

895

# CASE

(CITIZENS ASSN. FOR SOUND ENERGY)

September 14, 1984

1426 S. Polk  
Dallas, Texas 75224

214/946-9446

DOCKETED  
USNRC

'84 SEP 17 P

Administrative Judge Peter B. Bloch  
U. S. Nuclear Regulatory Commission  
4350 East/West Highway, 4th Floor  
Bethesda, Maryland 20014

Dr. Walter H. Jordan  
881 W. Outer Drive  
Oak Ridge, Tennessee 37830

Dr. Kenneth A. McCollom, Dean  
Division of Engineering, Architecture  
and Technology  
Oklahoma State University  
Stillwater, Oklahoma 74074

Gentlemen:

SUBJECT: In the Matter of  
Application of Texas Utilities  
Generating Company, et al. for  
An Operating License for  
Comanche Peak Steam Electric Station  
Units #1 and #2 (CPSES)  
Docket Nos. 50-445 and 50-446 *OL*

CASE's Answer to Applicants' Motion for  
Summary Disposition Regarding Richmond  
Inserts

We are attaching the following documents, which were inadvertently omitted  
from subject pleading:

CASE Attachment N: Drawing CC-1-028-024-S33R  
CASE Attachment O: Drawing MS-1-025-004-S72K  
CASE Attachment P: Drawing RC-1-078-044-C51K  
CASE Attachment Q: Drawing CC-1-215-013-C53R

Attachments to CASE Attachment D:

DDR No. C-219, 2/16/76  
DDR No. C-219, Rev. 1, 7/26/76  
DDR No. C-246, 3/23/76  
DDR No. C-239, 3/25/76  
DDR No. C-220, 2/17/76

I believe this completes everything which should have been included with  
our pleading. We apologize for any inconvenience.

Respectfully submitted,

*Juanita Ellis*

(Mrs.) Juanita Ellis, CASE President

cc: Service List

Attachments

8409180198 840914  
PDR ADOCK 05000445  
G PDR

DS03

CASE Attachments N, O, P, and Q to CASE's Answer to Applicants' Statement of Material Facts Relating to Richmond Inserts As To Which There Are No Material Issues -- see corrected page 44, first full paragraph.

CASE Attachment N: Drawing CC-1-028-024-S33R  
CASE Attachment O: Drawing MS-1-025-004-S72K  
CASE Attachment P: Drawing RC-1-078-044-C51K  
CASE Attachment Q: Drawing CC-1-215-013-C53R

FOR OFFICE AND

CASE ATTACHMENT N

ELINE AS-BUILT 5'-11 1/4"

BOC-EL-BOG-3 2'-9 1/4"

3'-0"

30°

13 SHOP CUT TO SHUT

FL-BOG-0

24°C-128-152-3

5232

(TYP) NF 5232

(TYP)

OR CERTIFIED

REV. NO. 12

DATE 2/11/84

OF REV. 4- OF THIS

THE FOLLOWING

5 ARE VOIDED.

13 7 E-12

devices for

length bolts

required

CA 7607

\* NOTE: 1/4"x18" EXIST. HUB

LESS BUT ABANDONED

DO NOT BE USED

OR USED FOR DESIGN

VERIFICATION

FIELD STRIP INSULATION

1/4" EACH SIDE OF STEEL

1/4" CLIP

30x2 SIZES

5232

(TYP) NF 5232

(TYP)

