NCR M-7228
Pg 8 of 13

35-1195
Comanche Peak Steam Electric Station
Special Engineering Instruction

This instruction is prepared to set forth specific work requirements for performance of the following construction task:

Installation of Containment Anchor Bolts, Nuts and Plates

Specifications and/or drawings governing the task to be accomplished by this instruction are as follows:

As cited here-in

Engineering and craft disciplines responsible for the work described herein are as follows:

As cited here-in

ARMS INDEXED
DCN:
MSC: ECS/H
DI: TO: FROM:

This instruction has been reviewed by and is authorized by:

APPROVED BY:

M. E. Hogg
Project Engineer

APPROVED BY:

H. C. Dodd, Jr.
Project Manager

PREPARED BY:

H. C. Dodd, Jr.
Project Manager

REVIEWED BY:

P. L. Bussolini
Quality Assurance

NCR 1M-722 R4
Pg 9 of 23

PROCEDURE FOR INSTALLATION OF CONTAINMENT
ANCHOR BOLTS, NUTS AND PLATES

This procedure addresses 2-inch anchor bolts only for both Containment interior installations which address Bostrom-Bergen Metal Products and Southern Bolt, 2-inch bolts only through elevation 860 feet only. All Bostrom-Bergen 2-inch anchor bolts and nuts will be color coded white. A 2-inch wide band will be painted on all A540 bolts at the end of the threads on one end. The heat numbers of all 2-inch A540 bolts received are as follows:

Heat [redacted] 545, 969, 035, 055 - 2-inch White Band

The A540 nuts from Bostrom-Bergen will have three flats on the nuts painted white. The heat numbers of all A540 nuts received are as follows:

840, 260, 458, 655, 073 - Three Flats Painted White

All 2-inch plates on the site that are from Bostrom-Bergen and Southern Bolt is 588 plate and are, therefore, interchangeable. These plates will not be color coded.

A540 bolts and nuts will not be tack welded as in the past. Instead, U-bolts will be used to jam the 588 plates up to the A540 nut. Refer to GHF-1789, dated July 15, 1977. During installation, A540 bolts will have an A540 nut both color coded white with a 588 plate, which is not color coded (white bolt to white nut).

Southern Bolt has furnished two thousand (2000) 2-inch A320 anchor bolts with 194 nuts and 588 2-inch plates. The A320 bolts will have a 2-inch wide green band painted at the end of the threads on the long threaded end. The 194 nuts will have three flats painted green. Heat numbers for A320 bolts are as follows:

SA99GG1038, SA86GG883, SA90GG907, SA87GG910,
SA88GG909, SA85GG876, 91GG908 - 2-inch Green
Band on end with longest thread.

FOR INFORMATION ONLY

NCR M-77221
Pg 10 of 23

194 Nuts - Heat numbers are as follows:

X21 and X9 - Three Flats Painted Green

All A320 bolts will use the jam nut method to hold the 588 plate to the nut. On all A320 bolts only the jam nut method will be used during installation. Each assembly will consist only of A320 bolts with 194 green nuts, (the green nuts being located on the end side of the 588 plate). A red painted jam nut will be used on the inside of the 588 plate. No welding or U-bolts will be used on the A320 bolts - jam nuts and 194 outside nuts only.

The control during installation will be that only white bolts with white nuts of the 540 will be used. U-bolt securing of the 588 plate to the nut is the only method to be used.

Only the A320 bolt painted green will have a red color coded jam nut with a 588 plate and a 194 nut colored green will be used. No welding or U-bolts will be used.

The craft foreman in charge of installing these 2-inch bolts will personally inspect each bolt after installation to verify all bolts are installed per white to white, color matching, all plates are secure and the bolt properly secured. The foreman will verify that green bolts, red jam nuts, 588 plate and green nut are used together. He will see and inspect the green color coded bolts to see that all plates are secure, that colors correspond and that all bolts are secure.

Brown & Root Construction will notify B&R QA/QC (by AVO) each time two complete rows of bolts, nuts and plates are completed so the QA/QC can do their mapping requirements.

All color coding will be done in the warehouse prior to issuing to the field except those already installed in the Containment Number 1 forms and resteel. All heat numbers on all nuts will be highlighted so that QA/QC can readily identify.

All supervisors are to read and fully understand these instructions prior to beginning bolt installation.

FOR INFORMATION ONLY

NCR M-722E
Pg # 0723

TNH, FILE, ROT

COMANCHE PEAK STEAM ELECTRIC STATION
DESIGN CHANGE/DESIGN DEVIATION AUTHORIZATION

(LL) XXXXXXXXX BE INCORPORATED 2892 AUTHORIZATION NO. 6
1. DESIGN DOCUMENTS. 40 REV. 2

SAFETY RELATED: X YES ___ NO

1. DESCRIPTION OF XXXXXXXXXXXXXXXX/CLARIFICATION

A. APPLICABLE XXXXX/DWG/XXXXXXXX SEE ATTACHMENT - - - - - - - - - - - - Rev. Issue Date
This voids and supersedes DC/DDA 6, Rev. 1.

B. DETAILS The attached sketches (sheets 3 through 5) depict acceptable anchor bolt installations. From a technical standpoint, tack welding in conjunction with or as an alternate to the mechanical connections shown on sheets 3 through 5, if done in accordance with details on design drawings and approved procedures is acceptable. However, because of the client imposed hold on welding to anchor bolts (TUF-3286) prior approval must be obtained before welding can commence.

