO

EARLE M JORGENSEN CO
ALLAN UNITED STEEL DIV
26900 RICHMOND ROAD
BEDFORD HEIGHTS OHIO 44146

WE HEREBY CERTIFY THAT THI CHEMICAL ANALYSES AND/OR TEST RESULTS SHOWN IN THI: REPORT ARE CORRECT AS CONTAINED IN THE RECORDS OF THE COMPANY.

SIGNATURE M.N. MAXSON, CH. MI

DATE 08/29/79

SPEC. & ASP. ASTM A-36-77A

PLATES
MILL RA/SN ALSO RA/LT CERTIFIED T/R - ANALYSIS T/R ATTN HR JE
RRT ARCHER C/O SLD TO

UNIQUE INDUSTRIES
POE 118
INV# 15250J

RECEIVED BY NPSI
MAY 05 1980
AUSTIN, TEXAS

ITEM NO.	MATERIAL DESCRIPTION: THICKNESS OR SECTION	WIDTH, DIA. OR FT. WT.	LENGTH	QUANTITY	WEIGHT	HEAT NO.	TEST OR PIECE IDENTITY	YIELD PT. PSI	TENSILE STR. PSI	ELONGATION % IN 8"	ELONGATION % IN 2"	% RED. OF AREA
01	3 1/2	96	240	1	22370	75D411	3.5000	* 40100	71200		31.0	
							1.7500	* 40600	74200		30.0	

NPSI RECV INSPECTION
CODE ACCEPTED
NPT ☐ Q-1 ☐ QCC ☒
QC TJO DATE 12/29/80

NPSI AUSTIN
MIC NO. * See Below
PO NO. 32-039
SHEET 1 OF 1

*3244NH
3161NH
3071NH
2808NH
2773NH
2743NH, 2744NH

INFORMATION COPY PPRV

YIELD POINT @ .0050 EXT.

HEAT NO.	TYPE	C	MN	P	S	SI	CU	NI	CR	MO	SN	AL	N	V	B	TI	CB	CO
75D411	HEAT	19	107	006	026	24												

MATERIAL MEETS OR EXCEEDS THE REQUIREMENTS OF
ASME SA-36
Q.A. DOCUMENTATION REVIEW
INT'L TJO DATE 12/29/80

015102 1-9-3

MIC NO 5370NR

CERTIFICATE OF TESTS

05/28/80 | XS-11058

REPUBLIC ORDER NO. 07-99071-22106

EHU 3 | 07 20

F 22388017-30-1/2-10

SOLD TO: PETER A FRASSE & CO INC
PURCH DEPT
3 DAKOTA DR PO BOX 115
LAKE SUCCESS NY 11042

SHIPPED TO: PETER A FRASSE & CO INC
AT REPUBLIC STEEL CORP
MASSILLON OH 44646

DATE SHIPPED | FROM | ROUTE/VEHICLE IDENTIFICATION

NPSI RECV INSPECTION CODE ACCEPTED

NPT ☐ | Q-1 ☐ | QCC ☒

QC ONC | DATE 5-21-81

I HEREBY CERTIFY THAT THE MATERIAL LISTED HEREIN HAS BEEN INSPECTED AND TESTED IN ACCORDANCE WITH THE METHODS PRESCRIBED IN THE GOVERNING SPECIFICATIONS AND BASED UPON THE RESULTS OF SUCH INSPECTION AND TESTING HAS BEEN APPROVED FOR CONFORMANCE TO THE SPECIFICATIONS

ITEM NO	SPECIFICATIONS AND DESCRIPTIONS	QUANTITY SHIPPED
	COLD FINISHED STEEL BARS ALLOY FRASSE SPEC PAF-111-01 REV 8 & ASTM A193-79A GRD-B7 GRADE-4140 MOD VACUUM DEGASSED COLD DRAWN QUENCH & TEMP BEFORE CD STRESS RELIEVE AFTER CD PAF NBR 06616 ASME-SA193 SUMMER 1979 ADDENDA GRADE B7 RDS 3/4 X 10/12 FT STD C 38/45 MN 75/1.10 P 035MX S 04MX SI 1 GRAIN FINE	

CUSTOMER NPS
P. O. # 32-391
INVOICE 209511
DATE 4/10/81
QUANTITY 998 lbs

NPSI AUSTIN
MIC NO. 5370 NR
PO NO. 32-391 00#2
SHEET 1 OF 1

FRASSE - TWINSBURG
QUALITY CONTROL
MILL TEST REPORT CHEC
CHECKED BY: CT | DATE: 4-16-80

JOMINY EXP IN 16THS

1	2	4	8	12	16	20	24	28	32
58	56	56	54	54	52	50	48	46	44

BY WAYNE N. HOLLIDAY
PLANT METALLURGIST

Wayne N Holliday

INFORMATION COPY
B1 WR+B Doc
PPRV

ANALYSIS

ITEM NO	HEAT NO	C	MN	P	S	SIL	COPPER	NICKEL	CHROME	MOLY	VAN	CB
	8069245	.40	.94	.008	.022	.23	.29	.25	.97	.21		

TEST RESULTS

ITEM NO	HEAT NUMBER	TEST NO PIECE NUMBER NO	YIELD PSI	TENSILE STRENGTH PSI	ELONG %	R OF A %	IMPACT TEST	HARDNESS
			130,200	144,850	18.0	59.4		BHN 293

DRAW TEMP 1110

8597 (Rev.A 12-77)

BETHLEHEM STEEL CORPORATION
METALLURGICAL DEPARTMENT
REPORT OF TESTS AND ANALYSES

URNS HARBOR PLANT

SHIPMENT NO.	DATE SHIPPED	CAR OR VEHICLE NO.	PAGE
803-14386	7-15-81	CR-SSW-SP DELY	1

SOLD TO: NPS INDUSTRIES INC
10420 METRIC BLVD
AUSTIN TX 78758

SHIP TO: NPS INDUSTRIES INC
10420 METRIC BLVD
AUSTIN TX 78758

SERIAL NUMBER	PAT. NO.	HEAT NUMBER	SIZE AND QUANTITY: NO. PCS.	THICKNESS INCHES	WIDTH OR DIA. INCHES	LENGTH INCHES	WEIGHT POUNDS	YIELD POINT PSI	TENSILE STRENGTH PSI	ELONG. IN	ELONG. %	RED %
PLATES - ASME SA36 1980 EDITION &&												
MFST - LIFT MAX 5 TON ACCEPTED IN ACCORD QA PROG DTD 12/13/78 PER ASME SECT III NCA 3800 NUCLEAR-NON-VESSELS-ASME SECT 3												
CO# AUS2542 GH 024-3343												
		801L14780	17	3/4	84	120	36448	39200 40200	65800 65500	8 8	29 29	
		802N54440	1	5/8	72	120	1531	48900	79100	8	24	
		490N02731	1	1/4	72	120	613	46200	65200	8	27	
		491N00901	38	1/4	72	120	23294	42900 46000	63900 66700	8 8	28 26	
		803N81460	3	1/4	72	120	1639	45100	62800	8	21	
PLATES - ASME SA36 1980 EDITION &&												
MFST - LIFT MAX 5 TON ACCEPTED IN ACCORD QA PROG DTD 12/13/78 PER ASME SECT III NCA 3800 NUCLEAR-NON-VESSELS-ASME SECT 3												
CO# AUS2542 GH 024-3343A												
		801N25430	6	1	84	120	17154	57500	68400	8	35	
		802N55790	5	1	84	120	14295	44000	70800	8	26	

Q—QUENCH TEMPERATURE T—TEMPER TEMPERATURE N—NORMALIZE TEMPERATURE

SERIAL NUMBER	PAT. NO.	HEAT NUMBER	HARD	BEND	CHARPY IMPACT: THICKNESS INCHES	TYPE	SIZE	DIR.	TEST TEMP F	ENERGY FT. LBS. 1	ENERGY 2	ENERGY 3	SHEAR (%) 1	SHEAR 2	SHEAR 3	LAT. EXP. MILS 1	LAT. EXP. 2	LAT. EXP. 3

INFORMATION COPY

NPSI AUSTIN
MIC NO. 5759 NF
PO NO. Aus 2542
SHEET 1 OF 1

HEAT NUMBER	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Ti	Al	B	Cb	N	McQUAID GRAIN SIZE
01L14780	.20	.98	.014	.029												
02N54440	.24	1.10	.033	.026												
90N02731	.23	.52	.005	.028												
91N00901	.23	.54	.006	.023												
03N81460	.23	.55	.011	.017												
01N25430	.16	1.10	.016	.019												
02N55790	.24	1.05	.011	.025												

RECEIVED BY NPSI
JUL 20 1981
AUSTIN, TEXAS

MIC NO 5759NF

I CERTIFY THAT THE ABOVE RESULTS ARE A TRUE AND CORRECT COPY OF RECORDS PREPARED AND MAINTAINED BY BETHLEHEM IN COMPLIANCE WITH THE REQUIREMENTS OF THE SPECIFICATION CITED ABOVE.

CHIEF METALLURGIST J. F. EMIG PER CJV

BETHLEHEM STEEL CORPORATION

BETHLEHEM, PA. 18016

303-16836-2/2

02347 06-04-81 (06-12-81) JC 234-4490-01

118141-00 | 1 | 234 | 01 | 3626 | 140 | XO

1 | 2 | COLLECT

SOLD TO: RAY BRISTOW CO INC
1640 NW 14TH AVE
PORTLAND OR 97209

SHIP TO: RAY BRISTOW CO INC
1640 NW 14TH AVE
PORTLAND OR 97209

6/17/81 FROM LEBANON, PA.
CFWY CONSOLIDATED FRTWAYS.

VEHICLE IDENTIFICATION | NO. PCS/PKGS | KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS AND EXCEPTIONS | WEIGHT (POUNDS)

MATERIAL MEETS OR EXCEEDS
THE REQUIREMENTS OF
SA-307A

Q.A. DOCUMENTATION REVIEW
INT'L _____ DATE _____

NPSI REC'V INSPECTION
CODE ACCEPTED

NPT ☐	Q-1 ☐	QCC ☑
QC OAC	DATE 7/14/81	

JUN 25 1981

ORD. & MILL ORD. NOS. | SHEETS | DESCRIPTION | QUANTITY SHIPPED

ITEM PCS

TEST/INSP-MILL
2 BLANKET T/R

(2260-B-BN)NUT.HX.HF.BLKN
M A307-76B GRD A

(2540-000-463)

1	3135	1-1/2	3135
2	3300	1-1/4	1947

(2430-B-BN)NUT.HVY HX.HF.BLKN
ASTM A307-76B GRD A&B

(2528-000-463)

4	25	3	234
5	800	2-1/2	4533
6		2-3/4	372

(2430-B-BN)NUT.HVY HX.HF.BLKN
ASTM A307-76B GRD B

15635 NB
NPSI AUSTIN
MIC NO. ~~Aus2515 G1~~
PO NO. Aus2515 G1
SHEET 1 OF 1

This is to certify that the material listed has been tested and inspected in accordance with the methods prescribed in the applicable specification and with respect to properties or characteristics for which no such methods are prescribed, in accordance with standard mill testing and inspection practices. Based upon such tests and inspection practices, the undersigned has approved said material as fulfilling the requirements of said specification.

E. D. Sampler

Chief Metallurgist

per: James K. Brooks

JUN 18 1981

Q. C. APPROVED
RAY BRISTOW CO., INC.
Date: 6/26/81 By: RTS

MIC NO 15635 NB

INFORMATION COPY PPRV

CONT SHT 2

CAUTION—NO RECEIVER TENDERED SHIPMENT FOR ANY LOSS OR DAMAGE IN TRANSIT, UNLESS SUCH TIME PROPER EXCEPTIONS IF THIS BE DELIVERY.

SHIPPING NOTICE

* SHIPPER'S ORDER COMPLETE

20403 (Rev.M 13-76) Printed in U.S.A.

BETHLEHEM STEEL CORPORATION

BETHLEHEM, PA. 18016

SHIPPER'S NO. 303-15506-1/3

PUR. ORD. NO. 01405 — 03-31-81 (04-13-81) — MILL ORD. NO. JC 234-4323-01*

CUST	118141-00	SEC	1	SEC	234	SEC	01	SEC	3626	SEC	140	SEC		SEC	XO	SEC
SOLD TO	1			E	2	SHIP TO				CARD						

COLLECT

SOLD TO
RAY BRISTOW CO INC
1640 NW 14TH AVE
PORTLAND OR 97209

SHIP TO
RAY BRISTOW CO INC
1640 NW 14TH AVE
PORTLAND OR 97209

MAY 05 1981

DATE SHPD 5/01/81 FROM LEBANON, PA.

ROUTE CFWY CONSOLIDATED FRTWAYS.

VEHICLE IDENTIFICATION	NO. PCS/PKGS	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS AND EXCEPTIONS	WEIGHT (POUNDS)
	43 FBX 5 KEG	STEEL BOLTS & NUTS MATERIAL MEETS OR EXCEEDS THE REQUIREMENTS OF ASME SA 307 GR A 577 Q.A. DOCUMENTATION REVIEW INT'L _____ DATE _____	3518

MIC NO 5491NB

PUR. ORD. & MILL ORD. NOS.	UNITS	DESCRIPTION	QUANTITY SHIPPED
ITEM	PCS		
TEST/INSP-MILL 2 BLANKET T/R			
(0990-B-BN)BOLT.MACH.HX.BLKN ASTM A307-78E GR A			(2520-000-463)
1	330	1-1/2 X 6	1320
22 FBX	GR WT	1364#	

This is to certify that the material listed has been tested and inspected in accordance with the methods prescribed in the applicable specification and with respect to properties or characteristics for which no such methods are prescribed, in accordance with standard mill testing and inspection practices. Based upon such tests and inspection practices, the undersigned has approved said material as fulfilling the requirements of said specification.

Chief Metallurgist

per: James R. Sherwood

MAY 6 1981
Q. C. APPROVED
RAY BRISTOW CO., INC.
Date: 5/11/81 By: [illegible]

- NPS AUS 2409 -

NPSI REC'V INSPECTION
CODE ACCEPTED

NPT ☐	Q-1 ☐	QCC ☒
QC [illegible]	DATE 6-9-81	

INFORMATION COPY PPRV

NPSI AUSTIN
MIC NO. 5491NB
PO NO. AUS 2409
SHEET 1 OF 1

CAUTION—TO RECEIVER THROUGH SUPPLIER FOR ANY LOSS OR DAMAGE IN TRANSIT. CONSIGNEE MUST TAKE PROPER EXCEPTIONS AT TIME OF DELIVERY.

SHIPPING NOTICE

SHIPPER'S ORDER COMPLETE

23405 (Rev.H 12-76) Printed in U.S.A.

48597 (Rev.A 12-77)

BETHLEHEM STEEL CORPORATION
METALLURGICAL DEPARTMENT

URNS HARBOR PLANT

REPORT OF TESTS AND ANALYSES

SHIPMENT NO.	DATE SHIPPED	CAR OR VEHICLE NO.	PAGE
804-06731	5-30-81	GLEN	1

SOLD TO: NPS INDUSTRIES INC
10420 METRIC BLVD
AUSTIN TX 78758

SHIP TO: NPS INDUSTRIES INC
10420 METRIC BLVD
AUSTIN TX 78758

ITEM	SERIAL NUMBER	PAT. NO.	HEAT NUMBER	SIZE AND QUANTITY: NO. PCS.	THICKNESS INCHES	WIDTH OR DIA. INCHES	LENGTH INCHES	WEIGHT POUNDS	YIELD POINT PSI	TENSILE STRENGTH PSI	ELONG. IN	ELONG. %
PLATES - ASME SA36 SUMMER 79 ADD BEND TEST A6S14 &&												
MFST - LIFT MAX 5 TON ACCEPTED IN ACCORD QA PROG DTD 12/13/78 PER ASME SECT III NCA 3800 NUCLEAR-NON-VESSELS												
CO# AUS2438 GH 024-3309												
			862N33930	6	1/2	72	120	7350	48400	73600	8	23
			865N62900	9	3/8	72	120	8271	43900	68900	8	19
			865N63050	11	3/8	72	120	10109	45300	66900	8	19
			863N03430	7	1/4	72	120	4291	44700	65600	8	24
			885N09610	1	1/4	72	120	613	47100	59700	8	19
PLATES - ASME SA36 SUMMER 79 ADD BEND TEST A6S14 &&												
MFST - LIFT MAX 5 TON ACCEPTED IN ACCORD QA PROG DTD 12/13/78 PER ASME SECT III NCA 3800 NUCLEAR-NON-VESSELS												
CO# AUS2438 GH 024-3309A												
			803N75350	5	1	84	120	14295	41200	68600	8	26

ITEM: Q—QUENCH TEMPERATURE T—TEMPER TEMPERATURE N—NORMALIZE TEMPERATURE

SERIAL NUMBER	PAT. NO.	HEAT NUMBER	HARD	BEND	CHARPY IMPACT: THICKNESS INCHES	TYPE	SIZE	DIR.	TEST TEMP. °F	ENERGY Ft. Lbs. 1	ENERGY 2	ENERGY 3	SHEAR (%) 1	SHEAR (%) 2	SHEAR (%) 3	LAT. EXP. 1	LAT. EXP. 2	MIL
		862N33930		OK														
		865N62900		OK														
		865N63050		OK														
		863N03430		OK														
		885N09610		OK														
		803N75350		OK														

NPSI RECV INSPECTION
CODE ACCEPTED
MPT ☐ Q-1 ☒ QCC ☐
QC CJC DATE 6-5-81

HEAT NUMBER	CHEMICAL ANALYSIS: C	Mn	P	S	Cu	Ni	Cr	Mo	V	Ti	Al	B	Cb	N	MECH. GRAIN SIZE
862N33930	.23	.66	.014	.027											
865N62900	.24	.85	.020	.030											
865N63050	.24	.88	.010	.024											
863N03430	.23	.48	.018	.020											
885N09610	.20	.50	.008	.023											
803N75350	.22	1.08	.013	.027											

2HX3

NPSI AUSTIN
MIC NO. 5477NF
PO NO. AUS 2438 CO#1
SHEET 1 OF 1

MIC No. 5477N

I CERTIFY THAT THE ABOVE RESULTS ARE A TRUE AND CORRECT COPY OF RECORDS PREPARED AND MAINTAINED BY BETHLEHEM IN COMPLIANCE WITH THE REQUIREMENTS OF THE SPECIFICATION CITED ABOVE.

CHIEF METALLURGIST J. F. EMIG PER CJV

NORTHWESTERN STEEL AND WIRE COMPANY

MIC NO 5710 NF

STERLING, ILLINOIS 61081

METALLURGICAL DEPARTMENT - CERTIFIED MILL TEST REPORT

NSW NUMBER	SHIP DATE	B/L NO.	CUSTOMER P.O. NO.	SHIP METHOD	CAR OR TRUCK NUMBERS	SHIP LOC	NO. OF COPIES	OSI	NOT	CORR	PAGE
3855	07-07-81	32613	5781-11 6-9	RAIL	EJE 083697	14	4		λ	36	1

SHIP TO
DU BOSE STEEL INC
NPS IND
10420 METRIC BLVD
AUSTIN TX 78758

SOLD TO
DU BOSE STEEL INC
P O BOX 1098
ROSEBORO NORTH CAR 28382

We hereby certify that the following data is a true copy from tests performed in our laboratory.
NORTHWESTERN STEEL & WIRE COMPANY
M. B. Middleton, Supt. of Inspection

THE FOLLOWING TESTS CONFORM TO THE REQUIREMENTS OF THE SPECIFICATIONS LISTED

NE O	SECTION	SPEC.	LENGTH	PIECES	WEIGHT	HEAT #	YIELD POINT PSI	TENSILE STRENGTH PSI	ELONG % IN 8	BEND TEST	CAR	MN	PHOS	SUL
1	FLT 3/4X6	A36-77	20'	132	40392	65977	46200	68000	25.8	OK	.20	.65	.007	.027
							46000	68000	27.3	OK				
		A36-77	20'	2	612	65980	45500	64300	26.6	OK	.18	.59	.011	.041
							45800	65600	26.6	OK				
		A36-77	20'	66	20196	65986	40500	66000	29.7	OK	.20	.67	.006	.025
							41400	66900	30.5	OK				

NPSI REC'V INSPECTION CODE ACCEPTED
MPT ☐ Q-1 ☒ QCC ☑
QC DHC DATE 7-27-81

NPSI AUSTIN
MIC NO. 5710 NF
PO NO. AUS 2528
SHEET 1 OF 1

QA REVIEW SATISFACTORY
INITIAL MHB DATE 7/27/81

MATERIAL MEETS OR EXCEEDS THE REQUIREMENTS OF ASME SA 36
Q.A. DOCUMENTATION REVIEW
INITIAL [illegible] DATE 7/27/81

NPS Industries
PO# AUS-2528

RECEIVED
AUG 10 1981
PPRV

CLIFTON T. WISE A NOTARY PUBLIC IN AND FOR THE COUNTY OF WHITESIDE IN THE STATE OF ILLINOIS, DO HEREBY CERTIFY THAT THIS AFFIDAVIT WAS SUBSCRIBED AND SWORN TO BEFORE ME BY M.B. MIDDLETON A DULY AUTHORIZED AGENT OF NORTHWESTERN STEEL AND WIRE COMPANY. GIVEN UNDER MY HAND AND NOTARIAL SEAL THIS 9th DAY OF JULY 19 81

Clifton T. Wise

MY COMMISSION EXPIRES 1-6-85

REMARKS:
THIS IS TO CERTIFY THAT THIS MATERIAL WAS PRODUCED UNDER OUR Q.A. PROGRAM, MEETING REQUIREMENTS OF NCA3800, SECT III AND 10CFR21 AS AUDITED AND APPROVED BY DUBOSE STEEL ON 6-18-81. MANUAL REVISION #6 DATED 1-5-81.

ARMS
INDEXED

HANGER NUMBER: AF-1-002-033-Y33K DATE:

FILE NUMBER. 17.1.37.13

SUBFILE NO. HANGER NUMBER.

POR OR NO. 3165 / QAA-2358

REF. HANGER NO. AF-1-002-033-Y33K

FILE: 17.1.37.13

SUBFILE: REF. HANGER NUMBER

RIR NUMBER: 18868

MRR NUMBER: CP-10737

TEXAS UTILITIES GENERATING COMPANY

2001 BRYAN TOWER · DALLAS, TEXAS 752[illegible]

QAA- 2358

RERM. PLT. RECORD

VRTN	FILE/LOC.
X	7.1.3213
SUBFILE LOC.	
	AF-1-002-033-433

TEXAS UTILITIES GENERATING COMPANY
COMANCHE PEAK STEAM ELECTRIC STATION
PURCHASE ORDER NO. CP-46A.1
AUTHORIZATION FOR SHIPMENT

By copy of this letter, TUGCO Quality Assurance releases the following equipment to be shipped by NPSI - Austin :

see Attachments "A"; "B"; & "C"

☑ Final shipment inspected, QAR No. 3165

☐ Final inspection waived

Chet Wright — 6-18-82

TUGCO QA Inspector — Date

RIR18868

QAR No. 3165

QAA No. [illegible]

QUALITY ASSURANCE RELEASE

Comanche Peak Steam Electric Station	CONTRACTOR [illegible]
PURCHASE ORDER NO.: [illegible]	REVISION: 3
COMPONENT NAME: [illegible]	QUANTITY RELEASED: [illegible]

SERIAL NO'S.:
or
IDENTIFICATION NO.: [illegible]

The items listed below have been reviewed by TUGCO Q.A. and acceptance is indicated by letter "A", contingency by letter "C", and "W" indicate that review of attribute was waived by TUGCO Q.A., Non-applicable items are lined out. Items not included in form but applicable will be inserted in blank spaces.

- A Approved Drawings
- ~~Approved Deviations~~
- A Supplier's Certificate of Conformance
- A Material Certifications
- ~~Heat Treat Records~~
- A NDE Records
- ~~Handling, Storage & Installation Instr.~~
- ~~Electrical Tests Records~~
- ~~Performance Tests Records~~
- ~~Pressure Test Records~~
- ~~Seat Tightness Test Records~~
- A Data Package
- A Visual Inspection
- A Dimensional Inspection
- A Cleanliness
- A Painting
- W Packing
- A Code Form

Remarks

Record of approved deviations or Change Requests:

Supplier's Statement: As authorized representative of NPSI-Austin I hereby certify that the equipment and material released, meets all requirements for the purchase order, applicable drawings, and specifications. Approved deviations, if any, are listed above.

Supplier's authorized signature [signature] /Date 6-18-82 /Title QA Mgr.

The equipment identified herein is released by TUGCO Quality Assurance.

The Contractor has certified that the above equipment meets all requirements of the purchase order, applicable drawings and specification. TUGCO Q.A. has reviewed evidence supporting this release, and except as specified above, has detected no deviation. However, this release does not relieve the contractor from full responsibility for furnishing material or services or both in compliance with the terms and conditions of the purchase order, nor does it impose such responsibility upon TUGCO.

Q.A. Inspector's Signature [signature] /Date 6-18-82

RIR 18868

nps industries, inc.

10420 metric boulevard
austin, texas 78758
telephone 512-836-4161

Attachment "A"
QAA 2358
QAR 3165

June 18, 1982

TUSI SUPPORTS READY
SOURCE INSPECTION

1. CS-2-199-401-S42A R.1
2. RC-2-135-405-C41K R.0
3. RC-2-135-408-C41K R.0
4. FW-1-019-707-C52S R.0

nps industries, inc.
10420 metric boulevard
austin, texas 78758
telephone 512-836-4161

Attachment "B"
QAA 2358
QAR 3165

TUSI SALES RELEASES JUNE 18, 1982

CPPA	DESCRIPTION	ITEM#	QTY
16498	AE-6 coating lubricant	10	3
18540	SPC-06-040	9	100
14866	shim spacer for 1"OD pin	23	783
14866	SPC-24-240	10	1
18541	SPC-05-030	8	2
OSD 81-4541	PRH-060-A-0516	9	1
17648	SRS-06	2	25
14584	PUS-006	12	200
17648	SPC-06-015	6	20
17143	SRF-14	1	1
18540	VME-09	1	5
18540	VME-15	2	2
18540	VSE-06	4	5
18540	VSF-08	5	10
18540	VSF-04	6	2
18540	PDC-020-0305	7	6
18541	FCN-16	1	20
18541	FHN-04L	2	20
18541	FHN-16	3	100
17142	SRF-06	5	70
17646	XRB-10	10	100
17646	SPC-08-060	7	50
18541	SPC-06-015	8	10
15051	FHN-1 3/4	13	16
18237	FPN-06	5	887
17646	SPC-06-005	4	100
17646	SPC-06-060	5	50
17939	SPC-06-015	1	25
17646	SPC-08-030	6	32
18237	SPC-14-060	7	10
17939	SPS-06	2	25

nps industries, inc.
10420 metric boulevard
austin, texas 78758
telephone 512-836-4161

Attachment "C"
QAA 2358
QAR 3165
June 18, 1982

TUSI SNUBBERS READY FOR SOURCE INSPECTION

1.	AF-1-002-033-Y33K	Rev.3A	21332, 21327
2.	AF-1-102-020-S33K	Rev.0A	21339
3.	AF-2-036-402-S33K	Rev.0	21329
4.	BF-X-078-707-A53K	Rev.1A	21355
5.	CC-1-262-016-C53K	Rev.0	21325
6.	CC-2-050-702-A43K	Rev.0A	21334
7.	CC-2-068-407-S33K	Rev.3	21324, 21326
8.	CS-2-083-409-A42K	Rev.0	21333
9.	CS-2-239-405-A42K	Rev.0	21349
10.	CS-2-240-405-A42K	Rev.0	21328
11.	CT-1-014-431-C52K	Rev.1A	21407, 21346
12.	CT-2-024-404-S22K	Rev.1	21418, 21358
13.	CT-2-051-414-C72K	Rev.0	21402
14.	CT-2-074-406-C82K	Rev.1	21338
15.	CT-2-121-405-S22K	Rev.1	21431, 21337
16.	FW-2-095-412-C62K	Rev.0	21341

TOTAL: 21

nps industries, inc.
10420 metric boulevard
austin, texas 78758
telephone 512-836-4161

PERM. PLT. RECORD

RTN	FILE LOC.
2	17.1.37.13
SUBFILE LOC.	
AF-1-002-033-V33K	

TUGCO P.O. # CP-0046A.1

ASME DOCUMENTATION CHECKLIST

CODE DATA REPORT	X
MATERIAL RECORD	X
SHOP DRAWINGS	X
NONDESTRUCTIVE EXAMINATION REPORT	N/A
NONCONFORMANCE REPORT	N/A
WELD REPAIR REPORT	N/A
WELD DATA SHEET	X
CERTIFIED MATERIAL TEST REPORTS	X
CERTIFICATES OF COMPLIANCE	X
NPSI CERTIFICATE OF CONFORMANCE	X

We certify that Support Mark No. AF-1-002-033-V33K Rev. 3A on our Shipping Notice AUS-13476/TDA has been fabricated in accordance with Gibbs & Hill Specification 2323-MS-46A and conforms to ANSI N45.2, 10CFR50 Appendix B and Section III, Division I of the ASME Boiler and Pressure Vessel Code, Subsection NF 2000/4000, 1974 Edition, Winter 1974 Addenda.

INFORMATION COPY PPRV

Prepared by: Gloria Yurkanis Date: 6/16/82

Q.A. Approval: Gloria Yurkanis Date: 6/16/82

RIR 18868

nps industries, inc.
10420 metric boulevard
austin, texas 78758
telephone 512-836-4161

DATE: 6/16/82

CERTIFICATE OF CONFORMANCE

REFERENCE: Texas Utilities Services, Inc.
P.O. Number CP-0046A.1

We certify that material supplied for Support Mark No. AF-1-002-033-V33K Rev. 3A on Shipping Notice AUS-1347/TDA conforms to the referenced purchase order and to the applicable requirements of ASME Section III, Subsection NF, Class 3, 1974 Edition, Winter 1974 Addenda.

INFORMATION ONLY
PPRV

for Plant Manager of Quality Assurance

ASME Quality System Certificate (Materials) Number QSC-372-2
Expires April 8, 1984

RIR 18868

FORM NF-2 (Back)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Texas and employed by *HSB I&I of Hartford, Conn.

have inspected the parts for the component supports described in this Manufacturers' Data Report on 6-11, 19 82, and state that to the best of my knowledge and belief the Manufacturer has constructed these component support parts in accordance with the ASME Code for Nuclear Power Plant Components.

*Hartford Steam Boiler Inspection and Insurance Company

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the component supports described in this Manufacturers' Data Report. Furthermore neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 6-11-82

Signed Bill Parr Commissions Tex 324

(Nat'l Board, State, Province, and No.)

FORM NF-2 MANUFACTURERS' PARTIAL DATA REPORT FOR PARTS FOR COMPONENT SUPPORT
As Required by the Provisions of the ASME Code Rules, Section III, Division 1

1. Manufactured by N.P.S. Industries, Inc., 10420 Metric Blvd., Austin, Texas 78758
(Name and address of manufacturer)

2. Manufactured for Texas Utilities Generating Co., 2001 Bryan Tower, Dallas, Texas
(Name and address of purchaser or owner)

3. Location of Installation Comanche Peak Steam Electric Station, Glen Rose, Texas

4.

	(a) Part Serial No.	(b) Canadian Registration No.	(c) Part Drawing No.	(d) Description of Part	(e) Class	(f) National Board No.	(g) Year Built
(1)	*	N/A	AF-1-002-033-1/33K R.3A	SMA-3-RO	3	N/A	1982
(2)							
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)	* Same as Mark Number						

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that these component support parts conform to the rules of construction of the ASME Code for Nuclear Power Plant Components, Section III, Division 1, Edition 1974, Addenda W '74 (Date), Code Case no. 1644-7.

Date 6/16/1982. Signed NPS Industries, Inc. (Manufacturer) By Gloria Yurkovich

Our ASME Certificate of Authorization No. N-2323-2 to use the NPT (NPT) Symbol expires Jan. 7, 1983 (Date)

(1/76)

FORM NF-2 MANUFACTURERS' PARTIAL DATA REPORT FOR PARTS FOR COMPONENT SUPPORT
As Required by the Provisions of the ASME Code Rules, Section III, Division 1

1. Manufactured by N.P.S. Industries, Inc., 10420 Metric Blvd., Austin, Texas 78758
(Name and address of manufacturer)

2. Manufactured for Texas Utilities Generating Co., 2001 Bryan Tower, Dallas, Texas
(Name and address of purchaser or owner)

3. Location of installation Comanche Peak Steam Electric Station, Glen Rose, Texas

4.	(a) Part Serial No.	(b) Canadian Registration No.	(c) Part Drawing No.	(d) Description of Part	(e) Class	(f) National Board No.	(g) Year Built
(1)	*	N/A	AE-1-002-033-1/33K R.3A	SMA-3-RO	3	N/A	1982
(2)							
(3)							
(4)							
(5)							
(6)							
(7)							
(8)							
(9)							
(10)	* Same as Mark Number						

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that these component support parts conform to the rules of construction of the ASME Code for Nuclear Power Plant Components, Section III, Division 1, Edition 1974, Addenda W 174 (Date), Code Case no. 1644-1

Date 6/14/82 Signed NPS Industries, Inc. (Manufacturer) By Gloria Yurkanis

Our ASME certificate of authorization No. N-2323-2 to use the NPT Symbol expires Jan. 7, 1983 (Date)

(1/76) This form (E00076) is available from the Order Dept., ASME, 345 E. 47 St., New York, N.Y. 10017

FORM NF-2 (Back)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Texas and employed by *HSB&I of Hartford, Conn. have inspected the parts for the component supports described in this Manufacturers' Data Report on 6-11, 19 82, and state that to the best of my knowledge and belief the Manufacturer has constructed these component support parts in accordance with the ASME Code for Nuclear Power Plant Components.

*Hartford Steam Boiler Inspection and Insurance Company

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the component supports described in this Manufacturers' Data Report. Furthermore neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 6-11-82

Signed Bill Parr Commissions Tex 324

(Nat'l Board, State, Province, and No.)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California and employed by HSB I&I Co. of Hartford, CT have inspected the component supports described in this Data Report on 5/22/82, 19 ___ and state that to the best of my knowledge and belief the NPT Certificate Holder has constructed these component supports in accordance with the ASME Code for Nuclear Power Plant Components.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the component supports described in this Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 5/22/82.

Signed Eugenio Regala Commissions CA-1513
(Nat'l Bd., State, Prov., and No.)

CERTIFICATION OF FIELD INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of ___ and employed by ___ of ___ have compared the statements in this Data Report with the described component supports and state that the parts referred to as data items ___, not included in the certificate of shop inspection, have been inspected by me and that to the best of my knowledge and belief the NPT Certificate Holder has constructed these component supports in accordance with the ASME Code for Nuclear Power Plant Components.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the component supports described in this Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date ___.

Signed ___ Commissions ___
(Nat'l Bd., State, Prov., and No.)

FORM NF-1 NPT CERTIFICATE HOLDERS' DATA REPORT FOR COMPONENT SUPPORTS*

As Required by the Provisions of the ASME Code Rules, Section III, Division 1

1. Manufactured by Pacific Scientific Kin-Tech Division 1346 S. State College Blvd. Anaheim, CA 92803
(Name and address of NPT Certificate Holder)

2. Manufacturer for NPS Industries, Inc. One Harmon Plaza 6th Floor Secaucus, New Jersey 07094
(Name and address of purchaser or owner)

3. Location of Installation Unknown

4. Identification

	(a) Component Support I.D. No.	(b) Canadian Registration No.	(c) Applicable Drawings with Last Rev. & Date	(d) Stress Report or Load Capacity Data Sheet	(e) Type of Component Support	(f) Class	(g) Nat'l Board No.	(h) Year Built
(1)	21323 -	NONE	1801106-05-J	DR 1415 Rev.0	Linear	1	NONE	1982
(2)	21359							
(3)								
(4)								
(5)								
(6)								
(7)								
(8)								
(9)								
(10)								

5. Remarks: Built in accordance with NPSI Spec. NPSS-42578

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that these components supports conform to the rules of construction of the ASME Code for Nuclear Power Plant Components, Section III, Division 1, Edition 1977 Addenda Winter '79 (Date), Code Case No. 1644-6

Date 5-2-82 Signed Pacific Scientific (NPT Certificate Holder) by Ronald A Nauta

Our ASME Certificate of Authorization No. 1198 to use the Component Supports (NPT)

Symbol expires Aug. 4, 1984 (Date).

CERTIFICATION OF DESIGN

Design Information on File at Pacific Scientific

Stress Report or Load Capacity Data Sheets on File at Pacific Scientific Filed Per NCA 3254

Design Specifications Certified by (1) Eugene F. Burke PE State New York

Reg. No. 50936

Stress Analysis Report and Load Capacity Data Sheets Certified by (1) Leo E. Ay

PE State California Reg. No. 13533

(1) List name only, signature not required.

*Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8½ in., (2) information in items 1, 2, 4c, 4g on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.

(10/77) This form (E00075) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

FORM NF-1 NPT CERTIFICATE HOLDERS' DATA REPORT FOR COMPONENT SUPPORTS*

As Required by the Provisions of the ASME Code Rules, Section III, Division 1

1. Manufactured by Pacific Scientific Kin-Tech Division 1346 S. State College Blvd. Anaheim, CA 92803
(Name and address of NPT Certificate Holder)

2. Manufactured for NPS Industries, Inc. One Harmon Plaza 6th Floor Secaucus, New Jersey 07094
(Name and address of purchaser or owner)

3. Location of Installation Unknown

4. Identification

	(a) Component Support I.D. No.	(b) Canadian Registration No.	(c) Applicable Drawings with Last Rev. & Date	(d) Stress Report or Load Capacity Data Sheet	(e) Type of Component Support	(f) Class	(g) Nat'l Board No.	(h) Year Built
(1)	21323 -	NONE	1801106-05-J	DR 1415 Rev.0	Linear	1	NONE	1982
(2)	21359							
(3)								
(4)								
(5)								
(6)								
(7)								
(8)								
(9)								
(10)								

5. Remarks: Built in accordance with NPSI Spec. NPSS-42578

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that these components supports conform to the rules of construction of the ASME Code for Nuclear Power Plant Components, Section III, Division 1, Edition 1977 Addenda Winter '79 (Date) Code Case No. 1644-6

Date 5-2-82 Signed Pacific Scientific (NPT Certificate Holder) by Ronald A Nauta

Our ASME Certificate of Authorization No. 1198 to use the Component Supports (NPT)

Symbol expires Aug. 4, 1984 (Date).