\* 1" RPP FOR INSERT & HUBS, MUST

BE PACKED OFF AS MUCH AS POSSIBLE

FOR EASY REMOVAL

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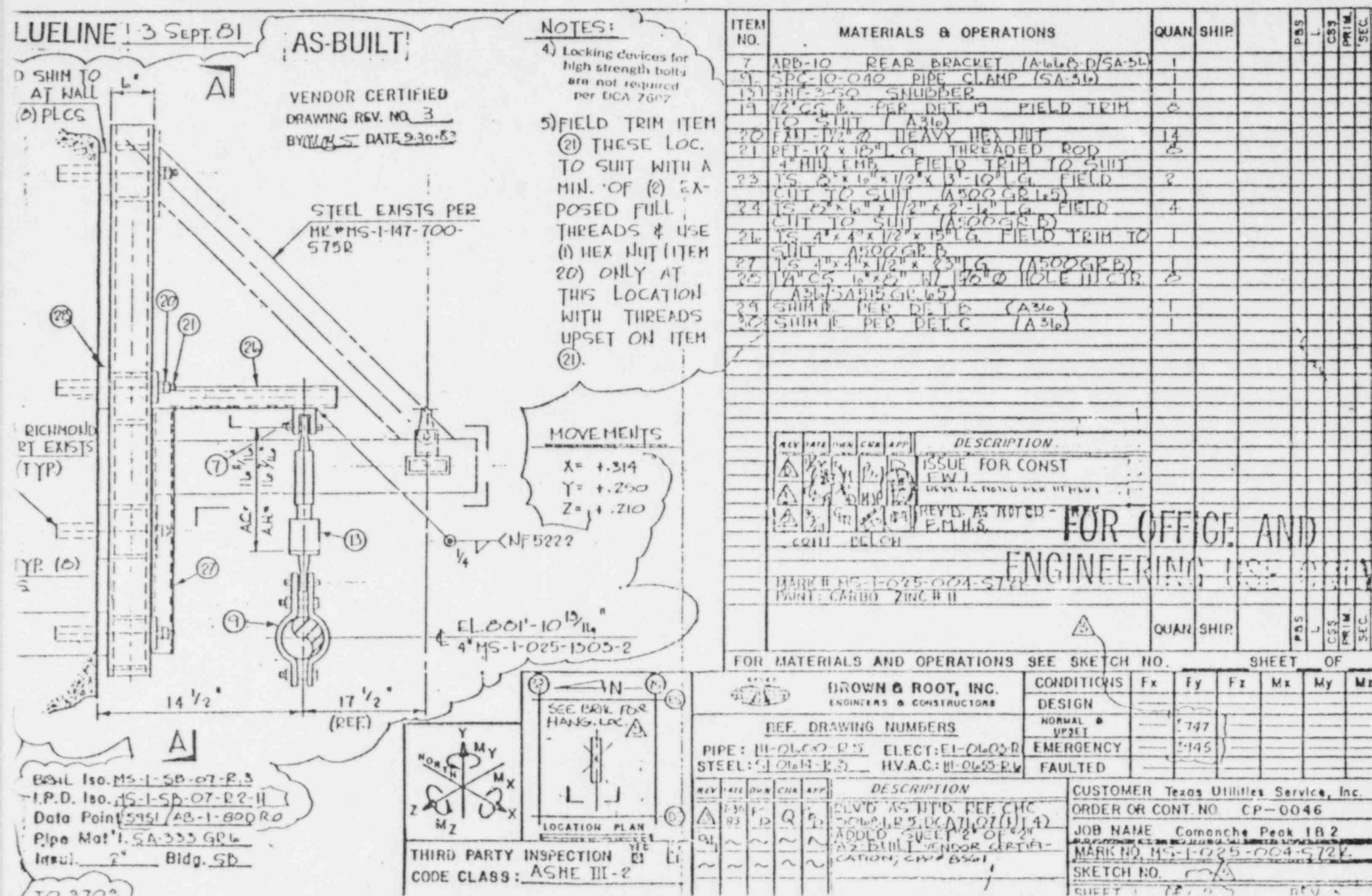
FOR OFFICE AND

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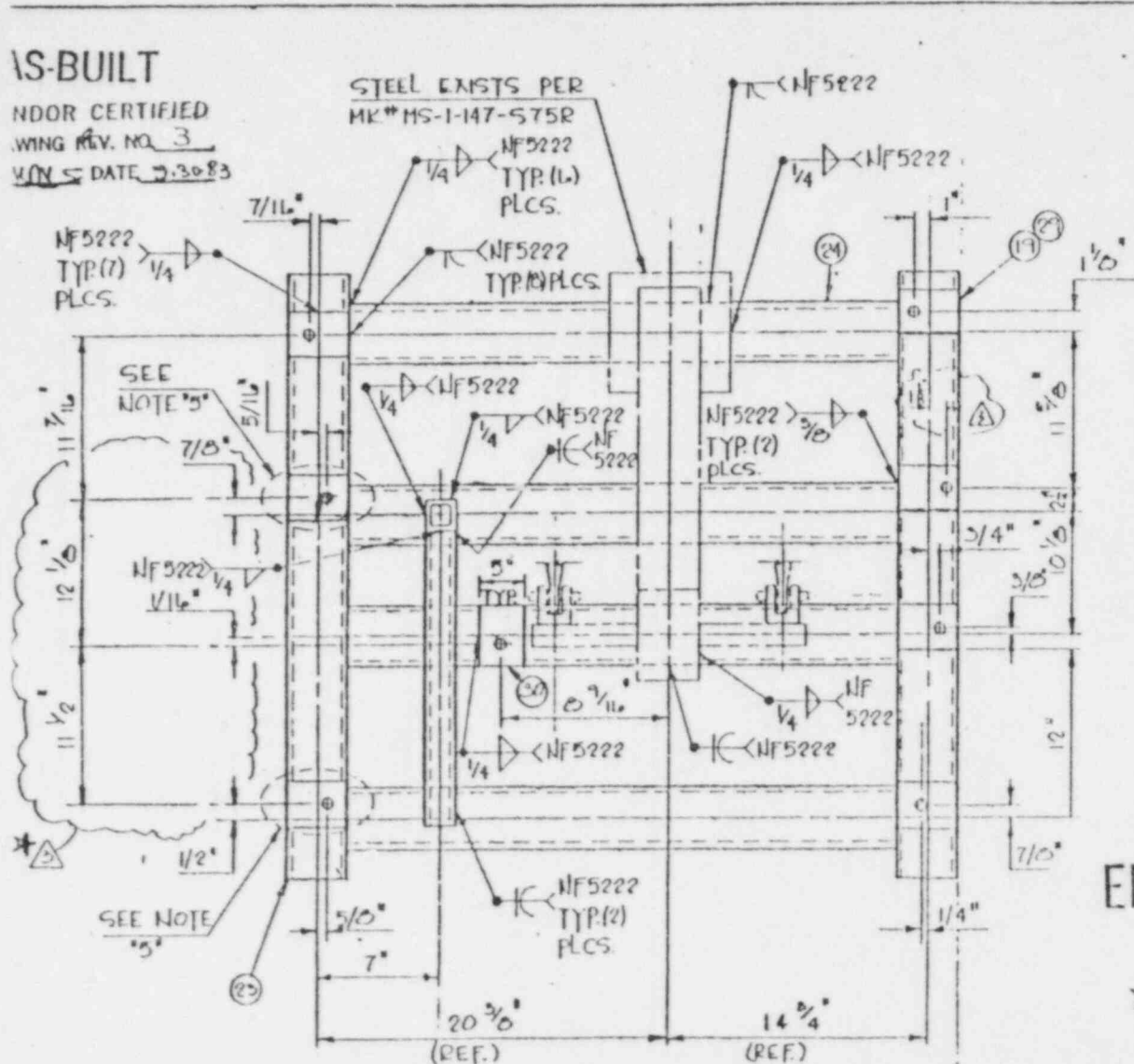