JOB NO. 35-1195
RECEIVED
AUG 04 1977
RECEIVED

2. SUPPORTING DOCUMENTATION

Sketches (sheets 3 through 5)

FOR INFORMATION ONLY

3. SIGNATURES

A. APPROVED BY: [signature] 8-3-77
G&H Representative Date

B. APPROVED BY: M.G. Brady for R.M. Kissinger 8/3/77
Responsible Engineer Date

C. APPROVED BY: [signature] 8-3-77
Project Engineer or Engineering Supervisor Date

4. STANDARD DISTRIBUTION

TUSI Dallas (6) B&R Field (1)
TUSI Field (1) B&R Houston (1)
TUGCO Site QA (1) B&R Site QA (1)
G&H New York (1) B&R Houston QA (1)

5. DOCUMENT CONTROL

___ FOR RECORD ONLY
___ FOR CLARIFICATION ONLY
X NEED TO KNOW
X ALL (AFFECTED) DOCUMENT HOLDERS
___ PER ATTACHED LIST

NCR M-722 R1
Pg 12 of 23

ATTACHMENT TO DC/DDA-6 , R2

DRAWING	REVISION	ISSUE DATE
2323-S1-0566	3	12/21/76
2323-S1-0567	3	3/7/77
2323-S1-0568	3	3/4/77
2323-S1-0551	6	2/28/77
2323-S1-0647	13	5/6/77
2323-S2-0566	1	11/19/76
2323-S2-0567	1	1/7/77
2323-S2-0568	2	3/4/77
2323-S2-0551	1	11/5/76

FOR INFORMATION ONLY

MEMO

Gibbs & Hill, Inc.

ENGINEERS, DESIGNERS, CONSTRUCTORS

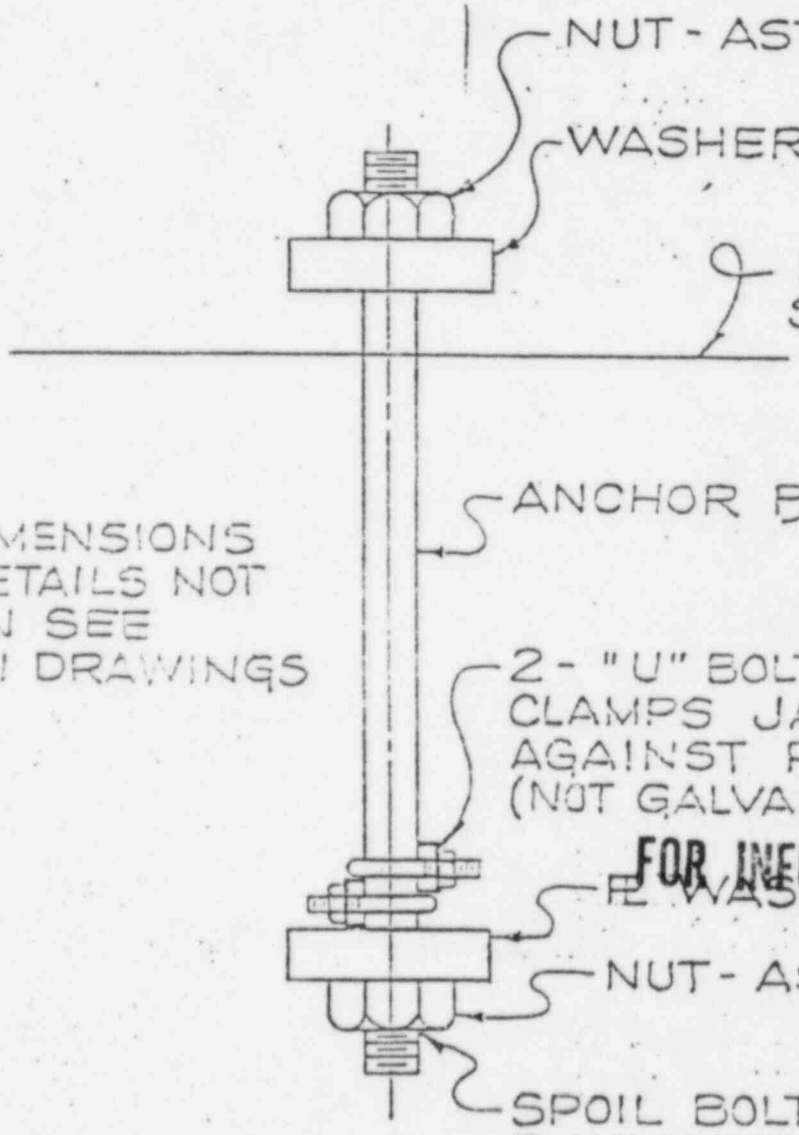
NEW YORK

CASE 1

NCR M-722 R1
Pg 13 of 23

Date 7/15/77

DC/DDA 6, R2
3 OF 5



FOR INFORMATION ONLY

-R DIMENSIONS AND DETAILS NOT SHOWN SEE DESIGN DRAWINGS

NOTES:

1) THIS DETAIL MUST BE USED FOR ALL ASTM A540 ANCHOR BOLTS THAT WILL SUPPORT WESTINGHOUSE SUPPLIED EQUIPMENT.

F-153 a 11-66

MEMO

Gibbs & Hill, Inc.