CERTIFICATION OF DESIGN

Design Information on File at Pacific Scientific

Stress Report or Load Capacity Data Sheets on File at Pacific Scientific Filed Per NCA 3256

Design Specifications Certified by (1) Eugene P. Burke PE State New York

Reg. No. 50936

Stress Analysis Report or Load Capacity Data Sheets Certified by (1) Leo E. Ay

PE State California Reg. No 13533

(1) List name only, signature not required.

INFORMATION COPY APPROVED

RIR 18868

*Supplemental sheets in form of lists, sketches or drawings may be used provided (1) size is 8½ in., (2) information in items 1, 2, 4c, 4g on this Data Report is included on each sheet, and (3) each sheet is numbered and number of sheets is recorded at top of this form.

(10/77) This form (E00075) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

NPS INDUSTRIES

MATERIAL TRACER

** DRW053 **

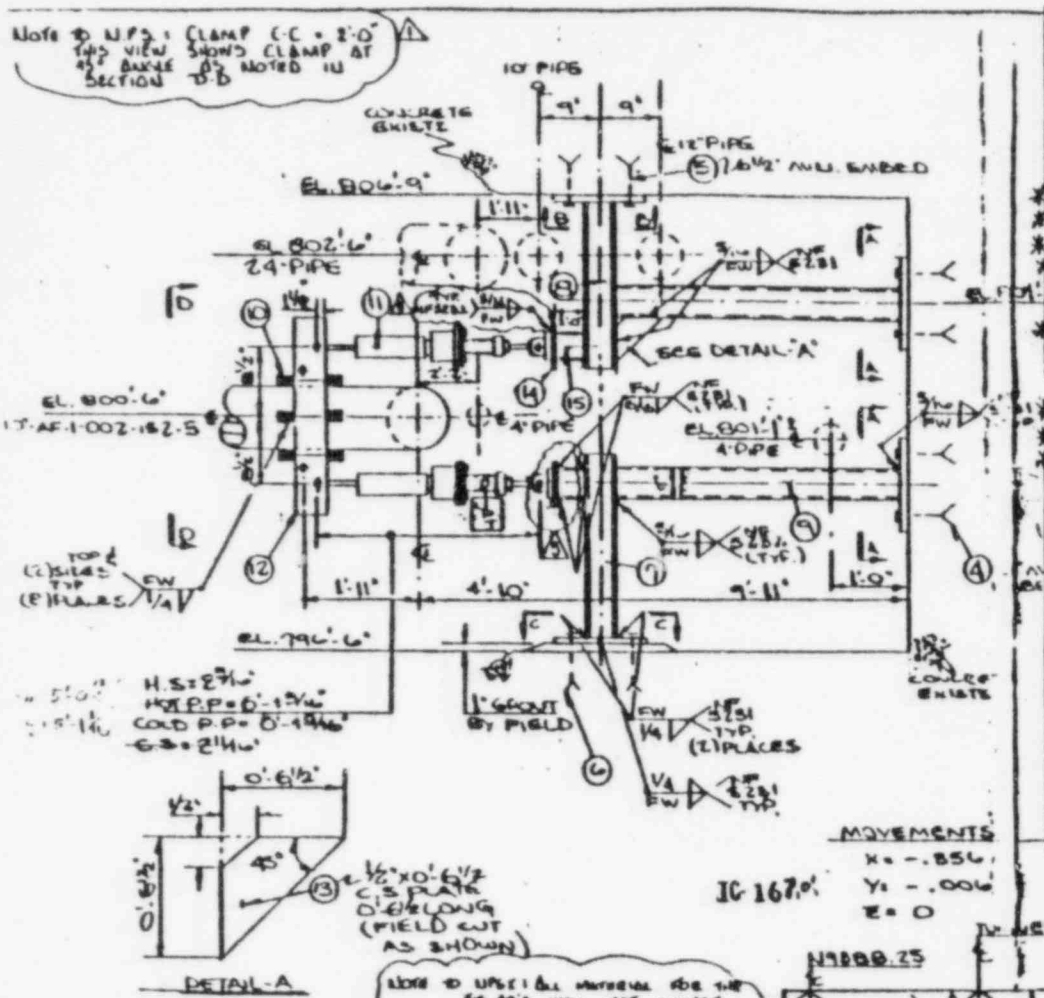
OPERATION	PRODUCTION RELEASE NO	MATERIAL	SPEC	DATE	PAGE
	15682SAL			3/01/82	1

QUAN.	MARK NUMBER	REV	ITEM #	DIMENSION	ROUTING	MIC	QC
	DRAWING NO-			AF-1-002-033-Y33K			
ITEM#	PART NO.	QTY	LVL	DESCRIPTION	ROUTING		
000	SMA-3-SO		2	0.....SHOCK ARRESTOR ASSEMBLY			XX
				LENGTH OR C-C: 3' 8"		21332 21327	
000	SMS-3		2	1.....SHOCK ARRESTOR			
000	SMTT-3		2	1.....SNUBBER TRANSITION KIT ASSY			XX
000	15079		2	2....16 GA STAINLESS STL WIRE		Exempt	
				LENGTH OR C-C: 2' 6"			
000	35068		2	2....R H SWAY STRUT END ASSY 10			XX
000	35040		2	3...R H STRUT EYEROD 1 1/4"A668B		2691NH	
000	35117		2	3...R H COUPLING NUT SIZE 10 SA3		3526NH	XX
000	10814		2	4..R 2-1/2 R SA36	1		
				LENGTH OR C-C: 1- 5/16 "			
000	15552		2	3...SPHERICAL BEARING 1 1/4"		Exempt	
000	FXN-1 1/4		2	3...HEX NUT 1 1/4"SA307		5636NB	
000	35147		B	2....CAP SCREW 5/16-24X1 1/4 SA4		6720NB	
000	35082		2	2....TRANSITION TUBE PLATE 3			XX
000	10723		10	3...PL 5/8 PL SA36	0	5914NF	
000	10036		2	2....P 1-1/2 SC40 SA106B	0	6580NP	
				LENGTH OR C-C: 2' 10- 5/16 "			

DOC. REVIEWED
NPSI
DATE 6/16/82
Q.A.

INFORMATION COPY
PPRV

RIR 18868



ITEM NO.	NO REQD	PART CALL OUT	DESCRIPTION	MATERIAL	WEIGHT
1	2	PL 1/4" x 19 1/2" x 19 1/2"	(By FIELD)	SA36	
2	1	PL 1/4" x 14" x 14"	(By FIELD)	SA36	
3	1	PL 3/8" x 8" x 8"	(By FIELD)	SA36	
4	8	BSA-1-3	(By FIELD)	1144	
5	4	BSA-58 DIZ	(By FIELD)	1144	
6	4	BSA-12-7	(By FIELD)	1144	
* 7	1	W4 x 13 x 5'-4 3/4"		SA36	45
* 8	1	W4 x 13 x 5'-8 1/2"		SA36	75
* 9	2	TS 6 x 4 x 1/2 x 9'-7 11/16"		A500 GR B	446
* 10	8	FD-1 1/4" x 2 1/2" x 2 1/2"	G-1	SA515 GR 70	27
* 11	2	SMA-2-80	SNUBBER		110
		C-C (MID-RANGE) = 61"			
* 12	1	PRH-100-A	RISER CLAMP	SA36	130
		SOB2B G = 1" C-C = 2'-0"			
		B = 1 1/8 x G E = 8 1/8"			
		A = 1 3/8"			
* 13	1	PL 1/2" x G 1/2" x G 1/2"		SA36	6
* 14	2	PL 3/4" x G" x G"		SA36	16
* 15	2	W4 x 13 x 1'-0"		SA36	26
	2	PROVIDE TEMPORARY SNUBBER SPACER C-C = 61"			

NPSI CERTIFIES THAT THE SUBSTITUTIONS IN HARDWARE AND MATERIAL SPECIFIED IN THE BILL OF MATERIAL ARE EQUIVALENT TO THOSE SPECIFIED BY THE DESIGNER AND SUITABLE FOR THE INDICATED LOADINGS

DATE 9-18-81

FOR PROJECT MANAGER

PENALTY SCHEDULED SHIP. DATE OCT. 8 1981

PRH 15045 ORIGINAL

SEISMIC ASSEMBLY SKETCH AND ENGINEERING BUNDLE AND TAC / MARK AF-1-002-033.Y3 REV 5

Apply one coat of Carbo Zinc #11 to above mat'l except th'ds which shall be coated w/a rust preventative

APPROVED 9/24/81

QUAN/SHIP

FOR MATERIALS AND OPERATIONS SEE SKETCH NO.

SHEET OF

CONDITIONS	Fx	Fy	Fz	Mx	My	Mz
DESIGN						
EMERGENCY						
FAULTED						

ITT GRINNELL
IC-167 PIPE HANGER DIVISION

REF. DRAWING NUMBERS

PIPE : M1-1006 REV. 7 ELECT: —
STEEL: E1-0318-REV. 5 H.V.A.C.: —

REV.	DATE	ENG BY	ENG CHK	DWN BY	CHK BY	DESCRIPTION
0	7/9/81	BW	MK	MEH	ABT	ISSUE PSS (SPLIT FROM 1)
1	7/31/81	BW	MK	—	—	CHGD PER 20 NPSI-12-0741
2	9/24/81	SP	SM	—	—	NPSI-12-1108
3	10/8/81	SP	SM	—	—	NPSI-12-1313
4						

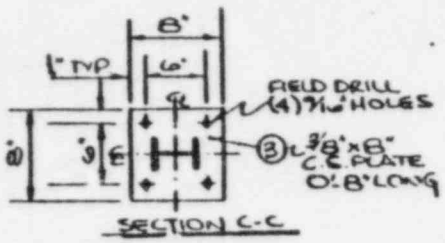
CUSTOMER Texas Utilities Service, Inc.
ORDER OR CONT NO. CP-0046
JOB NAME Comanche Peak 1 & 2
MARK NO. AF-1-002-033.Y3 R
SKETCH NO.
SHEET 1 OF 2 REV. 5

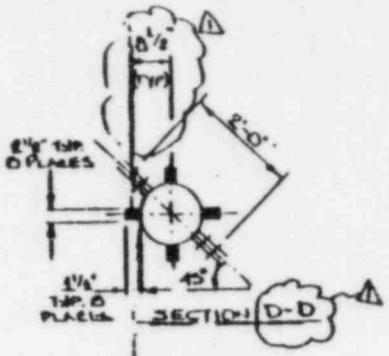
NOTES
1) All tolerances in accordance with QCP #24001 U.N.O.
2) Fab. Procedure is FH-101 N-4
3) All products designed in accordance with EPL File No. 1, Rev. 13

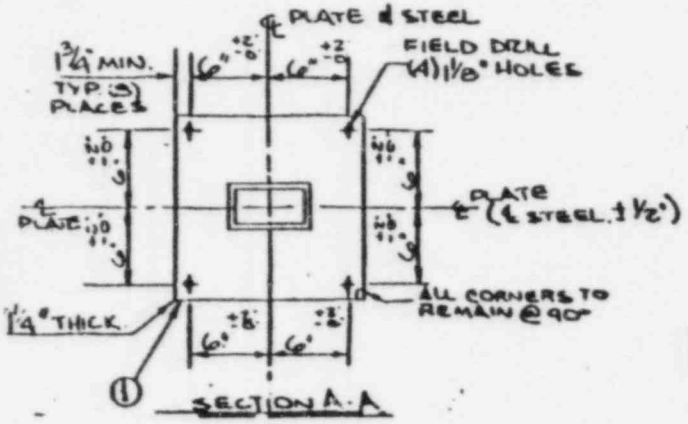
G.H.I. Iso. M1-3206-L9 REV E
I.P.D. Iso. AF-1-YD-09-REV 3
Data Point 192/DROP 118
Pipe Mat'l. SA 106 GR. B
Insul. — Bldg. YD

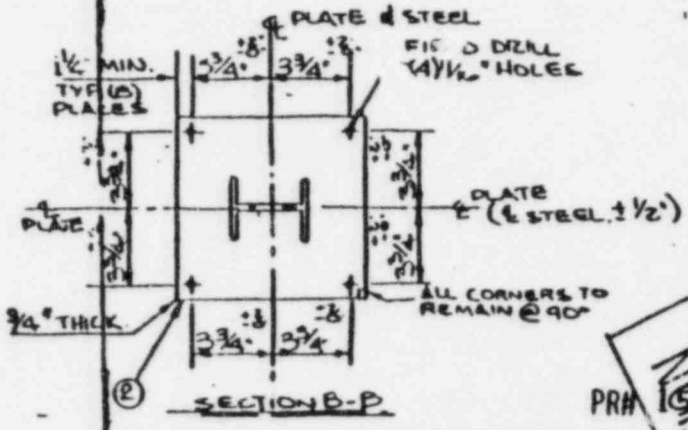
RIR 18868 page 9 of 33

PR# 15682









PENALTY
SCHEDULED SHIP. DATE
OCT 8 1981

ORIGINAL

NPSI INDUSTRIAL INC
60 19124
AUG 4 1981
RECEIVED

APPROVED
DATE 8/4/81

NPSI CERTIFIES THAT THE SUBSTITUTIONS IN HARDWARE AND MATERIAL SPECIFIED IN THE BILL OF MATERIAL ARE EQUIVALENT TO THOSE SPECIFIED BY THE DESIGNER AND SUITABLE FOR THE INDICATED LOADINGS.

7-18-81
DATE

FOR PROJECT MANAGER

⊙ DENOTES MATL SUPPLIED BY NPSI

IC 1670

PRH 15682

PRH 15684

ITT GRINNELL
PIPE HANGER DIVISION
REF. DRAWING NUMBERS
PIPE :
STEEL :
ELECT :
H.V.A.C. :

REV.	DATE	CHK BY	ENG CHK.	DRAFT BY	CHK BY	DESCRIPTION
0	7/1/81	RWF	JWL	VEH	ACST	ISSUED FOR CONSTRUCTION
1	7/3/81	SP	MRL	—	—	REVISED PER NPSI-12-0741
2	7/14/81	SP	SJH	—	—	NPSI-12-1105
3	7/21/81	SJH	JWL	—	—	NPSI-12-1313
4						

THIRD PARTY INSPECTION A B
CODE CLASS: ASME III-3

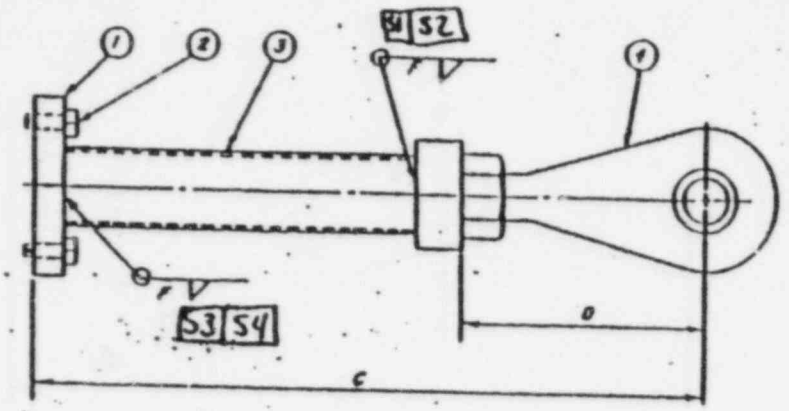
CUSTOMER: Texas Utilities Service, Inc
ORDER OR CONT. NO. CP-0046
JOB NAME: Comanche Peak 1 & 2
MARK NO. AF-1-002-033-Y55K
SKETCH NO.
SHEET 2 OF 2 REV. 3

RIR 18868 "Page 93 of 94"

ITEM	QTY.	PART NO	DESCRIPTION	MATERIAL SPEC.	WT.	WIG. NO
1	1		TRANSITION TUBE PLATE	S4-16		
2	4		CAP SCREWS	S4-107		
3	1		PIPE	S4-1068		
4	1		S1 NUT END ASS'Y.			

PR# 15682

PR# 15682



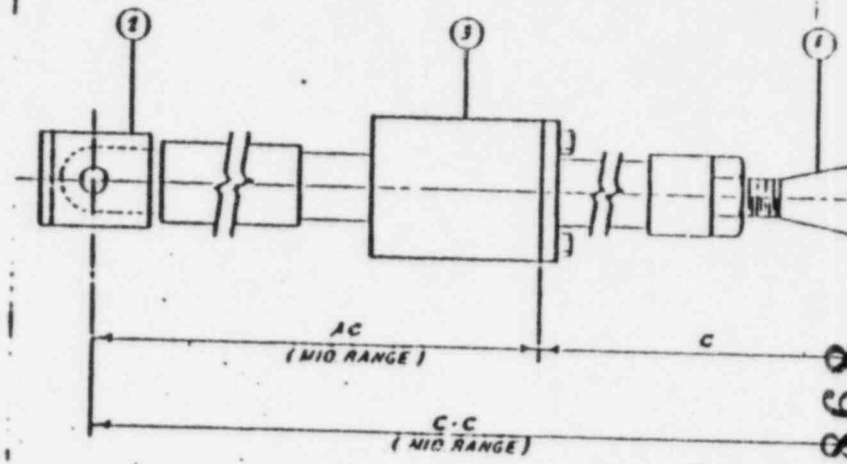
L = C - X

PART N°	C MIN	C MAX	D	F	X	ITEM 1	ITEM 2	ITEM 3	ITEM 4		SIZE
33150	9 1/2	51	6 3/4	1/8	5 11/16	33081	33146	1/4 Stock	33067		1
33151	11 7/8	66 1/2	7 1/2	1/16	7 11/16	33082	33147	1/2 Stock	33068	✱	3
33152	14 7/8	16 3/8	9 1/4	1/4	9 1/8	330[illegible]	33148	2 Stock	33069		10
TOLERANCES	MIN.	MAX.	REF.	REF.	REF.						

RECEIVED BY IRTA
JAN 30 1981
Austin, Texas

MASTER COPY AUS

ITEM	QTY	PART NO	DESCRIPTION	MATERIAL SPEC	WT	WIG. NO
1	1		TRANSITION TUBE ASSEMBLY			
2	1		AFT BRACKET ASSEMBLY			
3	1		MECHANICAL SHOCK ARRESTOR			



C = (C-C) - AC

BRACKET ASSY	AC		C MIN.	C MAX.	C-C MIN.	C-C MAX.	ITEM 1	ITEM 2	ITEM 3	TO
SMA FA-AO	11		6[illegible]	33	17[illegible]	44	33[illegible]	3[illegible]16	3[illegible]37	1[illegible]
SMA FM-AO	8 1/2		6[illegible]	33[illegible]	17[illegible]	44	33[illegible]	3[illegible]16	3[illegible]37	1[illegible]
SMA 1-AO	13		9[illegible]	51	22[illegible]	64	33[illegible]	3[illegible]16	3[illegible]37	2
SMA 3-AO	17		11[illegible]	66 1/2	28[illegible]	83[illegible]	33[illegible]	3[illegible]16	3[illegible]37	3[illegible]
SMA 10-AO	30 1/2		18[illegible]	76 7/8	39[illegible]	97	33[illegible]	3[illegible]16	3[illegible]37	3[illegible]
TOLERANCES	REF.		MIN.	MAX.	MIN.	MAX.				

RECEIVED BY IRTA
JAN 30 1981
Austin, Texas

MASTER COPY AUS

ITEM	QTY	PART NO	DESCRIPTION	MATERIAL SPEC	WT	WIG. NO
1	REF		ECN-1077			

nps Industries, Inc.
one harmon plaza
secaucus, new jersey

TITLE: TRANSITION TUBE ASS'Y. SMTT

a nps group company

DRAWN		SIZE
CHK'D		11-3-80
ENG'D		11-3-80
APP'D		11-3-80
S-664		1

ITEM	QTY	PART NO	DESCRIPTION	MATERIAL SPEC	WT	WIG. NO
1	REF		ECN-1077			

nps Industries, Inc.
one harmon plaza
secaucus, new jersey

TITLE: MECHANICAL SHOCK ARRESTOR FORWARD BRACKET ASSEMBLY SMA-AO

a nps group company

DRAWN		SIZE
CHK'D		
ENG'D		
APP'D		
S-674		

RIR 18868

"Page 90 of 340"

MARK NO. AF-1-002-033-Y33K

"~~C G~~ OR "C" 44"

PIPE LENGTH (REF.) 34 5/16"

RELEASED FOR MANUFACTURE

WELDING REFERENCE DOCUMENT

NPS

AUS ☒ PDX ☐ WELD DATA SHEET
CATALOG ITEMS

JOB NO. 3010
MARK NO. AE-1-202-033-Y33K
DRAWING NO. S-664 REV: 1

CODE CASES
1644-7

NPT
ASME III CLASS 3
EDITION 1974
ADDENDA WINTER '74

Prepared By: G.J.T. 3-4-82
Checked By: WJK 3-5-82
Approved for Production: [illegible] 3/10/82

HOLD PT. SELECTION
QC [illegible] DATE 3/8/82
ANI REVIEW: [illegible] DATE 3/9/82
CUST. RVW: DATE

PR# 15682

WELD DATA

		S1	S2	S3	S4
	WELD ID	S1	S2	S3	S4
	WELD TYPE	P	P	P	P
	WELD PROC.	3-1	3-1	3-1	3-1
FIT-UP	WELDER ID/QUANTITY	T			
FIT-UP	FILLER MIC.	6353NE			
FIT-UP	QC ACC 3/19/82	CW	CW	CW	CW
FIT-UP	AI ACC HOLD				
ROOT	WELDER ID/QUANTITY				
ROOT	FILLER MIC.				
ROOT	EXAM PROC. NO.				
ROOT	EXAM RPT.				
ROOT	CUST. HOLD				
ROOT	REPAIR RPT.				
ROOT	QC ACC.				
ROOT	AI ACC. HOLD				
FILLER	WELDER ID/QUANTITY	Y		T	
FILLER	FILLER MIC.	6353NE		6353NE	
FILLER	EXAM PROC. NO.	9.3.4.	9.3.4.	9.3.4.	9.3.4.
FILLER	EXAM RPT.				
FILLER	CUST. HOLD				
FILLER	REPAIR RPT.				
FILLER	QC ACC. 3/20/82	RO	RO	RO	RO
FILLER	AI ACC. HOLD	[illegible]	[illegible]	[illegible]	[illegible]

RELEASED FOR
MAR 12 1982

NCR
COMMENTS

INFORMATION COPY

FABRICATION
NEED SERIAL NO.
NPT STAMP
NOT REQUIRED

FINAL INSPECTION CUST. APPVD. DATE

QC: RO DATE: 3/20/82 ANI: [illegible] DATE:

PRODUCTION ORDER	SERIAL NO	QUANTITY ACCEPTED (TOTAL)	PAGE	OF
15682	SAME AS MARK NO.	2	1	1

RIR 18868
"Page 97 of 340"

Phone: (212) 821-1315

MERRILL BROTHERS
56-02 ARNOLD AVENUE
MASPETH (QUEENS) N.Y. 11378

TEST REPORT

Date October 26, 1979

CUSTOMER NPS Industries

MERRILL BROS. SHOP ORDER # R11457

Order # 20-207

Invoice # 211458

Part or Dwg. # SRS 10L SRS 10R

Raw Material By: Republic Steel

Material 30-207

Purchase Order # 30822

MB DIE 4410 MB DWG. 13504 MB REV. N/C

Material Specification: HR 1030 ASTM A 668-72

Forging Stock Size: 1 7/16" RD

Quantity of Forgings This Certification: 310 - SRS 10L, 310-SRS 10R

MIC NO 2691NP
P.O. NO 30-207
Sheet 1 of 1

CHEMICAL

MILL HEAT #	MB CODE	CARBON	MANG.	PHOS	SULPH.	SIL.	NI.	CR.	MOLY	CU	
14467245	C	.28	.76	.015	.19						

NPS-AUTH INSPECTION COPY ACCEPTED

PHYSICAL

TENSILE STRENGTH P.S.I.	YIELD STRENGTH P.S.I.	% ELONGATION IN 2"	% REDUCTION OF AREA	BRINELL	ROCKWELL		GRAIN SIZE	HARDENABILITY
66,000	33,000	23.0	36.0	137/185				

Remarks: Forgings furnished, hot trimmed, normlaize ASTM A 668 Cl C drilled, blast clean

DOCUMENT REVIEWED BY:
Q.A. [signature] 11/7/79

NPSI-AUTH MIC NO 2691NP

MIC NO 2691NP

GERALD ROSENFELD
Notary Public, State of New York
No. [illegible]
Qualified in [illegible] County
Certificate filed with [illegible]
Commission Expires March [illegible], 1980

INFORMATION COPY PPRV

Sworn to and subscribed before me this 26 day of 10 19 79

[signature] Notary Public

The above analysis and physical properties are certified correct.

MERRILL BROS.
per J.A. Elliott, Vice Pres.

RIR 18868

MIC NO 3526 NH

MIC NO

NORTHWEST STEEL ROLLING MILLS, INC.

4115 North Avenue N.W. • [illegible] STEEL, WASHINGTON 98107

DATE March 1979

CERTIFICATE ASTM A36-75

CLIENT Gilmore Steel Corporation

JOB NUMBER 7903-5

PO Box 03008

MATERIAL Merchant Bar

Portland, Oregon 97203

DESCRIPTION	HEAT #	SIZE	YIELD SQUARE INCH	TENSILE SQUARE INCH	ELONG. % 8 IN.	BEND	CHEMICAL ANALYSIS C	MN	S	P	DETAIL
r. A-36	D688	3/8 Pl Rnd	41780 ✓	66270 ✓	30. ✓	OK	.18 ✓	.70 ✓	.030 ✓	.005 ✓	

INFORMATION COPY PPRV

NPSI AUSTIN
MIC NO. 3526 NH
PO NO. 34-203
SHEET 1 OF 1

NPSI REC'V INSPECTION CODE ACCEPTED

NPT ☐	Q-1 ☐	QCC ☑
QC SPA	DATE 11/13/81	

DOCUMENT REVIEWED

P.O. # 9999N	MIC # NR-312
QA SUPERVISOR MW	DATE 3-13-79

GILMORE STEEL CORP.
APPROVED BY:
Q.C. CLERK M.L.Y.
DATE MAR 12 1979

Certified by NORTHWEST STEEL ROLLING MILLS, INC.

"Page 99 of 340" RIR18868

BETHLEHEM STEEL CORPORATION

BETHLEHEM, PA. 18016

303-16836-2/2

02347 06-04-81 (06-12-81) JC 234-4490-01

118141-00 | 1 | 234 | 01 | 3626 | 140 | | | XO

2 | COLLECT

SOLD TO
RAY BRISTOW CO INC
1640 NW 14TH AVE
PORTLAND OR 97209

SHIP TO
RAY BRISTOW CO INC
1640 NW 14TH AVE
PORTLAND OR 97209

6/17/81 FROM LEBANON, PA.
CFWY CONSOLIDATED FRTWAYS.

VEHICLE IDENTIFICATION | NO. PCS/PKGS | KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS AND EXCEPTIONS | WEIGHT (POUNDS)

MATERIAL MEETS OR EXCEEDS
THE REQUIREMENTS OF
SA-307 A
Q.A. DOCUMENTATION REVIEW
INT'L _____ DATE _____

NPSI REC'V INSPECTION
CODE ACCEPTED
NPI ☐ QCC ☑
QC DZC DATE 7/14/81

JUN 25 1981

PUR. ORD. & REL. ORD. NOS. | UNITS | DESCRIPTION | QUANTITY SHIPPED

ITEM PCS

TEST/INSP-MILL
2 BLANKET T/R

NPSI, AUSTIN
MIC NO. ~~Aus 25156~~ 25636 NB
PO NO. ~~Aus 2515 Co~~ Aus 2515 Co1
SHEET 1 OF 1

(2240-B-BN)NUT.HX.WF.BLKN
AS: A307-768 GRD A

(2540-000-463)

1	3135	1-1/2	3135
2	3300	1-1/4	1947

(2430-B-BN)NUT.HVY HX.WF.BLKN
ASTM A307-768 GRD A&B

(2528-000-463)

4	25	3	234

(2430-B-BN)NUT.HVY HX.WF.BLKN
ASTM A307-768 GRD B

5	800	2-1/2	4533
6	50	2-3/4	372

This is to certify that the material listed has been tested and inspected in accordance with the methods prescribed in the applicable specification and with respect to properties or characteristics for which no such methods are prescribed, in accordance with standard mill testing and inspection practices. Based upon such tests and inspection practices, the undersigned has approved said material as fulfilling the requirements of said specification.

E. D. Sampler
Chief Metallurgist
per: James F. Brennan

JUN 18 1981

Q. C. APPROVED
RAY BRISTOW CO., INC.
Date: 6/26/81 By: ETS

MIC NO 25636 NB

INFORMATION COPY PPRV

CONT SHT 2

RIR 18868

"Page 100 of 340"

SHIPPING NOTICE
SHIPPER'S ORDER COMPLETE

CAUTION—A RECEIVER TAKING SUPPLIES FOR LESS OR DAMAGE IN TRANSIT, REGARDLESS WHAT TAKE FROM EXCEPTIONS IT MAY BE GIVEN.

28463 (Form H 12-78) Printed in U.S.A.

To Patti FROM Joan PAGE 1 OF 1 NO. 2

BETHLEHEM STEEL CORPORATION
Industrial Fast. Divn. - Western Region

320-2778
JJ34-4784-00*

325
971525-00 1 234 51 3626 140 XO
1 2 COLLECT

WINCO NUCLEAR FASTENERS INC
8700 SW 26TH - SUITE A
PORTLAND OR 97219

WINCO NUCLEAR FASTENERS INC
8700 SW 26TH - SUITE A
PORTLAND OR 97219

10/20/81 SEATTLE WA
SCOC SOUTHWEST DELY

2 CARTONS L MEETS OR EXCEEDS BOLTS 95
THE R QUIREMENTS OF
Asmc SA449
Q.A. DOCUMENTATION REVIEW
INI'L CH DATE 9-10-80

0130 B PN CAP SCREW HX GR 5 NF PKGN SAE J429-80
A-449-80 (2568 009 463)

1 1200 5/16 X 1-1/4 41
JCSD-983

0120 B PN CAP SCREW HX GR 5 PKGN SAE J-429-80
A-449-80

2 400 1/2 X 1-3/4 50
LA

91

2 BLANKET TESTS REPORTS
FAXED TO PORTLAND SALES WED A.M.

This is to certify that the material listed has been tested and inspected in accordance with the methods prescribed in the applicable specification and with respect to properties or characteristics for which no such methods are prescribed, in accordance with standard mill testing and inspection practices. Based upon such tests and inspection practices the undersigned has approved said material as fulfilling the requirements of said specification.

C Bartels
Chief Metallurgist

R Hawke 10-20-81

NPSI RECV INSPECTION
CODE ACCEPTED
NPT ☐ Q-1 ☐ QCC ☒
QC CH DATE 10-21-81

INFORMATION COPY
QUALITY CONTROL
APPROVED
BY CH DATE 10-21-81

RIR 18868

NPSI AUSTIN
MIC NO. 6720NB
PO NO. AUS2877
SHEET 1 OF 1

MIC NO 6720NB

48597 (Rev.A 12-77)

BETHLEHEM STEEL CORPORATION
METALLURGICAL DEPARTMENT

BURNS HARBOR PLANT

REPORT OF TESTS AND ANALYSES

SHIPMENT NO.	DATE SHIPPED	CAR OR VEHICLE NO.	PAGE
803-15550	7-29-81	CR-SSW-SP	1

SOLD TO
NPS INDUSTRIES INC
10420 METRIC BLVD
AUSTIN TX 78758

SHIP TO
NPS INDUSTRIES INC
10420 METRIC BLVD
AUSTIN TX 78758

RE	SERIAL NUMBER	PAT. NO.	HEAT NUMBER	SIZE AND QUANTITY: NO. PCS.	THICKNESS INCHES	WIDTH OR DIA. INCHES	LENGTH INCHES	WEIGHT POUNDS	YIELD POINT PSI	TENSILE STRENGTH PSI	ELONG. IN	ELONG. %	RED %
			PLATES - ASME SA36 1980 EDITION && MFST - LIFT MAX 5 TON ACCEPTED IN ACCORD QA PROG DTD 12/13/78 PER ASME SECT III NCA 3800 NUCLEAR-NON-VESSELS-ASME SECT 3										
			CO# AUS2542 GM 024-3343										
			801L14780	2	3/4	84	120	4288	39200	65800	8	29	
			802N52460	1	3/4	84	120	2144	46800	69600	8	31	
			803N85630	4	3/4	84	120	8576	40900	66300	8	26	
			802N54440	1	5/8	72	120	1531	48900	79100	8	24	
			803N81720	2	5/8	72	120	3062	44000	73300	8	23	
			812L31700	4	5/8	72	120	6124	38000	62200	8	26	
			801N22500	1	3/8	72	120	919	43600	65900	8	26	
			802N53960	3	3/8	72	120	2757	47300	72700	8	19	
			803P60560	18	3/8	72	120	16542	46100	64100	8	28	
			821N22660	1	3/8	72	120	919	44600	63900	8	25	
			490N02731	2	1/4	72	120	1226	46200	65200	8	27	

MIC NO 5914 NF

Q—QUENCH TEMPERATURE T—TEMPER TEMPERATURE N—NORMALIZE TEMPERATURE

SERIAL NUMBER	PAT. NO.	HEAT NUMBER	HARD	BEND	CHARPY IMPACT: THICKNESS INCHES	TYPE	SIZE	DIR.	TEST TEMP F	ENERGY FT. LBS. 1	2	3	SHEAR (%) 1	2	3	LAT EXP MILS 1	2	3

NPSI RECV INSPECTION
CODE ACCEPTED
NPT ☐ Q-1 ☒ QCC ☐
QC DNC DATE 9-15-81

NPSI AUSTIN
MIC NO. 5914 NF
PO NO. AUS 2542 GM#1
SHEET 1 OF 1

HEAT NUMBER	CHEMICAL ANALYSIS: C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Ti	Al	B	Cb	N		McQUAID GRAIN SIZE
801L14780	.20	.98	.014	.029													
802N52460	.15	1.05	.014	.028													
803N85630	.15	1.02	.012	.027													
802N54440	.24	1.10	.033	.036													
803N81720	.24	1.12	.017	.029													
812L31700	.21	.78	.013	.035													
801N22500	.22	.74	.01	.031													
802N53960	.24	.82	.009	.015													
803P60560	.22	.77	.013	.029													
821N22660	.17	.53	.018	.011													
490N02731	.23	.52	.005	.028													

INFORMATION COPY PRV

RIR 18868

"Page 102 of 340"

I CERTIFY THAT THE ABOVE RESULTS ARE A TRUE AND CORRECT COPY OF RECORDS PREPARED AND MAINTAINED BY BETHLEHEM IN COMPLIANCE WITH THE REQUIREMENTS OF THE SPECIFICATION CITED ABOVE.

CHIEF METALLURGIST J. F. EMIG BY CJV

Quanex

QUANEX CORPORATION
HOUSTON, TEXAS

GULF STATES TUBE DIVISION ROSENBERG, TEXAS 77471

ORDER NUMBER	CUSTOMER ORDER NUMBER	DATE	OFC	COM		DIWI	MET SLS	GR SLS	ACCOUNT NUMBER	US	
010955	A0-5-91493	09/30/91	36	00		16	20	01	0034100AKTE	01	UDB

SOLD TO
MARMON/KEYSTONE CORP
P O BOX 791
BUTLER
PA 16001

SHIP TO
MARMON/KEYSTONE CORPORATION
RAILROAD STREET
REC'G AREA #40
E. BUTLER PA

SN
TR
INV

ROUTING
PPD. TRK-SEE BELOW -CONTACT SALES B4 SHIPPING-1 TRK PER DAY

ANALYSIS	SHAPE	PRODUCT	EC	ANNEAL	REQUESTED
1021	ROUND	HOT FINISH		PER SPEC	EARLY NOV.
SEAMLESS	SPECIFICATION: ASTM/ASME SA 106 GR B	CHG	DESCRIPTION: CARBON IPS PRESSURE PIPE		PROMISE 11/13/81

SPECIAL INSTRUCTIONS:
PLAIN ENDS - LACQUER COAT
PRODUCTION NOTE: PAINT ONE END OF EACH TUBE "PINK"

6580 NP

ITEM	QUANTITY	O.D.	I.D.	WALL	LENGTH	WT/FT	WEIGHT	
1	14,717'	1.900 1-1/2"	SCH 40	.145 AVG	RANDOM 41'	2.718	40.001	Comp. 703 pcs. 15466'

MILL REPORT

CARRIER MUST NOTIFY 24 HRS IN ADVANCE - CALL ROXANN NEWELL @ 412-283-4500.
NOTE: THIS MATL WAS MFG. IN ACCD. W/YOUR QA PROGRAM REV 5 OF 2-1-80 & AUDITED BY MARMON KEYSTONE IN ACCORD W/ASME SECTION III SUB-ARTICLE NCA-3800.

ANALYSIS

HEAT NO.	C	Mn	P	S	Si	N	Cr	Mo	Cu	Al	REMARKS
226852	.17	.81	.016	.020	.23						Product Anlysis
	.17	.82	.015	.020	.23						

NPSI REC'V INSPECTION CODE ACCEPTED
NPT ☐ Q-1 ☒ OCS ☐
QC CH DATE 1-15-82

RIR 18868
"Page 103 of 340"

HEAT NO.	ULT. STR. PSI	YIELD. PSI	ELONG. 2"	HARDNESS	FLATTEN	FLARE	FLANGE	REV. FLATTE
226852	78000	52200	48.0					
	80400	55900	47.0					

HYDRO TEST	BEND	N.D.E.	EXPANSION
2500 psi OK	OK	E.C.	
		U.T.	