AS-BUILT

NDOR CERTIFIED  
WING REV. NO. 3  
DATE 3-30-83

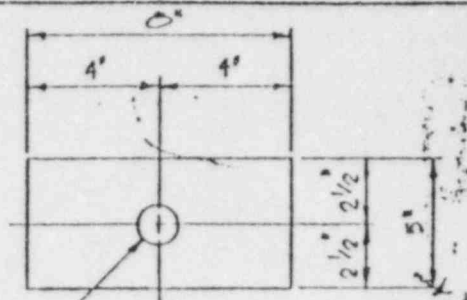
STEEL EXISTS PER  
MK# MS-1-147-575R



SECTION A-A

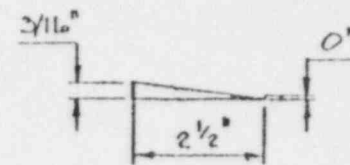
TO 3705

THIRD PARTY INSPECTION  
CODE CLASS: ASME III-2

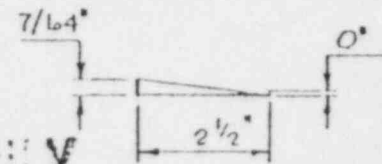


FIELD DRILL (1)  
15/8" Ø HOLE.

DETAIL #19



DETAIL B



DETAIL C

FOR OFFICE AND  
ENGINEERING USE ONLY

★ CHANGE NOT MADE  
BY CMC



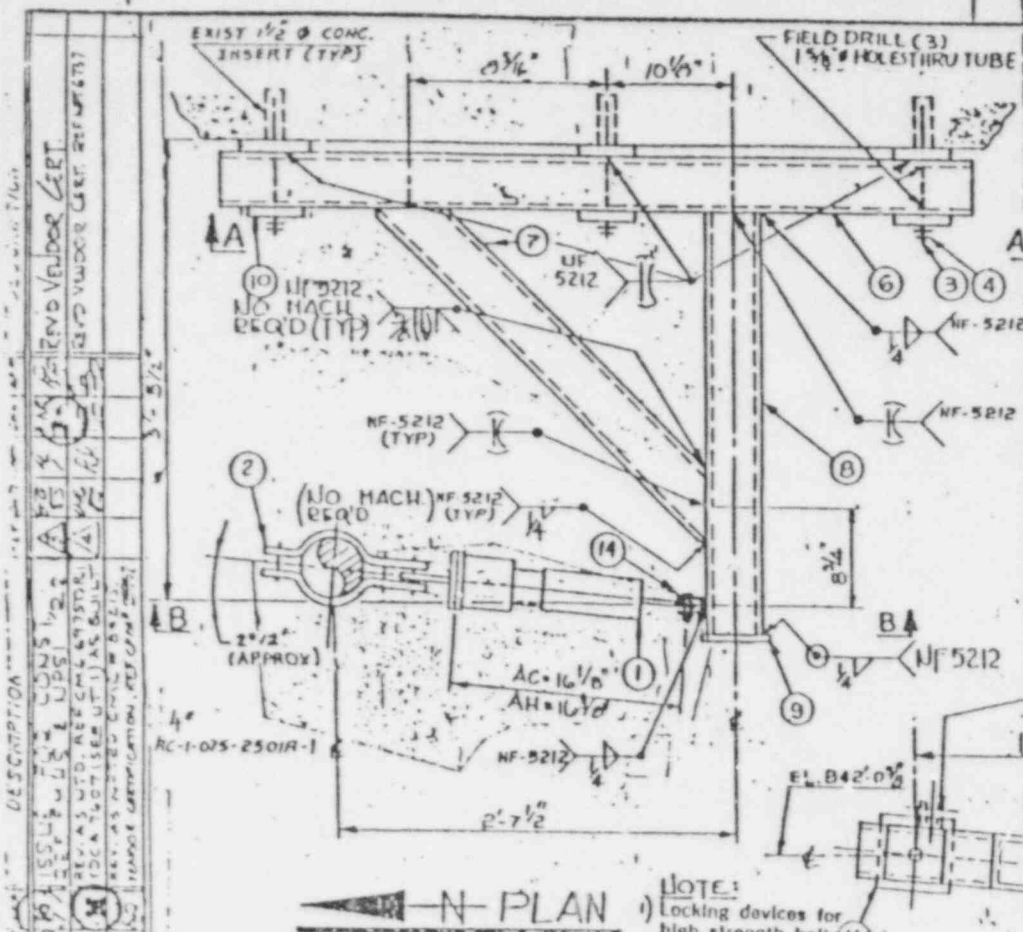
BROWN & ROOT, INC.  
ENGINEERS & CONSTRUCTORS