ENGINEERS, DESIGNERS, CONSTRUCTORS

NEW YORK

CASE 3

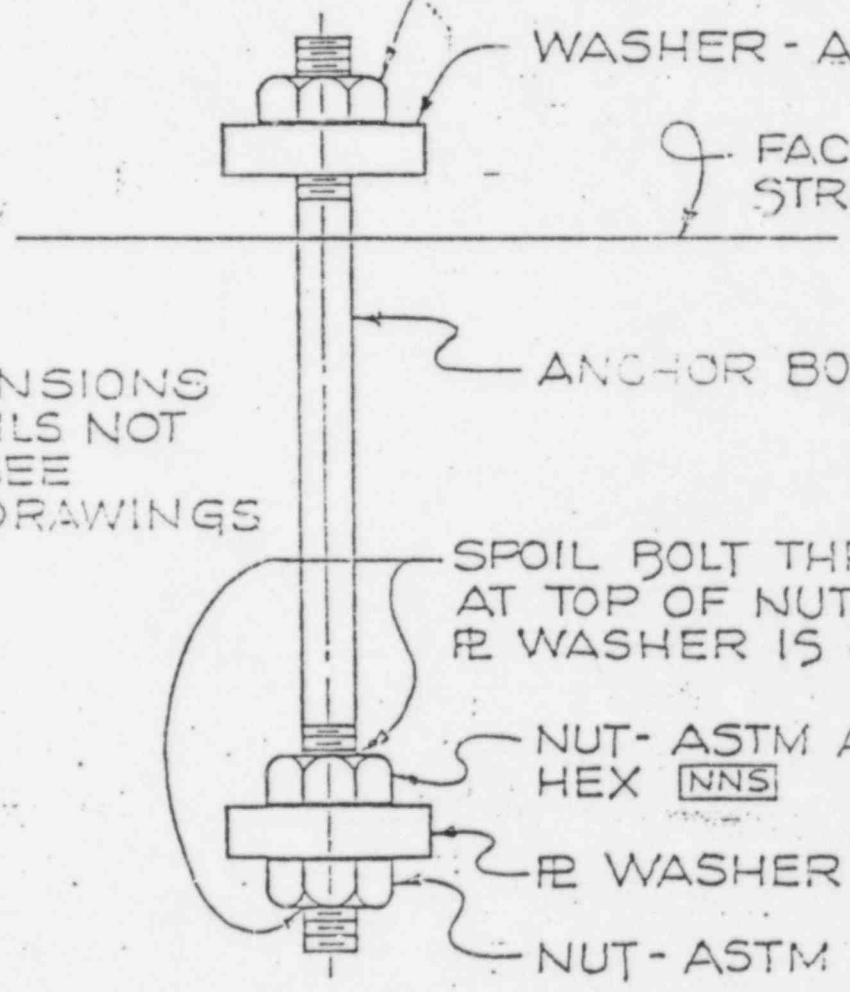
NCR M-722 R1

PG 14 OF 22

Date 4/29/77

DC/DDA 6, R2

4 OF 5



℄ & DIMENSIONS AND DETAILS NOT SHOWN SEE DESIGN DRAWINGS

FOR INFORMATION ONLY

F-153 a 11-69

MEMO

Gibbs & Hill, Inc.