A45-2239
35-83634
1/5/22
Linda A. Trinity

OTHER TEST
NPSI AUSTIN
MIC NO. 6580 NP
PO NO. A45 2839
SHEET 1 OF 1

INFORMATION COPY PPRV

Q. C. REVIEWED
1/8/81

HEREBY CERTIFY THAT THE FACTS SET FORTH HEREIN ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Van Miller METALLURGIST

SWORN TO AND SUBSCRIBED BEFORE ME THIS 16th DAY OF Nov 1981

NOTARY PUBLIC

Pg 2 of 3

REVISED & REISSUED 6-19-81

Sheet ____ of ____

NPSI RECV INSPECTION CODE ACCEPTED

NPT ☐ | Q-1 ☒ | QCC ☐

QC [illegible] | DATE 11-30-81

MIC NO 6353NE

HOBART BROTHERS COMPANY
FILLER MATERIALS ACTUAL TESTING REPORT

☒ Job No. As Welded 01-171.1216

☐ Job No. Stress Relieved ____

AWS Type [illegible] Size .035" Heat/Lot No. L 20331

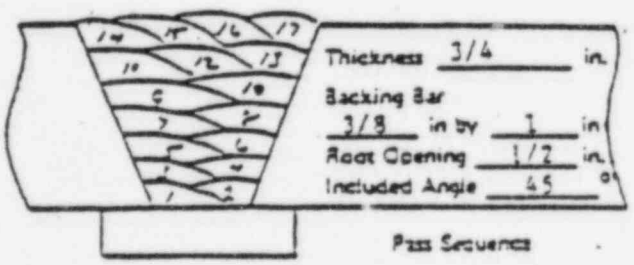
For Airweld, Inc. (For NPS Industries, Inc Purchase Order Number 10224
(Purchaser) P.O. No. PDX 14144)

The following tests are conducted to meet the requirements of:

FM Specification ASME Sect. II SFA5.18 and ASME Sect. III NF-2400 80 Ed. with Addenda thru S80.

Class ER 70S-1

WELDING DATA



Thickness 3/4 in.

Backing Bar 3/8 in by 1 in

Root Opening 1/2 in.

Included Angle 45°

Pass Sequence

Volts 24 Amps 200 Gas CO_2

Preheat (°F) Room Temp. (65 min.)

Interpass (°F) 100 ÷ 25

Power Source RC-100

Current or Polarity DCEP

Other Comments Orientation and location of Cv tests per SFA5.1.

Welded by [illegible] Date 4-6-81

☐ Radiographic Test [illegible]

Tested by [illegible] Date 4-7-81

Shop [illegible]

Machine Test Report No. [illegible]

Tensile [illegible] Date [illegible]

☐ Other (Specify) [illegible]

Tested by [illegible] Date [illegible]

CHEMICAL ANALYSIS %

Chemistry Source
☐ Pad
☐ Tensile
☒ Wire

☒ C	.080	☒ Cr	.055
☒ Mn	1.28	☒ Va	.002
☒ P	.004	☒ Ni	.004
☒ S	.017	☒ Mo	.020
☒ Si	.56	☐ Al	
☒ Cu	.11	☐ Ti	

Tested by [illegible] Date 4-7-81

Lab Analysis No. 20764

Route to: | Sender | Date Sent

Weld Test Lab ____

☐ Length (in.) ____ ☐ Diameter (in.) ____

Date ____

☐ Ferrite (%) ____

Tested by ____ Date ____

☐ Fillet Tests ☐ Horizontal ____

Polarity ____ ☐ Vertical ____

☐ Overhead ____

Tested by ____ Date ____

☐ Other ____

Tested by ____ Date ____

INFORMATION COPY PPRV

NPSI AUSTIN
MIC NO 6353 NE
PO NO 34-550 [illegible]
SHEET 1 OF 2 [illegible]

NPSI RECV INSPECTION CODE ACCEPTED
NPT ☐ | Q1 ☒ | QCC ☐
QC [illegible] | DATE 7/7/81

NPSI - PORTLAND
MIC NO. 6353
P.O. NO. 14100
SHEET 1 OF 2

RIR 18868

"Page 104 of 340"

Mechanical Properties

Job No. 01-121

☐ Stress Relieved

☑ As Welded

☐ Aged

Temperature ____ °F

Heat Rate ____ °F/Hr.

Soak Time ____ Hrs.

Cool Rate ____ °F/Hr.

☑ Yield (.2%) 63,400 PSI

☑ Tensile 77,700 PSI

☑ Elong (2in.) 28.0 %

☑ R of A 45.2 %

Tensile Testing Machine Serial No. 1126

Tested by Chris Settlemire Date 4-10-81

Overall Test Results:

☑ Conforms – approved below

Approved by [signature]

Date 4-11-81

Approved by [signature]

Date 4.29.91

STATE OF OHIO
COUNTY OF MIAMI

Subscribed and sworn to before me

this ____ day of ____ 19

Notary Public

☑ Charpy "V" Notch Test at 0 °F

Mils Lateral

☐ Ft. Lbs.	☑ Expansion	☑ % Shear
86	69	70
91	66	70
91	73	70
Avg 89.33	Avg 69.33	Avg 70

Specimen No. 1 Through 3

Impact Test Machine Serial No. 040-2024

Tested by Chris Settlemire Date 4-10-81

☐ Drop Weight Test at ____

Results ____

Specimen No. ____ Through ____

Tested by ____ Date ____

Drop Weight Test Machine Serial No. 049

☐ Non conforms – reason ____

Signed ____

Date ____

Signed ____

Date ____

The undersigned certifies that the above is correct to the best of his knowledge and belief.

By [signature] 4-29-81

W. PLATZ
QC DEPT.
HOBART BROTHERS COMPANY

The American Society of Mechanical Engineers
Quality System Certificate (Materials) Number QSC-271.

This Authorization expires on February 11, 1983.

NPSI AUSTIN
MIC NO. 6853 JE
PO NO. 34-550 CA-1
SHEET 2 OF 2

NPSI RECEIVING INSPECTION
CODE ACCEPTED
QC [signature] DATE 4-30-81

NPSI RECEIVING INSPECTION
CODE ACCEPTED
QC [signature] DATE 5/7/81

NPSI - PORTLAND
MIC NO. 45 50
P.O. NO. 10100
SHEET 2 OF 2

MIC NO NE 6853

ARMS INDEXED

DATE:

PERM. PLT RECORD

RTN	2	FILE	17.1.10.13
SUBFILE LOC.	DD-1-016-025-Y33R		

ATTACHMENT 1

DOCUMENTATION CHECK LIST

PACKAGE MARK NO. DD-1-16-025-Y33R (2)

NUMBER OF PAGES	TYPE OF DOCUMENT
1. NA	Manufacturing Record Sheet (MRS)
2. 2	Weld Data Card (WDC) Weld No(s). NA
3. 2	Weld Filler Material Log (WFML)
4. 2	Material Identification Log (MIL)
5. NA	Non-Destructive Examination Report (NDER)
6. NA	Inspection Report (IR)
7. NA	Nonconformance Report (NCR)
8. NA	Vendor Documentation
9. 1	Repair Process Sheet (RPS) Weld No(s) NA
10. 1	Operation Traveler (OT)
11. 1	Drawing (including CMC)
12. NA	Material Requisition (MR)
13. 1	Miscellaneous (Describe Below) 1 - ATTACH. 5

This documentation has been reviewed and accepted per CP-QAP-18.2 and the vendor certified as-built drawing.

QES Representative B.B. Hunter

Date 8-3-83

10 Total number of pages in package

ANI BW

DATE 9.22.83

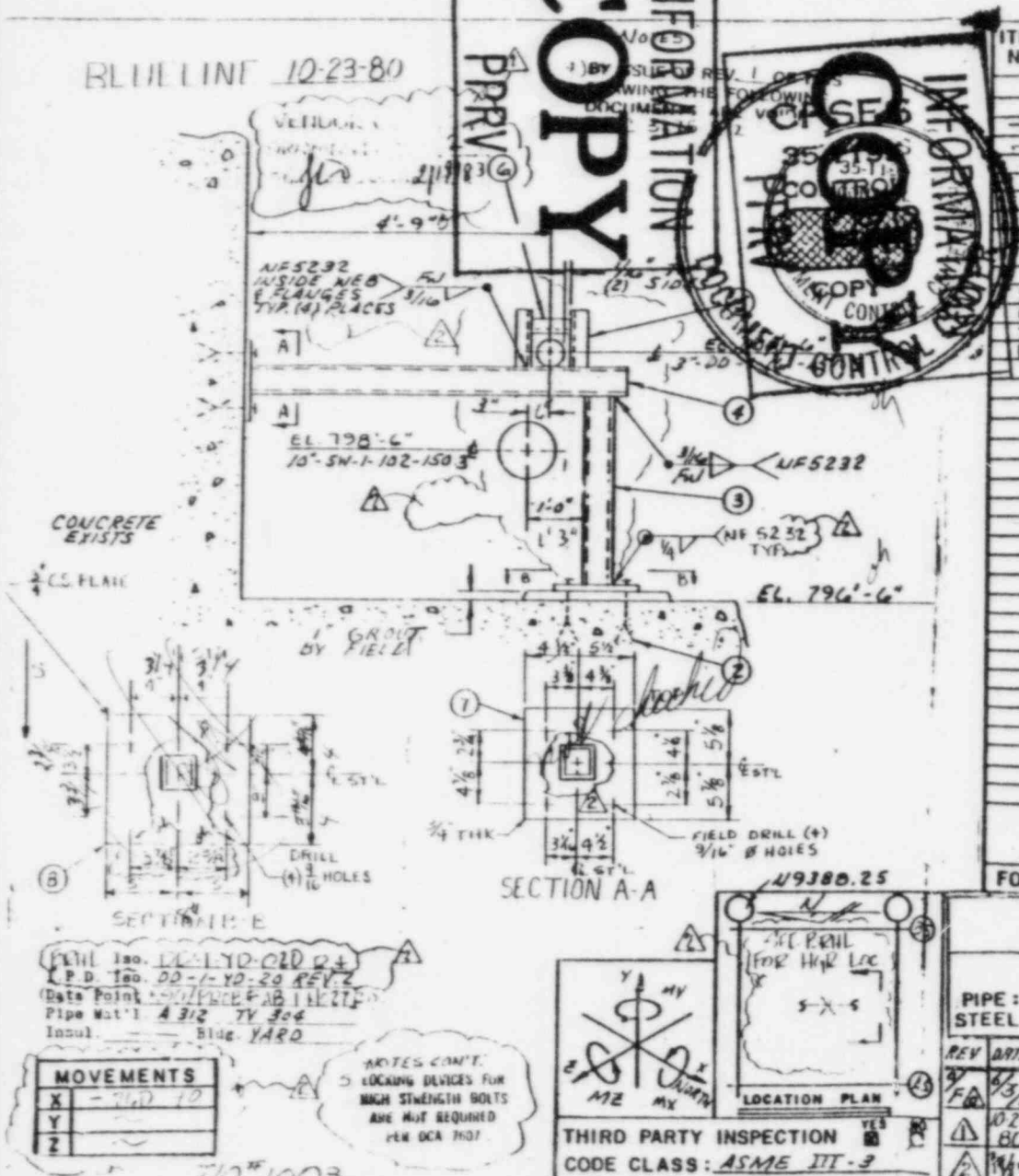
This hanger mark no. has been researched and has no open NCRs

SBH 7-28-83

CHECK CURRENT REVISION
OF DCA-5021 FOR HANGER
CLASSIFICATION.

5" 11

BLUELINE 10-23-80



ITEM NO.	MATERIALS & OPERATIONS	QUAN	SHIP		PBS	L	CSS	PRIM	SEC	AISC
	SEISMIC PIPE RESTRAINT CONSISTING OF:	ONE								
1	Carbon Steel (SA515 GR.65 or SA 36) Plate /Detail A, TW-42#	1			X			X		
2	1/2"x7" Hilti Kwik Concrete Anchors, TW-4#	8					X			
3	4"x4"x1/4" T.S. (A500 GR.B) 3'-4 1/2" Long TW-41#	1				X		X		
4	4"x4"x1/4" T.S. (A500 GR.B) 5'-9 3/4" Long TW-70#	1				X		X		
5	C3x4.1 (SA-36) 0'-5 1/2" Long. TW-4#	2				X		X		
6	C3x4.1 (SA-36) 0'-3 5/8" Long. TW-1#	1				X		X		
7	CARBON STEEL (SA516 GR.65 OR SA36) SEE SECTION A-A	1			X			X		
8	CARBON STEEL (SA516 GR.65 OR SA36) SEE SECTION B-B	1			X			X		
	SEISMIC ASSEMBLY SKETCH & ENGINEERING	1								
	BUNDLE & TAG	1								
	MARK# DD-1-16-025-Y33R									
	Apply one coat of Carbo Zin #11 to above mat'l except th'ds which shall be coated w/a rust preventative.									
	Approved By: DEP Date: 2-10-78	QUAN	SHIP		PBS	L	CSS	PRIM	SEC	AISC

FOR MATERIALS AND OPERATIONS SEE SKETCH NO. SHEET OF

Brown & Root, Inc.

REF. DRAWING NUMBERS
PIPE: MI-1006 REV.3 ELECT:
STEEL: SI-0318 REV.7 H.V.A.C.:

CONDITIONS	Fx	Fy	Fz	Mx	My	Mz
DESIGN						
NORMAL & UPSET		-221 -75	-54 197			
EMERGENCY		-241 -85	78 262			
FAULTED						

REV	DATE	DWN	APP	DESCRIPTION
F6	6/3/76			AS ISSUED FOR CONST FIELD WELDS 1-6
1	10/23/80			REV. AS NOTED PER FIELD MODIFIED HANGER SKETCH (SEE NT. 9)
2	11/11/80			REVD AS NOTED PER CMC #43636 & L.V.A. #'S (SEE NOTE 6) AS BUILT

VENDOR CERTIFIED DRAWING

CUSTOMER Texas Utilities Service, Inc.
ORDER OR CONT. NO. CP-0046
JOB NAME Comanche Peak 1 & 2
MARK NO. DD-1-16-025-Y33R
SKETCH NO. DD-2
SHEET 1 OF 1 REV. 2

PIPE Iso. DD-1-YD-02D R4
P.D. Iso. DD-1-YD-20 REV.2
Data Point SUPPLIED BY AB INERTIA
Pipe Mat'l A 312 TY 304
Insul. Bldg. YARD

MOVEMENTS	
X	-.240 LO
Y	
Z	~

NOTES CONT.
5 LOCKING DEVICES FOR HIGH STRENGTH BOLTS ARE NOT REQUIRED PER DCA 7107

7/0 1003

ATTACHMENT 5

DO-1-16-025-V33R (2) HANGER NUMBER

NA TEMPERATURE

NA PRESSURE

QUALITY CONTROL
COMPONENT SUPPORT CHECKLIST

ITEMS	INSPECTION CRITERIA	QCI/DATE	SAT/UNSAT
1.	Support configuration complies with vendor certified drawing (Large Bore) or Design Reviewed Drawing (Small Bore).	Ken Johnson 6/16/83	SAT
2.	All parts are installed (i.e., bolts, nuts, "U" clamps, etc.)	Ken Johnson 6/16/83	SAT
3.	All accessible welds reinspected and are in compliance with Vendor Certified or Design Reviewed Drawings.	Ken Johnson 6-16-83	SAT
4.	All skewed welds have been reinspected and are in compliance with the Vendor Certified or Design Reviewed Drawings.	NA KE 6-16-83	
5.	Support completed.	Ken Johnson 6/16/83	SAT
6.	Pipe Clearances comply with:		
a.	Where the design shows 1/16" on both sides, the total dimensional tolerance shall be 1/8" ± 1/16" (e.g., 0" on one side with 1/8" ± 1/16" on the other, 1/16" ± 1/32" on both sides, or any combination).	NA KE 6-16-83	DCA 7/23
b.	Where the design shows 0" on one side and 1/16" on the other side, the sum of both gaps shall not exceed 1/8" or be less than 1/32".	NA KE 6-16-83	DCA 7/23
	For low energy lines, if the clearances defined above cannot be maintained, a total clearance of 1/8" ± 1/16" on any two adjacent sides is acceptable. (Low energy lines are defined as those having operation temperatures and pressures less than 200°F and 275 PSI, respectively.)	NA KE 6-16-83	DCA 7/23

7. Comments: _____

dd-1-CC6-025-Y33K
HANGER NUMBER

MATERIAL IDENTIFICATION LOG

Mat'l Spec	Material Description	Quantity	Heat/ID Number	Salvaged Hanger Number (where applicable)	QC Verification	Date
SA36	3/4" C/S PL 8X10		HT 152829	N/A	[illegible]	11/11/80

ITEM NO.	MATERIALS & OPERATIONS	QUAN'L	SHIP.		PGS	L	CS°	PRIM.	SEC.	AISC.
	SEISMIC PIPE RESTRAINT CONSISTING OF:	ONE								
1	Carbon Steel (SA515 GR.65 or SA-36) Plate Detail A L.W.=40# amc- 3275 Rev 1	1			X			X		
2	1/2"x7" Hilti Kwik Concrete Anchors, TW=4#	6					X			
3	4"x4"x1/4" T.S. (A500 GR.B) 3'-4 1/2" Long TW=41# Shop Center & Weld to (1) One of Item #1	1				X		X		
4	4"x4"x1/4" T.S. (A500 GR.B) 5'-2 3/4" Long TW=70# Shop Center & Weld to (1) One of Item #1	1				X		X		
5	C3x4.1 (SA-36) 0'-5 1/2" Long. TW=4#	2				X		X		
6	C3x4.1 (SA-36) 0'-3 5/8" Long. TW=1#	1				X		X		
7	PL 11x10 HT 152829 SA36									
8	PL 10x8 SA-36 HT 152829									
	SEISMIC ASSEMBLY SKETCH & ENGINEERING	1								
	BUNDLE & TAG	1								
	MARK# DD-1-16-025 -Y33R									
	Apply one coat of Carbo Zinc #11 to above Ref 1 except ch'gs which shall be coated w/a rust preventative.									
	ITEM 7 is SA 36 mi# SP25 HT# 152529 as noted on M.D.C.									
#5	Refab C3x4.1 5½ long 6 22 80 A SA 36 MA# 5212	2								
#6	Refab C3x4.1 3⅜ long 6 22 80 A SA 36 MA# 5212	1								

Inspection Report

ISSUED BY DCC

INFORMATION COPY

Approved By: DEP

Date: 3-19-79

PDRV

ITEM NO.	MATERIALS & OPERATIONS	QUAN'L	SHIP.		PGS	L	CS°	PRIM.	SEC.	AISC.

FOR MATERIALS AND OPERATIONS SEE SKETCH NO. _____ SHEET ___ OF ___

ITT GRINNELL

PIPE HANGER DIVISION

REF. DRAWING NUMBERS

PIPE: NN-1006 REV. 3 ELECTRICAL

STEEL: S1-0819 REV. 7 H.V.A.C.

CONDITIONS	Fy	Fz	Mx	My	Mz
NORMAL	—	—	—	—	—
OPERATING	[illegible]	[illegible]	—	—	—
EMERGENCY	[illegible]	[illegible]	—	—	—
FAULTED CURRENT	—	—	—	—	—

REV	DATE	DWN	APP	DESCRIPTION
A	3/13/79	[illegible]	[illegible]	ISSUED FOR CONST FIELD

CUSTOMER Texas Utilities Service, Inc.

ORDER OR CONT. NO. CP-0046

JOB NAME Comanche Peak 1 & 2

MARK NO DD-1-16-025-Y33R

SKETCH NO _____

SHEET 1 OF 1 REV. 0

Attachment #1

ITEM #7 SSR A 8-23-79 NCR 9875 HDR 152829

Brown & Root, Inc.
C. P. S. E. S. JOB NO. 35-1195

WPS NO.	REV.	WELD NOS.
② 11032	5/4	1-8

M&TE #	CALIB. DUE DATE	QC

COMPONENT SU. . ORT
WELD DATA CARD

FABRICATION CODE & CLASS /ACC STD ASME III

① SM-1-016-025-Y33R
TRAVELER / DWG. NO.

⑤ DSJ: Westerdine 2679 PREPARED BY: WE/DATE
⑥ Pat Wills 2-28-79 QA/QC REVIEW DATE
⑦ HDQ 3/13/79 ANI REVIEW DATE

WELD NO. ③	⑧ WELDER(S) SYMBOL	WMR NO. (S)	④ NDEP/RT 4-7-79 ⑨ FIT UP/CLEANLINESS		INSP. RESULTS		CERT. LEVEL	200/4/2/79 ⑨ FINAL VT	INSP. RESULTS		CERT. LEVEL	⑨ FINAL MT OR PT	INSP. RESULTS		CERT. LEVEL	⑨ OTHER (SPECIFY)	INSP. RESULTS		CERT. LEVEL	⑨ ACCEPT OR REQUIRE REPAIR
X	X	X	QC	PRV												N/A				
			ANI									N/A								
1	ASB	C RA 8-30-79	QC	✓	Sat	RA 8-30-79	II	✓	Sat	RA 8-30-79	II		VOID			DER DISPOSITION of NCR M-2438				988-11-80
			ANI	NC				NC												
2	ASB	C RA 8-30-79	QC	✓	Sat	RA 8-30-79	II	✓	Sat	RA 8-30-79	II		VOID			PER DISPOSITION of NCR M-2438				988-11-80
			ANI	NC				NC												
3	ASB	C RA 8-30-79	QC	✓	Sat	RA 8-30-79	II	✓	Sat	RA 8-30-79	II									
			ANI	NC				NC												
4	ASB	C RA 8-30-79	QC	✓	Sat	RA 8-30-79		✓	Sat	RA 8-30-79										
			ANI	NC				NC												
5	ASB	C RA 8/31/79	QC	✓	Sat	RA 8-30-79	II	✓	Sat	RA 8-30-79	II		VOID			PER DISPOSITION of NCR M-2438				988-11-80
			ANI	NC				NC												
6	ASB	C RA 8-30-79	QC	✓	Sat	RA 8-30-79	II	✓	Sat	RA 8-30-79	II		VOID			PER DISPOSITION of NCR M-2438				988-11-80
			ANI	NC				NC												
7	ASB	C 8/24/79	QC	✓	Sat	RA 8-30-79	II	✓	Sat	RA 8-30-79	II									
			ANI	NC				NC												
8	ASB	C 8/29/79	QC	✓	Sat	RA 8-30-79	II	✓	SAT	8/30/79	II									
			ANI	NC				NC				N/A				N/A				
NA			QC	✓				✓												
			ANI																	

⑪ FINAL REVIEW
Bill Pallon 10/16/79
WELD ENGR. DATE

FINAL ACCEPTANCE ⑫
QA/QC DATE

⑩ WELD REPAIR LOG

WELD NO.	REPAIR CARD NO.	WELD NO.	REPAIR CARD NO.
	RLJ-2785		

NOTES: (1) Applicable QC/ANI hold points shall be indicated by checkmark ✓.
(2) ANI inspection points indicated by (X).

352

CONSTRUCTION OPERATION TRAVELER 35-1195

(1) TRAVELER NO.	(2) EQUIPMENT NO.	(3) UNIT NO.	(4) QUANTITY	(5) PAGE / OF
DD-1-016-025-V33R	SEE 1	/	/	1 / 1

(6) ACTIVITY DESCRIPTION	(7) REFERENCE DRAWINGS
PIPE SUPPORT INSTALLATION & Fabrication	SEE 1 REV. 0 CMC 3275 R1

(8) SPEC./PROC./ENG. INSTR.	(9) LOCATION	(10) SYSTEM
	EL. 800'6"	DD

PREPARED BY Chris Chase DATE 2-5-79 DEPT. Mech. Engr.

REVIEWED BY Bill Wilk DATE 2-28-79 QA/QC ☐ ENG ☐ ANI ☐

ANI REVIEW KDK MD DATE 3/13/79

OP. NO.	DEPT.	OPERATION	QA/QC ENG	ANI
1	IW	Verify material	3-30-79	
2	IW	Fabricate and/or install the pipe support assembly in accordance with the latest pipe support drawing, applicable CMC's, attached WDC's, and I.A.W. CPM6.9.	3-30-79	
3	PD	Prepare surface, prime, and coat support assembly in accordance with ~~CCP-30~~/AS-30. SC 2-1-79		
4	IW	Install Hilti-Kwik Bolts in accordance with CEI-20.		
5	BD	Install grout in accordance with CCP-16, and CCP-12.		

PU 2-28-79 NA

OBSERVE ALL QC/ANI HOLD POINTS ON REVERSE SIDE

REVISION RECORD

1	2-26-79 MJ	INCORPORATE CMC 3275 R1

BW 22 03

COMPONENT SUPPORT MECHANICAL INSPECTIONS

No.	DESCRIPTION	QC ①	QC ④ S	QC ⑤ U	QC INSPECTION ② Initial & Date	ANI ①	ANI ④ S	ANI ⑤ U	ANI ② Initial & Date	③ Rework Record QC	ANI	QC	ANI	QC	ANI	QC	ANI
1.	Verify received material	✓	✓		8/30/79	NC											
	A. Transfer Mat'l. ID Marks	✓	✓		8/30/79	NC											
	B. Transfer Component Support Mark No. on Support Assembly	✓	✓		8/30/79	NC											
2.	Verify tolerances of cut material	✓	✓		8/30/79	QC											
3.	Verify column line location, plumbness and levelness	✓	✓		RA 8-30-79	NC											
4.	Verify elevation	✓	✓		RA 8-30-79	NC											
5.	Verify size and configuration	✓	✓		RA 8-30-79	NC											
6.	Verify clearance between pipe (or insulation & structural member)	✓	✓		RA 8-30-79	NC								N	A		
7.	Verify travel stop position (in cold position)	N/A	NA														
8.	Verify fasteners (size, thread engagement, surface contact lubricant)	N/A	NA														
9.	Verify Hilti Bolt installation	✓	✓		RA 8-30-79	NC											
	A. Installation in concrete	✓	✓		8/30/79	NC											
	B. Torque wrench CT 1163 cal. date 11-2-79	✓	✓		RA 8-30-79	NC											
10.	Perform final visual Inspection	✓				NC											
11.	Perform final review and certify to code.	✓				✓											

INFORMATION ONLY

* Hilti Bolts on wall Data only

NOTES:
① Check marks (✓) entered by QC and ANI to indicate hold points. ANI inspection points indicated by (X). Hold/inspection points not required indicated by N/A.
② QC and ANI initials and dates entered after inspection is completed.
③ The applicable date of revision is entered at top of column. Rework hold/inspection points are established by check marks (✓), (X)'s and N/A as in note ① . Rework inspections are initialed and dated in the column ② .
④ Check marks (✓) entered to indicate satisfactory inspections.
⑤ Check marks (✓) entered to indicate unsatisfactory inspections.

CMC LOG
Rev 29
11/27/80 QC

08525

WDC SERIAL #
DRAWING # DD-1-016-025-Y33R
LINE # NA

MULTIPLE WELD DATA CARD

1st inc into prnt

ITEM NO.	WPS NO.	REV.	ICN	WELD FILLER MATERIAL	WELD NOS.	P NO.	FABRICATION CODE & CLASS/ ACC STD
NA	11033	7	0	E7018	NA	1-1	ASME III-3

NOTES: 1. APPLICABLE QC/ANI HOLD POINTS SHALL BE INDICATED BY CHECKMARK .
2. ANI INSPECTION POINTS INDICATED BY (X).
3. DENOTE SATISFACTORY INSPECTIONS BY AN "S"; UNSATISFACTORY INSPECTIONS BY A "U".

OPERATION #	OPERATIONS		
1	Support Number Identification	7	Spherical Bearings
2	Size, Configuration, Tolerance/Dwg.	8	All Welds/Dwg. & WPS (V.T.) *
3	Material Correct/Dwg.	9	Installation Complete
4	Fasteners Correct & Complete	10	Final PT/MT (as required)
5	Location & Elevation/Dwg.	11	
6	Spring Can Stops Installed	12	

PRODUCTION RELEASE

WELD NO	OPERATION	HOLDPOINTS WT	QC	ANI	CONST	SAT OR UNSAT	INSPECTION RESULTS (SIGN & DATE) QC OR WT	NDE CERT LEVEL	ANI	NDEP/ REV.	MT&E # CALIB DUE DATE
NA	1	NA	✓	NC		SAT	11-3-80	II			
NA	2	NA	✓	NC		SAT	11-3-80	II			
NA	3	NA	✓	NC		SAT	FB 11-12-80	II			
NA	4	NA	✓	NC		N/A	11-3-80	II			
NA	5	NA	✓	NC		SAT	11-3-80	II			
NA	6	NA	✓	NC		N/A	11-3-80	II			
NA	7	NA	✓	NC		N/A	11-3-80	II			
NA	8	NA	✓	NC		SAT	11-3-80	II		200 16.2.79	
NA	9	NA	NA	NC	JAM 8-4-80						

Reviewed: Cl/ [illegible] 6-24-80 *

Welds 3, 4, 7, 8 have been inspected per QCD WDC (copy attached) 8/28/80

* REF NCR M 2690 R5 6/16/82

A.M.S INDEXED

INFORMATION COPY PPRV

PERM. PLT. RECORD DATE:

RTN L | FILE LOC 19.1.10.13

SUBFILE LOC DD-1-016-025-Y33R

WE QC ANI BW 12/83

APPROVAL SIGNATURES SHALL BE AFFIXED IN THE LINE IMMEDIATELY BELOW THE LAST STEP IN EACH SEQUENCE.

* Operations 1-8 are Final Inspections.

08525 Cwn 6-24-80

WRI Serial No. DD-1-016-025-Y77R

Drawing No. DD-1-016-025-Y33R

WELD FILLER MATERIAL LOG Weld No. 2-5-7-8, NA

WELD NO.	DATE	SIZE/CLASS	WELDER SYMBOL	WPS/ICN #	HEAT/LOT # or CODE #	AMT. ISS.	AMT. RT'D.	ISSUANCE APPROVAL
* 2	8-29-79	1/8 E-7018	ASB	11032 5-4	A80964 026B203	20	6	J R Barnett P.91
* 5								J R Barnett
7								J R Barnett
8								J R Barnett P91
7-8 11/12/80 * 1	8-30-79	1/2 E-7018	ASB	11032 5-4	A80964 026B203	20	8	J R Barnett
* 2								J R Barnett
3								J R Barnett
4								J R Barnett
* 5								J R Barnett
* 6								J R Barnett P
7-8 11/12/80								
Weld Was Not Applicable As of 3-31-80 Cwn 6-24-80								
* Pick Weld N/A	6/25 6/27 80	PRV E7018 RO 1/8	BLH	11032 7-0		30	29	Larry Thompson
NA	6-30 80	E7018 1/8	BTA	11032 7-0	A82394 026B204	10	7	Don Fields P.150
N/A	7/9/80	E7018 1/8	AKC	11032 7/0	A82394 026B204	20	12	Alvaro Mata P221
7-8 11/12/80								

* These welds were Removed and reworked due to Mech. Eng. request.

REPAIR PROCESS SHEET

WDC Serial No. 753129
Drawing No. 00-1-016-025-X3
Weld No. NA

R-1 DESCRIPTION OF DEFECT (SKETCH)

Per NCR-M-58275

Increase Item 3 to Item 8 and Item 4 to Item #7 To 1/4" Weld Size

OPER. NO.	OPERATION	HOLD POINTS WT	QC	ANI.	CON	"S" or "U"	INSPECTION RESULTS QC or WT	NDE CERT LEVEL	(SIGN AND DATE) ANI
R-1	WELD MAJOR REPAIR								
A	Weld 11032 10/0	NA	NA	NK					
B	Final VT	NA	✓	✓		SAT	[illegible] 4-21-83	II	BP 4/4/83
Rep	A.K. Glow 4/15/83								
Review	BW 4-18-83 Jm 4-19-83								DMB 4-19-83
	Final Acceptance								

APR 26 1983

WE R Martin

QC QAP-11.1-2 R12 QAP-11.1-25 R19

ANI BW 4-22-83

G&H

Approved signatures shall be affixed on line immediately below the last step in each repair sequence.
Base Metal Repair - WE, QC, G&H, ANI
Weld Metal Repair - WE, QC, ANI

BogArT

BROWN & ROOT, INC.
CPSES JOB # 35-1195

WDC Serial No. NA

Drawing No. NA

Weld No. NA

WELD DATA CARD

INSTALLATION TO BE IN ACCORDANCE WITH PROCEDURES REFERENCED IN CPM-6.11

LINE #		WPS # REV#/ICN#	FABRICATION CODE & CLASS/ACC. STD. ASME III
			CPM-6.9

BASE MATERIAL
HT # _____ to HT# _____
PC # _____ to PC# _____
P # _____ to P # _____

POSTWELD HEAT TREATMENT
TIME NA Hrs., TEMP. NA °F
HEATING RATE NA °/Hr. NA
SPECIFICATION WPS/CPM 6.9D

QI-QAP/REV	VT/11.1-26	PT/10.2-1	MT/10.2-2	RT/10.2-3	UT	

MR#(S)	M.&T.E.	CALIB. DUE DATE	QC	WELD FILLER MATERIAL REQUIRED
QC VERIF. DATE:				ROOT CLASS E7018
				FILL CLASS E7018
				CLASS
				CLASS

NOTES: (1) Applicable QC/ANI hold points shall be indicated by checkmark ✓.
(2) ANI inspection points indicated by (X).
(3) Denote Satisfactory inspection by an "S"; Unsatisfactory inspections by a "U".

PRODUCTION RELEASE

Prepared By:

OPER. NO.	OPERATION	HOLD POINTS WT	HOLD POINTS QC	HOLD POINTS ANI	CON	SAT. or UNSAT.	INSPECTION RESULTS (SIGN AND DATE) QC or WT	NDE CERT. LEVEL	ANI
	WE			QC			ANI		

Approval signatures shall be affixed on the line immediately below the last step in each sequence.

WPS #
11032

MOC Serial No. 753129

Drawing No. 00-1-016-025-V33R

WELD FILLER MATERIAL LOG Weld No. NA

WELD NO.	DATE	SIZE/CLASS	WELDER SYMBOL	WPS/ ICN #	HEAT/LOT # or CODE #	AMT. ISS.	AMT. RT'D.	ISSUANCE APPROVAL
N/A	4/21/93	3/32 E7018	BZF	11032 10-0	81805 020H643	40	9	[signature] P 1-5

Alt. DAL 4/21/93

ARMS INDEXED

DATE:

ATTACHMENT 1

PERM. PLT. RECORD

RTN	FILE DOC.
L	17.1.37.13
SUBFILE LOC.	
AF-1-002-033-Y33K	

DOCUMENTATION CHECK LIST

* PACKAGE MARK NO. AF-1-002-033-Y33K (2)

NUMBER OF PAGES	TYPE OF DOCUMENT
1. N/A	Manufacturing Record Sheet (MRS)
2. 4	Weld Data Card (WDC) Weld No(s): N/A
3. 2	Weld Filler Material Log (WFML)
4. 2	Material Identification Log (MIL)
5. N/A	Non-Destructive Examination Report (NDER)
6. 9	Inspection Report (IR)
7. N/A	Nonconformance Report (NCR)
8. N/A	Vendor Documentation
9. N/A	Repair Process Sheet (RPS) Weld No(s) N/A
10. N/A	Operation Traveler (OT)
11. 2	Drawing (including CMC) DWG (2 PAGES) LLH 09/24/83
12. N/A	Material Requisition (MR)
13. 2	Miscellaneous (Describe Below) ATTACHMENT #5 (1 PAGE) LLH 09/24/83 NPSI DATA SHEET (1 PAGE) LLH 09/24/83

INFORMATION COPY PPRV

*REF: AF-1-YD-03 SP001 # 4 LLH 09/24/83

All documentation has been reviewed and accepted per CP-QAP-13.2 and the vendor certified as-built drawing.