REF. DRAWING NUMBERS

PIPE : \_\_\_\_\_ ELECT : \_\_\_\_\_  
STEEL : \_\_\_\_\_ HVAC : \_\_\_\_\_

CUSTOMER Texas Utilities Service, Inc.  
ORDER OR CONT. NO. CP-0046  
JOB NAME Comanche Peak 1B2  
MARK NO. MS-1-023-004-572L  
SKETCH NO. \_\_\_\_\_  
SHEET 2 OF 2 REV 3

REV	DATE	BY	CHK	APP	DESCRIPTION
Δ	1/30/83	R	Q	C	ISSUE FOR AS-BUILT REF. CHG. 023-004-572L
~	~	~	~	~	VENDOR CERTIFICATION REF. CPPA 12-61


$$K = 0.07559 \times 10^6 \text{ ft/lb}$$

NOTE:  
i) Locking devices for high strength bolts are not required per DCA 7607

FIELD PERIOD OF SURVEY YEARS  
AN BUILT CONCRETE BRK - DIL  
CNS, 1/1/1980 TO 1/1/1981

ITEM NO	NO REQ'D	DESCRIPTION	1	ASME OR ASTM	QTY	MIC.
1	1	3MF-3-50 CC = 1 1/4"				
2	1	MECH. SNUBBER				
3	3	SPC-10-040 PIPE CLAMP				
4	6	RFT-12 X 15 1/2" LG		SA-36		
5	2	FHH-1 1/2" Hvy. Hex. Nut		SA-307 GR 2		
6	1	1" CS R 6" X 6" W/11 1/2" Ø HOLE ON CTR		SA-307 GR 2		
7	1	75 6" X 6" X 1/2" X 1 1/4" LG		4300 GAB		
8	1	75 6" X 6" X 1/2" X 2" LG		4300 GAB		
9	1	75 6" X 6" X 1/2" X 3" LG		4300 GAB		
10	1	1 1/2" CS R 6" X 6" W/11 1/2" Ø HOLE ON CTR		SA-307 GR 2		
11	1	1" CS R 8" X 8" W/11 1/2" Ø HOLE ON CTR		SA-307 GR 2		
12	2	1" CS R 6" X 6" W/11 1/2" Ø HOLE AS SHOWN		SA-307 GR 2		
13	1	NAME IN NAME PLATE / ALT. MKG				
14	1	XRD-10 READ BRACKET				

BLUELINE 1-28-82

IAS-BUUT

EL. 842'-0"

STEEL SUPPLIED PER  
HK# RC-1-075-045-C51K

SECTION B-C

SECTION A-A

VENDOR CERTIFIED  
DRAWING REV. NO. 4

10 5501

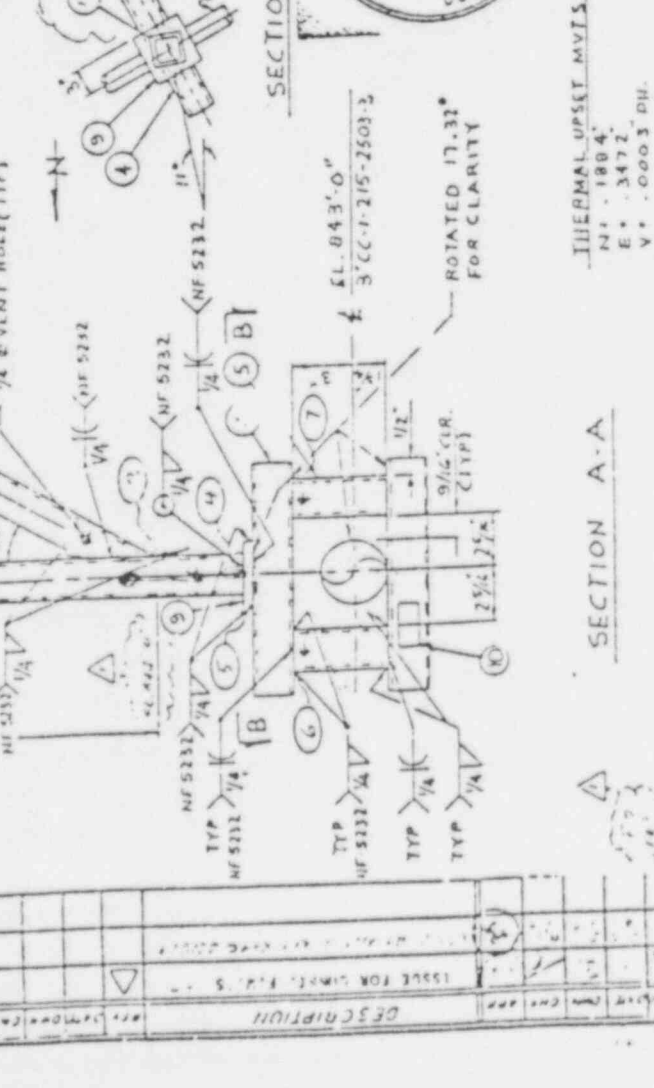
COUNT						DESIGN LOADS	SURF.	NO. OF	REMARKS
TOTAL					USE	270	(LIVE)	1	TEST
UP									
DN									DC-3
PE						571	BSE	151	L-8
S						571	BSE	151	181-034A R4
I									RPRZ
TH						571		215	SC-74X-514