ENGINEERS, DESIGNERS, CONSTRUCTORS

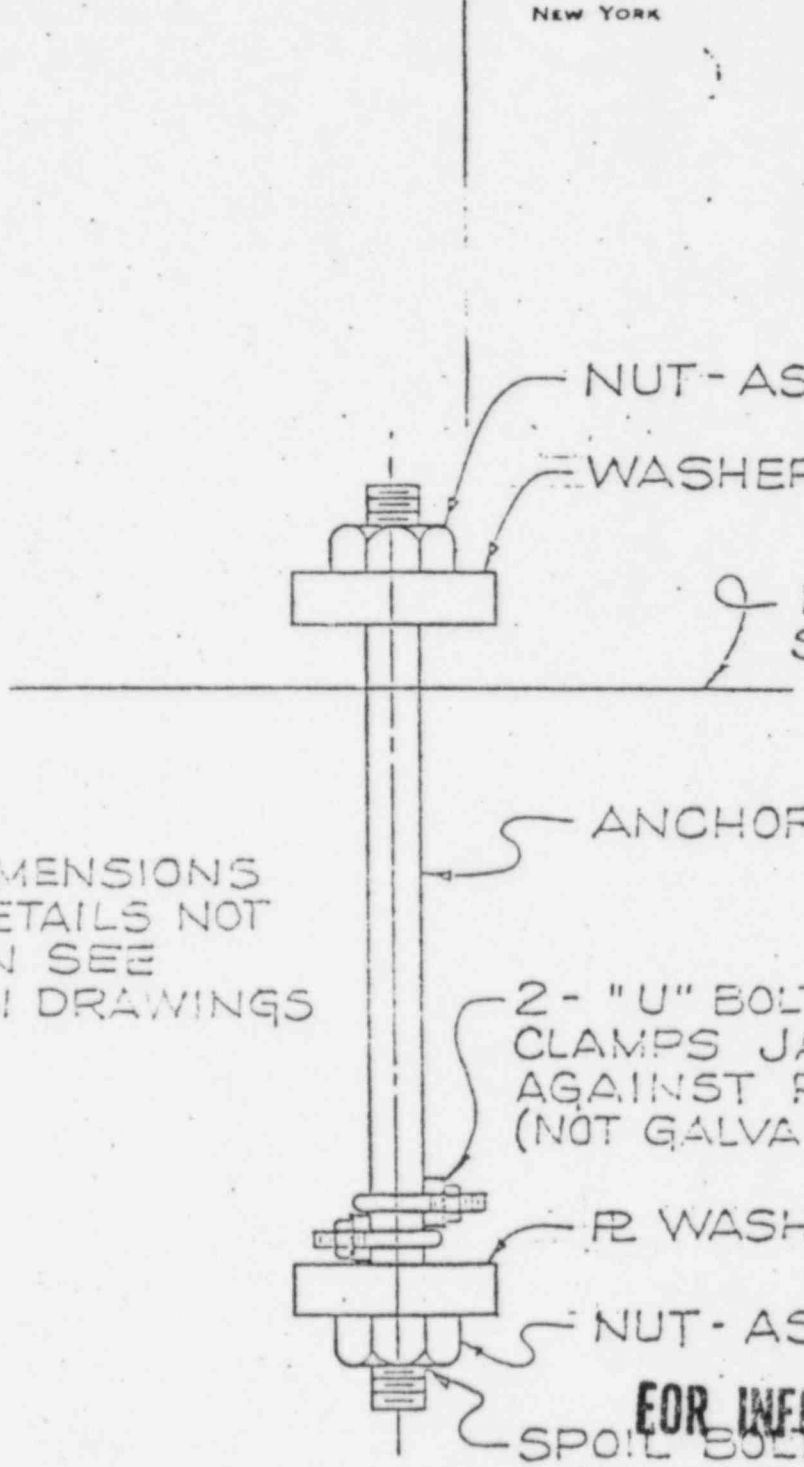
NEW YORK

CASE 4

NCE 121-722
Pg 15 OF 23

Date 4/15/77

DC/DDA 6, R2
5 OF 5



FOR INFORMATION ONLY

R DIMENSIONS AND DETAILS NOT SHOWN SEE DESIGN DRAWINGS

NOTES:

F-108, 11-66

NCR M-7224 Pg 16 of 23

COMANCHE PEAK STEAM ELECTRIC STATION
DESIGN CHANGE/DESIGN DEVIATION AUTHORIZATION

~~XXXXXX~~(WILL NOT) BE INCORPORATED IN DESIGN DOCUMENTS.

AUTHORIZATION NO. 2 Rev. 1

SAFETY RELATED: X YES ___ NO

1. DESCRIPTION OF ~~CHANGE~~/DEVIATION/~~CXXXXXXXXXX~~

A. APPLICABLE SPEC/~~XXXXXXXXXX~~ 2323-SS-17 1 Rev. 9-30-77 Issue Date

B. DETAILS Contractor requests approval to color code embedded portions of ASTM A540 and A320 anchor bolts in the Containment Building. Approval should also extend to ASTM A194 and A540 nuts.

NOTE: THIS DOCUMENT SUPERSEDES AND VOIDS DC/DDA-2.

BROWN & ROOT, INC. RECEIVED AUG - 3 1977 FILES NOTED QUALITY ASSURANCE

JOB NO. 35-1195 RECEIVED AUG 02 1977 RECEIVED

2. SUPPORTING DOCUMENTATION

Bolts and nuts may be color coded with a narrow strip of paint not to exceed 2" in width. The presence of chloride in the paint will not adversely impair the function of the bolt or surrounding concrete. This approval is being granted in advance of formal design review with concurrence of NY Projects and Engineering.

3. SIGNATURES

A. APPROVED BY: FOR INFORMATION ONLY G&H Representative Date 7-28-77

B. APPROVED BY: Engineer Date 7/28/77

C. APPROVED BY: ~~Professional Engineer~~ Engineering Supervisor Date 7/28/77

4. STANDARD DISTRIBUTION

TUSI Dallas	(6)	B&R Field	(1)
TUSI Field	(1)	B&R Houston	(1)
TUGCO Site QA	(1)	B&R Site QA	(1)
G&H New York	(1)	B&R Houston QA	(1)

5. DOCUMENT CONTROL

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___ FOR CLARIFICATION ONLY
X NEED TO KNOW
___ ALL (AFFECTED) DOCUMENT HOLDERS
___ PER ATTACHED LIST

COMANCHE PEAK STEAM ELECTRIC STATION
DESIGN CHANGE/DESIGN DEVIATION AUTHORIZATION

NCR M-722 R11
Pg 17 of 23

TNH, FILE, ROT

(WILL) (WILL NOT) BE INCORPORATED
" DESIGN DOCUMENTS. 35

2894

AUTHORIZATION NO. 57

SAFETY RELATED: X YES ___ NO

1. DESCRIPTION OF ~~CHANGE~~/DEVIATION/~~CLARIFICATION~~

A. APPLICABLE ~~SPEC~~/DWG/~~DOCUMENT~~ 2323-S1-0566 | 3 Rev. | 12-21-76 Issue Date

B. DETAILS

PROBLEM:

See NCR No. M-704 and M-722.

SOLUTION:

See attached memorandum

JOB NO. 35-1195
RECEIVED AUG 04 1977 RECEIVED

2. SUPPORTING DOCUMENTATION

NCR No. M-704 and M-722.