QES Representative Larry Hitt

Date 09/24/83

21 Total number of pages in package

ANI QSV

DATE 10/5/83

This HANGER HAS BEEN Researched AND HAS NO Evidence of OPEN NCR'S LLH 09/24/83

FOIA-85-59

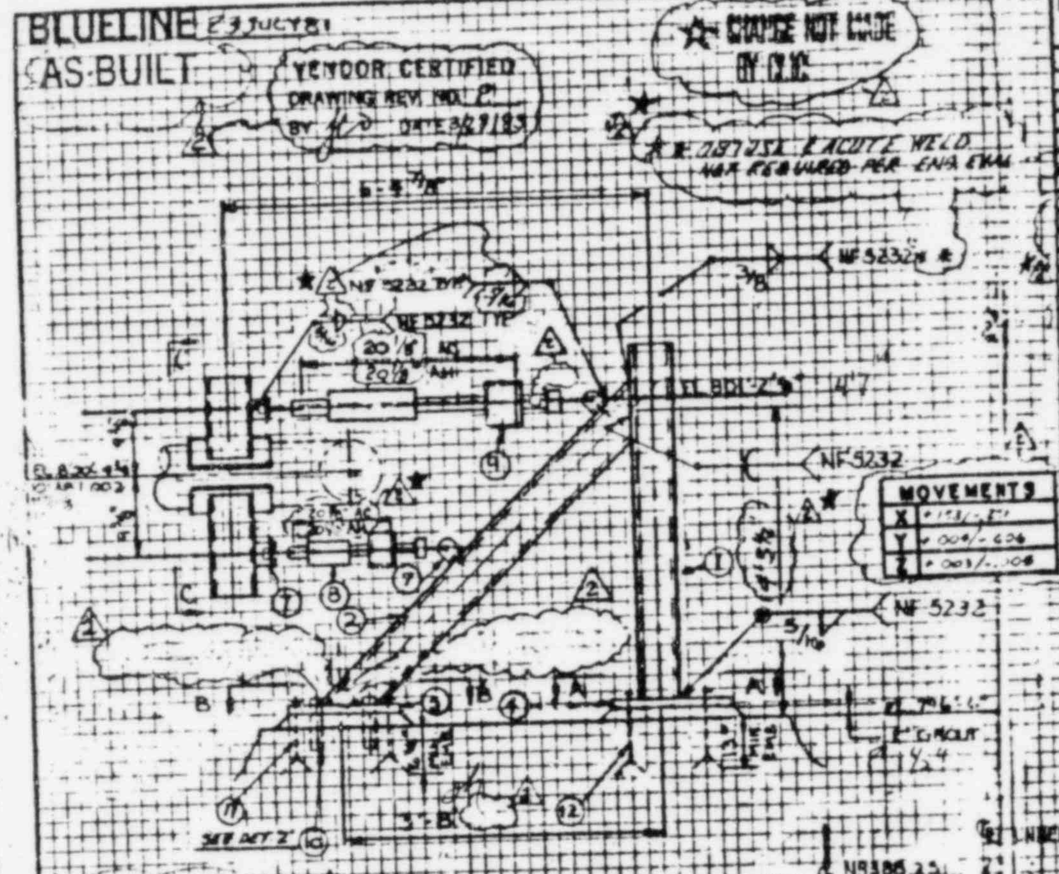
B1452

BLUELINE 23 JULY 81
AS-BUILT

VENDOR CERTIFIED
DRAWING REV. NO. 2
BY [illegible] DATE 3/29/83

☆ CHANGE NOT MADE BY CLIC

★ E-087151 KACUTE WELD NOT REQUIRED PER ENG EVAL



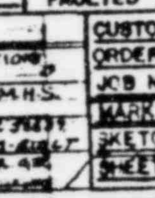
MOVEMENTS	
X	+.193/-.51
Y	+.004/-.636
Z	+.003/-.008

NOTES CONT.
4) LOCKING DEVICES FOR HIGH STRENGTH BOLTS ARE NOT REQUIRED PER DCA 9007

NORM. OPER DISPL.	
DX	+0.008
DY	+0.0
DZ	+0.0

B&IL Iso. AF-1-D-003/R.3
I.P.D.C. Iso. AF-1-YD-03 Rev. 3
Data Point 4427 PROB 1A-1-118/120
Pipe Mat'l. SA106 GR.B
Insul. — Bldg. YD

T.G. 3102



THIRD PARTY INSPECTION
CODE CLASS: ASME III-3

ITEM NO.	MATERIALS & OPERATIONS	QUAN	SHIP		P83	L	C33	PRIM	SEC	AISC
1	T.S. 4"X4" X 1/2" X 4'-5 3/16" A500 GRB	1				☒		☒		
2	T.S. 4"X4" X 1/2" X 3'-10 1/2" A500 GRB F.T.T.S.	1				☒		☒		
3	T.S. 4"X4" X 1/2" X 8" A500 GRB	2				☒		☒		
4	1/2" ℞ SEE SEC. A-A SA 36 OR SA516 GR 65	1			☒			☒		
5	1 1/2" ℞ (SEE SEC. B-B) SA 36 OR SA515 GR 60	1			☒			☒		
6	~~[illegible]~~	2								
7	XRB-14 REAR BRACKET	4					☒			
8	SMA-10-30, SNUBBER	1					☒			
	C-C = 51 1/8"						☒			
9	SMA-10-30, SNUBBER	1					☒			
	C-C = 66 1/2"						☒			
10	SHEAR LUGS 1 1/2" ℞ X 0-5" LG. (7" LG MIN.) (SA 36)	2					☒			
11	1"x12" SUPER HILTI KWIK CONC. ANCHORS	4					☒			
12	1 1/4" x 22" SUPER HILTI KWIK CONC. ANCHORS	4			☒			☒		
13	C.S.R. 3/4" x 8" x 11 1/4" (SEE DETAIL Z) (SA-515 GR 65 / SA-36)	2								

MARK # AF-1-002-033-Y33K
PAINT: CARBO ZINC # 11

FOR MATERIALS AND OPERATIONS SEE SKETCH NO. ______ SHEET ___ OF ___

BROWN & ROOT, INC.
ENGINEERS & CONSTRUCTORS

REF. DRAWING NUMBERS
PIPE: MI-1006 R.7 ELECT: —
STEEL: 2I-0318 R.B H.V.A.C.: —

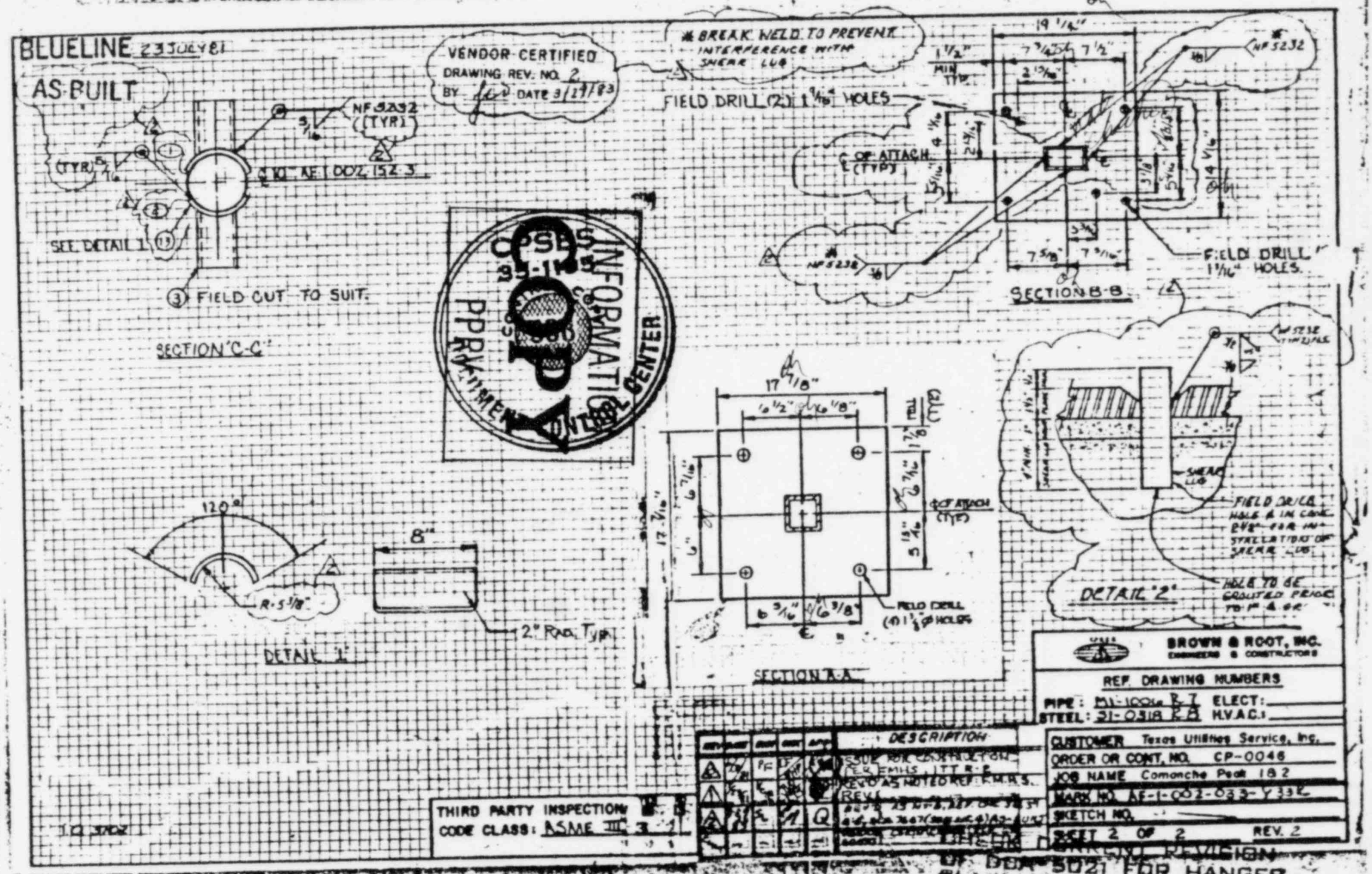
CONDITIONS	Fx	Fy	Fz	Mx	My	Mz
DESIGN	—					
NORMAL & UPSET	[illegible]					
EMERGENCY	[illegible]					
FAULTED	—					

REV					DESCRIPTION
0		PF			ISSUE FOR CONSTRUCTION PER FMHS; ITT R-2
1		C			REV. AS NOTED REF. F.M.H.S. REV. 1
2				Q	REV'D AS NOTED PER CPC [illegible] R-2 [illegible] AS-BUILT VENDOR CERTIFICATION [illegible] 60470
	—	—	—	—	

CUSTOMER Texas Utilities Service, Inc.
ORDER OR CONT. NO. CP-0046
JOB NAME Comanche Peak 1 & 2
MARK NO. AF-1-002-033-Y33K
SKETCH NO. —
SHEET 1 OF 2 REV. 2

CPSES
COPY
DOCUMENT CONTROL CENTER

CHECK CURRENT REVISION OF DCA-5021 FOR HANGER CLASSIFICATION.


BLUELINE 23 JULY 81
AS-BUILT
VENDOR CERTIFIED
DRAWING REV. NO. 2
BY DATE 3/27/83
NF 5232 (TYR)
SEE DETAIL 1
FIELD CUT TO SUIT.
SECTION 'C-C'
BREAK WELD TO PREVENT INTERFERENCE WITH SHEAR LUG
FIELD DRILL (2) 1 9/16" HOLES
SECTION B-B
FIELD DRILL 1 1/16" HOLES.
DETAIL "2"
FIELD DRILL HOLE Ø IN CONC. FOR INSTALLATION OF SHEAR LUG
HOLE TO BE GROUTED PRIOR TO P & C
120°
R-5 3/8"
2" RAD. TYP.
DETAIL "1"
SECTION A-A
FIELD DRILL (4) 1 1/8" Ø HOLES
OSE
PPROVED
INFORMATION CENTER
THIRD PARTY INSPECTION
CODE CLASS: ASME III 3
DESCRIPTION
REVISED AS NOTED REVISIONS
BROWN & ROOT, INC.
ENGINEERS & CONSTRUCTORS
REF. DRAWING NUMBERS
PIPE: M1-1001a R 7 ELECT:
STEEL: 21-0318 R 8 H.V.A.C.:
CUSTOMER Texas Utilities Service, Inc.
ORDER OR CONT. NO. CP-0046
JOB NAME Comanche Peak 1&2
MARK NO. AE-1-002-033-Y33L
SKETCH NO.
SHEET 2 OF 2
REV. 2
SEE REV. 1 REVISION
OF DCA-5021 FOR HANGER
CLASSIFICATION.

ATTACHMENT 5

PT-1002-033-Y33K R-2
port Drawing Number/Revision

QUALITY CONTROL
COMPONENT SUPPORT CHECKLIST

CP-QAP-12.1 Rev. 9

PARA.	OP.NO.	INSPECTION CRITERIA	QCI/DATE	SAT/UNSAT
3.5	1.	Support Configuration complies with Vendor Certified or Design Reviewed Drawing (VCD/DRD)	9-7-83 TLHarpur	SAT
N/A	2.	Structural member cut lengths comply with Reference dimensions ± 2"	9-7-83 TLHarpur	SAT
N/A	3.	Baseplate tolerances (excluding thickness) comply with the VCD/DRD ± ½".	9-7-83 TLHarpur	SAT
N/A	4.	Working point dimensions locating structural components comply with the VCD/DRD ± 1" (except for pipe location tolerances)	9-7-83 TLHarpur	SAT
3.5.1	5.	a) All accessible welds reinspected and are in compliance with VCD/DRD.	9-7-83 TLHarpur	SAT
		b) All skewed welds have been reinspected and are in compliance with the VCD/DRD.	9-7-83 TLHarpur	SAT
3.5.3	6.	Snubber(s) Serial Number 14713 / 14699 *		
		a) Nuts, bolts, cotter pins, lock wire, etc. installed where required.	9-12-83	SAT
		b) Exposed threaded surfaces are free of excessive rust or foreign material.	9-12-83	SAT
		c) Spherical bearings are free of foreign material and [illegible] are installed as required.	9-12-83	SAT
N/A		[illegible] (if applicable) Serial Number N/A TLH 9-7-83		
		a) Nuts, bolts, cotter pins, lock wire, etc. installed where required.		
		b) Exposed threaded surfaces are free of excessive rust or foreign material.		
		c) Spherical bearings are free of foreign material		
		d) Jam nut(s) and barrel will not turn by hand, using nominal applied force.		
3.5.3	8.	Spring Can(s) (if applicable) Serial number N/A TLH 9-7-83		
		a) Nuts, bolts, cotter pins, lock wire, etc. installed where required.		
		b) Exposed threaded surfaces are free of excessive rust or foreign material.		

ATTACHMENT 5

AF-1-002-033 X33 R-2
Support Drawing Number/Revision

CP-QAP-12.1 Rev. 9

QUALITY CONTROL
COMPONENT SUPPORT CHECKLIST

PARA.	OP.NO.	INSPECTION CRITERIA	QCI/DATE	SAT/UNSAT
N/A	9a.	Concrete Expansion anchors embedment/engagement complies with drawing or Attachment 5B.	9-7-83 JLHopkins	SAT
	9b.	Concrete inserts have proper embedment/engagement (2D + 1/8").	JLH 9-7-83	N/A
ATTACH.	10.	Installation of U-bolts on large bore/small bore supports shall be inspected as follows:	JLH 9-7-83	N/A
		1) U-bolts used in pinned connection application (i.e., struts and snubbers) are to be installed on the pipe as shown in Figure 1 for large bore supports.		
		2) U-bolts on rigid frames, (large bore) shall be installed as shown in Figure 2.		
		3) For installation of U-bolts on small bore supports, figures 4 and 5 show acceptable arrangements when the design drawing depicts the configuration as shown in Figure 3.		
		4) Clearances as specified on VCD/DRD		
3.5.2	11.	Clearances must be verified if:	JLH 9-7-83	N/A
		a) The support configuration is modified by design change.		
		b) The support is being reinstalled following removal to accomplish a design change or other construction.		
		c) Directed by Engineering.		
		d) Visual examination indicates the sum of the clearances have not changed after verification at time of installation.		
N/A	12.	Remarks: Ref. IR 1 AM-01265 Spherical Bearing Disbodged IR Closed SAT / Jerry A. Starr 9-12-83		

AF-1-002-033-Y33K
HANGER NUMBER

MATERIAL IDENTIFICATION LOG

	Mat'l Spec	Material Description	Quantity	Heat/ID Number	Salvaged Hanger Number (where applicable)	QC Verification & Date	Notes
(1)	A500-GRB	T.S. 4x4x½-4'-5 5/8"	1	#1 OCL312	NA	BM 9-16-81	
(2)	A500-GRB	T.S. 4x4x½-5'-10½"	1	#2 T25344	NA	BM 9-16-81	
(3)	A500-GRB	T.S. 4x4x½-8'-2 5/8"	2	#3 T25344	NA	BM 9-16-81	
DF. 9-13-81	~~SA36 GR B~~	~~½" PL 4"x 2'-5"~~	~~2~~	#10 58070	NA	⊛	
(13)	SA36	PL ¾x8x11¼	2	#13 M1901012	NA	BM 9/12/81	
(5)	SA36	1½x14 3/16x1'-5 5/8" C.S.K.	1	#5 369591RE	NA	GKC 9-22-81	
(4)	SA36	1½x17½x17¾ C.S.K.	1 DF 9-15-81	#4 369591	NA 9-15-81	GKC 9-21-81	
(7)		~~XRB REAR BRACKET~~	~~4~~ 1	#7 NF1287	AF-1-~~108~~ KM 018-008-A33R	GKC 9-21-81	
(7)		Rear Bracket	1	NF1287	SW-1-129-087-Y33K	GKC 9-21-81	
(7)		Rear Bracket	1	NF1287	CC-1-087-007-A33R	GKC 9-21-81	
(7)		Rear Bracket	1	NF1124	SI-1-029-050-X32R	GKC 9-21-81	

FABBED ITEM 1, 2, 3, 10 PER PRINT + CMC 8-28-8

FABBED ITEM #13 PER CMC 56639 REV1 9-8-81 JKE

⊛ Verified heat number & material length for 2pcs item 10. BLM 9-9-81

INFORMATION COPY PPRV

AE-1-002-033-4334
HANGER NUMBER

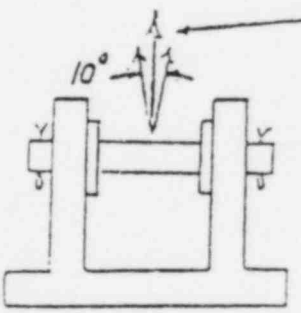
MATERIAL IDENTIFICATION LOG

	Mat'l Spec	Material Description	Quantity	Heat/ID Number	Salvaged Hanger Number (where applicable)	QC Verification & Date	Notes
(10)	SA-36	1½"x9" Shear Lugs	2	518K8015		WTS 9/11/81	
(12)	na	1/4x22 SUPER Hilti's	4	na	SHIMS INSTALLED	Pam	9-14-81
(11)	na	1/4x12 Super Hilti's	4	na	SHIMS INSTALLED	Pam	9-14-81

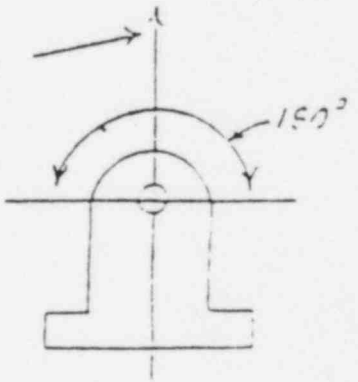
LUGS 1½"Dx9"Lg. / MIL, Fab'd. by R. Foster, 9-11-81

Products covered by this Certified Design Report Summary ...
of WPS Industries' Catalog

Product Name/Part Code		Material	Load Capacity at 150°F (K)		
Rear Bracket/SMRB	Size	Specification	Design Level A/B	Level C	Level D
	1/4	(1), (3)	.35	.51	.51
	1/2	(1), (3)	.65	.86	.86
	1	(1), (3)	1.5	2.10	2.1
	3	(1), (3)	6.0	10.38	10.38
	10	(1), (3)	15.0	20.8	22.1
	35	(2), (3)	50.0	67.2	72.45
	100	(2), (3)	120.0	160.0	160.00



Direction of Applied Load



(4) Size 1/4 ... Non-welded items; Size ... are welded items.

(3) SA-193 B7 ... (HT-1075, HT-1100, HT-1150) pin with carbon steel cotter pins and spacer washers (Code exempt per NF-2121(c)).

(2) SA-36 Bracket

(1) A-668 Class D (per Code Cases 1644-5, 1644-6, N-71-7, N-71-8, N-71-9) or SA-36 bracket.

This Certified Design Report Summary has been prepared by WPS Industries, in accordance with ASME Section III, Subparagraph NCA-3551.1, Code Case N-247 and is applicable for Code Classes 1,2,3 and MC Component supports designed by analysis in compliance with Subsection NF, Article 3000, 1974 Edition and also all ...
...1980 Edition ... Addenda. The Applicable Design Specification (WPSD- ...) and Design Report (WPS-DR-...) are maintained on file at WPS Industries' Quality Assurance Records ...

New Jersey ... Signature: ... Registration No. ...

QAC LOG
5&639 R8 -3 1/5/81
5&639 R9 dw 9/15/81

WDC SERIAL # 45780
DRAWING # AF-1-002-033-Y33K
LINE # NA

MULTIPLE WELD DATA CARD

CPM 9.10-dw 91

ITEM NO.	WPS NO.	REV.	ICN	WELD FILLER MATERIAL	WELD NOS.	P NO.	FABRICATION CODE & CLASS/ ACC STD
NA	11032	7	1	E7018	NA	1-1	ASME III-3

NOTES: 1. APPLICABLE QC/ANI HOLD POINTS SHALL BE INDICATED BY CHECKMARK .
2. ANI INSPECTION POINTS INDICATED BY (X).
3. DENOTE SATISFACTORY INSPECTIONS BY AN "S"; UNSATISFACTORY INSPECTIONS BY A "U".

OPERATION #	OPERATIONS		
1	Support Number Identification	7	Sonerical Bearings
2	Size, Configuration, Tolerance/Dwg.	8	All Welds/Dwg. & WPS (V.T.) *
3	Material Correct/Dwg.	9	Installation Complete
4	Fasteners Correct & Complete	10	Final PT/MT (as required)
5	Location & Elevation/Dwg.	11	
6	Spring Can Stops Installed	12	

PREP. Carol Randall 4/30/81 PRODUCTION RELEASE

WELD NO.	OPERATION	HOLDPOINTS WT	QC	ANI	CONST	SAT OR UNSAT	INSPECTION RESULTS (SIGN & DATE) QC OR WT	NDE CERT LEVEL	ANI	NDEP/ REV.	MT&E # CALIB DUE DATE
NA	1	NA	✓	NC		S	GKC 9-22-81	II			
NA	2	NA	✓	NC		S	GKC 9-22-81	II			
NA	3	NA	✓	NC		S	GKC 9-22-81	II			
NA	4	NA	✓	NC		S	GKC 9-22-81	II			
NA	5	NA	✓	NC		S	GKC 9-22-81	II			
NA	6	NA	✓	NC		NA					
NA	7	NA	✓	NC		*①					
* NA	8	NA	✓	NC		S	GKC 9-22-81	II		NDEP-QAP NO 2-7 ⚠	
NA	9	NA	NA	NC	W DF 9-15-81						

Reviewed: W. Osborne 4/30/81 — JJS 6-30-81

* Fillet Welds Between Items #3 + #6 SAT Per QTQAP 10.2-7A GKC 9-14-81
* Fillet Welds Between Items #5 + #10 SAT Per QTQAP 10.2-7A GKC 9-14-81

*① snubbers not installed } GKC
② grout required - IRM# 24341 } 9-22-81

INFORMATION COPY

IR# 258 PDRV ~~Pipe~~ Issued and Sealed. STRUTS INSTALLED (4) 1"H X 22 S.H. K.B. PDM 9-12-81 (4) 1 X 12 S.H.K.B. PDM 9-14-81

WE L Wyatt 9-16 81 QC ANI 95N 10/5/83

APPROVAL SIGNATURES SHALL BE AFFIXED IN THE LINE IMMEDIATELY BELOW THE LAST STEP IN EACH SEQUENCE.

* Sequence 1 & 2 are Final Inspections

WPS # 11032

WDC Serial No. 45780

Drawing No. AF-1-002-033-Y33K

WELD FILLER MATERIAL LOG Weld No. NA

WELD NO.	DATE	SIZE/CLASS	WELDER SYMBOL	WPS/ICI #	HEAT/LOT # or CODE #	AMT. ISS.	AMT. RT'D.	ISSUANCE APPROVAL
NA	9-12 81	E7018 1/8	BTA	11032 7-1	431L245 026B220	30	0	Don Fields P07
NA	9-12 81	E7018 1/8	BTA	11032 7-1	431L245 026B220	15	0	Don Fields P07
NA	9-14 81	E7018 1/8	BTA	11032 7-1	431L245 026B220	40	0	Don Fields P91
NA	9-14 81	E7018 1/8	BTA	11032 7-1	431L245 026B220	30	0	Don Fields P91
NA	9-21 81	E7018 1/8	BTA	11032 7-1	431L245 026B220	5	3	Don Fields P09
GVC 9-22-81								

CMC LOG	

MULTIPLE WELD DATA CARD

WDC SERIAL # 84461
DRAWING # AF-1-002-033-433K
LINE # NA

ITEM #	WPS #	REV.	ICN	WELD FILLER MATERIAL	WELD NOS.	P NO.	FAB CODE & CLASS ACC STD
NA	1102	10	0	E7018	DOA *	1-1	ASME III-3 CPM 9.10

NOTES: 1. APPLICABLE QC/ANI HOLD POINTS SHALL BE INDICATED BY CHECKMARK
2. ANI INSPECTION POINTS INDICATED BY (X)
3. DENOTE SATISFACTORY INSPECTIONS BY AN "S", UNSATISFACTORY INSPECTIONS BY A "U"

OPERATION #	OPERATIONS		
1	Support Number Identification	7	Spherical Bearings
2	Size, Configuration, Tolerance/Dwg	8	All Welds/Dwg & WPS (VT) QI-QAP 11.1-28 Rev 9
3	Material Correct/Dwg	9	Installation Complete
4	Fasteners Correct & Complete	10	Final PT/MT (As Required) QI-QAP 10.2-1 /.2-2
5	Location & Elevation/Dwg	11	
6	Spring Can Stops Installed	12	

PREP: LONG VO 4/20/83 PRODUCTION RELEASE

WELD NO.	OPERATION	HOLDPOINTS WT	HOLDPOINTS QC	HOLDPOINTS ANI	CONST	SAT or UNSAT	INSPECTION RESULTS (SIGN & DATE) QC or WT	INSPECTION RESULTS (SIGN & DATE) NDE CERT LEVEL	INSPECTION RESULTS (SIGN & DATE) ANI	NDER/ REV	MT & E CALIB. DUE DATE
NA	1	NA	✓	NC		SAT	[illegible] 5/4/83	II			
*	8	NA	✓	NC		SAT	[illegible] 5/4/83	II		A	
NA	9	NA	NA	NA	SC. 4-27-83						
REVIEWED: [illegible] 4/20/83									[illegible] 4-20-83		

grating not required [illegible] 5/4/83

WE W. Cochrane 4/20/83 QC ANI 952 10/5/83

APPROVAL SIGNATURES SHALL BE AFFIXED IN THE LINE IMMEDIATELY BELOW THE LAST STEP IN EACH SEQUENCE.

* Operations 1-8 are Final Inspections.

INSTALLATION TO BE IN ACCORDANCE WITH PROCEDURES REFERENCED IN CPM-6.11

MODIFICATION PACKAGE
PER PRINT R 2 LV 4/20/83

Description of Activities *

Objective: Run well size

Run MKE-AF-1-002-033-433K (2)

add well filler rods as needed to obtain indicated well size between item # 9 (run bottom) and item # 2 @ 3(2).

JPF 4-20-83 GEH 4-19-83

* THE ABOVE ACTIVITIES NEED NOT BE PERFORMED IN ANY SEQUENTIAL ORDER

WPS #
11032

MDC Serial No. 84461

Drawing No. AE-1-002-033-433K

WELD FILLER MATERIAL LOG Weld No. NA

WELD NO.	DATE	SIZE/CLASS	WELDER SYMBOL	WPS/ LOT #	HEAT/LOT # or CODE #	AMT. ISS.	AMT. RT'D.	ISSUANCE APPROVAL
N/A	4/26/83	3/32 E-7018	DR	11032 10-0	[illegible] 03686-43	60	48	[illegible]
N/A	4/27/83	3/32 E-7018	DR	11032 10-0	81805 02686-03	40	3	[illegible] P 189

MODIFICATION PACKAGE

PER PRINT R 2 W 4/20/83

QUALITY CONTROL

HANGER INSPECTION REPORT

QI-QAP-11.1-28 Rev. 19
QI-QAP-10.2-1 Rev. N/A
QI-QAP-10.2-2 Rev. N/A
QI-QAP-11.1-26 Rev. N/A

IDENTIFICATION:

Hanger No. (1) AF-1-002-033-Y33KV Class (2) 3
Drawing No. Rev. (3) 2

I. MATERIAL ACCEPTABILITY PER DRAWING AND NOTED ON M.I.L.

(4) N/A
Inspector Level Date

II. INSTALLATION COMPLETE PER DRAWING

(5) M Kaplan II 5/4/93
Inspector Level Date

a. Comments:

(i.e.) Snubber Not Installed N/A
Star Stem N/A
Slight Holes N/A

III. WELDING PER DRAWING INCLUDING ATTACHMENTS

a. All weld per procedure/drawing (6) M Kaplan II 5/4/93
Inspector Level Date

b. ADDITIONAL NDE c. HEAT ITEM N/A
Inspector Level Date

(7) N/A
Process Report Rev. N/A
Inspector Level Date

Process Report Rev. N/A
Inspector Level Date

COMMENTS: (8) N/A

NCRs: (9) N/A

WELD INSPECTION CHECK-[illegible]-LIST

HANGER/DWG. AF-1-002-033-Y33k REV. 2 [illegible] CMC _____ REV. _____

[illegible] CMC _____ REV. _____

[illegible] CMC _____ REV. _____

WELD NO.	SIZE	QCI/DATE	DWG. or CMC	COMMENTS
1	7/16	[illegible] 5/4/83	Dwg	
2	7/16	[illegible] 5/4/83	Dwg	
3	7/16	[illegible] 5/4/83	Dwg	
4	7/16	[illegible] 5/4/83	Dwg	
5	5/16+	[illegible] 5/4/83	Dwg	
6	5/16+	[illegible] 5/4/83	Dwg	

CO. .NCHE PEAK STEAM ELECTRIC STATIC .

INSPECTION REPORT

SHEET 1 OF 1

NO AIR 0125 1

ITEM DESCRIPTION	IDENTIFICATION NO.	SYSTEM/STRUCTURE DESIGNATION
VCD INSPECTION 2	R-2 AF-1-002-033-Y33K 3	AF- SG # 1 4

SPEC. NO.	REV.	REF. Q.C. DOC. & REV. & CHANGE NO.	MEASURE OR TEST EQUIP. IDENT. NO.
N/A 5	N/A 6	CP-QAP-12.1 C-9 7	N/A 8

☒ IN PROCESS INSPECTION ☐ PRE INSTALLATION VERIFICATION ☐ INSTALLATION INSPECTION ☐ FINAL INSPECTION ☐ PRE TEST INSPECTION 9

INSP. RESULTS

☐ INSPECTION COMPLETED, ALL APPLICABLE ITEMS SATISFACTORY

☒ INSPECTION COMPLETED, UNSATISFACTORY ITEMS LISTED BELOW

H Harper 9-7-83
QC INSPECTOR DATE 10

ITEM NO. 11	INSPECTION ATTRIBUTES 12	SAT	UNSAT	DATE	QC SIGNATURE 13
(1)	Spherical bearing ON SNUBber #14699 ~~ITE~~ IS dislodged from EYERod END.		X	9-9-83	

ARLS
INDEXED
DATE:

REMARKS (DWGS. SPECS. ETC.)

C-29

RELATED NCR NO 15	I.R. CLOSED ☒	DATE	SIGNATURE 14
N/A		9-9-83	QC INSPECTOR 16

J#3095

COMANCHE PEAK STEAM ELECTRIC STATION

INSPECTION REPORT

SHEET 1 OF 1

NO. IR-M-01057

1 ITEM DESCRIPTION	2 IDENTIFICATION	3 SYSTEM / STRUCTURE DESIGNATION	4
BEARING RESTAKED	AF-1-002-033-Y33K	AF-SB1 800EL	

SPEC. NO.	REV.	REF. DOC. & REV. & CHANGE NO.	MEASURE OR TEST EQUIP. DEVT. NO.
N/A	N/A	CP-QAP 11.1-28A 4	N/A

☑ IN PROCESS INSPECTION ☐ PRE INSTALLATION VERIFICATION ☐ INSTALLATION INSPECTION ☐ FINAL INSPECTION ☐ PRE TEST INSPECTION

INSP. RESULTS

☑ INSPECTION COMPLETED, ALL APPLICABLE ITEMS SATISFACTORY

☐ INSPECTION COMPLETED, UNSATISFACTORY ITEMS LISTED BELOW

William W. Atkins 9-9-83
QC INSPECTOR DATE

ITEM NO.	INSPECTION ATTRISUTES	SAT	UNSAT	DATE	QC SIGNATURE
	A. Eye rod hole not deformed	✓			
	B. Bearing race center and staked	✓			
	C. Bearing free from dirt, rust, foreign material	✓			
	D. Bearing gimbals freely	✓			
	E. Record support Mark Number (Identification Number, Item 3) AF-1-002-033-Y33K	✓			

ARMS INDEXED

DATE:

INFORMATION COPY PPRV

REMARKS (DWGS, SPECS, ETC.)

RELATED NCR NO. I.R CLOSED DATE SIGNATURE
QC INSPECTOR

Card Serial # 82656

Previous Hanger # NA

(B) Component Serial # 1542-11-4

CIC Log: 5-6639R-5T

With Kit

Vendor Supplied Component Modification Record

per CMC

Original Hanger # NA

Designated Hanger # AF-1002-033-H331

(B

ITEM NO.	NPS NO.	REV	TCH	WELD FILLER MATERIAL	WELD NOS.	P NO.	FAB CODE & CLASS/ACC. STD.
9	11032	18	0	E7018	1	1-1	ASME III-2 CPM-9.17

NOTES: 1. APPLICABLE QC/ANI HOLD POINTS SHALL BE INDICATED BY CHECKMARK. AKS 3/18/83
2. ANI INSPECTION POINTS INDICATED BY (X).
3. DENOTE SATISFACTORY INSPECTIONS BY AN "S"; UNSATISFACTORY INSPECTIONS BY A "U".

OPERATION #	OPERATIONS
1	Material Documented on MIL
2	ID Marking Transfer
3	Fit-up
4	Final Dimension
5	Final VT QI-QAP 11.1-28 A
6	Final PT/MT QI-QAP 10.2-1/10.2-2
7	Verification of Code Plate Transfer

DISPOSITION OF CODE PLATE
☐ RELOCATED ☐ TO QC
NA Mahlke 3-21-83
(QC INSPECTOR) (DATE)

PREP: AKS 3/18/83

PRODUCTION RELEASE

WELD NO.	OPERATION	HOLD POINTS WT	QC	ANI	CONST	SAT OR INSPECTION RESULTS (SIGN & DATE) UNSAT	QC OR WT	NDE CERT LEVEL	ANI	Rev.
NA	2	NA	✓	NC		Sat DM Mahlke 3-21-83 II				
1	3	NA	✓	NC		Sat DM Mahlke 3-21-83 II				
NA	4	NA	✓	NC		SAT K Hove 3/21/83 II				1
1	5	NA	✓	NC		Sat DM Mahlke 3-21-83 II				1
NA	7	NA	✓	NC		*				
AKS 3/18/83 Review G. Master 3/18/83									QLG 3-18-83	

* Operation #7 NA Mahlke 3-21-83

WE A.K. Alm 3/22/83 QC ANI VST 10/5/83

APPROVAL SIGNATURES SHALL BE AFFIXED IN THE LINE IMMEDIATELY BELOW THE LAST STEP IN EACH SEQUENCE.

INSTALLATION TO BE IN ACCORDANCE WITH PROCEDURES REFERENCED IN CPM-6.11

PRODUCTION RELEASE

WELD NO	OPER-ATION	HOLDPO WT	HOLDPO QC		CONST	SAT OR UNSAT	INSPECTION RESULTS (SIGN & DATE) QC OR WT	NDE CERT. LEVEL	ANI		

WE

QC

ANI

WPS # 11032

WDC Serial No. 82656

Hanger No. AF-1-002-033-Y33K(B

Serial No 15427-11-45

WELD FILLER MATERIAL LOG

WELD NO.	DATE	SIZE/CLASS	WELDER SYMBOL	WPS/ICI #	HEAT/LOT # or CODE #	AMT. ISS.	AMT. RTD.	ISSUANCE APPROVAL
	3/21/93	3/32 E-7018	CDP	11032 10-0	81805 026B643	10	0	P110

INFORMATION
COPY
RPRV

Card Serial # 82657

Previous Hanger # NA

(A) Component Serial # 15427-11-16

w/ Hg Kit

Vendor Supplied Component Modification Record

Original Hanger # NA

Designated Hanger # AF-1-002-033-Y33K

QIC DOC
66639R-5

ITEM NO.	NPS NO.	REV.	ICH	WELD FILLER MATERIAL	WELD NOS.	P NO.	FAB CODE & CLASS/ACC. STD.
9	11032	10	0	E7018	1	1-1	ASME III-2 CPM-9.1

NOTES: 1. APPLICABLE QC/ANI HOLD POINTS SHALL BE INDICATED BY CHECKMARK.
2. ANI INSPECTION POINTS INDICATED BY (X).
3. DENOTE SATISFACTORY INSPECTIONS BY AN "S"; UNSATISFACTORY INSPECTIONS BY A "U".

ANI 3/18/83

OPERATION #	OPERATIONS
1	Material Documented on MIL
2	ID Marking Transfer
3	Fit-up
4	Final Dimension
5	Final VT QI-QAP 11.1-28 A
6	Final PT/MT QI-QAP 10.2-1 / 10.2-2
7	Verification of Code Plate Transfer

DISPOSITION OF CODE PLATE
☐ RELOCATED ☐ TO QC
NA M. Holder 3-21-83
(QC INSPECTOR) (DATE)

PREP: AK 3/18/83 PRODUCTION RELEASE

WELD NO.	OPERATION	HOLD POINTS VT	QC	ANI	CONCT	SAT OR INSPECTION RESULTS (SIGN & DATE) UNSAT	QC OR VT	NDE CERT LEVEL	ANI	Rev.
NA	#2	NA	✓	NC		Sat. M. Holder 3-21-83		II		
1	3	NA	✓	NC		Sat. M. Holder 3-21-83		II		
NA	4	NA	✓	NC		SAT R Bauer 3/21/83		II		
1	5	NA	✓	NC		Sat. M. Holder 3-21-83		II		1
NA	7	NA	✓	NC		*				
Review B. Montero 3/18/83									PHG 3/18/83	

* Operation # 7 NA M. Holder 3-21-83

F'ls 3/28/83

INFORMATION COPY PPRV

QC AK. Glen 3/28/83 ANI

APPROVAL SIGNATURES SHALL BE AFFIXED IN THE LINE IMMEDIATELY BELOW THE LAST STEP IN EACH SEQUENCE.

INSTALLATION TO BE IN ACCORDANCE WITH PROCEDURES REFERENCED IN CPM-6.11

PRODUCTION RELEASE

WELD NO	OPER-ATION	HOLD PO WT	HOLD PO QC	CONST	SAT OR UNSAT QC OR WT	INSPECTION REJ NDE QCI LEVEL	(SIGN & DATE) ANI

WE QC ANI 82657

WPS # 11032

WDC Serial No. _____

Hanger No. AF-2-002-033-Y331K (A.

WELD FILLER MATERIAL LOG Serial No 5427-11-10

WELD NO.	DATE	SIZE/CLASS	WELDER SYMBOL	WPS/PCI #	HEAT/LOT # or CODE #	AMT. ISS.	AMT. RTD.	ISSUANCE APPROVAL
1	3/21/83	3/32 E-7018	CDP	11032 10-0	81805 026B643	10	0	P110

QC CHECKLIST FOR REMOVAL
AND REINSTALLATION OF SNUBBERS

I-QAP-11.1-28A Rev. 4

REMOVAL:

PARA.	OP.NO.	OPERATION
10.4.1	1.	Hanger # AF-1-002-033-V33K
10.4.1	2.	IRN # M734
10.4.1	3.	Snubber Serial # 14699
10.4.1	4.	Pin to Pin Dimension (Snubber Fully Compressed) 35 1/8"
10.4.1	5.	Physical Damage BEARING DISLODGED
		QCI/DATE Phillip W Adkins 9-9-83

REINSTALLATION:

PARA.	OP.NO.	OPERATION
10.4.2	1.	Snubber Serial # 14699
10.4.2	2.	Snubber Operation SAT
10.4.2	3.	Physical Damage NONE
10.4.2	4.	Pin to Pin Dimension (Snubber Fully Compressed) 35 1/8"
10.4.2	5.	Torque of Adjustable Eye Rod Jam Nut
		M&TE N/A VALUE N/A
		Reinstallation Complete QCI Phillip W. Adkins DATE 9-9-83
		QC Supervision Review _____ DATE _____
		QCI N/A
		COMMENTS: BEARING RESTAKED PER TE-M-01057 QHA 9-9-83.