REFERENCE DRAWINGS	BELL ISOMERIC RC-1-P <sub>2</sub> -O <sub>2</sub> O FAB ISOMERIC RC-1-PB-20	REV (2) REV 6	PIPING 2222-MI-0518-01 STRUCTURAL 2222-SI-0522
OWNER	TEXAS UTILITIES SERVICES INC.		
PROJECT	COMANCHE PEAK UNITS NO. 1 & 2		
ENGINEER	GIBBS & HILL INC.		

1A2 SUPPLY 150		NPSI RC-1 AB 20	
REV	ELECTRICAL	REV	CODE/CLASS: A/
11	2222-EL-0501-04	10	PAID/CLAMP HOZING
REV	M.V.A.C	REV	
3	2222-MV-0551	5	1041

DATE	DATE	CHK'D	DATE	APPR'D	DATE
11/1/81	3-3-81	CR	11/1/81	11/1/81	3-3-81
P.O. NO CP-004841			MFG RES.		
PRODUCTION ORDER			SERIAL NUMBER		TYPE
					100
3044	WE NO RC-1 D18-044-C5X			REV. 1	

FOR OFFICE AND  
ENGINEERING USE ONLY



NOV 1958 NOV 1958

CASE ATTACHMENT Q

NOV 1958 NOV 1958



Attachments to CASE Attachment D to CASE's Answer to Applicants' Statement of Material Facts Relating to Richmond Inserts As To Which There Are No Material Issues -- regarding compressive strength of concrete:

DDR No. C-219, 2/16/76

DDR No. C-219, Rev. 1, 7/26/76

DDR No. C-246, 3/23/76

DDR No. C-239, 3/25/76

DDR No. C-220, 2/17/76



# Brown & Root, Inc.

## QUALITY ASSURANCE DEPARTMENT DEFICIENCY & DISPOSITION REPORT

PROJECT: CPSES JOB NO.: 35-1195 UNIT: 2 PAGE 1 OF 1

DDR NO.	C-219	CATEGORY:	C-2	REPORTABLE DEFICIENCY:	No
DOCUMENT VIOLATED:	BRV-1031	REV. NO.	N/A	PAR.	3
DEFICIENCY	<p>Field cure cylinders for concrete pour #201-5781-001 (Reactor #2 cavity wall) of 2/13/76 were found to be in curing box on 2/16/76. These cylinders should have been on the pour and being cured in the same manner. Also, field cure cylinders for SWI base mat pour (#035-2755-001) were not on the mat and being cured in the same manner. They were on the side of a road near the mat. This pour was made 2/11/76 and cylinders found misplaced 2/16/76.</p>				
	<p>FOR INFORMATION ONLY</p>				
REPORTED BY:	C. W. Killough	DATE:	2/16/76	APPROVED BY:	Peter L. Bussolini
				DATE:	2-17-76

### DISPOSITION

CORRECTIVE ACTION	RESPONSE:	REWORK <input type="checkbox"/>	REPAIR <input type="checkbox"/>	SCRAP <input type="checkbox"/>	USE AS IS <input checked="" type="checkbox"/>	OTHER <input type="checkbox"/>
	<p>All field cure cylinders involved in the deficiency were placed on their respective pours on 2/17/76. However, since their representation of the cure of the placements had been impaired, the curing reports rather than the field cure cylinder strengths must be used to judge the adequacy of curing. Copies of these reports are attached.</p>					
	ASSIGNED TO:	B. K. Kinkade	DATE:	2/17/76	SUBMITTED BY:	BK Kinkade
PREVENTATIVE ACTION	APPROVED BY:	B&R QA	DATE:	3-31-76	APPROVED BY:	TUSI QA
	RESPONSE:	<p>The employee responsible for field cylinder placement was counselled at length concerning the procedures for handling field cured specimens and in particular the necessity of placing the cylinders on the pour location in all instances. This employee is now cognizant of his responsibility and of the proper procedures to prevent recurrence of this discrepancy. Also, the Curing Report Form &amp; Checklist has been revised to include a check for field cure cylinders. A copy of this revised checklist is attached.</p>				
	ASSIGNED TO:	B. K. Kinkade	DATE:	2/17/76	SUBMITTED BY:	BK Kinkade