DE/CD S-310

FOR INFORMATION ONLY

3. SIGNATURES

A. APPROVED BY: [signature] G&H Representative 8-3-77 Date

B. APPROVED BY: [signature] for RM Kissinger Responsible Engineer 8/3/77 Date

C. APPROVED BY: [signature] Project Engineer or Engineering Supervisor 8-3-77 Date

4. STANDARD DISTRIBUTION

TUSI Dallas (6)	B&R Field (1)
TUSI Field (1)	B&R Houston (1)
TUGCO Site QA (1)	B&R Site QA (1)
G&H New York (1)	B&R Houston QA (1)

5. DOCUMENT CONTROL

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___ ALL (AFFECTED) DOCUMENT HOLDERS
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NCR M-722
Pg 17 of 23

TNH, FILE, ROT

COMANCHE PEAK STEAM ELECTRIC STATION
DESIGN CHANGE/DESIGN DEVIATION AUTHORIZATION

(WILL NOT) BE INCORPORATED
" DESIGN DOCUMENTS.

AUTHORIZATION NO. 57

35
2894

SAFETY RELATED: X YES ___ NO

1. DESCRIPTION OF ~~CHANGE~~/DEVIATION/~~EXCEPTION~~

A. APPLICABLE ~~SPEC~~/DWG/~~DOCUMENT~~ 2323-S1-0566 3 Rev. 12-21-76 Issue Date

B. DETAILS

PROBLEM:

See NCR No. M-704 and M-722.

SOLUTION:

See attached memorandum

JOB NO. 35-1195

RECEIVED
AUG 04 1977
RECEIVED

2. SUPPORTING DOCUMENTATION

NCR No. M-704 and M-722.

DE/CD S-310

FOR INFORMATION ONLY

3. SIGNATURES

A. APPROVED BY: _____ 8-3-77
G&H Representative Date

B. APPROVED BY: _____ 8/3/77
Responsible Engineer Date

C. APPROVED BY: _____ 8-3-77
Project Engineer or Engineering Supervisor Date

4. STANDARD DISTRIBUTION

TUSI Dallas	(6)	B&R Field ✓	(1)
TUSI Field	(1)	B&R Houston	(1)
TUGCO Site QA	(1)	B&R Site QA	(1)
G&H New York	(1)	B&R Houston QA	(1)

5. DOCUMENT CONTROL

___ FOR RECORD ONLY
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X NEED TO KNOW
___ ALL (AFFECTED) DOCUMENT HOLDERS
___ PER ATTACHED LIST

MEMO

Gibbs & Hill, Inc.
ENGINEERS, DESIGNERS, CONSTRUCTORS
NEW YORK

To J. J. Moorhead

At G&H - Jobsite

From R. E. McGrane/G. Stern

At G&H - New York

Date August 3, 1977

NCR M-722 R1
Fig 18 & 23

COMANCHE PEAK STEAM ELECTRIC STATION
1980-82 2300 MW INSTALLATION
ENGINEERING REVIEW AND METALLURGICAL
ASPECTS OF TACK WELDING OF BOLTS
REF: NCR #704 AND #722

I. THE PROBLEM

NCR M-704 and NCR M-722 address the welding of bolt, nut and anchor plate material combinations that were not in conformity with the engineering specification. These non-conformities have been evaluated by the writers and they have concluded that the bolt assemblies used "as-is" will perform in accordance with the engineers design requirements.

A. Metallurgical Aspects

FOR INFORMATION ONLY

Tack welding has been performed on pipe whip restraint bolts to nuts of various compositions. The nuts in turn have been tack welded to ASTM A-588 plate, a low alloy plate suitable for welding. The concern is that the metallurgical combinations are compatible and have been welded using acceptable filler material and most importantly acceptable welding procedures. Some compositions were welded by a qualified procedure (Brown & Root WPS-10043) established before the field welding was performed. Other compositions were field welded and later qualified (Brown & Root WPS-10050).

B. Structural Aspects

The essential purpose of the nut to bolt and nut to anchor plate tack welds is to hold the assembled parts firmly in place until they have been cast in concrete. In addition, the nut to bolt tack welds serve to prevent accidental turning of the bolt with respect to the nut during installation of the pipe whip restraints that are to be attached after the bolts have been set in concrete.

II. DETAILS OF WELDED PAIRS

The bolt and nut combinations involved are listed below

NCR M-72 227 Pg 19 of 23

by AISI designation and ASTM specification numbers:

BOLTS		NUTS		COMMENT
AISI Desig'n	ASTM Spec. #	AISI Desig'n	ASTM Spec. #	
4340	A-540 Gr.B 23	4140	A-194 Gr.7	A-588 Plate
4340	A-320 Gr.L 43	4140	A-194 Gr.7	A-588 Plate
8740	A-320 Gr.L 7C	4140	A-194 Gr.7	A-588 Plate

III. COMPOSITIONS AND THEIR WELDABILITY

	AISI 4140 RANGE %	AISI 4340 RANGE %	AISI 8740 RANGE %
C	0.38 - 0.48	0.38 - 0.43	0.38 - 0.43
Mn	0.75 - 1.00	0.60 - 0.85	0.75 - 1.00
P,Max	0.040	0.040	0.035
S,Max	0.040	0.040	0.040
Si	0.20 - 0.35	0.20 - 0.35	0.20 - 0.35
Ni	- - - - - -	1.65 - 2.00	0.40 - 0.70
Cr	0.80 - 1.10	0.70 - 0.90	0.40 - 0.60
Mo	0.15 - 0.25	0.20 - 0.30	0.20 - 0.30

The AISI steels listed, 4140, 4340 and 8740 are essentially low alloy steels used extensively for weldments. Low-hydrogen electrodes, such as E7018, are recommended for use with these steels in shielded metal arc (SMA) welding. The use of pre-heating and an elevated interpass temperature are essential to minimize hardening of these compositions on cooling.