QC CHECKLIST FOR SNUBBER INSTALLATION

QI-QAP 11.1-28A , REV. 2

PARA.	OP. NO.	OPERATION	QCI/DATE	SAT/UNSAT
		Reinstallation per tRR# 009422		
N/A	1.	Hanger # AF-1-002-033-Y33K(B)	M. Holden 5-24-83	Sat.
N/A	2.	Snubber Serial # 14699 MK# previously verified per original Checklist	M. Holden 5-24-83	Sat.
5.7.2		SNUBBER OPERATION:		
	3.	Snubber Size 10	M. Holden 5-24-83	Sat.
	4.	Stroke Length 6"	M. Holden 5-24-83	Sat.
8.0	5.	Torque of Transition Kit or Forward Bracket:		
		M T & E _____ VALUE _____	MH 5-24-83	NA
8.0	6.	Torque of Adjustable Eye Rod End Jam Nut:		
		M T & E CT1717 15 Jun 83 100 FT/LBS	L. Shaw 5-24-83	SAT
5.7.1	7.	Torque of Ring Nut (35 & 100 Only)		
		M T & E _____ VALUE _____	MH 5-24-83	NA
5.7.1	8.	Relative Angle Adjustment (If Required)	MH 5-24-83	NA
5.7.2	9.	Reverify Snubber Operation:		
		Stroke Length _____	MH 5-24-83	NA
3.1		MATERIAL I. D. (As Applicable)		
	10.	Forward Bracket _____	MH 5-24-83	NA
	11.	(Bulk) Base Plate _____	MH 5-24-83	NA
		(Bulk) Forward Bracket Eye _____	MH 5-24-83	NA
	12.	Transition Kit _____	MH 5-24-83	NA
	13.	Adapter Plate _____	MH 5-24-83	NA
	14.	Eye Rod _____	MH 5-24-83	NA
	15.	Coupling Nut _____	MH 5-24-83	NA
	16.	Barrel _____	MH 5-24-83	NA

QC CHECKLIST FOR SNUBBER INSTALLATION (Continued) Page 2 of 2

QI-QAP 11.1-28A, REV. 2

PARA.	OP. NO.	OPERATION AF-1-002-033-Y33K (6)	QCI/DATE	SAT/UNSAT
3.1.1	17.	(100 Only) Spherical Bearing Pins	MK 5-24-83	NA
	18.	(35 & 100 Only) Eye Rod Jam Nut	MK 5-24-83	NA
	19.	(If Visible) Pipe Clamp	MK 5-24-83	N/A
	20.	(If Visible) Rear Bracket NF1287(2 plcs)	DShaw 5-24-83	SAT
5.6	21.	Verification of Full Thread Engagement Of Eye Rod In Coupling Nut	DShaw 5-24-83	SAT
5.6	22.	C-C Dimension	DShaw 5-24-83	SAT
5.6	23.	A-C Dimension per DWG.	DShaw 5-24-83	SAT
4.4		ACTUAL WELD SIZES (Modifications Only)		
	24.	Transition Kit	MK 5-24-83	NA
	25.	Forward Bracket	MK 5-24-83	NA
5.2	26.	Minimum Thread Engagement Complies With Attachment 10.	MK 5-24-83	NA
	27.	Installation Complete	DShaw 5-24-83	SAT
	28.	QC Supervision Review	Bagan 5/31/83	Sat
N/A		NCR	MK 5-24-83	N/A

COMMENTS DWG REV #2 DShaw 5-24-83

NOTE: ANY OPERATIONS THAT ARE NOT APPLICABLE MUST BE MARKED "NA", INITIALED AND DATED BY THE QCI.

QC CHECKLIST FOR SNUBBER INSTALLATION

QI-QAP 11.1-28A , REV. 2

PARA.	OP. NO.	OPERATION	QCI/DATE	SAT/UNSAT
		Reinstallation per FRN# 009422		
N/A	1.	Hanger # AF-1-002-033-Y33K(A)	M Hobbs 5-24-83	Sat.
N/A	2.	Snubber Serial # 14713 NR# previously verified per original checklist	M Hobbs 5-24-83	Sat.
5.7.2		SNUBBER OPERATION:		
	3.	Snubber Size 10	M Hobbs 5-24-83	Sat.
	4.	Stroke Length 6"	M Hobbs 5-24-83	Sat.
8.0	5.	Torque of Transition Kit or Forward Bracket:		
		M T & E _____ VALUE _____	MH 5-24-83	NA
8.0	6.	Torque of Adjustable Eye Rod End Jam Nut:		
		M T & E CT 1717 15 Jun 83 100 Ft/lbs	[illegible] 5-24-83	SAT
5.7.1	7.	Torque of Ring Nut (35 & 100 Only)		
		M T & E _____ VALUE _____	MH 5-24-83	NA
5.7.1	8.	Relative Angle Adjustment (If Required)	MH 5-24-83	NA
5.7.2	9.	Reverify Snubber Operation:		
		Stroke Length _____	MH 5-24-83	NA
3.1.1		MATERIAL I. D. (As Applicable)		
	10.	Forward Bracket _____	MH 5-24-83	NA
	11.	(Bulk) Base Plate _____	MH 5-24-83	NA
		(Bulk) Forward Bracket Eye _____	MH 5-24-83	NA
	12.	Transition Kit _____	MH 5-24-83	NA
	13.	Adapter Plate _____	MH 5-24-83	NA
	14.	Eye Rod _____	MH 5-24-83	NA
	15.	Coupling Nut _____	MH 5-24-83	NA
	16.	Barrel _____	MH 5-24-83	NA

QC CHECKLIST FOR SNUBBER INSTALLATION (Continued) Page 2 of 2

QI-QAP 11.1-28A, REV. 2

PARA.	OP. NO.	OPERATION AF-1-002-033-Y33K(B)	QCI/DATE	SAT/UNSAT
3.1.1	17.	(100 Only) Spherical Bearing Pins	MA 5-24-83	NA
	18.	(35 & 100 Only) Eye Rod Jam Nut	MA 5-24-83	NA
	19.	(If Visible) Pipe Clamp NA 5-24-83	5-24-83	N/A
	20.	(If Visible) Rear Bracket NF1124 NF1287	LBhaw 5-24-83	SAT
5.6	21.	Verification of Full Thread Engagement Of Eye Rod In Coupling Nut	LBhaw 5-24-83	SAT
5.6	22.	C-C Dimension	LBhaw 5-24-83	SAT
5.6	23.	A-C Dimension per DWG.	LBhaw 5-24-83	SAT
4.4		ACTUAL WELD SIZES (Modifications Only)		
	24.	Transition Kit	MA 5-24-83	NA
	25.	Forward Bracket	MA 5-24-83	NA
5.2	26.	Minimum Thread Engagement Complies With Attachment 10.	MA 5-24-83	NA
	27.	Installation Complete	LBhaw 5-24-83	SAT
	28.	QC Supervision Review	[illegible] 5/24/83	Sat
N/A		NCR	5-24-83	N/A

COMMENTS DWG REV #2 LBhaw 5-24-83
QI-QAP 11.1-28A R-2
Spherical Bearing Rotated M. Hall 5-24-83

NOTE: ANY OPERATIONS THAT ARE NOT APPLICABLE MUST BE MARKED "NA", INITIALED AND DATED BY THE QCI.

ARMS INDEXED

DATE:

ATTACHMENT 1

PERM. PLT. RECORD

RTN	FILE LOC.
L	17.1.04.13

SUBFILE LOC.
SW-1-173-716-Y33K

DOCUMENTATION CHECK LIST

PACKAGE MARK NO. SW-1-173-716-Y33K 3

NUMBER OF PAGES	TYPE OF DOCUMENT
1. NA	Manufacturing Record Sheet (MRS)
2. 3	Weld Data Card (WDC) Weld No(s). NA
3. 4	Weld Filler Material Log (WFML)
4. 4	Material Identification Log (MIL)
5. NA	Non-Destructive Examination Report (NDER)
6. 2	Inspection Report (IR)
7. 1	Nonconformance Report (NCR)
8. NA	Vendor Documentation
9. 1	Repair Process Sheet (RPS) Weld No(s) NA
10. 1	Operation Traveler (OT)
11. 2	Drawing (including CMC)
12. NA	Material Requisition (MR)
13. 5	Miscellaneous (Describe Below) 1 ATTACHMENT 5 1 NPSI DATA SHEET 1 Weld Checklist 2 swagelok Checklist

INFORMATION COPY PPRV

This documentation has been reviewed and accepted per CP-QAP-18.2 and [illegible] certified as-built drawing.

This HANGER HAS BEEN Researched AND HAS NO Evidence of OPEN NCR'S MA 9-30-83

QES Representative M Holder

Date 9-30-83

23 Total number of pages in package

ANI QSV

DATE 10/9/83

FOIA-85-59

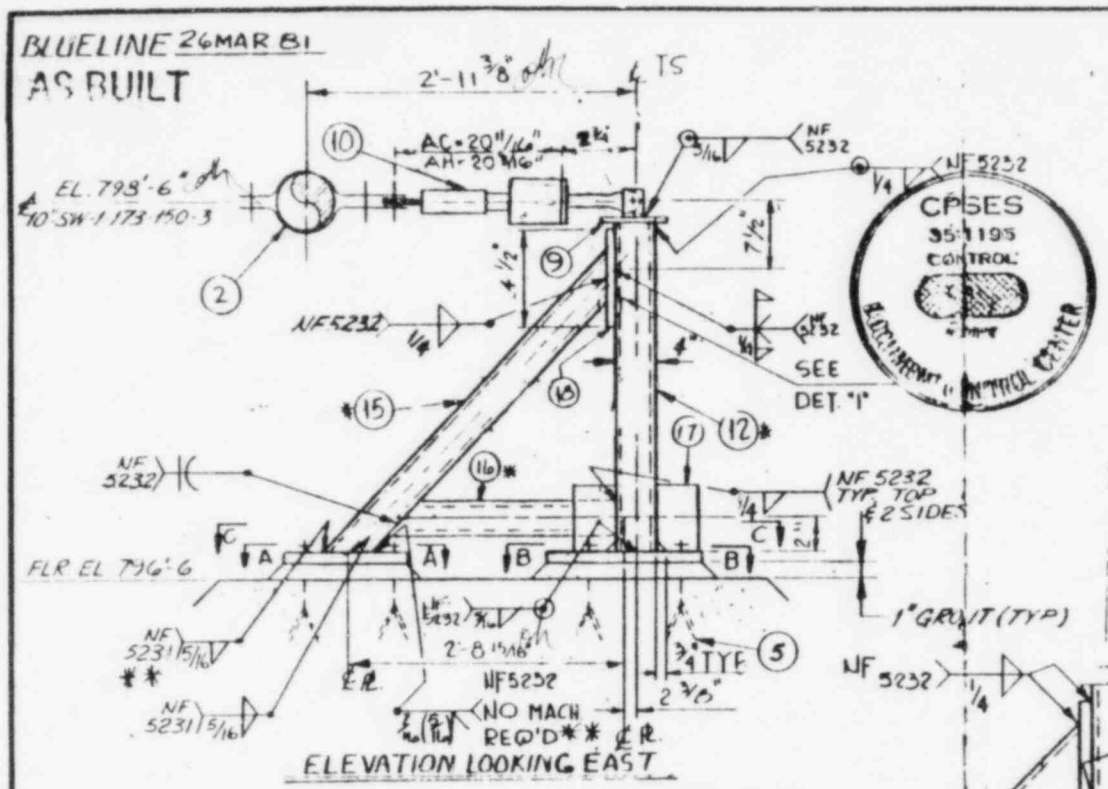
B/453

X

17 TO 7
4R

CHECK CURRENT REVISION OF DCA-5021 FOR HANGER CLASSIFICATION.

BLUELINE 26MAR81
AS BUILT



ITEM NO	QTY REQ'D	MATERIAL DESCRIPTION	PBS	BS	PRIM	SEC	AISC
1	1	SNUBBER NO SUBSTITUTE AC=22 11/16"		X	X		
3	1	TS 4"x4"x1/4"x4'-1 1/2" A-500, GR B	X		X		
4	1	TS 6"x6"x1/4"x2'-1" A-500, GR B	X		X		
5	8	1"x12" SUPER HILTI KWIK CONCRETE ANCHORS 8 1/2" MIN. EMBED		X			
6	1	C.S.P. 1"x21 1/2"x21" SA36 PER SECT A-A	X		X		
7	1	C.S.P. 1"x16"x18 1/2" SA36 SECT. B-B	X		X		
8	1	SPC-14-100 PIPE CLAMP		X			
9	1	C.S.P. 3/8"x5"x5" SA36		X			
10	1	C.S. PLATE 3/8"X5"X7"LG. SA-36 SA515/GR65	X		X		
11	1	SNF-10 RD SLEEVE		X			
12	1	TS 4"x4"x1/4"x3'-5 3/4"LG A-500 GRB	X		X		
17	1	TS 6"x6"x1/4"x 1'-8 3/16"LG A-500 GRB	X		X		
18	1	TS 4"x4"x1/4"x 2'-4 3/4"LG. A-500 GRB	X		X		
14	2	C.S.P. 1"x8"x 20" LG SA-36	X		X		
15	1	TS 3"x3"x1/4"x3'-0"LG A500GRB		X			
16	1	TS 3"x3"x1/4"x3'-0"LG A500GRB		X			
17	4	1/2" C.S.P. 6"x6" SA36/SA515GR65		X			
18	1	3/4" C.S.P. 4 1/2"x7" SA36/SA515GR65		X			

REV	DESCRIPTION	DATE	DWN	CHKD	APPVD
A	REVD AS NOTED PER CCAR SW-1-YD-A1607	5/15	[illegible]	EB	[illegible]
CONT	SEE SHT 2 "AS BUILT"	—	—	—	—
1	[illegible]	—	—	—	—

ASME CODE EDITION: 1974
ADDENDA: WINTER
DESIGN SPEC: MS-46A

NORM. OPER. DISPL.

DX	-.951
DY	-.010
DZ	-.144

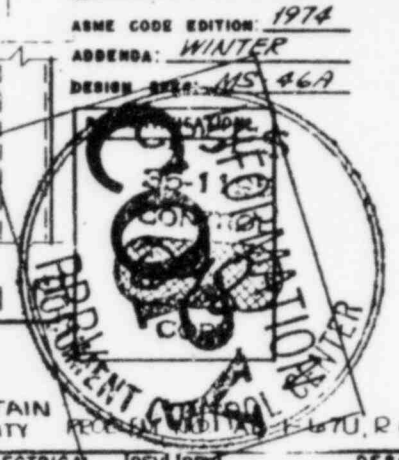
NOTES:
2) [illegible]

VENDOR CERTIFIED
DRAWING REV. NO. 3
BY [illegible] DATE 6-7-83

*FIELD TRIM TO SUIT T.O. 402

Detail

** NOT REQ. TO MAINTAIN STRUCTURAL INTEGRITY



LOCATION PLAN

REV	DESCRIPTION	DATE	DWN	CHKD	APPVD
3	REV'D VENDOR CERT.	6/28	RD	CEH	CEH

DATA PT	SUPPORT LOADS (LBS) DESIGN	SERVICE LEVEL A	B	C	D	PIPE MVTS INCHES
80						
VERT	—	—	±8125	±12043	—	
N-S	—					
E-W						

NOTE +N,E,UP -S,W,DN

AUTHORIZED NUCL. INSP. YES [X] NO [ ]
ASME CODE CLASS III

REF DWGS

		REV		REV		REV
BEIL. ISO	SW-1-YD-09	4	MECHANICAL MI-1002	15	ELECTRICAL EI-1022	4
FAB. ISO	SW-1-YD 09	2	STRUCTURAL SI-0318	8	H.V.A.C.	REV

Brown & Root, Inc.
ENGINEERS AND CONSTRUCTORS
HOUSTON, TEXAS

CLIENT T.U.S.I.
PLANT COMANCHE PEAK
JOB NO. 2323

REV	DESCRIPTION	DATE	DWN	CHKD	APPVD
A	REVD AS NOTED PER FIELD MODIFIED	3/26-81	[illegible]	EB/LTB	[illegible]
CONT	HANGER SKETCH, DELETED NTL ACCESS HTE	—	—	—	—
0	RELEASED FOR CONSTRUCTION	1-9-81	KEN	RC	[illegible]

SUPPORT NO. SW-1-173-716-Y33K
SHEET 1 OF 2 REV. 3

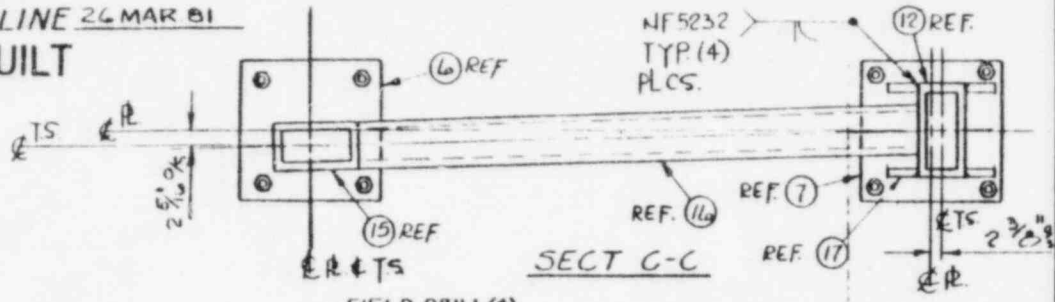
9565

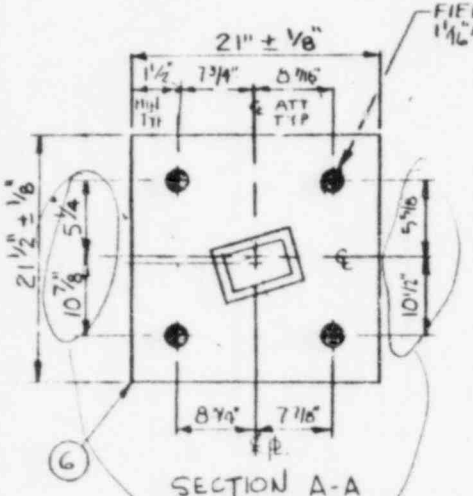
SW2

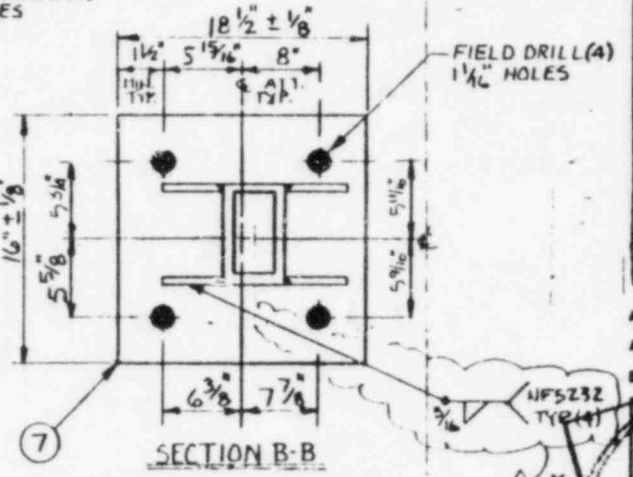
CHECK CURRENT REVISION
OF DCA-5021 FOR HANGER
CLASSIFICATION.

BLUELINE 26 MAR 81

AS-BUILT







★ CHANGE NOT MADE BY CMC

VENDOR CERTIFIED
DRAWING REV. NO. 3
BY MS DATE 6-7-83

Wrong-Set Sheet 6

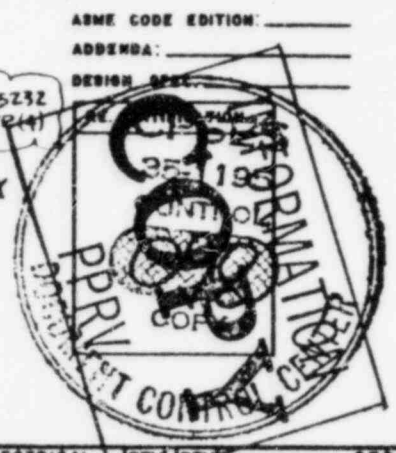
T.O.# 402

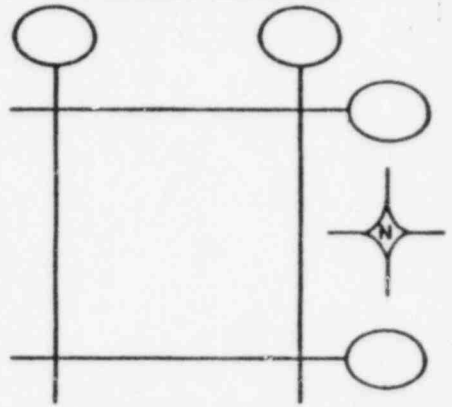
ITEM NO	QTY REQ'D	MATERIAL DESCRIPTION	P.B.S.	L.S.S.	PRIM.	SEC.	A.I.S.C.

REV	DESCRIPTION	DATE	DWN.	CHKD.	APPVD.
3	REV'D VENDOR CERT.	6/7/83	R.D.	CBM	MCJ

REV	DESCRIPTION	DATE	DWN.	CHKD.	APPVD.
2	REVISED PER CMC 500 SCR 91 DCA 7/6/83	7/7/83	[illegible]	FD	[illegible]
1	PER MC "AS BUILT"	~	~	~	~
Orig	[illegible]	~	~	~	~

ASME CODE EDITION: _____
ADDENDA: _____
DESIGN SPEC: _____





LOCATION PLAN

DATA PT	SUPPORT LOADS (LBS) DESIGN	SERVICE A	SERVICE B	LEVEL C	LEVEL D	LIMITS	PIPE MVTS (INCHES)
VERT							
N-S							
E-W							

NOTE: +N, E, UP -S, W, DN

AUTHORIZED NUCL. INSP. YES [X] NO [ ]
ASME CODE CLASS ASME III-3

REF DWGS		REV	MECHANICAL	REV	ELECTRICAL	REV
	PSIL 130		MI-1002	15	E1-1022	4
	FAB. 130	REV	STRUCTURAL	REV	H.V.A.C.	REV
	SW-1-YD-010	2	91-0318	8		

REV	DESCRIPTION	DATE	DWN.	CHKD.	APPVD.
3	ISSUED FOR CONST REF: FIELD	3-24-81	[illegible]	[illegible]	[illegible]
2	MODIFIED HANGER SKETCH, DELETED NT 1	~	~	~	~
1	COUT ABOVE	~	~	~	~

Brown & Root, Inc.
ENGINEERS AND CONSTRUCTORS
HOUSTON, TEXAS

CLIENT T.U.S.I.
PLANT COMANCHE PEAK
JOB NO. 2323

SUPPORT NO. SW-1-173-716-Y33K
SHEET 2 OF 2 REV. 3

ATTACHMENT 5

SW-1-173-716-Y33K R-3
Support Drawing Number/Revision

Page 1 of 1

QUALITY CONTROL
COMPONENT SUPPORT CHECKLIST

CP-QAP-12.1 Rev. 7

PARA.	OP.NO.	INSPECTION CRITERIA	QCI/DATE	SAT/UNSAT
3.5	1.	Support Configuration complies with Vendor Certified or Design Reviewed Drawing (VCD/DRD)	7-6-83	SAT
N/A	2.	Structural member cut lengths comply with Reference dimensions ± 2"	7-6-83	SAT
N/A	3.	Baseplate attachment tolerances (excluding thickness) comply with the VCD/DRD ± ½"	7-6-83	SAT
N/A	4.	Working point dimensions locating structural components comply with the VCD/DRD ± 1" (except for pipe location tolerances)	7-6-83	SAT
3.5.1	5.	a) All accessible welds reinspected and are in compliance with VCD/DRD.	8-30-83	SAT
		b) All skewed welds have been reinspected and are in compliance with the VCD/DRD.	7-6-83	N/A
3.5.3	6.	Snubber(s) Serial Number 10187 a) Nuts, bolts, cotter pins, lock wire, etc. installed where required.	7-6-83	SAT
		b) Exposed threaded surfaces are free of excessive rust or foreign material.	7-6-83	SAT
		c) Spherical bearings are free of foreign material, and spacer(s) are installed as required.	7-6-83	SAT
N/A	7.	Strut(s) (if applicable) Serial number 7-6-83 N/A a) Nuts, bolts, cotter pins, lock wire, etc. installed where required.	7-6-83	N/A
		b) Exposed threaded surfaces are free of excessive rust or foreign material.	7-6-83	N/A
		c) Spherical bearings are free of foreign material	7-6-83	N/A
		d) Jam nut(s) and barrel will move with by hand, using nominal applied force.	7-6-83	N/A
3.5.3	8.	Spring Can(s) (if applicable) Serial number 7-6-83 a) Nuts, bolts, cotter pins, lock wire, etc. installed where required.	7-6-83	N/A
		b) Exposed threaded surfaces are free of excessive rust or foreign material.	7-6-83	N/A

ATTACHMENT 5

SW-1-173-716-433K R-3
Support Drawing Number/Revision

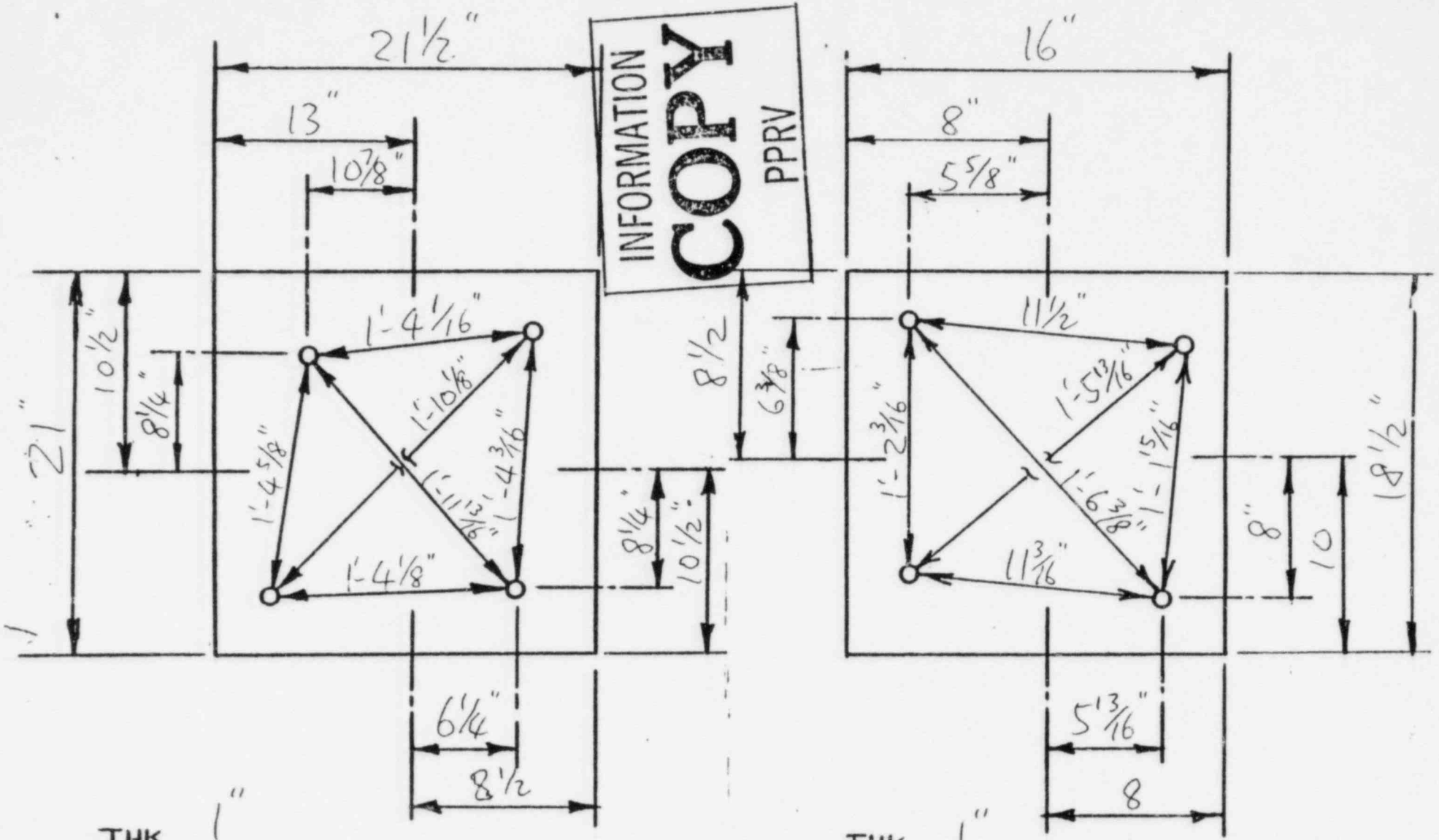
QUALITY CONTROL
COMPONENT SUPPORT CHECKLIST

CP-QAP-12.1 Rev. 7

PARA.	OP.NO.	INSPECTION CRITERIA	QCI/DATE	SAT/UNSAT
N/A	9a.	Concrete Expansion anchors embedment/engagement complies with drawing or Attachment 5B.	7-6-83	SAT
	9b.	Concrete inserts have proper embedment/engagement (2D + 1/8").	7-6-83	N/A
ATTACH. 5B	10.	Installation of U-bolts on large bore/small bore supports shall be inspected as follows:		
		1) U-bolts used in pinned connection application (i.e., struts and snubbers) are to be installed on the pipe as shown in Figure 1 for large bore supports.	7-6-83	N/A
		2) U-bolts on rigid frames, (large bore) shall be installed as shown in Figure 2.	7-6-83	N/A
		3) U-bolts on small bore supports shall be installed as shown in Figure 1 as specified on the hanger drawing.	7-6-83	N/A
3.5.2	11.	Clearances must be verified if:		
		a) The support configuration is modified by design change.	7-6-83	N/A
		b) The support is being reinstalled following removal to accomplish a design change or other construction; or	7-6-83	N/A
		c) Directed by Engineering.	7-6-83	N/A
N/A	12.	Remarks:		

Undersized welds NCR M-9565

SAT per closure of NCR M-9565 J.S 8-30-83



THK 1"

SEC. OR ITEM A-A

HOLE DIA. 1 1/16"

THK 1"

SEC OR ITEM B-B

HOLE DIA. 1 1/16"

SW-1-173-716-Y33K

HANGER NUMBER

MATERIAL IDENTIFICATION LOG

* Correction of witness for clarification. BLM 5-20-81

	Mat'l Spec	Material Description	Quantity	Heat/ID Number	Salvaged Hanger Number (where applicable)	QC Verification	Date
(6)	~~SA-36~~ or SA515 GR 65	C.S.R 1" x 21 x 21½"	1	A-A #6 4G3726	NA	RW	4-13-81
(7)	↓	C.S.R 1" x 16" x 18½"	1	B-B #7 4G3726	NA	RW	4-13-81
	—						
(5)	—	1" x 12" SUPER HILTI'S	8	NA #13	SHIMS INSTALLED	QCM	4-8-81
	A500B	~~4 x 4 x T.S. 4' 1½"~~	~~1~~	329760 #2	NA	RW 4-13-81	4-13-81
(12)	A500B	4 x 6 x ¼ T.S. 2' 1"	1	C92004 #8	NA	RW	4-13-81
	~~SA36~~	~~36" plate 5" x 5"~~	~~1~~	~~368102~~ #9	NOT used deleted		
(9)	SA36	⅜ PL 5" x 7"	1	398116	NA	RW	4-13-81
		REAR BRACKET	1	NH4142 #2	NA	RW	4-13-81
(2)		PIPE CLAMP	1	2549NF	NA	RW	4-13-81

IB 4-9-81

INFORMATION COPY

FABBED SECT. A-A, B-B #11 #12 J.R.Q. SA 4-9-81 3-5-81

Jabbed Item 2" x 8" JRN 4-7-81

Jobbed #9 per CMC 50930 4-9-81 JRB

4-10-81 JW

SW-1-173-716-Y33K

MATERIAL IDENTIFICATION LOG

	Mat'l Spec	Material Description	Quantity	Heat/ID Number	Salvaged Hanger Number (where applicable)	QC Verification & Date		Notes
13	A500 Gr. B	TS 4x4x1/4 2'4½"	1	H31064	N/A	7-7-82	7-19-82	MR200276
14	SA 36	1" pl 2" x 20"	1	T45231	N/A	7-7-82	7-19-82	MR200353

FABCO Item's # 13, 14, per P.O. Chg. 7-7-82 660.

SW-1-173-716-Y33K

MATERIAL IDENTIFICATION (ID#)

Item # / Type	Material Description	Quantity	Heat / ID Number	Defragged Hanger Number (Where applicable)	QC Verification Stamp & Date	Notes
14 ☆ SA-36	Plate 1"x2"x20"	1	W50419	N/A	[illegible] 7-8-82 7-9-82	MR 208001

FABBED ☆ PER MIL 7-8-82

SW-1-173-716-Y33K

MATERIAL IDENTIFICATION LOG

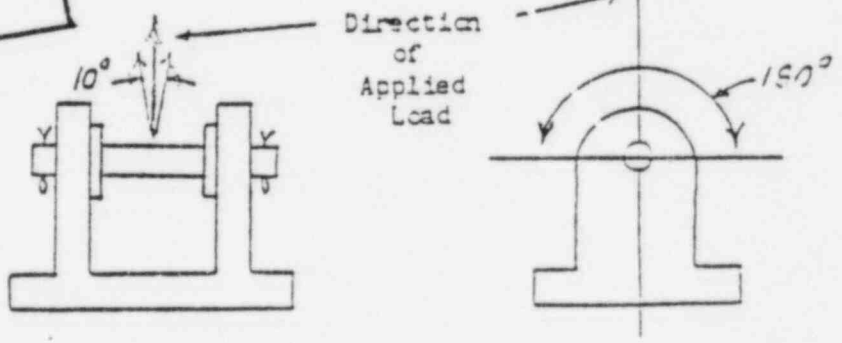
	Mat'l Spec	Material Description	Quantity	Heat/ID Number	Salvaged Hanger Number (where applicable)	QC Verification & Date		Notes
15	A500 GrB	TS 3x3x1/4 50"	1	E32348	N/A	Radcliffe 1-6-83	B.Lyn 1-10-83	NR 201829
16	A500 GrB	TS 3x3x1/4 3'0"	1	E32348	N/A	Radcliffe 1-6-83	[illegible] 1-12-83	NR 201829
17	SA-36	1/2" 6x6 PL	4	T45353	N/A	[illegible] 1-6-83	B.Lyn 1-12-83	NR 202076
18	SA-36	3/4" 4 1/2 x 7"	1	T45353	N/A	[illegible] 1-6-83	B.Lyn 1-12-83	NR 201981

Items Failed # 15, 16, 17, 18 of CMC 50930 Rev. 6 1-6-83 J. Patterson

nps industries, inc. an rsi group company	NPS INDUSTRIES, INC. COMPONENT SUPPORT CERTIFIED DESIGN REPORT SUMMARY	CDRS NO. SMRB PAGE 1 OF 1 REV. 1 DATE 7/14/81

Products covered by this Certified Design Report Summary are included in S Section of NPS Industries' Catalog

Product Name/Part Code		Material	Load Capacity at 150°F (KIPS)		
Rear Bracket/SMRB	Size	Specification	Design Level A/B	Level C	Level D
	1/4	(1), (3)	.35	.51	.51
	1/2	(1), (3)	.65	.86	.86
	1	(1), (3)	1.5	2.10	2.1
	3	(1), (3)	6.0	10.38	10.38
	10	(1), (3)	15.0	20.8	22.1
	35	(2), (3)	50.0	67.2	72.45
	100	(2), (3)	120.0	160.0	160.00



(4) Size 1/4, 1/2, 1, 3, 10 are non-welded items: Size 35, 100 are welded items.

(3) SA-193 B7 or SA-564 TY 630 (HT-1075, HT-1100, HT-1150) pin with carbon steel cotter pins and spacer/washers (both exempt per NF-2121(b)).

(2) SA-36 Bracket

(1) A-668 Class D (per Code Cases 1644-5, 1644-6, N-71-7, N-71-8, N-71-9) or SA-36 bracket.

This Certified Design Report Summary has been prepared by NPS Industries, in accordance with ASME Section III, Subparagraph NCA-3551.1, Code Case N-247 and is applicable for Code Classes 1,2,3 and MC Component supports designed by analysis in compliance with Subsection NF, Article 3000, 1974 Edition and also all addenda thru 1980 Edition No Addenda. The Applicable Design Specification (NPSS- 6'876) and Design Report (NPS-DR-SMRB) are maintained on file in NPS Industries' Quality Assurance Records in Secaucus, New Jersey.

Signature: [signature] Registration No. [illegible]

State of: New York Date: June 14, 1981

CHC LOG
50130 Rev 1 thru 8 5/21/81
50930R1 thru 8 5/21/81

42210

WDC SERIAL #
DRAWING # SW-1-173-716-Y33K
LINE # NA

MULTIPLE WELD DATA CARD

ITEM NO.	WPS NO.	REV.	ICN	WELD FILLER MATERIAL	WELD NOS.	P NO.	FABRICATION CODE & CLASS/ ACC STD
NA	11032	7	1	E7018	NA	1-1	ASME III- 3
NA	12011	8	8	E7018	NA	1-1	

NOTES: 1. APPLICABLE QC/ANI HOLD POINTS SHALL BE INDICATED BY CHECKMARK.
2. ANI INSPECTION POINTS INDICATED BY (X).
3. DENOTE SATISFACTORY INSPECTIONS BY AN "S"; UNSATISFACTORY INSPECTIONS BY A "U".

OPERATION #	OPERATIONS		
1	Support Number Identification	7	Sonerical Bearings
2	Size, Configuration, Tolerance/Dwg.	8	Welds/Dwg. & WPS (V.T.) *
3	Material Correct/Dwg.	9	Installation Complete
4	Fasteners Correct & Complete	10	Final PT/MT (as required)
5	Location & Elevation/Dwg.	11	
6	Spring Can Stops Installed	12	

PREP: Carol Randall 3/19/81

PRODUCTION RELEASE

WELD NO.	OPERATION	HOLDPOINTS WT	QC	ANI	CONST	SAT OR UNSAT	INSPECTION RESULTS (SIGN & DATE) QC OR WT	NDE CERT. LEVEL	ANI	NDE/ QC CERT.	MTGE # CALIB DUE DATE
NA	1	NA	✓	NC		S	Rw 4-13-81	#			
NA	2	NA	✓	NC		S	Rw 4-13-81	#			
NA	3	NA	✓	NC		S	Rw 4-13-81	#			
NA	4	NA	✓	NC		S	Rw 4-13-81	#			
NA	5	NA	✓	NC		S	Rw 4-13-81	#			
NA	6	NA	✓	NC		NA	Rw 4-13-81	#			
NA	7	NA	✓	NC		NA	Rw 4-13-81	#			
NA	8	NA	✓	NC		S	Rw 4-13-81	#	QI QAP 10.2-7 Rw 4-13-81		
NA	9	NA	NA	NC	✓ 4-18-81 RC.						