CLOSE-OUT (To be completed by Quality Assurance Department)

CORRECTIVE ACTION:	<input type="checkbox"/> SATISFACTORY	VERIFIED BY:	B&R QA	DATE:	
<input type="checkbox"/> DEFICIENCY CLOSED:	APPROVED BY:	DATE:	APPROVED BY:	DATE:	
REMARKS:	QA RECORD 1		COPIES:		
	RTN. QA REVIEW		R.W. HUNT Co. <input checked="" type="checkbox"/>		
	FILE NO.		B&R CONST. SITE <input type="checkbox"/>		
	SUBFILE NO.		B&R QA SITE <input type="checkbox"/>		
			TUSI QA, DALLAS <input type="checkbox"/>		
			TUSI QA SITE <input type="checkbox"/>		
			NSSS SUPPLIER <input type="checkbox"/>		



**Brown & Root, Inc.**  
QUALITY ASSURANCE DEPARTMENT  
DEFICIENCY & DISPOSITION REPORT

PROJECT: CPSES JOB NO.: 35-1195 UNIT: 2 PAGE 1 OF 13

DDR NO.	C-219, Rev. 1	CATEGORY:	C-2	REPORTABLE DEFICIENCY:	No												
DOCUMENT VIOLATED:	2323-SS-9 BRV-1031	REV. NO.	3 N/A	PAR.	7.3.a 3												
DEFICIENCY	<p>Field cure cylinders for concrete pour #201-5781-001 (Reactor #2 cavity wall) of 2/13/76 were found to be in curing box on 2/16/76. These cylinders should have been on the pour and being cured in the same manner. Also, field cure cylinders for SWI base mat pour (#035-2755-001) were not on the mat and being cured in the same manner. They were on the side of a road near the mat. This pour was made 2/11/76 and cylinders found misplaced 2/16/76.</p> <p>NOTE: DDR revised to change "Document Violated."</p> <p><b>FOR INFORMATION ONLY</b></p>																
	<table border="1"><tr><td>RTN. REVIEW</td><td>1. QA LOG</td></tr><tr><td>L 8/13/76</td><td>2. RNB</td></tr><tr><td>FILE NO.</td><td>3.</td></tr><tr><td>DDR - 76</td><td>4.</td></tr><tr><td>SUBFILE NO.</td><td>5.</td></tr><tr><td>C-219.R1</td><td></td></tr></table>					RTN. REVIEW	1. QA LOG	L 8/13/76	2. RNB	FILE NO.	3.	DDR - 76	4.	SUBFILE NO.	5.	C-219.R1	
	RTN. REVIEW	1. QA LOG															
	L 8/13/76	2. RNB															
	FILE NO.	3.															
DDR - 76	4.																
SUBFILE NO.	5.																
C-219.R1																	
REPORTED BY:	C. W. Killough <i>CK</i>	DATE:	7-26-76	APPROVED BY:	P. L. Bussolini												
				DATE:	7-27-76												

DISPOSITION

CORRECTIVE ACTION	RESPONSE:	REWORK <input type="checkbox"/>	REPAIR <input type="checkbox"/>	SCRAP <input type="checkbox"/>	USE AS IS <input checked="" type="checkbox"/>	OTHER <input type="checkbox"/>
	<p>All field cure cylinders involved in the deficiency were placed on their respective pours on 2/17/76. However, since their representation of the cure of the placements had been impaired, the curing reports rather than the field cure cylinder strengths must be used to judge the adequacy of curing. Copies of these reports are attached. Attached also are copies of impact hammer tests performed on each of the affected concrete placements.</p>					
	ASSIGNED TO:	DATE:	SUBMITTED BY:	DATE:	BKK	
	B. K. Kinkade	7-26-76	<i>B. K. Kinkade</i>	7-26-76		
PREVENTATIVE ACTION	APPROVED BY:	DATE:	APPROVED BY:	DATE:		
	B&R QA <i>C. Killough</i>	7-27-76	TUSI QA <i>James C. Killough</i>	8-11-76		
	RESPONSE:	<p>The employee responsible for field cylinder placement was counselled at length concerning the procedures for handling field cured specimens and in particular the necessity of placing the cylinders on the pour location in all instances. This employee is now cognizant of his responsibility and of the proper procedures to prevent recurrence of this discrepancy. Also, the Curing Report Form &amp; Checklist has been revised to include a check for field cure cylinders. A copy of this revised checklist is attached.</p>				
	ASSIGNED TO:	DATE:	SUBMITTED BY:	DATE:		
	B. K. Kinkade	7-26-76	<i>B. K. Kinkade</i>	7-27-76		

CLOSE-OUT (To be completed by Quality Assurance Department)