IV. WELD PROCEDURE SPECIFICATIONS 10043 AND 10050 - BROWN & ROOT

These procedures demonstrate that the compositions used for bolts and nuts were welded with E7018 weld rod with 200 F pre-heat and 200-500 F interpass temperature and passed the macroetch test requirements of AWS D1.1.

V. EXAMINATION OF FIELD WELDS

Brown & Root examinations of the field welds indicated satisfactory welds as examined visually. (B&R on Miscellaneous Steel Check List) Further, on 8/2/77, R. E. McGrane and G.

Stern, accompanied by R. C. Barber examined approximately 70 random nut to bolt welds and saw no evidence of cracks.

VI. CONCLUSIONS

A. The metallurgical compositions involved in the nuts and bolts that were tack welded are amenable to welding by the procedures followed. The qualifications WPS-10043 and 10050, establish the weldability of these compositions under the conditions used.* Visual examinations of the field welds reveal no significant defects. The procedures used eliminate the possibility of excessive hardening on cooling from weld metal temperatures and heat affected zone temperatures. These welds are considered satisfactory.

B. The nut to bolt tack weld is made at the top of the nut. The heat affected zone is in an area not subject to stressing. The nut to anchor plate tack weld is in a location that will not impair the ability of the nut to bear against the plate and transfer by bearing the design force from the nut to the anchor plate. Thus, the tack welds in question could not impair the functional capacity of the bolt assembly.

C. It has been noted that ASTM A-540 [illegible] ASTM A-540 and ASTM A-320 bolts utilizing a procedure that had not been qualified for welding these materials to each other. It is further recognized that this activity was in violation of AWS-D1.1 code requirements.

FOR INFORMATION ONLY

However, upon discovery of the non-conformance, the procedure that had been utilized was qualified in accordance with AWS requirements. It is the engineers position that although the sequence of qualification and production welding was not as prescribed by the code, the post qualification has confirmed that the welding procedure utilized will produce acceptable welds. The engineer is satisfied that the welds involved in the above described procedure will perform their required design function and should be used "as-is".

This position is further supported by the opinion of M. Davis of the AWS as recorded in a telephone conversation with R. C. Barber of G&H on July 29, 1977.

* The procedure for welding ASTM A-540 to ASTM A-540 has been qualified (phone conversation R. C. Barber with M. Davis of AWS, August 3, 1977). Both ASTM A-540 and ASTM A-320 are AISI 4340. Therefore, the welding of A-320 bolts to A-540 nuts is qualified.

NCR M-722 R1
Pg 21 of 23

R. E. McGrane
Supervising Structural Engineer

G. Stern
Consulting Metallurgist

R. Ploss
Design Reviewer

FOR INFORMATION ONLY

MEMO

Gibbs & Hill, Inc.
ENGINEERS, DESIGNERS, CONSTRUCTORS
NEW YORK

GHF-1806

~~NCR M-722~~
~~Pg of~~

To J. T. Merritt

Date July 26, 1977

At TUSI - Jobsite

NCR M-722 21
Pg 220 x 23

From J. J. Moorhead

At G&H - Jobsite

COMANCHE PEAK STEAM ELECTRIC STATION
1980-82 2300 MW INSTALLATION
B&R WELDING PROCEDURE SPECIFICATION
WPS-10050, REVISION Ø
REF: BRF-6656
BRF-6671
GTT-1361
FILE 09020

By copy of this letter we are advising Brown & Root that Welding Procedure Specification WPS-10050, Revision Ø, is "Approved for arrangement only, proceed with fabrication subject to compliance with all contract requirements, drawings and specifications".

This procedure incorporates the parameters of WPS-10043, Revision 1 and WPS-10044, Revision 1.

J. J. Moorhead
Resident Engineer

NCB
JJM:RCB:ss
cc: H. C. Schmidt 3L
R. E. Hersperger 1L
L. T. Van Amerongen 1L
H. C. Dodd 1L
P. L. Bussolini 1L
R. G. Tolson 1L

FOR INFORMATION ONLY

F-168 , 11-66

C. Dodd

NCR M-722 RI
Pg 23 of 23

TUGCO GRSE

GH ENG NY

NR. 5
JUL 26 1977
910 890 8660
GTI 1361 1
GIBBS & HILL INC (SITE)
GLEN ROSE TEXAS
ATTN J J MOORHEAD/BARBER
SUBJ ANCHOR BOLT WELDING

WELD PROCEDURE SPEC 10050 DTD JUL 21 1977
HAS BEEN REVIEWED AND IS FOUND SATISFACTORY FOR
COMPOSITIONS WELDED UNDER CONDITIONS LISTED

E HERSPERGER/G STERN
GIBBSHILL NY

TUGCO GRSE

GH ENG NY
P

FOR INFORMATION ONLY

Recd 2:15 (7/26)

Brown & Root, Inc.