Reviewed: B. Master 2-20-81

RE: NCR 26006
QSV
10/9/83

Rw 4-13-81 { Stem installed. Overlapped gasket OR # 14675 RUBBER NOT INSTALLED

INFORMATION COPY PPRV

IP #s 15 & 16 Torqued and sealed (SHIMS INSTALLED) 1X12 SHIMS (8 PAM 4/

R Wyatt 4-10-81 QC ANI QSV 10/9/83

APPROVAL SIGNATURES SHALL BE AFFIXED IN THE LINE IMMEDIATELY BELOW THE LAST STEP IN EACH SEQUENCE.

* Operations 1-8 are Final Inspections.

42210

WPS #
11032
12011

WDC Serial No. _____

Drawing No. SW-1-173-716-Y33K

WELD FILLER MATERIAL LOG Weld No. NA

WELD NO.	DATE	SIZE/CLASS	WELDER SYMBOL	WPS/ICN #	HEAT/LOT # or CODE #	AMT. ISS.	AMT. RT'D.	ISSUANCE APPROVAL
~~NA~~ EW 4/8/81	~~4/8/81~~	~~11032~~ 1/8 E7018	BXX	~~11032~~				
NA	4/8/81	E7018 1/8	BXX	11032 7-1	N94338 026B210	50	35	Eric Ward P199
NA	4/9/81	1/8 E7018	BXX	11032 711	N94338 026B210	30	0	Jimmy Gill P01
NA RW 4-13-81	4/9/81	1/8 E7018	BXX	11032 7-1	N94338 026B210	30	17	Jimmy Gill P01
NA	4/10/81	3/32 E7018	BTH	11032 711	52592 026B630	75	13	Jimmy Gill P146

CMC LOG

RST-1-82 E-09208 Rev 7 7/8/82

E-09208-3 Thru 8 Rev 6 7/14/82

SU43CR-4 7/14/82 bm

WDC SERIAL # 68242

DRAWING # SU1-1-173-216-433K

LINE # NA

MULTIPLE WELD DATA CARD

ITEM NO.	WPS NO.	REV.	ICN	WELD FILLER MATERIAL	WELD NOS.	P NO.	FAB CODE & CLASS/ ACC. STD.
NA	11032	9		E7018	NA	1-1	ASME III -3 CPM-9.10

NOTES: 1. APPLICABLE QC/ANI HOLD POINTS SHALL BE INDICATED BY CHECKMARK
2. ANI INSPECTION POINTS INDICATED BY (X).
3. DENOTE SATISFACTORY INSPECTIONS BY AN "S": UNSATISFACTORY INSPECTIONS BY A "U".

OPERATIONS

OPERATION #			
1	Support Number Identification	7	Spherical Bearings
2	Size, Configuration, Clearance/Dwg.	8	All Welds/Dwg. & WPS (T.T.) QE-QAP 11.1-28
3	Material Correct/Dwg.	9	Installation Complete
4	Fasteners Correct & Complete	10	Final PT/MT (as required) QC-QAP 11.1-28
5	Location & Elevation/Dwg.	11	
6	Spring Can Stops Installed	12	

PREP: R Slaty 7-1-82 PRODUCTION RELEASE

WELD NO.	OPERATION	HOLD POINTS WT	HOLD POINTS QC	HOLD POINTS ANI	CONST	SAT QA INSPECTION RESULTS (SIGN & DATE) UNSAT	QC OR WT	NDE CERT LEVEL	ANI	NDE/RV REV.	MTE # CALIB DUE DATE
NA	1	NA	✓	NC		S	Dale M. Smith 7-19-82	II			
NA	2	NA	✓	NC		S	Dale M. Smith 7-19-82	II			
NA	3	NA	✓	NC		S	Dale M. Smith 7-19-82	II			
NA	4	NA	✓	NC		S	Dale M. Smith 7-19-82	II			
NA	5	NA	✓	NC		S	Dale M. Smith 7-19-82	II			
NA	7	NA	✓	NC		S					
NA	8	NA	✓	NC		S	W W Cochran 7-14-82	II			
* NA	9	NA	NA	NA	✓	S	[illegible] 7-15-82				
Reviewed: B. Moore		7-1-82	Dale M. Smith			7-14-82					

* V.T. OF WELD CONNECTING ITEM # 11 TO 13 (SAT) PER QI-QAP 11.1-28 REV. 10
Dale M. Smith 7-19-82 II

FINAL VT "SAT" OF WELDS JOINING ITEM # 12 TO ITEM # 13 PER QI-QAP-11.1-28 REV. 10 Dale M. Smith II 7-14-82

{* SNUBBER NOT INSTALLED Dale M. Smith 7-19-82 II GRAIT & TORQUE SEAL PRESENT}

INFORMATION COPY PPRV

WE W. Cochran 7/14/82 QC ANI 9574 10/9/13

APPROVAL SIGNATURES SHALL BE AFFIXED IN THE LINE IMMEDIATELY BELOW THE LAST STEP IN EACH SEQUENCE.

INSTALLATION TO BE IN ACCORDANCE WITH PROCEDURES REFERENCED IN CPM-6.11

MODIFICATION PACKAGE

MOD. WORK PER IRN 14026R5 RST-1-82

ORIGINAL IN VAULT

WPS #
11032

WDC Serial No. 68242

Drawing No. SW-1-173-716-433K

WELD FILLER MATERIAL LOG Weld No. NA

WELD NO.	DATE	SIZE/CLASS	WELDER SYMBOL	WPS/ ICI #	HEAT/LOT # or CODE #	AMT. ISS.	AMT. RT'D.	ISSUANCE APPROVAL
NA	7-12-82	E7018 3/32	BTA	11032 9-1	412P5732 026B637	50	0	Don Fields FJ18
NA	7-13-82	E7018 1/8	BTA	11032 9-1	53122 026B226	40	3	Don Fields P-E6
A.W. Cole II 7-14-82								

MODIFICATION PACKAGE
MOD. WORK PER IRN 140625
ORIGINAL IN VAULT IRS 7-1-82

QUALITY CONTROL

HANGER INSPECTION REPORT

QI-QAP-11.1-28 Rev. 16
QI-QAP-10.2-1 Rev. 4
QI-QAP-10.2-2 Rev. 4

IDENTIFICATION

Hanger No. (1) SW-1-123-716-433K Class (2) 3
Drawing No. Rev. (3) 1

I. MATERIAL ACCEPTABILITY PER DRAWING AND NOTED ON M.I.L.

(4) Richard M. Smith / Inspector — II / Level — 7-19-82 / Date

II. INSTALLATION COMPLETE PER DRAWING

(5) Richard M. Smith / Inspector — II / Level — 7-19-82 / Date

a. Comments:
(i.e.) Snubber Not Installed — 7-19-82
Other NA

III. WELDING PER DRAWING INCLUDING ATTACHEMNTS

a. All weld per ASME Sec. III (6) F.W. Cole / Inspector — II / Level — 7-14-82 / Date

b. ADDITIONAL NDE c. HEAT TREAT — NA / Inspector — NA / Level — NA / Date

(7) NA / Process — NDEP — Rev/Date — NA / Inspector — Level — Date

NA / Process — NDEP — Rev/Date — NA / Inspector — Level — Date

COMMENTS: (8) NA

NCRs: (9) NA

Description of Activities *

Objective: To Comply w/ CMC # 50930 (6)

1 Cut Field Weld Between Item #6 & Item #14

2 Cut Fld Wld Between Item #14 & Item #13 & Item #11 - Scrap Pc #14

3. Cut Fld Wld Between Item #11 & Item #6

4 Cut Fld Wld Between Item #11 & Item #12

5. Cut Fld Wld Between Item #13 & Item #12 Scrap Items #11 & #13.

6. Fld Wld "New" Item #18 to Item #12

7. Fld Wld "New" Item #15 to Item #18 & Item #6

8. Fld Wld "New" Item #16 to "New" Item #15 & Item #13

9. Fld Wld (4) "New" Items #1" to Item #7 & Item #13.

Note: Snubber (Item #10 is installed)

GD 483 [signature] 1-3-85

* THE ABOVE ACTIVITIES NEED NOT BE PERFORMED IN ANY SEQUENTIAL ORDER

CMC LOG
~~5093OR6 LV1/4/83~~
50930 R7 KB 1/13/83

MULTIPLE WELD DATA CARD

WDC SERIAL # 77241
DRAWING # SW-1-173-716-1533K
LINE # NA

ITEM #	WPS #	REV.	ICN	WELD FILLER MATERIAL	WELD NOS.	P NO.	FAB CODE & CLASS
NA	11032	9	3	E7018	D.C.A. *	1-1	ACC STD ASME III-3 CPM 9.10

NOTES: 1. APPLICABLE QC/ANI HOLD POINTS SHALL BE INDICATED BY CHECKMARK
2. ANI INSPECTION POINTS INDICATED BY (X)
3. DENOTE SATISFACTORY INSPECTIONS BY AN "S", UNSATISFACTORY INSPECTIONS BY A "U"

OPERATION #	OPERATIONS		
1	Support Number Identification	7	Spherical Bearings
2	Size, Configuration, Tolerance/Dwg	8	All Welds/Dwg & WPS (VT) QI-QAP 11.1-28
3	Material Correct/Dwg	9	Installation Complete
4	Fasteners Correct & Complete	10	Final PT/MT (As Required) QI-QAP 10.2-1 /.2-2
5	Location & Elevation/Dwg	11	
6	Spring Can Stops Installed	12	

PREP: LONG VO 1/4/83 PRODUCTION RELEASE

WELD NO.	OPERATION	HOLDPOINTS WT	HOLDPOINTS QC	HOLDPOINTS ANI	CONST	SAT or UNSAT	INSPECTION RESULTS (SIGN & DATE) QC or WT	NDE CERT LEVEL	INSPECTION RESULTS (SIGN & DATE) ANI	NDER/ REV	MT & E CALIB. DUE DATE
NA	1	NA	✓	NC		SAT	B. Cox 1-12-83	II			
NA	2	NA	✓	NC	⊛⊛	SAT	B. Cox 1-12-83	II			
NA	3	NA	✓	(X)		SAT	B. Cox 1-12-83	II	FKH 1/12/83		
*	8	NA	✓	NC	⊛	SAT	B. Cox 1-12-83	II		NC	
NA	9	NA	NA	NA	KEW 1/11/83						
REVIEWED: B. Mastin 1/4/83									GD 1-4-83		
							GR-T MH TORQUE MH SHIMS MH		B. Cox 1-12-83		
		hanger inspected per CMC #50930 R7					B. Cox 1-12-83				
		⊛ Welds connecting ITEM 2 to ITEM 1 Inspected per CMC #50930 R7									
		⊛ Inspected welds connecting ITEM 5 to ITEM 4 Inspected per CMC #50930 R7 and P 11.1-28 Rev 06									
		⊛⊛ Note: Snubber not installed B. Cox 1-12-83 *									

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WE W. Cochran 1/12/83 QC ANI 10/9/83

APPROVAL SIGNATURES SHALL BE AFFIXED IN THE LINE IMMEDIATELY BELOW THE LAST STEP IN EACH SEQUENCE.

* Operations 1-8 are Final Inspections.

INSTALLATION TO BE IN ACCORDANCE WITH PROCEDURES REFERENCED IN CPM-6.11

MODIFICATION PACKAGE
PER CMC # 50930 R6 LV 1/4/83

WPS # 11032

WELD FILLER MATERIAL LOG

WDC Serial No. 77241

Drawing No. SWH-173-716-V331C

Weld No. NA

WELD NO.	DATE	SIZE/CLASS	WELDER SYMBOL	WPS NO. #	HEAT/LOT # OF CODE #	AMT. DEP.	AMT. REQ'D.	ISSUANCE APPROVAL
NA	1/10/83	1/8 E-7018	CHW	11032 5-3	53122 026B226	60	60	DA Bogart P-185
NA	1/11/83	1/8 E-7018	CHW	11032 5-3	53122 026B226	60	20	DA Bogart P-265
NA	1/11/83	3/32 E-7018	CHW	11032 5-3	V5026 026B642	30	16	DA Bogart P-276
NA	1/12/83	1/8 E-7018	RW 1-12-83 CHW	11032				DA Bogart
NA	1/12/83	3/32 E-7018	CHW	11032 5-3	V5026 026B642	80	40	DA Bogart P-173

1-12-83 B. Coff

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MODIFICATION PACKAGE

PER CMC #50930R.6 LV 1/4/83

WELD INSPECTION CHECK-LIST

HANGER/DWG. SW-1-173-7/16-433K REV. 1 CMC 50930 REV. 6

CMC _____ REV. _____

CMC _____ REV. _____

WELD NO.	SIZE	QCI/DATE	DWG. or CMC	COMMENTS
1	5/16"+	J. Massey 1-11-83	DWG 50930 6	item 15 to 6
2	5/16"+	J. Massey 1-11-83	CMC 50930 6	item 15 to 6
3	5/16"+	J. Massey 1-11-83	CMC 50930 6	item 15 to 6
4	1/2"+	J. Massey 1-11-83	CMC 50930 6	item 15 to 6
5	3/8"+	M.D. 1-12-83	CMC 50930 6	PC 12 To Pc 16 3 all around M.D. 1-12-83
~~6~~	~~7/16"+~~	~~M.D. 1-12-83~~	~~CMC 50930 6~~	~~PC 12 To PC 7 all around~~ M.D. 1-12-83
6NS	1/4"+	B.Cofer 1-12-83	CMC 50930 6	item #15 to item #18
7FS	1/4"+	B.Cofer 1-12-83	CMC 50930 6	item #15 to item #18
8NS	1/4"+	B.Cofer 1-12-83	CMC 50930 6	item #18 to item #12
9FS	1/4"+	B.Cofer 1-12-83	CMC 50930 6	item #18 to item #12
10	1/4"+	B.Cofer 1-12-83	CMC 50930 6	item #18 to item #12
11	1/4"+	B.Cofer 1-12-83	CMC 50930 6	item #15 to item #18
12	1/4"+	B.Cofer 1-12-83	CMC 50930 6	item #15 to item #18
13	1/4"+	B.Cofer 1-12-83	CMC 50930 6	item #18 to item #12
14	5/16"	B.Cofer 1-12-83	CMC 50930 6	item #17 to item #7
15	5/16"	B.Cofer 1-12-83	CMC 50930 6	item #17 to item #7
16	5/16"	B.Cofer 1-12-83	CMC 50930 6	item #17 to item #7
17	5/16"	B.Cofer 1-12-83	CMC 50930 6	item #17 to item #7

QUALITY CONTROL

HANGER INSPECTION REPORT

QI-QAP-11.1-28 Rev. 16
QI-QAP-10.2-1 Rev. NA
QI-QAP-10.2-2 Rev. NA
QI-QAP-11.1-26 Rev. NA

IDENTIFICATION

Hanger No. (1) SW-1-173-716-Y33K Class (2) 3
Drawing No. Rev. (3) Land Cmc # 50950 Δ2

I. MATERIAL ACCEPTABILITY PER DRAWING AND NOTED ON M.I.L.

(4) Brian D. Cliff / II / 1-12-83
Inspector / Level / Date

II. INSTALLATION COMPLETE PER DRAWING

(5) Brian D. Cliff / II / 1-12-83
Inspector / Level / Date

a. Comments:

(i.e.) Snubber Not Installed ✓ B.C. 1-12-83
Star Stamp NA
Sight Holes NA

III. WELDING PER DRAWING INCLUDING ATTACHMENTS

a. All weld per procedure/drawing (6) Brian D. Cliff / II / 1-12-83
Inspector / Level / Date

b. ADDITIONAL NDE c. HEAT TREAT NA / / /
Inspector / Level / Date

(7) NA / / / / /
Process QI-QAP Rev. Inspector Level Date

NA / / / / /
Process QI-QAP Rev. Inspector Level Date

COMMENTS: (8) NA

NCRs: (9) NA

Salient

INSTALLATION TO BE IN ACCORDANCE WITH PROCEDURES REFERENCED IN -- CPM-6.11

REPAIR PROCESS SHEET

WDC Serial No. 706618
Drawing No. SW-1-173-716-433L
Weld No. NA

REPAIR CYCLE-1

NCR # 9565

DESCRIPTION OF DEFECT (SKETCH)

INCREASE WELD SIZE BETWEEN ITEM # 7 & ITEM # 17(4) TO 5/16"

OPER. NO.	OPERATION	HOLD POINTS WT	QC	ANI	COM	"S" or "I"	INSPECTION RESULTS (SIGN AND DATE) QC or WT	NDE CERT LEVEL	ANI
R-1	WELD MAJOR REPAIR								
A	WELD: 11032 %	NA	NA	NC					
B	FINAL VT	NA	✓	NC		SAT	M Rutledge 7-29-83	II	
	PREP: Q & 2W10RL		7/22/83						
✓	REVIEW: [illegible] 7/25/83								
	Final Acceptance								7-23-83
	QIQAP 11.1-2 R 21				M Rutledge	7-29-83	II		

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AUG 0 2 1983

WE R Martinez | QC | ANI 8524 10/9/83 | G&H

Approved signatures shall be affixed on lines immediately below the last item to indicate product acceptance.
Minor Special Inspection - WE, QC, GEN, ANI
Major Special Inspection - WE, QC, ANI

Norman

WPS #	
	11032

WDC Serial No. 706618

Drawing No. SW-1-173-716-433K

WELD FILLER MATERIAL LOG Weld No. NA

WELD NO.	DATE	SIZE/CLASS	WELDER SYMBOL	WPS/ICN #	HEAT/LOT # or CODE #	AMT. ISS.	AMT. RT'D.	ISSUANCE APPROVAL
NA	7/29/83	3/32	BRH	11032	81805			Michael W. Thomas
		E7018		10-0	026B643	30	11	P 2.2

QC CHECKLIST FOR SNUBBER INSTALLATION

QI-QAP 11.1-28A REV 0

PARA.	OP. NO.	OPERATION SW-1-173-716-Y33K	QCI/DATE	SAT/UNSAT
N/A	1.	Hanger # SW-1-173-716-Y33K	N/A DN 1-19-83	SAT
N/A	2.	Snubber Serial # 10187	N/A DN 1-19-83	SAT
5.7.2	3.	Snubber Operation: a. Snubber Size N/A DN 1-19-83 b. Stroke Length N/A DN 1-19-83	N/A DN 1-19-83	N/A
8.0	4.	Torque of Transition Kit or Forward Bracket: MT&E N/A DN 1-19-83 Value N/A DN 1-19-83	N/A DN 1-19-83	N/A
8.0	5.	Torque of Adjustable Eye Rod End Jam Nut MT&E N/A DN 1-19-83	N/A DN 1-19-83	N/A
7.1	5A.	Torque of Ring Nut (35 & 100 only) MT&E N/A DN 1-19-83 Value N/A DN 1-19-83	N/A DN 1-19-83	N/A
5.7.1	6A.	Relative Angle Adjustment (If required)	N/A DN 1-19-83	N/A
5.7.2	6B.	Reverify Snubber Operation: a. Stroke Length N/A DN 1-19-83	N/A DN 1-19-83	N/A
5.1.1	7A.	Material I.D. (As applicable) a. Forward Bracket N/A DN 1-19-83 b. (Bulk) Base Plate N/A DN 1-19-83 (Bulk) Forward Bracket Eye N/A DN 1-19-83 c. Transition Kit N/A DN 1-19-83 d. Adapter Plate N/A DN 1-19-83 e. Eye Rod N/A DN 1-19-83 f. Coupling Nut N/A DN 1-19-83 g. Barrel N/A DN 1-19-83 h. (100 only) Spherical Bearing Pins N/A DN 1-19-83	N/A DN 1-19-83	SAT

QC CHECKLIST FOR SNUBBER INSTALLATION (Cont'd)

PARA.	OP. NO.	OPERATION SW-1-173-716-Y33K	QCI/DATE	SAT/UNSAT
		i. (33 & 100 only) Eye Rod Jam Nut N/A DO 1-19-83		
		j. (If Visible) Pipe Clamp N/A DO 1-19-83		
		k. (If Visible) Rear Bracket N/A DO 1-19-83		
5.6	7B.	Verification of Full Thread Engagement of Eye Rod in Coupling Nut	Nisid 1-19-83	N/A
5.6	8.	C-C Dimension per DWG	Nisid 1-19-83	SAT
5.6	9.	A-C Dimension per DWG	Nisid 1-19-83	SAT
4.4	10.	Actual Weld Sizes (Modifications only)	Nisid 1-19-83	N/A
		a. Transition Kit N/A DO 1-19-83		
		b. Forward Bracket N/A DO 1-19-83		
/A	11.	Installation Complete	Nisid 1-19-83	SAT
N/A	12.	QC Supervision Review	[illegible] Bell 1/25/83	[illegible]
		NCR N/A DO 1-19-83		
		Comments SEE PREVIOUS TRAVELER NO. SW-1-173-716-Y33K		
		THIS PACKAGE Nisid 1-19-83 HANGER RECORDED		
		PER IRD H00979A & CMC 50930A1		

CONSTRUCTION OPERATION TRAVELER CONTINUATION

TRAVELER NO.	ACTIVITY DESCRIPTION	PAGE
SW-1-175-716-433K	NPSI SNUBBER INSTALLATION (WITHOUT KIT)	2 OF 2

PREPARED BY MICKEY GARRETT DATE 8-28-82

REVIEWED BY Edward J. Heath DATE August 28, 1982

ANI REVIEW D.W. Lauer DATE 9/16/82

OP. NO.	DEPT.	OPERATION	CONSTR	QA/QC ENG.	ANI
		NPSI SNUBBER INSTALLATION WITHOUT TRANSITION EXTENSION KITS.			
		PART AND CLEAN ALL INTERNAL AND EXTERNAL THREADS. AFTER BOTTOMING, THE FORWARD BRACKET MAY BE UNSCREWED UP TO A MAXIMUM OF ½ TURN TO achieve CORRECT ORIENTATION OF THE LUGS AND PINS ON EACH END OF THE SNUBBER PER THE PIPE SUPPORT SKETCH. CAUTION: DO NOT UNSCREW MORE THAN ½ TURN.			
5.	MW QC(W)	AFTER THE FORWARD ADAPTER ASSEMBLY HAS BEEN INSTALLED AND THE BOLTS HAVE BEEN TORQUED TO THE CORRECT VALUE INSTALL THE SAFETY WIRE THROUGH THE BOLT HOLES (SAFETY WIRE IS SUPPLIED WITH THE FORWARD ADAPTER ASSEMBLY FROM THE FACTORY) INSTALL PER QI-QAP-11.1-32 SAFETY WIRE SIZE: .032 WIRE TYPE: Stainless steel.	R. Lauer 9/15/82	R. Hayes 9/15/82	
6.	QC(V)	*VERIFY THE PIPE CLAMP ID #: 2549 NF *VERIFY THE REAR BRACKET ID #: 4142 NH (1) *VERIFY THE FORWARD BRACKET ID #: 10714-8 *NOTE: IF BULK MATERIAL IS USED, VERIFY MATERIAL NUMBER: NA ROH 9/15/82 *VERIFICATION OF MATERIAL IF REQUIRED.		R. Hayes 9/15/82	
7.	MW QC(W)	INSTALL SNUBBER PER ATTCHED DRAWING USING THE "C-C" DIMENSIONS AS STATED, IF THE DEVIATION ON THE COLD SETTING (AC DIMENSION) IS MORE THAN + 1/8" DISCONTINUE THE INSTALLATION OF THE SNUBBER, IF THE TOLERENCES ARE WITHIN LIMITS CONTINUE THE INSTALLATION. NOTE: IF RELATIVE ANGLE ADJUSTMENT IS REQUIRED TO INSTALL SNUBBER THE FOLLOWING SHALL BE USED: WHEN THE RELATIVE ANGLE BETWEEN THE END CAP AND THE FORWARD BRACKET HAS BEEN ADJUSTED, THE EXTENSION AND RETRACTION OF THE SUPPORT CYLINDER SHALL BE REVERIFIED, VERIFICATION OF SPLIT RINGS OF SIZES ½, 1, 3, & 10 TO INSURE THAT THEY HAVE NOT BEEN BROKEN, SPRUNG OR DEFORMED. UNDER NO CIRCUMSTANCES SHALL THE END CAP BE ROTATED MORE THAN ONE COMPLETE TURN FROM THE BOTTOM-OUT POSITION.	R. Lauer 9/14/82	R. Hayes 9/15/82	
8.	MW QC(W)	INSTALL SNUBBER, CONNECTING PINS AND NEW COTTER KEYS. MINOR ADJUSTMENTS CAN BE MADE TO THE PIPE CLAMP TO FACILIATE SNUBBER INSTALLATION. R.1 m.6. 9-7-82 con 9-8-82	R. Lauer 9/14/82	R. Hayes 9/15/82	Lehman Field 9-15-82
9.	QC(V)	VERIFY COMPLETION OF OPERATIONAL TRAVELER. NOTE: IF CONFLICT SHOULD ARISE BETWEEN THIS OPERATIONAL TRAVELER AND EXISTING SITE PROCEDURES CONSULT THE MANUFACTURES INSTRUCTIONS FOR RESOLUTION.			

CONSTRUCTION OPERATION TRAVELER 35-1195

(1) TRAVELER NO.	(2) EQUIPMENT NO.	(3) UNIT NO.	(4) QUANTITY	(5) PAGE 1 OF 2
SW-1-175-716-433A	SAME AS TRAVELER#	1	1	

(6) ACTIVITY DESCRIPTION: NPSI SNUBBER INSTALLATION

(7) REFERENCE DRAWINGS: SAME AS TRAVELER NUMBER

(8) SPEC./PROC./ENG. INSTR.	(9) LOCATION	(10) SYSTEM
CP-CPM-9.15 AND QI-QAP-11.1-28	~~305~~ 279'-6" S/G 01	SW

PREPARED BY MICKEY GARRETT DATE 8-28-82 DEPT. MILLWRIGHT

REVIEWED BY Edward J Hall DATE August 28, 1982

ANI REVIEW DC Lowe DATE 9/10/82

NCR-M-4044 R.1

OP. NO.	DEPT.	OPERATION — NPSI SNUBBER INSTALLATION "ONLY" (WITHOUT TRANSITION EXTENSION KITS)	CONSTR	QA/QC ENG.	ANI
1.	MW QC(V)	REQUISITION REQUIRED SNUBBER AND ASSOCIATED PARTS FROM THE WAREHOUSE PER ATTACHED DRAWING AND ATTACH "MR" TO THE BACK OF THE TRAVELER AND STATE SERIAL NUMBER AND SIZE BELOW: SNUBBER SERIAL NUMBER: 10187 SIZE: 10	9/15/82	9/15/82	
2.	MW QC(V)	REMOVE EXISTING TEMPORARY BRACING DEVICE, RETAINING THE CONNECTING PINS AND COTTER KEYS OR LOCKING DEVICE. NOTE: NEW COTTER KEYS ARE TO BE USED WHEN SNUBBER IS INSTALLED.	9/15/82	9/15/82	
3.	MW QC(W)	CHECK THE RUN OR DISTANCE OF TRAVEL TO INSURE THAT THE SNUBBER IS IN PROPER WORKING CONDITION AND USE THE BELOW TABLES TO TEST SNUBBER: SNUBBER SIZE: ---------- ¼ ½ 1 3 10 35 100 STROKE LENGTH/INCHES: -- 4 2½ 4 5 6 6 6 SNUBBER SIZE: 10 STROKE LENGTH/INCHES: 6	9/15/82	9/15/82	
4.	MW QC(W)	IF SNUBBER ASSEMBLY DOES NOT HAVE THE FORWARD ADAPTER ASSEMBLY ATTACHED, THEN ATTACH THE ASSEMBLY (IF REQUIRED) AND TORQUE THE CONNECTING BOLTS BY THE FOLLOWING TORQUE VALUES: NOTE: RETORQUE OF ATTACHED ADAPTER ASSEMBLY WILL BE REQUIRED. SNUBBER SIZE: / TORQUE VALUE: ¼ 22 (IN/LBS) ½ 22 (IN/LBS) 1 45 (IN/LBS) 3 120 (IN/LBS) 10 440 (IN/LBS) SNUBBER SIZE: 10 TORQUED TO: 440 in/lbs MT&E: CT-2039 DATE DUE: 04 Oct 82 NOTE: SNUBBER SIZES 35 & 100, SCREW THE TRANSITION KIT OR FORWARD BRACKET INTO THE INTERNAL THREADS AT THE BASE OF THE SNUBBER UNTIL IT BOTTOMS AGAINST THE INTERNAL DUST COVER. THE INSERTION WILL BE SLIGHTLY GREATER THAN THE REQUIRED ENGAGEMENT OF 1½" FOR SIZE 35 AND 1 3/4" FOR SIZE 100. THIS OPERATION SHOULD BE COMPLETED BY HAND. IF MORE FORCE IS REQUIRED, REMOVE	9/15/82	9-15-82	

ARMS
INDEXED

DATE:

PERM. PLT. RECORD 5 10-28 &

ATN 1	FILE LOC 17.1.5.7.13
SUBFILE LOC SI-1-031-041-S32K	

ATTACHMENT 1

DOCUMENTATION CHECK LIST

PACKAGE MARK NO. SI-1-031-041-S32K 1

NUMBER OF PAGES	TYPE OF DOCUMENT
1. NA	Manufacturing Record Sheet (MRS)
2. 3	Weld Data Card (WDC) Weld No(s).
3. 82 daily photos	Weld Filler Material Log (WFML)
4. 3	Material Identification Log (MIL)
5. NA	Non-Destructive Examination Report (NDER)
6. 3	Inspection Report (IR)
7. NA	Nonconformance Report (NCR)
8. NA	Vendor Documentation
9. NA	Repair Process Sheet (RPS) Weld No(s)
10. 2	Operation Traveler (OT)
11. 1	Drawing (including CMC)
12. NA	Material Requisition (MR)
13. 2	Miscellaneous (Describe Below)

ATTACHS
UNPSI COPY

INFORMATION COPY

PPRV

This documentation has been reviewed and accepted per CP-QAP-13.2 and the vendor certified as-built drawing.

CES Representative Ralph Daily

Date 9/28/83

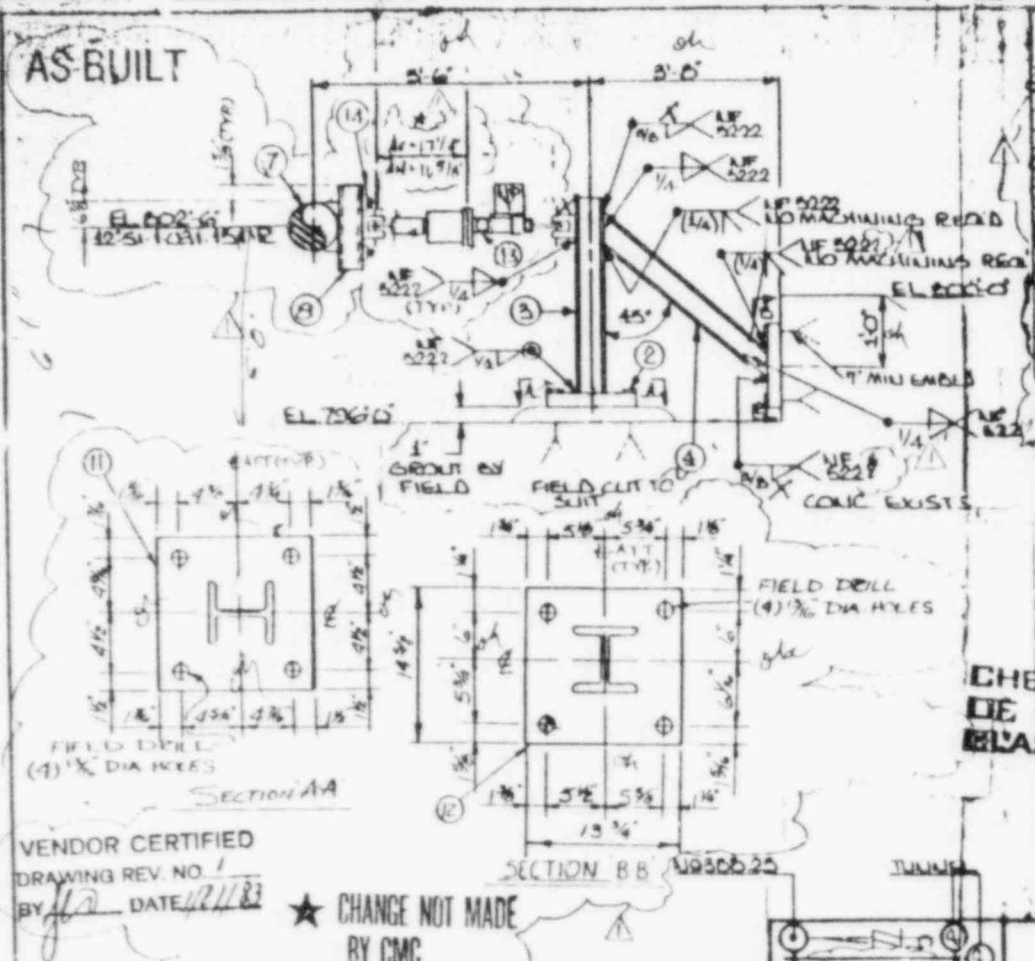
16 Total number of pages in package

ANI R. Byrnes

DATE 10/15/83

This HANGER HAS Been Researched AND HAS NO Evidence of OPEN NCR'S Daily photos

AS-BUILT



ITEM NO.	NO REQ'D	PART CALL-OUT	DESCRIPTION	MATERIAL	MIC. NO.	WT.	POS	L	CSS	PRIM	SEC	AISC
1	1	PL 3/4" x 12" x 12"		SA 36		61	A			X		
2	B	BSA 34-10	HILTI CONC. ANCHOR									
3	1	M9 x 13 x 6'-7 3/4"		SA 36		136		X		X		
4	1	M9 x 13 x 9'-10 5/8"		SA 36		63		X		X		
5A	1	SNS-3 RD	SNUBBER			45			X			
5B	1	ANE 3 L=2'-4"	TRANSITION NUT									
6	1	SPR-10-120	PIPE CLAMP	SA 36		31						
		PROVIDE TEMPORARY	SPACER									
		C-C = 90°±										
7A	1	PL 3/4" x 4 1/2" x 6"	C.S. PLATE	SA 36		14	A			X		
7	1	PUB 160 x R=18"	U BOLT									
8	1	TS 4"x4"x1/4" x 2'-10"	TUBE STEEL	A-500 GRB			X		X			
11	1	W 24 x 12 x 1/2	C.S. PLATE PER SPEC'S	SA 36			X		X			
12	1	W 24 x 12 x 1/2	C.S. PLATE PER SPEC'S	SA 36			X		X			
13	1	SNAS-BA W/RUBBER	TT = 5", C-C = 3'-11"				X		X			
M-1	8	1 1/8" x 6" x 6" WASHER	PLATE WASHER W/HOLE	SW 574 / SA-36			X		X			

BRANCH ASSEMBLY SKETCH AND ENGINEERING BUNDLE AND TAG MARK # 51-1-031-041-Y32K

Apply one coat of Carbo-Zinc #11 as above spec. except GR'S which shall be coated w/a rust preventative.

CHECK CURRENT REVISION OF DCA-5021 FOR HANGER CLASSIFICATION.

Approved By: C.F.C.
Date: 4-26-79

QUAN. | SHIP | CONT.

FOR MATERIALS AND OPERATIONS SEE SKETCH NO. SHEET OF

Brown & Root, Inc.

REF. DRAWING NUMBERS
PIPE: M1-1006 R4 ELECT:
STEEL: S-0010 R.0 HVAC:

CONDITIONS	Fx	Fy	Fz	Mx	My
DESIGN					
NORMAL & UPSET	1547?				
EMERGENCY	4129				
FAULTED					

REV	DATE	DWN	CHK	APP	DESCRIPTION
A	7/20	[illegible]	[illegible]	[illegible]	ISSUE FOR CONST. FW1-4
					SEE REVL FOR HANGER LOCATION
1	[illegible]	[illegible]	Q	[illegible]	PER AS LIT. REF. CHG AT 822 ELEV. ADD (LMT.4) DEL FW1-4, AS BUILT
					VENDOR CERTIFICATION, REF. ECN 20879

CUSTOMER Texas Utilities Service, Inc.
ORDER OR CONT. NO. CP-0046
JOB NAME Comanche Peak 1 & 2
MARK NO. 51-1-031-041-Y32K
SKETCH NO.
SHEET 1 OF 1 REV. 1

VENDOR CERTIFIED
DRAWING REV. NO. 1
BY [illegible] DATE 12/11/83

★ CHANGE NOT MADE BY CMC

BRHL Iso. SI-1D-03 REV 3
I.P.D. Tag SI-1-1005 R 27
Data Point 2250 Lb 1478 Rev C
Pipe Mat'l SA 312 TP 304
Insul. — Bldg. YARD

MOVEMENTS		
X	.011	.021
Y	.014	.010
Z	.092	.254

NOTE
4) LOCKING DEVICES FOR HIGH STRENGTH BOLTS ARE NOT REQUIRED PER DCA 7611

THIRD PARTY INSPECTION
CODE CLASS: ASME III 2

S14

ATTACHMENT 5

51-1-031-041-V32XK R 1 (Cont. 9-1-87)
Support Drawing Number/Revision

QUALITY CONTROL
COMPONENT SUPPORT CHECKLIST

CP-QAP-12.1 Rev. 9

PARA.	OP.NO.	INSPECTION CRITERIA	QCI/DATE	SAT/UNSAT
3.5	1.	Support Configuration complies with Vendor Certified or Design Reviewed Drawing (VCD/DRD)	9/8/87	SAT
N/A	2.	Structural member cut lengths comply with Reference dimensions ± 2"	9/8/87	SAT
N/A	3.	Baseplate tolerances (excluding thickness) comply with the VCD/DRD ± ½".	9/8/87	SAT
N/A	4.	Working point dimensions locating structural components comply with the VCD/DRD ± 1" (except for pipe location tolerances)	9/8/87	SAT
3.5.1	5.	a) All accessible welds reinspected and are in compliance with VCD/DRD. b) All skewed welds have been reinspected and are in compliance with the VCD/DRD.	Harold Hyde 9/15/87 Harold Hyde 9/15/87	SAT (*) SAT (*)
3.5.3	6.	Snubber(s) Serial Number 12914 a) Nuts, bolts, cotter pins, lock wire, etc. installed where required.	9/8/87	SAT
		b) Exposed threaded surfaces are free of excessive rust or foreign material.	9/8/87	SAT
		c) Spherical bearings are free of foreign material, and spacer(s) are installed as required.	9/8/87	SAT
N/A	7.	Strut(s) (if applicable) Serial number N/A		
		a) Nuts, bolts, cotter pins, lock wire, etc. installed where required.		
		b) Exposed threaded surfaces are free of excessive rust or foreign material.		
		c) Spherical bearings are free of foreign material		
		d) Jam nut(s) and barrel will not turn by hand, using nominal applied force.		
3.5.3	8.	Spring Can(s) (if applicable) Serial number N/A		
		a) Nuts, bolts, cotter pins, lock wire, etc. installed where required.		
		b) Exposed threaded surfaces are free of excessive rust or foreign material.		