CORRECTIVE ACTION:	<input checked="" type="checkbox"/> SATISFACTORY	VERIFIED BY:	C. Killough	DATE:	8-11-76
DEFICIENCY CLOSED:	APPROVED BY:	DATE:	APPROVED BY:	DATE:	
	TUSI QA <i>James C. Killough</i>	8-12-76	B&R QA <i>P. L. Bussolini</i>	8-12-76	
REMARKS:	COPIES:				
NONE	B&R CONST. SITE <input checked="" type="checkbox"/>				
	B&R QA SITE <input type="checkbox"/>				
	TUSI QA SITE <input checked="" type="checkbox"/>				
	NSSS SUPPLIER <input type="checkbox"/>				
TUSI SITE <input checked="" type="checkbox"/>					
B&R QA, HOUSTON <input checked="" type="checkbox"/>					
TUSI QA, DALLAS <input checked="" type="checkbox"/>					
NR C-219 REV 0 ATTACHED 1-16-79 1223					

GHF-812

M E M O  
Gibbs & Hill, Inc.  
 ENGINEERS, DESIGNERS, CONSTRUCTORS  
 NEW YORK

Pg 2 of 13

To C. H. GatchellDate August 4, 1976At TUSI - JobsiteFrom J. J. MoorheadAt G&H - Jobsite

JOB NO. 35-1195

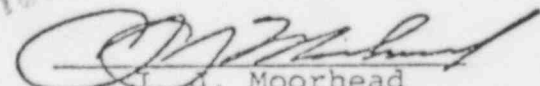
COMANCHE PEAK STEAM ELECTRIC STATION  
 1980-82 2300 MW INSTALLATION  
 HANDLING OF FIELD CURED CYLINDERS  
 REF: DDR C-219  
 GHF-651

RECEIVED  
 AUG 05 1976  
 RECEIVED

We have reviewed the curing records for the concrete represented by the subject DDR and have found them satisfactory. Past monitoring indicates adherence to the specification in regard to curing practices assure desired strengths.

The Engineer's position stated in GHF-651 remains unchanged, however, verification of proper curing is sufficient for evaluation of curing where an irretrievable situation exists. No further action is required.

FOR INFORMATION ONLY

  
 J. J. Moorhead  
 Resident Engineer

JJM:MRM:te

cc: R. W. Caudle 6L  
 R. E. Hersperger 1L  
 L. T. Van Amerongen 1L  
 H. C. Dodd 1L

DIST.	DATE
DODD	1
BONIN	
CHILDRRESS	1
McCLINTOCK	
BUSSOLINI	1
KOTOWSKI	
WELLER	1
GHF	1
	1



GHF-651

M. E. M. O  
**Gibbs & Hill, Inc.**  
ENGINEERS, DESIGNERS, CONSTRUCTORS  
NEW YORK

DDR C-219, R1

Pg 3 of 13

To C. H. Gatchell

Date May 28, 1976

At TUSI - Jobsite

From J. J. Moorhead

Ac G&H - Jobsite

COMANCHE PEAK STEAM ELECTRIC STATION  
1980-82 2300 M W INSTALLATION  
HANDLING OF FIELD CURED CYLINDERS  
REF: DDR C-219  
FILE 05209

We are in receipt of DDR C-219 which was forwarded to us for consideration.


The attached DDR was issued due to a deficiency discovered in the handling of field cured cylinders as outlined in BRV-1031.

The mishandling of field cured cylinders is unfortunate, however, once this has occurred an irretrievable situation exists. Due to this deficiency addressing the noncompliance with guidelines established by B&R Quality Assurance, no further review by the engineer is required.

If we can be of further assistance, please advise.

JJM:MRM:te  
Attachment

cc: R. W. Caudle 6L  
R. E. Hersperger 1L  
L. T. Van Amerongen 1L  
H. C. Dodd 1L  
P. L. Bussolini 1L  
P. M. Milam 1L  
G&H Field 2L

  
J. J. Moorhead  
Resident Engineer

DDR C-219, KIC  
Pg 4 of 13

Brown & Root, Inc. Post Office Box 1001, Glen Rose, Texas 76043



November 3, 1975

BRV-1031

R. W. Hunt Company  
810 S. Clinton Street  
Chicago, Illinois 60607

ATTN: Mr. A. J. Bray

Texas Utilities Services, Inc.  
Comanche Peak Steam Electric Station  
1980-82 2300 MW Installation  
Procedures for Handling Field Cured Specimens

Dear Mr. Bray:

Please institute the following outlined procedures for the handling of field cured specimens at the Comanche Peak Site.

- (1) Specimens are to be molded in accordance with the applicable procedures outlined in ASTM C-31-69.
- (2) Initial curing procedures outlined in ASTM C-31-69, para. 7.2 shall be instituted for 24 hours after molding.
- (3) At 24 hours after molding, strip the specimens and remove to the pour location represented. Field cure cylinders in the same manner and for the same period of time as the concrete represented. (7 days for regular mixes and 14 days for mass concrete mixes).
- (4) At the end of this field curing period, place specimens in the wire-mesh enclosure in the auxiliary bldg. area until time of testing at 28 days. Test specimens in the moisture condition resulting from the above procedures.

Sincerely,

BROWN & ROOT, INC.