QUALITY ASSURANCE DEPARTMENT
NONCONFORMANCE REPORT (NCR)

ARMS INDEXED

(1)

PLANT CODE	SYSTEM CODE	COMPONENT CODE
CPS1	STR-RB	EMBSTL
1-4	5-10	11-16

2323-S1-0566

DATE

TAG/SPIN/IDENT NO.						DRAWING/SPECIFICATION NO.		SERIAL NO.
A	B	C	D	E	F	G (Units)	H (Units)	J (Units)
17-56								

PURCHASE ORDER NUMBER	VEND CODE
X	X
56-69	70-73

MRR NUMBER	RIR NUMBER	VENDOR'S HEAT/LOT/BATCH NO.	COUNT	UNITS	PURCH'S QR NO.	RLS/HOLD NO.	CODE	INPUT DATE
			QUANTITY			STATUS		
X	X	X	4	EA		C718, R1		072777
74-79	80-85	86-95	96-105		106-111	112-121		122-127

(2) NONCONFORMING CONDITION:

According to the above Gibbs & Hill drawing, all anchor bolt assemblies are to have (1) a heavy hex nut tack welded to the plate washer 2. the plate washer jammed between two heavy hex nuts or (3) the plate washer jammed between two U-clamps and one heavy hex nut.

The installation of four bolt assemblies in the west wall section 7-7 only does not comply with any of the three mentioned installation methods. Two bolts placed in the northern most section @ approximately 812'5" and 813'3"; and one bolt on the center line of the reactor section @ approximately 817'10" were placed with the nut and plate washer not tack welded or jammed. Also, one bolt placed in the middle section of the north end @ approximately 819'6" didn't contain a plate washer or nut.

NOTE: Rev. 1 issued to better define nonconformance.

(3) REPORTED BY: Gary D. Parks — (4) DATE: 7-27-77

(5) PREPARED BY: Gary D. Parks — (6) DATE: 7/27/77

(7) REVIEW/APPROVAL: B.C. Scott — (8) DATE: 7/27/77

(9) DISPOSITION ASSIGNED TO: H.C. Dodd, Jr. — (10) DUE DATE: 8/5/77

(11) CORRECTIVE ACTION REQUEST: [X] Required [ ] Not Required — CAR# 10

(12) REPORTABLE DEFICIENCY: [X] POSSIBLE [ ] NO

(13) DISPOSITION:

REWORK V REPAIR ____ USE AS IS ____ SCRAP ____

The three bolt assemblies are to be reworked using the U-clamp method as specified in TUF-3323. The one bolt assembly not containing a plate or nut is to be completed using the U-clamp method as specified in TUF-3323.

FOR INFORMATION ONLY

(14) CONSTR. REVIEW/APPROVAL: J.L. Lochlar — (15) DATE: 7/27/77

(16) QA REVIEW/APPROVAL: K.S. Enos — (17) DATE: 7/28/77

(18) CLIENT REVIEW/APPROVAL: N/A 8/5/77 — (19) DATE: / /

(20) ENG. REVIEW/APPROVAL: N/A 8/11/77 — (21) DATE: / /

(22) ANI REVIEW/APPROVAL: N/A 8/5/77 — (23) DATE: / /

(24) VERIFICATION: [V] Satisfactory [ ] Unsatisfactory [ ] Not Req'd.

(25) QA/QC ENGR/INSP. VERIFICATION: James D Pace — (26) DATE: 8/5/77

(27) ANI VERIFICATION: N/A 8/5/77 — (28) DATE: / /

(29) QA REVIEW/CLOSURE: Peter L. Bussolini — (30) DATE: 8/5/77

(31) REMARKS: NONE

QA RECORD ROUTING

RTN.	QA REVIEW
L	

FILE NO. NCR-77

SUBFILE NO. C-718 R1

1. ____
2. ____
3. ____
4. EC-287
5. ____

NCR C-718
Pg 2 of 4

TUF-3323

TEXAS UTILITIES SERVICES INC.

OFFICE MEMORANDUM

To H. C. Dodd Glen Rose, Texas July 15, 1977

Subject COMANCHE PEAK STEAM ELECTRIC STATION
1980-82 2300 MW INSTALLATION
ASTM A540 & A320 ANCHOR BOLTS
REF. 1) GHF-1789
FILE 05217

Anchor Bolt info

Work may proceed as indicated by attached GHF-1789 on the anchor bolts.

J. T. Merritt, Jr.
For Resident Manager

JTM:te
cc: H. C. Schmidt 3L, 3A
R. E. Hersperger 1L, 1A
L. T. Van Amerongen 1L, 1A
P. L. Bussolini 1L, 1A
R. G. Tolson 1L, 1A

Approved:

R. G. Tolson
TUGCO Site QA Supervisor

Date 7/15/77

FOR INFORMATION ONLY

MEMO

Gibbs & Hill, Inc.
ENGINEERS. DESIGNERS. CONSTRUCTORS
NEW YORK

NCR C-718
Pg 3 of 4

GHF-1789

To J. T. Merritt

Date July 15, 1977

At TUSI - Jobsite

From J. J. Moorhead

At G&H - Jobsite

COMANCHE PEAK STEAM ELECTRIC STATION
1980-82 2300 MW INSTALLATION
SPECIFICATION 2323-SS-17
MISCELLANEOUS STEEL
ANCHOR BOLT DETAILS
REF. TUF-3286
FILE 05217

Regarding the referenced letter which imposed a hold on welding to anchor bolts, we are transmitting the attached sketch which shows an alternate mechanical connection.