ATTACHMENT 5

51-1-031-041-R2R #R.1
Support Drawing Number/Revision

QUALITY CONTROL
COMPONENT SUPPORT CHECKLIST

CP-QAP-12.1 Rev. 9

PARA.	OP.NO.	INSPECTION CRITERIA	QCI/DATE	SAT/UNSAT
N/A	9a.	Concrete Expansion anchors embedment/engagement complies with drawing or Attachment 5B.	9/5/83	SAT
	9b.	Concrete inserts have proper embedment/engagement (2D + 1/8").	9/6/83	N/A
ATTACH.	10.	Installation of U-bolts on large bore/small bore supports shall be inspected as follows:	9/6/83	N/A
		1) U-bolts used in pinned connection application (i.e., struts and snubbers) are to be installed on the pipe as shown in Figure 1 for large bore supports.		
		2) U-bolts on rigid frames, (large bore) shall be installed as shown in Figure 2.		
		3) For installation of U-bolts on small bore supports, figures 4 and 5 show acceptable arrangements when the design drawing depicts the configuration as shown in Figure 3.		
		4) Clearances as specified on VCD/DRD		
3.5.2	11.	Clearances must be verified if:	9/6/83	N/A
		a) The support configuration is modified by design change.		
		b) The support is being reinstalled following removal to accomplish a design change or other construction;		
		c) Directed by Engineering.		
		d) Visual examination indicates the sum of the clearances have not changed after verification [illegible] of installation.		
N/A	12.	Remarks: 1) Undersized welds per IR #AM-01280 AM-01280 Undersized weld to be found to be sat IR Closed Hawal Hayes 9/19/83 PER MOD. PACKAGE 5-66 Z OKW 9-24-83		

SI-1-031-041-V32K

MATERIAL IDENTIFICATION LOG

	Mat'l Spec	Material Description	Quantity	Heat/ID Number	Salvaged Hanger Number (where applicable)	QC Verification & Date	Notes
14	SA36	PL ½"x6"x6"	2	L45353	NA	11/12/82 11-17-82	MR 20339

FAB PER CMC 11-12-82 JESSOP

800
SWI

ST-1-031-041-432K
HANGER NUMBER

MATERIAL IDENTIFICATION LOG

	Mat'l Spec	Material Description	Quantity	Heat/ID Number	Salvaged Hanger Number (where applicable)	QC Verification	Date
	~~SA 36~~	~~7/8 Rod~~ ~~3/4"~~	~~2~~ 1	Code #	N/A		1-26-81
8	A500GRB	6X6X1/4 3T 1'5"	✓1 ✓	#8 77826	N/A	JR	1-26-81
	SA36	**7/8 Rod PLS-320 50½"	✓1 ✓	Code A	N/A	JR	1-26-81
11	SA-36	3/4" X12" X12" PL	✓1	#62901	N/A	JWC	2/13/81
12	SA-36	3/4" X 13¾" X 14½" PL	✓1	#62901 #12	N/A	JWC	2/13/81
	N/A	TEMP SPACER	1	N/A	N/A	JWC	2/13/81
	N/A	REAR & FWD. BRACKET	1 EACH	NF676	N/A	JWC	2/13/81

Fabbed Item T+8 FEM 1-26-81

** TO CLARIFY THE DESCRIPTION ON ITEM 7 ONLY REQUIRED

ITEM NO.	NO REQ'D	PART CALL-OUT	DESCRIPTION	MATERIAL	MIC. NO.	WT.	POS	J	CSC	FIELD	SHOP	ACC
1	1	PL 36" x 12" x 1"	per PNBP 0784	SA-36		per CMC# 47182						
2	8	BSA-34-1.0	HILTI CONC ANCHOR	per DWG 6-4-80								
3	1	M4 x 12 x 6"	per DWG 6-4-80	SA-36		per MR# 81302			X			
4	1	M4 x 12 x 4"	per DWG 6-4-80	SA-36		per MR# 81302			X			
EA	1	SMS-3-R.O	ERUBBER									
EB	1	AMTI-2	TRANSITION									
6	1	PIPE	PIPE - ASAP	SA-36 per DWG 7-31-80								per CMC 47182 2/13/81 DWG
		PROVIDE TEMPORARY	SUPPORTS									
		C-C 24"										
5A	1	per PNBP 0784	see 6-6	per DWG 4-22-80								per CMC 47182
7	1	REMOVE	REMOVE	per DWG 4-22-80								DWG 2/13/81

NF 5221

SEISMIC ANALYSIS SUPPORT AND LINE SERVICE
BUILDING DRAWING
WORK # SI-1-051-051-W22K

Apply one coat of CARBOLINE 190 to above NAT'L except the CS which shall be coated w/a rust preventative.

ISSUED BY DCC

INFORMATION COPY

Approved By: C.E.C.
Date: 6-20-79

FOR MATERIALS AND OPERATIONS

APPV Brown & Root, Inc.

REF. DRAWING NUMBERS

PIPE: M-1006 P-A
STEEL: SI-0818 P-8

ELECT:
H.V.A.C:

CONDITION	Fx	Fy	Fz	Mx	My	Mz
DESIGN						
OPERATING	DWG					
EMERGENCY	DWG					
FAULTED						

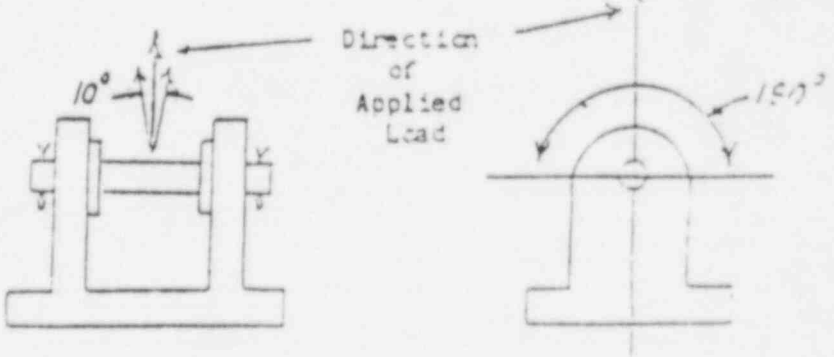
REV	DATE	DWN	CHK	APP	DESCRIPTION
0					ISS'D FOR CONST. FW1-4 REF NPG P-0A

CUSTOMER Texas Utilities Services Inc.
CP-

CD

Included herewith is the Certified Design Report Summary for the component(s) listed
of NPS Industries, Inc.

Product Name/Part Code		Material	Load Capacity at 100°F (Kips)	
Rear Bracket/SMRS	Size	Specification	Design Level A/B	Level C	Level D
	1/4	(1), (3)	.35	.51	.51
	1/2	(1), (3)	.65	.96	.96
	1	(1), (3)	1.5	2.10	2.1
	2	(1), (3)	6.0	10.28	10.28
	10	(1), (3)	15.0	20.8	22.1
	35	(2), (3)	50.0	67.2	72.45
	100	(2), (3)	120.0	160.0	160.00



(4) Size 1/4, 1/2, 1, 2, 10 are non-welded items. Size 35, 100 are welded items.

(3) SA-193 B7 or SA-354 TY BD (HT-1075, HT-1100, HT-1150) pin with carbon steel cotter pins and spacer/washers (both exempt per NF-2121(b)).

(2) SA-36 Bracket

(1) A-668 Class D (per Code Cases 1644-5, 1644-6, N-71-7, N-71-8, N-71-9) or SA-36 bracket.

This Certified Design Report Summary has been prepared by NPS Industries, in accordance with ASME Section III, Subparagraph NCA-3551.1, Code Case N-247 and is applicable for Code Classes 1,2,3 and MC Component Supports designed by analysis in compliance with Subsection NF, Article 3000, 1974 Edition and also all addenda thru 1980 Edition No Addenda. The Applicable Design Specification (NPSD- 8975) and Design Report (NPS-DR-1003) are maintained on file at NPS Industries' Quality Assurance Records at Bellmawr, New Jersey. Signature _____ Registration No. _____

CMC LOG

WDC SERIAL # 04938
DRAWING # SI-1-091-041 Y32R
LINE # N/A

MULTIPLE WELD DATA CARD

ARMS INDEXED

ITEM NO.	WPS NO.	REV.	ICN	WELD FILLER MATERIAL	WELD NOS.	P NO.	FABRICATION CODE & CLASS/ ACC STD
N/A	11032	7	0	E7018	N/A	1-1	ASME III-2

NOTES: 1. APPLICABLE QC/ANI HOLD POINTS SHALL BE INDICATED BY CHECKMARK .
2. ANI INSPECTION POINTS INDICATED BY (X).
3. DENOTE SATISFACTORY INSPECTIONS BY AN "S"; UNSATISFACTORY INSPECTIONS BY A "U".

OPERATION #	OPERATIONS		
1	Support Number Identification	7	Spherical Bearings
2	Size, Configuration, Tolerance/Dwg.	8	All Welds/Dwg. & WPS (V.T.) *
3	Material Correct/Dwg.	9	Installation Complete
4	Fasteners Correct & Complete	10	Final PT/~~MT~~ (as required)
5	Location & Elevation/Dwg.	11	JWC 6.4.80
6	Spring Can Stops Installed	12	

PRODUCTION RELEASE

WELD NO	OPERATION	HOLDPOINTS WT	QC	ANI	CONST	SAT OR UNSAT	INSPECTION RESULTS (SIGN & DATE) QC OR WT	NDE CERT. LEVEL	ANI	NDEP/ REV. 200 10-8-79	MT&E # CALIB DUE DATE
NA	1	NA	✓	NC		S	JWC 6.4.80	II			
NA	* 2	NA	✓	NC	Φ	~~S~~	~~GWC 7/20/80~~				
NA	* 3	NA	✓	NC	Φ	~~S~~	~~GWC 7/20/80~~				
NA	* 4	NA	✓	NC	Φ	~~S~~	~~GWC 7/20/80~~				
NA	* 5	NA	✓	NC	Φ	~~S~~	~~GWC 7/20/80~~				
NA	6	NA	✓	NC		N/A	JWC 6.4.80	II			
NA	* 7	NA	✓	NC		NA	GWC 7/20/80				
NA	8	NA	✓	NC		S	JWC 6.4.80	II			
NA	9	NA	NA	NC	~~Φ WC 6-4-80~~		Qmd 1-28-81				
Reviewed: I. Sabertinod 11-8-80											
1	10	NA	✓	NC		S	JWC 6.4.80	II		300	
2	10	NA	✓	NC		S	JWC 6.4.80	II		10-8-79	
3	10	NA	✓	NC		S	JWC 6.4.80	II			
4	10	NA	✓	NC		S	JWC 6.4.80	II			
Reviewed: S Madan 5.28.81											
5	12	NA	✓	NC		S	JWC 6.4.80	II			
Reviewed: S Madan 5.28.81											
6	11	NA	✓	NC		S	JWC 2/13/81	II	*	300 10/5/79	
Removed											
*						~~S~~	~~GWC 8/12/80~~				
*						~~S~~	~~GWC 7/20/80~~				
	Φ NA'D IN ERROR				GWC 7/20/80						
* NA	2	NA	✓	NC		S	JWC 2/13/81	II		200	
* NA	3	NA	✓	NC		S	JWC 2/13/81	II		10/9/79	
* NA	4	NA	✓	NC		S	JWC 2/13/81	II			
NA	5	NA	✓	NC		S	JWC 2/13/81	II			
Reviewed W Cochran 2/13/81											
⊕ OPERATION "8" Rejected "SAT" JWC 2/13/81											
Torque seal applied JWC 2/13/81											
Front not required on wall # → Reference IRN# 11921											
Front required for BRH on FLOOR #											

W Cochran 2-13-81 WE Swaat 1-16-81 QC ANI R. Bayless 10/15/80

APPROVAL SIGNATURES SHALL BE AFFIXED IN THE LINE IMMEDIATELY BELOW THE LAST STEP IN EACH SEQUENCE.

* Operations 1-8 are Final Inspections.

* N/A per QMI 8/12/80 by JWC

PERM. PLT. RECORD FIELD SI-1-091-041-Y32R

PPRV

WPS # 11032

WDC Serial No. 04938

Drawing No. SI-1-091-041-V32K

WELD FILLER MATERIAL LOG Weld No. N/A

WELD NO.	DATE	SIZE/CLASS	WELDER SYMBOL	WPS/ICN #	HEAT/LOT # or CODE #	AMT. ISS.	AMT. RT'D.	ISSUANCE APPROVAL
~~N/A~~ 1	4/29/80	E7018 5/32	BNU	11032 7-0	A82394 026B204	10	2	Larry Thompson P-203
~~N/A~~ 2	5/5/80	E7018 1/8	BNU	11032 7-0	A82394 026B204	20	11	Larry Thompson P-194
~~N/A~~ 3	5/27/80	E7018 5/32	BAT	11032 7/0	A82394 026B204	20	1	Billy Walker P11
4	4/28/80	~~3/32~~ 1/8 E7018	BEL	11032 7/0	A64175 026B607	5	2	Billy Walker P-132
5	5/28/80	3/32 E7018	BEL	11032 7-0	A64175 026B602	5	2	Billy Walker P-132
3	6/3/80	3/32 E7018	BSG	11032 7/0	643875 026B607	25	4	Billy Walker P225
4	6/3/80	3/32 E7018	BSG	11032 7/0	643875 026B607	25	0	Billy Walker P226
5	6/3/80	3/32 E7018	BSG	11032 7/0	643875 026B607	15	4	Billy Walker P226
DWC 6-4-80 for all entries								
6	1/28/81	~~E-7018~~ 1/8 E7018	BSF	11032 2/1	N94338 026A210	20	14	Jerry Seay P-132
DWC 2/13/81								

CMC LOG
47182 R:4 W/105 Sht

MULTIPLE WELD DATA CARD

WDC SERIAL # 74238
DRAWING # SI-1-031-041-Y32R
LINE # NA

EM #	WPS #	REV.	ICN	WELD FILLER MATERIAL	WELD NOS.	P NO.	FAB CODE & CLASS
							ACC STD
NA	NA	NA	NA	NA	NA		ASME III-2
							CPM 9.10

NOTES: 1. APPLICABLE QC/ANI HOLD POINTS SHALL BE INDICATED BY CHECKMARK
2. ANI INSPECTION POINTS INDICATED BY (X)
3. DENOTE SATISFACTORY INSPECTIONS BY AN "S", UNSATISFACTORY INSPECTIONS BY A "U"

OPERATION #	OPERATIONS		
1	Support Number Identification	7	Spherical Bearings
2	Size, Configuration, Tolerance/Dwg	8	All Welds/Dwg & WPS (VT) QI-QAP 11.1-28
3	Material Correct/Dwg	9	Installation Complete
4	Fasteners Correct & Complete	10	Final PT/MT (As Required) QI-QAP 10.2-1 /.2-2
5	Location & Elevation/Dwg	11	
6	Spring Can Stops Installed	12	

PREP: LONG VO 11/11/82 PRODUCTION RELEASE

WELD NO.	OPERATION	HOLDPOINTS WT	HOLDPOINTS QC	HOLDPOINTS ANI	CONST	SAT or UNSAT	INSPECTION RESULTS (SIGN & DATE) QC or WT	NDE CERT LEVEL	ANI	NDER/ REV	MT & E CALIB. DUE DATE
NA	1	NA	✓	NC		S.		II 11-17-82		15	
NA	2	NA	✓	NC		S.		II 11-17-82		15	
NA	3	NA	✓	NC		S.		II 11-17-82		15	
NA	4	NA	✓	NC		S.		II 11-17-82		15	
NA	9	NA	NA	NA							

REVIEWED: [signature] 11/11/82

WE Wyatt 11-16 82 QC ANI R. Rogers 10/15/83

APPROVAL SIGNATURES SHALL BE AFFIXED IN THE LINE IMMEDIATELY BELOW THE LAST STEP IN EACH SEQUENCE.

* Operations 1-8 are Final Inspections.

INSTALLATION TO BE IN ACCORDANCE WITH PROCEDURES REFERENCED IN

MODIFICATION PACKAGE
PER CMC #47182 R 4 CV 11/11/82

Description of Activities *

OBJECTIVE: ADD WASHER PLATE

ADD WASHER PLATE ~~PER~~ FOR U BOLT PER CMC-47182 REV 5

NO WELDING REQUIRED.

GEF 11-10-82 DRW 11/11/82

* THE ABOVE ACTIVITIES NEED NOT BE PERFORMED IN ANY SEQUENTIAL ORDER

QUALITY CONTROL

HANGER INSPECTION REPORT

11-QAP-11.1-28 Rev. 15
11-QAP-10.2-1 Rev. NA
11-QAP-10.2-2 Rev. NA

IDENTIFICATION

Hanger No. (1) SI-1-031-041-Y32K Class (2) II
Drawing No. Rev. (3) 0

I. MATERIAL ACCEPTABILITY PER DRAWING AND NOTED ON M.I.R.

(4) Phillip W. Atkins — Inspector — II — Level — 11-17-82 — Date

II. INSTALLATION COMPLETE PER DRAWING

(5) Phillip W. Atkins — Inspector — II — Level — 11-17-82 — Date

a. Comments:
(i.e.) Snubber Not Installed NA
Other NA

III. WELDING PER DRAWING INCLUDING ATTACHMENTS

a. All weld per ASME Sec. III (6) NA 11-17-82 — Inspector — Level — Date

b. ADDITIONAL NCE — c. HEAT TREAT — NA — Inspector — Level — Date

Process	NCE#	Rev.	Date	Inspector	Level	Date
NA				NA		
NA				NA		

COMMENTS: (8) NA

NCRs: (9) NA

MODIFICATION PACKAGE
PER CMC # 47182 R.4 CV 11/11/82

COMANCHE PEAK STEAM ELECTRIC STATION

INSPECTION REPORT

SHEET 1 OF 1

NO AM-01282 1

ITEM DESCRIPTION	IDENTIFICATION NO	SYSTEM/STRUCTURE DESIGNATION
VCD Inspection 2	SI-1-031-041-Y52 R1 N/A 3	SG #1 EL 832'-6" 4

SPEC. NO.	REV.	REF. Q.C. DOC. & REV. & CHANGE NO.	MEASURE OR TEST EQUIP. IDENT. NO.
N/A 5	N/A 6	CP-QAP 12.1 R.9 7	N/A 8

☒ IN PROCESS INSPECTION ☐ PRE INSTALLATION VERIFICATION ☐ INSTALLATION INSPECTION ☐ FINAL INSPECTION ☐ PRE TEST INSPECTION 9

INSP. RESULTS

☐ INSPECTION COMPLETED, ALL APPLICABLE ITEMS SATISFACTORY

☒ INSPECTION COMPLETED, UNSATISFACTORY ITEMS LISTED BELOW

T. Reed — QC INSPECTOR

9/9/93 — DATE 10

ITEM NO. 11	INSPECTION ATTRIBUTES 12	SAT	UNSAT	DATE	QC SIGNATURE 13
1	Skewed weld (3/8 Fillet) connecting PC 4 To PC 3 is undersize. Actual weld size is 1/4".		✓	9/9/93	Howard Hyer
2	Dwg calls for 3/8" Fillet between PC 4 and PC 12. Actual weld size is 1/4".		✓	9/9/93	Howard Hyer
3	Weld connecting REAR BRK'T To PC 3 is undersize. Top only.		✓	9/9/93	Howard Hyer

REMARKS (DWGS, SPECS, ETC.)

undersize weld found to be SAT on WDC # 1A. WDC # S-622 Howard Hyer 9/10/93 C-16

RELATED NCR NO. 15	I.R. CLOSED ☒	DATE	SIGNATURE 16
N/A		9/10/93	Howard Hyer QC INSPECTOR

14

J#3095

CMC LOG	

MULTIPLE WELD DATA CARD

WDC SERIAL # S-662
DRAWING # SI-1-031-041-432
LINE # NA

ITEM #	WPS #	REV.	ICN	WELD FILLER MATERIAL	WELD NOS.	P NO.	FAB CODE & CLASS ACC STD ASME III-2 CPM 9.10
NA	11032	10	0	E7018	D.C.A. #	1-1	

NOTES: 1. APPLICABLE QC/ANI HOLD POINTS SHALL BE INDICATED BY CHECKMARK
2. ANI INSPECTION POINTS INDICATED BY (X)
3. DENOTE SATISFACTORY INSPECTIONS BY AN "S", UNSATISFACTORY INSPECTIONS BY A "U"

OPERATION #	OPERATIONS		
1	Support Number Identification	7	Spherical Bearings
2	Size, Configuration, Tolerance/Dwg	8	All Welds/Dwg & WPS (VT) QI-QAP 11.1-28 ,32
3	Material Correct/Dwg	9	Installation Complete
4	Fasteners Correct & Complete	10	Final PT/MT (As Required) QI-QAP 10.2-1 /.2-2
5	Location & Elevation/Dwg	11	
6	Spring Can Stops Installed	12	

PREP: LONG VO 9/13/83 PRODUCTION RELEASE

WELD NO.	OPERATION	HOLDPOINTS WT	HOLDPOINTS QC	HOLDPOINTS ANI	CONST	SAT or UNSAT	INSPECTION RESULTS (SIGN & DATE) QC or WT	INSPECTION RESULTS (SIGN & DATE) NDE CERT LEVEL	INSPECTION RESULTS (SIGN & DATE) ANI	NDER/ REV	MT & E CALIB. DUE DATE
NA	1	NA	✓	NC		SAT Richard Hughes		9/9/83 II		22	
*	8	NA	✓	NC		SAT Richard Hughes		9/9/83 II		22	
NA	9	NA	NA	NA	9-16-83						
REVIEWED:					9/13/83				9-16-83		

WE Richard Hughes 9-16-83 QC ANI R. Ryan 10/5/83

APPROVAL SIGNATURES SHALL BE AFFIXED IN THE LINE IMMEDIATELY BELOW THE LAST STEP IN EACH SEQUENCE.

* Operations 1-8 are Final Inspections.

INSTALLATION TO BE IN ACCORDANCE WITH PROCEDURES REFERENCED IN CPM-6.11

MODIFICATION PACKAGE
PER UNSAT IR# AM-01280 LV 9/13/83

Description of Activities *

Objective: Work to comply with IR-AM-01280
Plan #S1-1-031-041-432R △
Add weld filler material as needed between item 3 to 4 (skewed weld). Add to item 4 to 12 to obtain 3/8 fillet. Add weld filler material as needed between rear brkt & item 3 top side only.

DWB 9-13-13 JBD 9/12/13

* THE ABOVE ACTIVITIES NEED NOT BE PERFORMED IN ANY SEQUENTIAL ORDER

WPS # 11032

WELD FILLER MATERIAL LOG

WDC Serial No. S-662

Drawing No. SE-1-031-041-Y32K

Weld No. NA

WELD NO.	DATE	SIZE/CLASS	WELDER STENCIL	WPS/LOT #	HEAT/LOT # OR CODE #	ANT. ISS.	ANT. RT'D.	ISSUANCE APPROVAL
NA	9/15/83	3/32 E7018	CEG	11032 10-0	81805 026B643	30	19	Copy Lee QP84
NA	9/16/83	3/32 E7018	CEG	11032 10-0	81805 026B643	25	3	Copy Lee P149

MODIFICATION PACKAGE
PER UNSAT IR # AM-01280 LV 9/13/83

QUALITY CONTROL

HANGER INSPECTION REPORT

QI-QAP-11.1-28 Rev. 22
QI-QAP-10.2-1 Rev. N/A
QI-QAP-10.2-2 Rev. N/A
QI-QAP-11.1-26 Rev. N/A

IDENTIFICATION

Hanger No. (1) SI-1-031-041-Y32K Class (2) 2
Drawing No. Rev. (3) 1

I. MATERIAL ACCEPTABILITY PER DRAWING AND NOTED ON M.I.L.

(4) N/A — Inspector — Level — Date

II. INSTALLATION COMPLETE PER DRAWING

(5) Harold Hyjek — Inspector — II — Level — 9/6/83 — Date

a. Comments:

(i.e.) Snubber Not Installed N/A
Star Stamp N/A
Sight Holes N/A

III. WELDING PER DRAWING INCLUDING ATTACHMENTS

a. All weld per procedure/drawing (6) Harold Hyjek — Inspector — II — Level — 9/6/83 — Date

b. ADDITIONAL NDE c. HEAT TREAT N/A — Inspector — Level — Date

(7) N/A — Process QI-QAP — Rev. — N/A — Inspector — Level — Date

Process QI-QAP — Rev. — N/A — Inspector — Level — Date

COMMENTS: (8) Per Class per WDC 5-662 Harold Hyjek 9/6/83

NCRs: (9) N/A PPRV

CONSTRUCTION OPERATION TRAVELER 35-1195

(1) TRAVELER NO.	(2) EQUIPMENT NO.	(3) UNIT NO.	(4) QUANTITY	(5) PAGE 1 OF 3
SI-1-031-041-Y32K	SAME AS TRAVELER #	1	1	

(6) ACTIVITY DESCRIPTION	(7) REFERENCE DRAWINGS
SNUBBER INSTALLATION	SAME AS TRAVELER NUMBER

(8) SPEC/PROC/ENG. INSTR.	(9) LOCATION	(10) SYSTEM
CP-CPM-9.13 & QI-QAP 11.1-28	YARD, 800'-0"	SI

PREPARED BY MICKEY GARRETT DATE 8-28-82 DEPT. M/W

REVIEWED BY Thomas F. Noble DATE August 28, 1982

ANI REVIEW Joel C. Hair DATE 9-10-82

OP. NO.	DEPT.	OPERATION — NPSI SNUBBERS WITH KITS	CONSTR	QA/QC ENG.	ANI
1.	MW QC(V)	REQUISITION REQUIRED SNUBBER AND ASSOCIATED PARTS FROM THE WAREHOUSE PER ATTACHED DRAWING AND ATTACH "MR" TO THE BACK OF THE TRAVELER AND STATE SERIAL NUMBER AND SIZE BELOW: SNUBBER SERIAL #: 12914 SIZE: 3 MR 260304 W. Campbell 9/20/82	9/24/82	W. Campbell 9-26-82	
2.	MW QC(V)	REMOVE EXISTING TEMPORARY BRACING DEVICE, CONNECTING PINS AND COTTER KEYS OR LOCKING DEVICE.	9/24/82	W. Campbell 9-26-82	
3.	MW QC(W)	CHECK THE DISTANCE OF TRAVEL TO INSURE THAT THE SNUBBER IS IN PROPER WORKING CONDITION AND USE THE FOLLOWING TABLE TO TEST THE SNUBBER: SNUBBER SIZE: --------- ¼ ½ 1 3 10 35 100 STROKE/LENGTH INCHES: - 4 2½ 4 5 6 6 6 SNUBBER SIZE: 3 STROKE LENGTH/INCHES: 5	9/24/82	W. Campbell 9-26-82	
4.	QC(V)	*VERIFY PIPE CLAMP ID #: N/A W. Campbell 9-26-82 ✱ *VERIFY REAR BRACKET #: 2 BRACKETS: 316(N)H : NF676 *VERIFY FORWARD BRACKET ID #: N/A W. Campbell 9-26-82 *VERIFY TRANSITION KIT #: SI-1-031-041-Y32K (VENDOR) *VERIFY ADAPTER PLATE #: F109 *VERIFY [illegible] NUMBER: NH831 *VERIFY COUPLING NUMBER: NJ12235 *VERIFY BARREL NUMBER: NP206 NOTE: [illegible] REQUIRED. TRANSITION KIT IS VENDOR SUPPLIED W. Campbell 9-26-82		W. Campbell 9-26-82	
5.	MW QC(W) FAB SHOP	IF TRANSITION KIT EXTENSION PIECE IS TO BE USED, VERIFY DIMENSION PRIOR TO CUTTING THE PIPE TO OBTAIN THE STRICT REQUIRED "C-C" DIMENSIONS PER ATTCHED DRAWING, INSURE AT ALL TIMES THAT THE DEVIATION OF THE COLD SETTING ON THE DESIGN DRAWING (AC DIMENSION) IS NOT MORE THAN + 1/8". IF THIS DEVIATION CANNOT BE MAINTAINED WITH THE 1-3/4" TRANSITION KIT ADJUSTMENT DISCONTINUE THE INSTALLATION OF THE SNUBBER. USE WPS-11032 FOR MODIFICATION PURPOSES ON THE TRANSITION KIT ASSEMBLY. MODIFIACTION SHALL BE DONE IN ACCORDANCE WITH CP-CPM-9.13.	N/A 9/24/82	N/A W. Campbell 9-26-82	
6.	MW QC(W)	WHEN WELDING (IF REQUIRED) HAS BEEN COMPLETED AND THE	N/A 9/24/82	N/A W. Campbell 9-26-82	

✱ MAY BE VERIFIED AFTER INSTALLATION BUT PRIOR TO FINAL TRAVELER COMPLETION BY QC ONSITE II
M Campbell 9-26-82 S/I 9-26-82

CONSTRUCTION OPERATION TRAVELER CONTINUATION

TRAVELER NO. 31-1-031-041-Y31K M.G. 9 in lot | ACTIVITY DESCRIPTION SNUBBER INSTALLATION NPSI WITH KIT |

PREPARED BY MICKEY GARRETT DATE 8-28-82

REVIEWED BY Edward J. Kotts DATE August 25, 1982

ANI REVIEW DATE

OP. NO.	DEPT.	OPERATION	CONSTR	QA/QC ENG.	ANI
		TRANSITION KIT IS READY TO BE INSTALLED ON THE SNUBBER, USE THE FOLLOWING TORQUE VALUES ON THE TRANSITION KIT: SNUBBER SIZE: — TORQUE VALUE: ¼ — 22 (IN/LBS) ½ — 22 (IN/LBS) 1 — 45 (IN/LBS) 3 — 120 (IN/LBS) 10 — 440 (IN/LBS)			
		SNUBBER SIZE: _____ TORQUED TO: _____ MT&E: _____ DATE DUE: _____			
		NOTE: WHILE TORQUING THESE BOLTS ON SIZES ¼ THRU 10 SNUBBERS, HOLD THE SNUBBER ASSEMBLY BY THE TRANSITION KIT EXTENSION PIECE. CARE SHALL BE TAKEN NOT TO DAMAGE THE SPERICAL BEARING. ON SNUBBER SIZES ¼ THRU 10, THE TRANSITION KIT OR FORWARD BRACKET MOUNTING BOLTS SHALL BE SAFETY WIRED (SAFETY WIRE SUPPLIED BY THE VENDOR WITH THE FORWARD ADAPTER ASSEMBLY FROM THE FACTORY), INSTALL PER QI-QAP-11.1-32. ON SIZES 35 TO 100 TORQUE VALUES ARE TO BE APPLIED TO THE PIPE PORTION OF THE TRANSITION KIT OR TO THE FORWARD BRACKET, BOTH OF WHICH APPLYING TORQUE, THE SNUBBER SHALL BE HELD BY THE SNUBBER HOUSING.			
7.	MW QC(W)	JAM NUT FOR TRANSITION KIT SHALL BE TORQUED AS FOLLOWS SNUBBER SIZE: — TORQUE VALUE: ¼ — 40 (FT/LBS) ½ — 40 (FT/LBS) 1 — 40 (FT/LBS) 3 — 80 (FT/LBS) 10 — 100 (FT/LBS) 35 — 150 (FT/LBS) 100 — 220 (FT/LBS)	W/A 9/6/82	W. Compton 9/24/82	
		SNUBBER SIZE: 3 TORQUED TO: 80 (FT/LBS) MT&E: 187 DATE DUE: 19 OCT 82			
	QC (W)	TORQUE SEAL APPLIED, SIGNATURE: W. Compton DATE: 9/24/82			
8.	MW QC(V)	INSTALL SAFETY WIRE PER QI-QAP-11.1-32 SAFETY WIRE SIZE: _____ SAFETY WIRE TYPE: _____	W/A 9/6/82	NA W. Compton 9-26-82	

CONSTRUCTION OPERATION TRAVELER CONTINUATION

TRAVELER NO.	ACTIVITY DESCRIPTION	PAGE
31-1-031-041-432k	SNUBBER INSTALLATION (NPSI WITH KITS)	3 OF 3

PREPARED BY MICKEY GARRETT DATE 8-28-82

REVIEWED BY Edward J Kotski DATE August 28, 1982

ANI REVIEW Joe C. Hair DATE 9-10-82

OP. NO.	DEPT.	OPERATION	CONSTR	QA/QC ENG.	ANI
9.	MW QC(W)	INSTALL SNUBBER, CONNECTING PINS AND NEW COTTER PINS OR LOCKING DEVICE (SEE NOTES ON RELATIVE ANGLE ADJUSTMENTS PRIOR TO INSTALLATION): IF REQUIRED MINOR ADJUSTMENT TO THE PIPE CLAMP WILL BE ALLOWED TO FACILIATATE SNUBBER INSTALLATION, CARE SHALL BE TAKEN TO INSURE PARALLEL ALIGNMENT OF THE PIPE CLAMP HALVES IS ACCOMPLISHED PRIOR TO TIGHTENING OF THE LOAD BEARING BOLTS. NOTES: RELATIVE ANGLE ADJUSTMENTS IF REQUIRED TO INSTALL SNUBBER SHALL BE AS FOLLOWS, WHEN THE RELATIVE ANGLE BETWEEN THE END CAP AND THE FORWARD BRACKET HAS BEEN ADJUSTED, THE EXTENSION AND RETRACTION OF THE SUPPORT CYLINDE SHALL BE REVERIFIED, VERIFY SPLIT RINGS ON SIZES ½ THRU 10 ARE NOT BROKEN, SPRUNG OR DEFORMED. UNDER NO CIRCUMSTANCES SHALL THE END CAP BE ROTATED MORE THAN ONE COMPLETE TURN FROM THE BOTTOM-OUT POSITION.	9/24/82	W. Campbell 9/24/82	
10	QC(V)	VERFIY SIGHT HOLE ON TRANSITION KIT.		N/A W. Campbell 9/24/82	
11	QC(V)	VERIFY COMPLETION OF OPERATIONAL TRAVELER.		L. Mansfield 9/29/82	

NOTE: IF CONFLICT SHOULD ARISE BETWEEN THIS OPERATIONAL TRAVELER AND EXISTING SITE PROCEDURES CONSULT THE MANUFACTURES INSTALLTION INSTRUCTIONS FOR RESOLUTION.

NOTES: SEQUENCE OF OPERATIONS MAY BE DEVIATED IF NECESSARY

IF FORWARD ADAPTOR IS TORQUED & SAFTY WIRED FROM FACTORY RETORQUE & REWIRE ONLY IF

A) BOLTS ARE LOOSE

B) WIRE IS DAMAGED

C) WIRE IS NOT CRIMPED

M. Gallet 9-26-82

EJH 9-26-82

ARMS
INDEXED

PERM. PLT. RECORD

RTN	PLT. LOC.
1	17.10.13
SUBFILE LOC.	
DD-1-016-024-Y33R	

ATTACHMENT 1

DATE:

DOCUMENTATION CHECK LIST

PACKAGE MARK NO. DD-1-016-024-Y33R Δ2

NUMBER OF PAGES	TYPE OF DOCUMENT
1. N/A	Manufacturing Record Sheet (MRS)
2. 2	Weld Data Card (WDC) Weld No(s). N/A
3. 2	Weld Filler Material Log (WFML)
4. 2	Material Identification Log (MIL)
5. 1	Non-Destructive Examination Report (NDER)
6. N/A	Inspection Report (IR)
7. N/A	Nonconformance Report (NCR)
8. N/A	Vendor Documentation
9. (2	Repair Process Sheet (RPS) Weld No(s) N/A
10. N/A	Operation Traveler (OT)
11. 2	Drawing (including CMC) 1 UM C (2 PAGES) YBH 10/28/83
12. N/A	Material Requisition (MR)
13. 1	Miscellaneous (Describe Below) ATTACHMENT # 5 (1 PAGE) YBH 10/28/83

This documentation has been reviewed and accepted per CP-QAP-18.2 and the vendor certified as-built drawing.

CES Representative Yang & Hitz

Date 10/28/83

12 Total number of pages in package

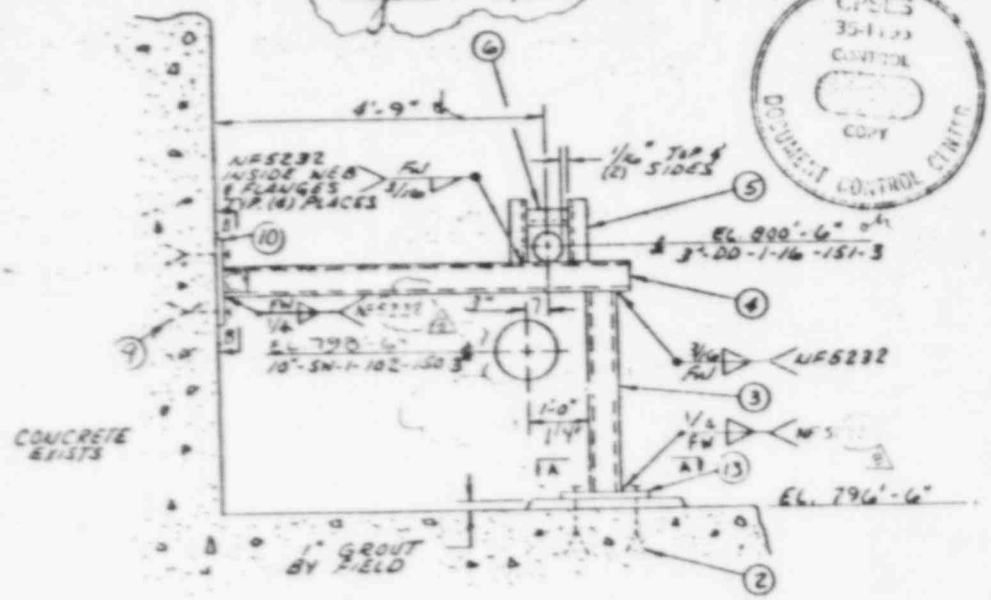
ANI R. Bryant

DATE 11/7/83

BLUE LINE 02380

VENDOR CERTIFIED
DRAWING REV. NO. 3
BY [illegible] DATE 4/1/83

AS-BUILT

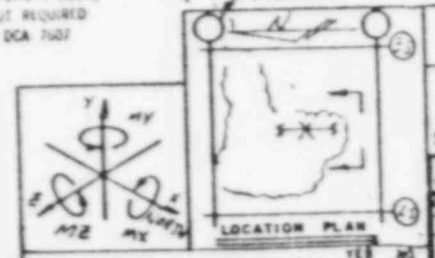


NOTES:
4) BY ISSUE OF REV. 1 OF THIS DRAWING, THE FOLLOWING DOCUMENTS ARE VOIDED:
CAL-1274 e1
CAL-1506

5) LOCKING DEVICES FOR HIGH STRENGTH BOLTS ARE NOT REQUIRED PER DCA 7601

SEE PIPNL FOR HGR LOC.

U9388.25



PIPNL loc. SW-1-102-150 E4
I.P.D. loc. 3D-1-16-151-3
Data Point E15 Rod B1 Hgt 22
Pipe Mat'l. A 312 TY 304
Insul. _____ Bldg YARD

TO 1003

ITEM NO.	MATERIALS & OPERATIONS	QUAN.	SHIP.		PAS	L	CSS	PRIM	SEC	AISC
	SEISMIC PIPE RESTRAINT CONSISTING OF:	ONE								
1	Carbon Steel (SA515 GR.65 or SA 36) Plate	2			X			X		
2	1/2"x7" HILTI Kwik Concrete Anchors, TW-40	3					X			
3	4"x4"x1/4" T.S. (A500 GR.B) 1'-4 1/2" Long TW-41@	1					X			
4	4"x4"x1/4" T.S. (A500 GR.B) 5'-9 3/4" Long TW-70@	1					X		X	
5	C3x4.1 (SA-36) 0'-5 1/2" Long. TW-4@	2					X		X	
6	C3x4.1 (SA-36) 0'-3 5/8" Long. TW-1@	1					X		X	
	SEISMIC ASSEMBLY SKETCH & ENGINEERING	1								
	BUNDLE & TAG	1								
	MARK# DD-I-16-024-Y33R									
	Apply one coat of Carboline Zinc #11 to above mat'l except th ds which shall be coated w/a rust preven tive.									
1	5"x7" [illegible]	4								
2	[illegible]	1								
11	[illegible]									
9	[illegible]									

REV	DATE	DWN	ENG	APP	DESCRIPTION
A	4/1/83	[illegible]			[illegible]

Approved By: [illegible]
Date: 3-16-83

FOR MATERIALS AND OPERATIONS SEE SKETCH NO. _____ SHEET __ OF __

CONDITIONS	Fx	Fy	Fz	Mx	My	-
DESIGN						
[illegible]						
EMERGENCY						
ERECTED						

Brown & Root, Inc.

REF. DRAWING NUMBERS

PIPE: API-1006 REV 3 ELECT: _____
STEEL: S1-0318 REV 2 H.V.A.C.: _____

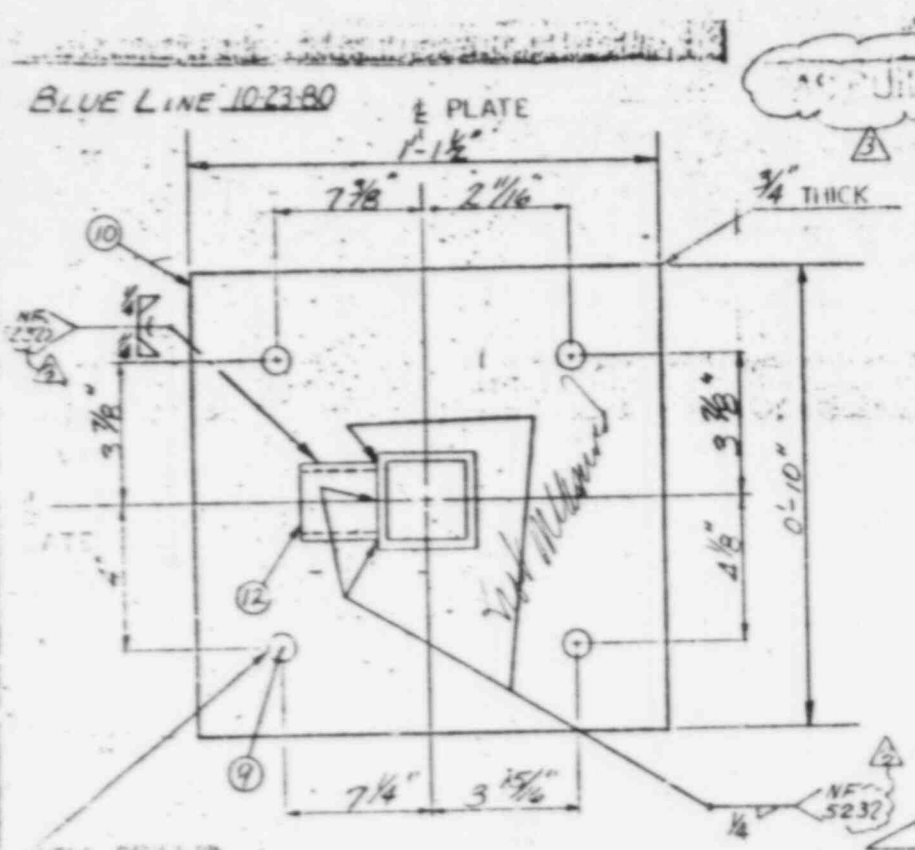
REV	DATE	DWN	APP	DESCRIPTION
3	4/1/83	[illegible]	[illegible]	ISSUED FOR CONST WELD [illegible]
2	2/25/83	[illegible]	[illegible]	REVISED PER FIELD [illegible]
1	2/2	[illegible]	[illegible]	REVISED PER DCA 45395 [illegible]
A	[illegible]	[illegible]	[illegible]	REVISED PER ISO [illegible] WELDS (AS BUILT)

THIRD PARTY INSPECTION YES NO
CODE CLASS: ASME III-3

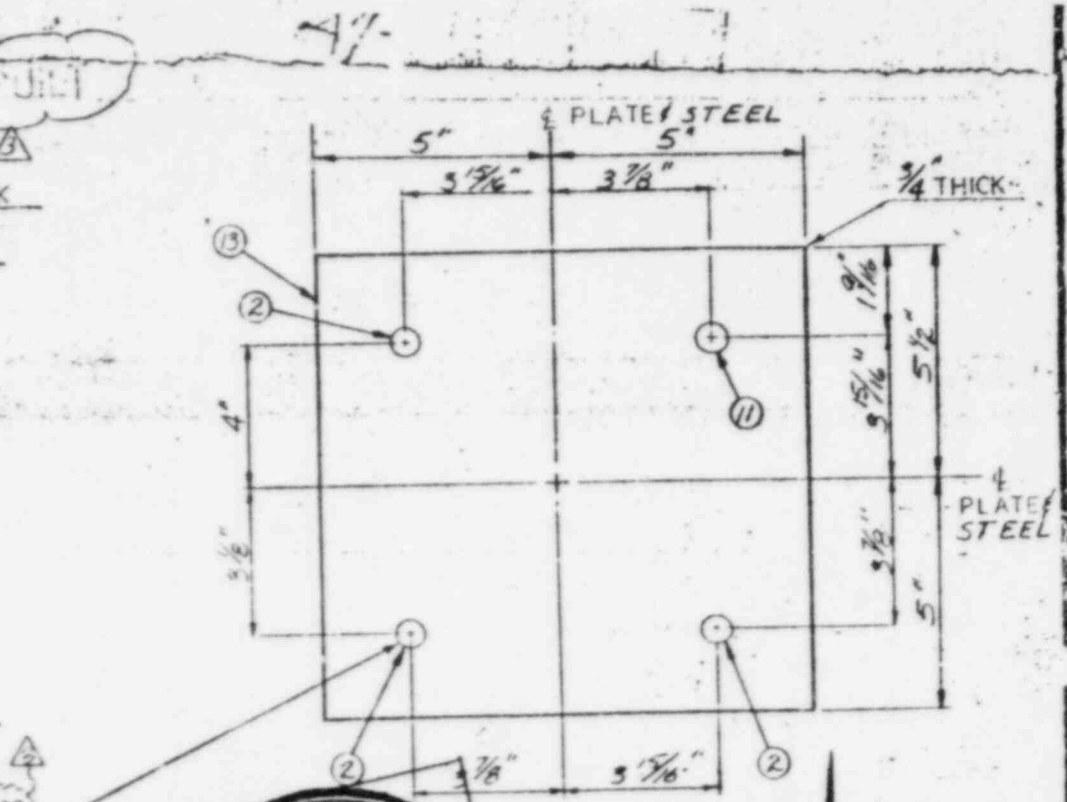
CUSTOMER Texas Utilities Service, Inc.
ORDER & CONT. NO CP-0046
JOB NAME Comanche Peak 1 & 2
MARK NO DD-I-16-024-Y33R
SKETCH NO
SHEET 1 OF 2 REV B

CHECK CURRENT REVISION OF DCA-5021 FOR HANGER CLASSIFICATION.

BLUE LINE 10-23-80



SECTION B-B



SECTION A-A

T/01003

THIRD PARTY INSPECTION X
CODE CLASS: ASME III-3

Brown & Root, Inc.

DRAWING NUMBERS
ELECT:
HVAC:

DA-1-16-024-Y33R

SHEET 2 REV 3

CHECK CURRENT REVISION OF DCA-5021 FOR HANGER CLASSIFICATION

ATTACHMENT 5

DO-1-01L-024-Y53R R3
HANGER NUMBER

N/A
TEMPERATURE

NA
PRESSURE

QUALITY CONTROL
COMPONENT SUPPORT CHECKLIST

ITEMS	INSPECTION CRITERIA	QCI/DATE	SAT/UNSAT
1.	Support configuration complies with vendor certified drawing (Large Bore) or Design Reviewed Drawing (Small Bore).	Ken Johnson 6/1/83	SAT
2.	All parts are installed (i.e., bolts, nuts, "U" clamps, etc.)	Ken Johnson 6/1/83	SAT
3.	All accessible welds reinspected and are in compliance with Vendor Certified or Design Reviewed Drawings.	9.14.83 LaMonfield	SAT
4.	All skewed welds have been reinspected and are in compliance with the Vendor Certified or Design Reviewed Drawings.	NA per NCR 6/1/83	
5.	Support completed.	9.14.83 LaMonfield	SAT
6.	Pipe Clearances comply with:		
	a. Where the design shows 1/16" on both sides, the total dimensional tolerance shall be 1/8" ± 1/16" (e.g., 0" on one side with 1/8" ± 1/16" on the other, 1/16" ± 1/32" on both sides, or any combination).	NA per NCR 6/1/83	DCA 17623
	b. Where the design shows 0" on one side and 1/16" on the other side, the sum of both gaps shall not exceed 1/8" or be less than 1/32".	NA per NCR 6/1/83	DCA 17623
	c. For low energy lines, if the clearances defined above cannot be maintained, a total clearance of 1/8" ± 1/16" on any two adjacent sides is acceptable. (Low energy lines are defined as those having operation temperatures and pressures less than 200°F and 275 PSI, respectively.)	NA per NCR 6/1/83	DCA 17623

7. Comments: NCR M7929 OVER SIZE WELDS & UNDER CUT SAT per closure of NCR Lukyn 9/14/83

NO.	MATERIAL & OPERATIONS	QUAN	SHIP.		PBS	L	CSS	PRIM.	SEC.
	SEISMIC PIPE RE AINT CONSISTING OF:								
	Carbon Steel (SA515 GR.65 or SA-36) Plate ~~Detail A. TW=42#~~ PER CMC 7506	2			X			X	
~~2~~	~~1/2"x7" Hilti Kwik Concrete Anchors, TW=9#~~	~~3~~					~~X~~		
(3)	4"x4"x1/4" T.S. (A500 GR.B) 3'-4 1/2" Long TW=41# Shop Center & Weld to (1) One of Item #1	1				X		X	
(4)	4"x4"x1/4" T.S. (A500 GR.B) 5'-9 3/4" Long TW=70# Shop Center & Weld to (1) One of Item #1	1				X		X	
5	C3x4.1 (SA-36) 0'-5 1/2" Long. TW=4#	2				X		X	
6	C3x4.1 (SA-36) 0'-3 5/8" Long. TW=1#	1				X		X	
	SEISMIC ASSEMBLY SKETCH & ENGINEERING	1							
	BUNDLE & TAG	1							
	MARK# DD-1-16-024-Y33R								
	Apply one coat of Carbo Zinc #11 to above mat'l except th'ds which shall be coated w/a rust preventative.								
7	~~PER CMC 7506~~ DELETED per cmc 12994								
8	PER CMC 7506 SA515 GR65 MK#5043	1							
9	per CMC 12994	4							
10	per cmc 12994 SA515 GR65	1							
11	per CMC 12994	4							
(2)	1/2"X7" Hilti Kwik Concrete Anchors, TW=9#	3							
(5)	Refer 5½" Long C3x4.1 (2.98#) MK# 5041	2							
(6)	Refer 3¾ Long C3x4.1 (2.01#) MK# 5041	1							

ISSUED BY DCG

Approved By: DEP
3-10-78

INFORMATION

COPY

QUAN.	SHIP.		PBS	L	CSS	PRIM.	SEC.	AISC

FOR MATERIALS AND OPERATIONS SEE SKETCH NO. SHEET OF

ITT GRINNELL
PIPE HANGER DIVISION

PPRV

REF DRAWING NUMBERS

PE: M1-1006 REV. 3 ELECT:
EEL: S1-CB1B REV. 7 H.V.A.C.:

CONDITIONS	Fx	Fy	Fz	Mx	My	Mz
DESIGN						
NORMAL - &/ UPSET		±431 .562	±431			
EMERGENCY		±685 .893	±685			
FAULTED ENT						

V	DATE	DWN	APP	DESCRIPTION
	6/3/78			FIELD ISSUED FOR CONST WELDS #6

CUSTOMER Texas Utilities Service, Inc.
ORDER OR CONT. NO. CP-0046
JOB NAME Comanche Peak 1 & 2
MARK NO. DD-1-16-024-Y33R
SKETCH NO.
SHEET 1 OF 1 REV. 0/EA

800
SWI

DD-1-016-024-233R
HANGER NUMBER

MATERIAL IDENTIFICATION LOG

	Mat'l Spec	Material Description	Quantity	Heat/ID Number	Salvaged Hanger Number (where applicable)	QC Verification	Date
12	A500 Gr B	3"X3"X.25"X5'-1" Lg	1	Item #12 YW		SW	11-25-80
13	SA515 GR. 65	3/4 X 10 X 10 2/3 FL	1	Item 13 Code V		UTS	12/4/80

Item 12

11/25/80

WDC [illegible] # 25651

Drawing # 02-1-016-024-Y33C

Line # NA

(3)(5)(6) mR# 8362824/1/80

(7)(8) MR# 5043 SA 515 GR 70 1/29/80 (6) SA-516 GR 70 2-6-80

MULTIPLE WELD DATA CARD

ITEM NO.	WPS NO.	REV.	ICN	WELD FILLER MATERIAL	WELD NOS.	P.NO.	FABRICATION CODE & CLASS/ACC STD.
NA	11032	6	0	E7018	1-8	1-1	3 ASME III -

NOTES: 1) Applicable QC/ANI hold points shall be indicated by checkmark ✓.
2) ANI inspection points indicated by (X).
3) Denote Satisfactory inspections by an "S"; Unsatisfactory inspections by a "U".

OPERATION #	OPERATIONS		
1	CLEANED	7	
2	ALIGNMENT	8	
3	FINAL VT	9	
4		10	
5		11	
6		12	

PRODUCTION RELEASE

WELD NO.	OPERATION	HOLDPOINTS WT	HOLDPOINTS QC	HOLDPOINTS ANI	CONST.	SAT. or UNSAT.	INSPECTION RESULTS (SIGN & DATE) QC or WT	NDE CERT. LEVEL	INSPECTION RESULTS (SIGN & DATE) ANI	NDEP/ REV.	MT&E # / CALIB. DUE DATE
1	1	NA	✓	NC		S*	~~2/16/80~~	II		Exp 10/8/75	
	2		✓			S	R 2/18/80	II			
	3		✓			S	DRV 2-19-80	II			
2	1		✓			S*	~~2/16/80~~	II			
	2		✓			S	R 2/18/80	II			
	3		✓			S	DRV 2-19-80	II			
3	1		✓			S*	~~2/16/80~~	II			
	2		✓			S	R 2/18/80	II			
	3		✓			S	DRV 2-19-80	II			
4	1		✓			S*	~~2/16/80~~	II			
	2		✓			S	R 2/18/80	II			
	3		✓			S	DRV 2-19-80	II			
5	1		✓			S*	~~2/16/80~~	II			
	2		✓			S	R 2/18/80	II			
	3		✓			S	DRV 2-19-80	II			
6	1		✓			S*	~~2/16/80~~	II			
	2		✓			S	R 2/18/80	II			
	3		✓			S	DRV 2-19-80	II			
7	1		✓			S*	~~2/16/80~~	II			
	2		✓			S	R 2/18/80	II			
	3		✓			S	DRV 2-19-80	II			
8	1		✓			S*	~~2/16/80~~	II			
	2	NA	✓	↓		S	R 2/18/80	II		U	

WE David Chatterton 8-27-80 QC

ANI R. Byerly 11/7183

Approval signatures shall be affixed on the line immediately below the last step in each sequence.

* Re-Verified Clean
Re 2/18/80

PRODUCTION RELEASE

WELD NO.	OPER-ATION	HOLDPOINTS WT	HOLDPOINTS QC	HOLDPOINTS ANI	CONST.	SAT. or UNSAT.	INSPECTION RESULTS (SIGN & DATE) QC or WT	INSPECTION RESULTS (SIGN & DATE) WDE CERT. LEVEL	INSPECTION RESULTS (SIGN & DATE) ANI	NDEP/ REV.	MTGE # / CALIB. DUE DATE
	3	NA	✓	NC		S	DRV 2-A-80	II		200 12-9-79	
Removed: B. Paulo 9/27/79							DK 9-12-79	SRT	9-13-79		

WE QC ANI

MANUFACTURING RECORD SHEET

BILL OF MATERIALS - SPOOL No. _____

ITEM	QUANTITY/ LENGTH	SIZE	SCHEDULE/ RATING	MATERIAL SPEC.	TYPE/ GRADE	HEAT/ CODE NUMBER	END PREP	INSPECTOR INITIALS AND DATE

NO.	OPERATION	B&R QC	ANI	B&R QC INITIALS	DATE	ANI INITIALS	DATE
1	DESIGN TRACEABILITY						
2	FINAL DIM's/SURFACE COND. IDENTIFI-CATION REV.___						

ACCEPTANCE

B&R QA SIG. DATE ANI SIG. DATE

CMC LOG

T299 A S 45395

T306 A R3

45395 12/04/80 DMK

* inc into print

MULTIPLE WELD DATA CARD

WDC SERIAL # 08528

DRAWING # DD-1-016-024-Y33R

LINE # NA

ITEM NO.	WPS NO.	REV 8W 12-3-80	ICN	WELD FILLER MATERIAL	WELD NOS.	P NO.	FABRICATION CODE & CLASS/ ACC STD
NA	11032	16	0	E7018	NA	1-1	ASME III-3

NOTES: 1. APPLICABLE QC/ANI HOLD POINTS SHALL BE INDICATED BY CHECKMARK .
2. ANI INSPECTION POINTS INDICATED BY (X).
3. DENOTE SATISFACTORY INSPECTIONS BY AN "S" UNSATISFACTORY INSPECTIONS BY A "U".

ARMS INDEXED DATE

OPERATION #	OPERATIONS		
1	Support Number Identification	7	Spherical Bearings
2	Size, Configuration, Tolerance/Dwg.	8	All Welds/Dwg. & WPS (V.T.) *
3	Material Correct/Dwg.	9	Installation Complete
4	Fasteners Correct & Complete	10	Final PT/MT (as required)
5	Location & Elevation/Dwg.	11	
6	Spring Can Stops Installed	12	

PRODUCTION RELEASE

WELD NO	OPERATION	HOLDPOINTS WT	QC	ANI	CONST	SAT OR UNSAT	INSPECTION RESULTS (SIGN & DATE) QC OR WT	NDE CERT LEVEL	ANI	NDEP/ REV. 200 10-8-79	MT&E # CALIB DUE DATE
NA	1	NA	✓	NC		S	Jwc 6-27-80	II			
NA	2	NA	✓	NC		S	Jwc 6-27-80	II			
NA	3	NA	✓	NC		S	Jwc 6-27-80	II			
NA	4	NA	✓	NC		N/A	Jwc 6-27-80	II			
NA	5	NA	✓	NC		S	Jwc 6-27-80	II			
NA	6	NA	✓	NC		N/A	Jwc 6-27-80	II			
NA	7	NA	✓	NC		N/A	Jwc 6-27-80	II			
NA	8	NA	✓	NC		S	Jwc 6-27-80	II			
NA	9	NA	NA	NC	✓ 6-27-80						
Reviewed: CM Henry 6-27-80									**		
* NA	8	NA	✓	NC		S	WTS 12/4/80	II		200 10/8/79	
Rev w/R: RPalm 12-24-80											
* N/A	2	N/A	✓	NC		S	WTS 12/4/80	II			
N/A	3	N/A	✓	NC		S	WTS 12/4/80	II			

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* Add'l inspections required 12/24/80

PERM. PLT. RECORD

RTN: N | FILE LOC.: 12.1.16.13

SUBFILE LOC.: DD-1-016-024-Y33R

Ref Rev 3 Drawing

grout required

** REF NCR M-2690 RIS 6/16/82

L Dyatt 12-3-80

Final Review L Wyatt 11-17-80 QC ANI R Byers 11/7/83

APPROVAL SIGNATURES SHALL BE AFFIXED IN THE LINE IMMEDIATELY BELOW THE LAST STEP IN EACH SEQUENCE.

* Operations 1-8 are Final Inspections.

08528 6-11-80 11-17-80

Serial No. ~~2065~~ AND 3811

11-17-80

Drawing No. ~~DD-1-016-024-Y33~~

WELD FILLER MATERIAL LOG Weld No. 1-8

WELD NO.	DATE	SIZE/CLASS	WELDER SYMBOL	WPS/ICN #	HEAT/LOT # or CODE #	AMT. ISS.	AMT. RT'D.	ISSUANCE APPROVAL
1 BT. 2-16-80	2-16 80	E7018 1/8	BHX	11032 6/0	A80964 026B203	2	2	Don Fields 213
2 CO. 2-16-80	2-16 80	E7018 1/8	BHX	11032 6/0	A80964 026B203	2	2	Don Fields
3 OT 2-16-80	2-16 80	E7018 1/8	BHX	11032 6/0	A80964 026B203	2	2	Don Fields
4 OT 2-16-80	2-16 80	E7018 1/8	BHX	11032 6/0	A80964 026B203	2	2	Don Fields
5 OT 2-16-80	2-16 80	E7018 1/8	BHX	11032 6/0	A80964 026B203	2	2	Don Fields
6 OT 2-16-80	2-16 80	E7018 1/8	BHX	11032 6/0	A80964 026B23	2	2	Don Fields
7 RX 6-21-80	2-16 80	E7018 1/8	BHX	11032 6/0	A80964 026B203	2	1	Don Fields
8	2-16 80	E7018 1/8	BHX	11032 6/0	A80964 026B203	2	1	Don Fields 213
1 RE 2/19/82	2-18- 80	E7018 3/32	BHX	11032 6/0	A64175 026B602	2	1	Don Fields
2 RE 3/4/80	2-18- 80	E7018 3/32	BHX	11032 6/0	A64175 026B602	2	0	Don Fields
3 RE 3/19/80	2-18 80	E7018 3/32	BHX	11032 6/0	A64175 026B602	2	0	Don Fields
4 RE 2/19/80	2-18 80	E7018 3/32	BHX	11032 6/0	A64175 026B602	2	0	Don Fields
5 RE 2/19/80	2-18 80	E7018 3/32	BHX	11032 6/0	A64175 026B602	2	0	Don Fields
6 RE 2/19/80	2-18 80	E7018 3/32	BHX	11032 6/0	A64175 026B602	2	0	Don Fields RE 201
7 RE 2/19/80	2-18 80	E7018 1/8	BHX	11032 6/0	A80964 026B203	4	0	Don Fields
8 RE 2/19/80	2-18 80	E7018 1/8	BHX	11032 6/0	A80964 026B203	4	0	Don Fields P. 90

WELD FILLER MATERIAL LOG

WELD NO.	DATE	SIZE/CLASS	WELDER SYMBOL	WPS/ICN #	HEAT/LOT # or CODE #	AMT. ISS.	AMT. RT'D.	ISSUANCE APPROVAL
NA	6/25/80	E7018 1/8	BLU	11032 7-0	882344 026B804	20	8	Larry Thompson B-214
NA	11/25/80	3/32 E7018	BWL	11032 7-1	643875 026B607	HO	14	Michael W. Norris P 137

6-27-80 Inc

INSTALLATION TO BE IN ACCORDANCE WITH PROCEDURES REFERENCED IN CPM-6.11

REPAIR PROCESS SHEET

WDC Serial No. 753061
Drawing No. DD-1-016-024-Y33R
Weld No. NA

R-1 DESCRIPTION OF DEFECT (SKETCH)

NCR M-58265

INCREASE WELD SIZES AS BELOW:
ITEM #3 TO ITEM #13 - 1/4"
ITEM #3 TO ITEM #4 - 3/16"
ITEM #4 TO ITEM #10 - 1/4"
ITEM #12 TO ITEM #10 - 1/4"

OPER. NO.	OPERATION	HOLD POINTS WT	HOLD POINTS QC	HOLD POINTS ANI	COM	"S" or "I"	INSPECTION RESULTS (SIGN AND DATE) QC or WT	INSPECTION RESULTS (SIGN AND DATE) NDE CERT LEVEL	INSPECTION RESULTS (SIGN AND DATE) ANI
R-1	WELD MAJOR REPAIR								
A	WELD 11032 10/0	NA	NA	NC					
B	FINAL VT	NA	V	NC		SAT	T. Coleman 4-26-83	II	
PREP: B. Mahaffey 4-15-83									
REVIEW: TS 4-16-83									BP 4-15-83
	Final Acceptance								
						Weld #1. 5/16"			
						2. 1/4"			
						3. 5/16"			
						4. 5/16"	SAT. T. Coleman 4-26-83		

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APR 27 1983

WE R. Marley | QC | ANI R. Burgess 11/7/83 | G&H

Approved signatures shall be affixed on line immediately below the last item in each repair sequence.
Base metal repair - WE, QC, G&H, ANI
Weld metal repair - WE, QC, ANI

Bogart

WPS # 11032

MCC Serial No. 753061

Drawing No. DD-1-016-024-Y33R

WELD FILLER MATERIAL LOG Weld No. NA

WELD NO.	DATE	SIZE/CLASS	WELDER SYMBOL	WPS/ ICN #	HEAT/LOT # or CODE #	AMT. ISS.	AMT. RT'D.	ISSUANCE APPROVAL
N/A	4/24/93	3/32 E7014	BZF	11032 10-0	818051 0203643	60	0	[signature] P277

INSTALLATION TO BE IN ACCORDANCE WITH PROCEDURES REFERENCED IN -- CPM-6.11

REPAIR PROCESS SHEET

WDC Serial No. 706124
Drawing No. M-1-016-024-Y33R
Weld No. NA

NCR M-7929

R-1 DESCRIPTION OF DEFECT (SKETCH)

Undercut

If main wall is violated Return to Fwtc

OPER. NO.	OPERATION	HOLD POINTS WT	HOLD POINTS QC	HOLD POINTS ANI	COM	"S" or "I"	INSPECTION RESULTS QC or WT	INSPECTION RESULTS NDE CERT LEVEL	(SIGN AND DATE) ANI
R-1	Cosmetic Repair								
A	Grind	X	NA	NC		"S"	RRB 7-6-83		
B	Clean	NA	↓	NC		S	[illegible] 7-6-83	II	
C	UT	NA	↓	NC		S	[illegible] 7-6-83	II	
D	Final VT	NA	↓	NC		S	[illegible] 7-6-83	II	
Insp.	NDE 6-27-83								
Reject	DW 6-28-83								RRB 6-27-83
	Final Acceptance								

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JUL 07 1983

WE R. Martinez QC ANI R. Bynes 11/7/83 G&H

Approved signatures shall be affixed on line immediately below the last item for each repair sequence.
Base Metal Repair - WE, QC, GSH, ANI
Weld Metal Repair - WE, QC, ANI

Reference UT Report # A 4945

Brown & Root, Inc.
QUALITY ASSURANCE DEPARTMENT
UT THICKNESS REPORT

SERIAL NUMBER
No A 4945

PROJECT CPSES JOB NO. 35-1195 UNIT 1 PAGE 1 OF 1

DRAWING OD-1-16-024-473R	SYSTEM DD	CLASS 1 ☐ 2 ☐ 3 ☑ OTHER
WELD/ITEM NUMBER PC#4 ~~PC#10~~ Rev 1 7-6-83	LOCATION 800'-6" AS + BS	

MTL. TYPE PL	MTL. THICK. 1.250	DIA./LENGTH 4	(PIPE) DIA. N/A	(PLATE - LONG SEAM) LENGTH N/A
STAGE OF MFG. REPAIR ☐ ROOT ☐ INTERMEDIATE ☐ FINAL ☑			JOINT DESIGN BRN. ☐ BKS. ☐ N/A OPEN BUTT ☐	

7-7-83

INSTRUMENT MAKE Nor Tec Due 08Sep83		MODEL NDT-124D		SERIAL NO. MTE 1974
TRANSDUCER MAKE Nor Tec	MODEL ESM	SIZE 5/16"	MHZ 5	~~PC#10~~ # 811439
CALIBRATION BLOCK(S) CARBON MTE 2043 Due 23 Aug 83				
COUPLANT Glycerin		OPERATION LINE VOLTAGE ☐		BATTERY POWER ☑

PULSE RATE N/A	REJECT N/A	DELAY N/A
GAIN N/A	FILTER N/A	DAMPING N/A
RANGE N/A	MATERIAL CAL. N/A	

READINGS AND SKETCH

Lowest Reading Recorded

READING	ID NO.	READING	ID NO.
.122	PC#4		

B & R INSPECTOR		CERTIFICATION LEVEL II	
EXAMINATION DATE 7/6/83	COMMENTS		
NDE PROCEDURE QI-QAP 10.2-4A R-3	ACCEPT ☑	REJECT ☐	

FOLDER NO. 75

Draft No. _____ Date _____

COMANCHE PEAK ALLEGATION WORK PACKAGE

MISCELLANEOUS Category 15 - Safeguards Tunnel

Allegation Numbers: AM-18

Statement of Allegation: Improperly installed tube steel in or near 796 yard tunnel of Safeguards #1. The angles of the tube steel were cut incorrectly.

Reference Documents:

See source documents marked on attached pages from allegation list.

Source of Allegation: Individual - see enclosed allegation list

Date Received: 1/83

The above information prepared by D. M. Hunnicutt 6/7/84
Name Date

Group Leader _____ _____
Name Date Assigned

Team Members _____ _____
Date Assigned

_____ _____
Date Assigned

_____ _____
Date Assigned

_____ _____
Date Assigned

COMANCHE PEAK OPEN ISSUE ACTION PLAN

Task: Determine location and significance of alleged improperly installed tube steel in or near 796 yard tunnel of Safeguards #1.

Ref. No.: AM-18

Characterization: Angles of tube steel were cut incorrectly and left too large of a gap, in violation of procedure; therefore, installed tube steel was improperly installed.

Initial Assessment of Significance: Lack of specificity in allegation. Difficult to determine safety significance of allegation. Sufficient information to initiate followup.

Source:

Approach to Resolution:

1. Inspect general area of Safeguards #1 796 yard tunnel. Determine if physical location, position, or measurements can determine whether large gaps were welded in violation of licensee procedures or code/standards.
2. Review procedures, codes/standards, design requirements, NRC requirements, and licensee commitments for adequacy at time work was performed; were codes/standards, FSAR, contractor requirements, and other commitments met?
3. Discuss adequacy of procedures with personnel involved with design and installation. Discuss adequacy of other design/installation procedures. Examine installation, as appropriate, that is associated with any inadequate procedures identified during interviews.
4. Review sample of similar-type design/installation procedures for adequacy.
5. Refer any examples of wrongdoing or significant deficiencies to TRT manager.
6. Evaluate allegations for generic/safety implications.
7. Report on results of review/evaluation of allegations.

Related Open Issues

1. Using system codes, pull open items, previous inspection findings, etc., from the tracking system open item list. (Region IV identify and add to this work package.)
2. Review activities necessary to close or partially close related items, either based on inspection conducted above or reasonable additional inspection while the inspector is familiar with the areas.
3. While performing physical inspections above, examine surrounding systems, components, and structures for related apparent defects or indicators of faulty workmanship.
4. If workmen are still in the area of a physical inspection, interview them for related knowledge of other potential deficiencies.
5. Complete portion of IE Module on pipe supports if it relates to effort made on allegations.

Status:

Review Lead:

Support:

Estimated Resources:

Estimated Completion:

CLOSURE:

Reviewed by: _____

MISCELLANEOUS ALLEGATION REVIEW CATEGORIES

Category No.	Subject	Est. Mandays to Complete	Allegation Nos.	Package Prepared	Assigned to	Schedule Open	Schedule Close	Remarks
1.	Hearing - 19 issues		AM-1					
2.	Reactor fuel		AM-2					
3.	Reactor pressure vessel		AM-3, AM-23					
4.	FSAR error (10.2-11 & 12)		AM-4					
5.	Radioactive material release		AM-5					
6.	HP turbine		AM-6					
7.	Pressurizer		AM-7					
8.	Condenser		AM-8, AM-9, AM-10					
9.	Reactor/fuel bldg. liners		AM-11					
10.	CCW system		AM-12					
11.	Pumps - Hayward Tyler		AM-13					
12.	Diesel generator		AM-14					
13.	Polar crane - shimming		AM-15, AM-16					
14.	Containment doors		AM-17					
15.	Safeguards tunnel		AM-18					
16.	NRC form posting		AM-19					

things that were not by procedure at the plant. He wanted to know if I had ever plugged any base plate holes or done any illegal welding out there. I told him yes. He asked me if there was anything that I did that might cause serious damage to the plant or the people around it. I told him no. I felt that I didn't know that much about the stress of welds, that I'm a welder, not an engineer. I felt that I wasn't really qualified to say whether it would damage the health and safety of the plant or the people.

He asked me about whether or not rod cans were plugged in like they should be. I told him that I had seen negligence and improper rod control, and that I had seen them unplugged longer than they are supposed to be.

He asked me about whether or not I knew anything about illegal plug welds in base plates. I told him that I did know about a hole being drilled in the wrong place and their having to fill it in and redo it, using illegal weld filler material and without QC being informed, and then making the hole again in the same area. I told him about other instances in the north cable spread room (Unit #2), the 796 yard tunnel of Safeguards #1. In the Safeguard #1 yard tunnel there was improperly installed tube steel. The angles of the tube steel were cut wrong which by procedure would have left too much gap between the tube steel and the base plate.

He asked me about non-Q material being used for Q material on pipe hangers and supports. I told him that each crew had their own symbols and they were able to stamp whatever numbers they wanted to on the material.

After I talked to the NRC investigator, my [redacted], [redacted] (not sure of spelling), and [redacted] my immediate foreman, began treating me differently from what they had before. For instance, [redacted] made a comment later to the foreman of a group I had been loaned out to that same day

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COMANCHE PEAK NUCLEAR POWER PLANT
ALLEGATIONS AND/OR INVESTIGATIONS SUMMARY

TASK NO.	ALLEGATION OR CONCERN	ACTION/STATUS	SOURCE ANON CONFID	BM/DATE	CROSS REF./OR TRACKING SYSTEM NO.	COMPLETION CATEGORY 1-7** LEAD	SCHEDULE OPEN COMPLETE	ALLEGER-DATE RECEIVED SOURCE DOCUMENT PAGE
~~AM-17~~	~~Bottomless doors in containment were accepted.~~					~~1 RIV~~		~~84-006 3/2/84 [redacted] Statement, P. 2, P. 27~~
AM-18	Tube steel in Safeguards #1 Tunnel					1 RIV		A4-83-002 1/24/83 A-20, Att P. 2
~~AM-19~~	~~NRC Form 3 Not Received~~				~~84-84-007 DOCUMENTS IT was posted (Page 1)~~	~~1 RIV~~		~~84-83-005 6/20/83 A-19, Testimony P. 33, 34~~
AM-20	Material false statements by plant management to the Atomic Safety and Licensing Board.					~~1 HHS/OALB~~		GAP 2.206 Petition 3/19/84
AM-21	Widespread drug abuse and management inattention to the problem					1 RIV		GAP 2.206 Petition 3/19/84 [redacted] ltr #5 [redacted] ltr #13
AM-22	HVAC system support discrepancies, seismic design deficiencies, and missile protection inadequate.	Initial disposition 10-83-24				1 RIV		[redacted] ltr of 3/31/83 to NE and OELD
AM-23	Reactor Pressure Vessel located 3/16 inch to the west of the N-S design center line through the containment	Initial disposition 10-83-27				1 RIV		Bell Surveyor 11/8/79 IR 79-27, P. 3 84