This detail was reviewed by the Design Engineer on Tuesday, July 12, 1977. At that time, he confirmed that this configuration would satisfy the basic concern that the plate washer be held securely in place prior to and during concrete placement activities.

Based on the Design Engineer's comments, this change will have no detrimental effect on plant safety. Therefore, in accordance with the G&H policy as of July 13, 1977, this change is authorized by the undersigned in advance of formal changes to the design documents.

Construction may proceed subject to your approval.

FOR INFORMATION ONLY

J. J. Moorhead
Resident Engineer

JJM:DAF:te
cc: H. C. Schmidt 3L , 3A
R. E. Hersperger 1L , 1A
L. T. Van Amerongen 1L , 1A
H. C. Dodd 1L , 1A
P. L. Bussolini 1L , 1A
R. G. Tolson 1L , 1A
K. L. Scheppele 1L, 1A

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MEMO

Gibbs & Hill, Inc.

ENGINEERS, DESIGNERS, CONSTRUCTORS

NEW YORK

NCK C-718
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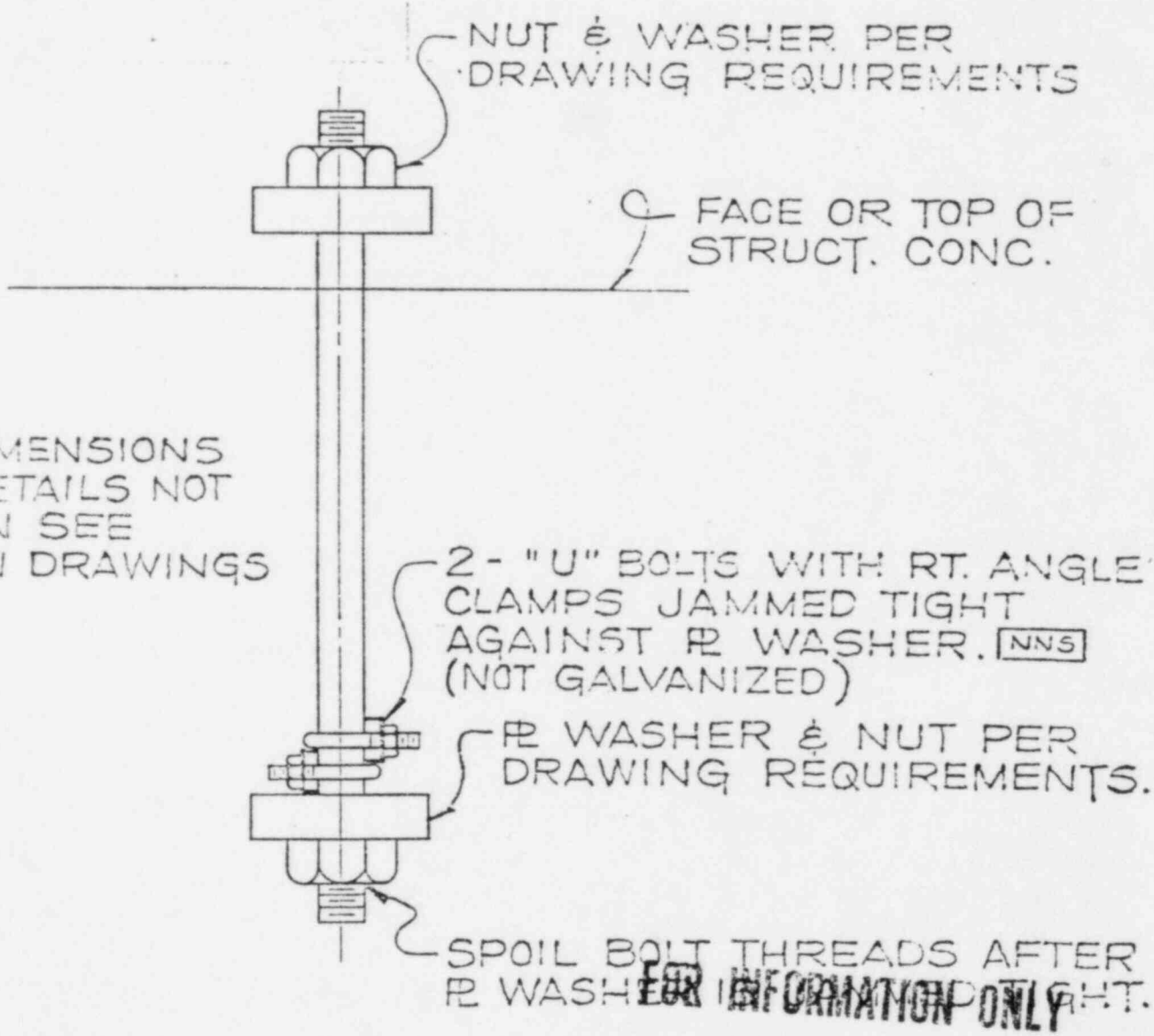
Date 7/15/77



FOR INFORMATION ONLY

NOTE:

THIS DETAIL TO BE USED WHERE TACK WELDING IS SHOWN FOR ANCHOR BOLTS FABRICATED FROM ASTM A540 OR A320 MATERIAL. THE ONLY ALTERNATE TO THIS ARE THE A320 ANCHOR BOLTS ADDRESSED

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