Peter L. Bussolini

Peter L. Bussolini  
Project Quality Assurance Manager

PLB/GHF/pw

cc:

R. W. Caudle (6L)  
H. C. Dodd, Jr. (1L)  
C. H. Gatchell (1L)  
D. L. Hansford (1L)

## CURING REPORT FORM &amp; CHECKLIST

DDR C-219A1  
Pg 5 of 13Pour No. 035-2153-001Location BUTTON HLT - SERVICE WATER INTERIORDate of Pour FEBRUARY 11, 1976Mix I.D. 204Method of Curing WET BURLAPDate Curing Started FEBRUARY 11, 1976Date Curing Finished 2-25-76

BROWN &amp; ROOT, INC

RECEIVED

MAR 01 1976

FILES NOTED

QUALITY ASSURANCE

- |  | Sat. | Unsat. | N/A |
|--|------|--------|-----|
| (1) Concrete surfaces are protected from premature drying.   | ✓    |        |     |
| (2) Concrete surfaces are kept continuously wet for at least the first 48 hours after placement and any time during curing when the ambient temp. is above 90°F. | ✓    |        |     |
| (3) Concrete surfaces are maintained continuously moist throughout curing period.  | ✓    |        |     |
| (4) Wood forms are not left in place during curing.  | ✓    |        |     |
| (5) Concrete surfaces are protected against freezing when the ambient temperature is below 32°F.   | ✓    |        |     |
| (6) Rate of air temperature change immediately adjacent to the concrete does not fall more than 3°F in any one hour nor more than 30°F in any 24 hours.          |      |        |     |

- (7) Protected from mechanical injury?  
(Construction equipment, rain, running water, application of curing methods, excessive vibration, loads, heavy shock)

## REFERENCE ROUTING

RTN	QA REVIEW
C	S. G. G. G.
FILE NO.	3127/106
SUB-FILE NO.	27 27

1. 35-1195
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

This form is to be used in conjunction with ACI 308, ACI 305 & ACI 306, and specifically refer to Table 1.4.1, ACI 306 (Cold weather).

*Sherrin*  
2/15/76

*Thermometer Control Co. 2-178-23*

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Initials of Inspector	<i>pld</i>	<i>pld</i>	<i>pld</i>	<i>pld</i>	<i>pld</i>	<i>pld</i>	<i>pld</i>	<i>pld</i>	<i>pld</i>	<i>pld</i>	<i>pld</i>	<i>pld</i>	<i>pld</i>	<i>pld</i>
Date	2/12	2/13	2/14	2/15	2/16	2/17	2/18	2/19	2/20	2/21	2/22	2/23	2/24	2/25

2-25-76

Date

*Danny W. W. W.*  
Q.C. Inspector

## CURING REPORT POUR TEMPERATURE RECORD

JOB NO. 35-111

POUR NO. 035-2755-001TEMP RANGE OF FRESH CONCRETE DURING PLACEMENT 64°-68°

AY	DATE	WEATHER CONDITIONS	AMBIENT TEMPS		CONC. SURFACE TEMP					MONITORED HOURLY (2)				
			5:00	14:00	0100	0300	0500	0700	0900	1100	1300	1500	1700	1900
AY 1	2/12	CLEAR MILD	50°	75°									73°	
AY 2	2/13	CLEAR & WARM	57°	75°									72°	
AY 3	2/14	Partly Cloudy WARM	60°	73°									70°	
AY 4	2/15	CLOUDY WARM	60°	74°										
AY 5	2/16	CLOUDY WARM	66°	78°										
AY 6	2/17	RAIN WARM	54°	72°										
AY 7	2/18	Clear warm	47°	67°										
AY 8	2/19	clear	51°	70°										

DDR C-219R12  
Pg 6 of 13  
70°



## CURING REPORT POUR TEMPERATURE RECORD

JOB NO. 55-110

POUR NO. 035-2755-001TEMP RANGE OF FRESH CONCRETE DURING PLACEMENT 64°-68°

	DATE	WEATHER CONDITIONS	AMBIENT TEMPS		CONC. SURFACE TEMP		MONITORED	
			8:00 -12:00	2:00- 4:00	6:00- 10:00	10:00- 2:00	2:00- 6:00	6:00- 12:00
AY 9	2/20	Cloudy Cool	67°	70°				67°
AY 10	2/21	Clear Cool	41°	49°		51°		
AY 11	2/22	Clear Cool	34°	53°		61°		
AY 12	2/23	Clear Warm	46°	72°	74°			
AY 13	2/24	PARTLY CLOUDY WINDY WARM	44°	70°				
AY 14	2/25	PARTLY CLOUDY WARM	57°	72°				
AY 15	2/26	CLEAR + WARM	49°	81°	64°			
AY								

59°

DDR C-219R1  
Pg 7 of 13

FOR INFORMATION ONLY

64°  
67°  
68°  
2/26/76

MAR 01 1976

FILES NOTED

Pour No. 201-5781-001Location CONTAINMENT #2 (CAVITY WALL) QUALITY ASSURANCEDate of Pour 2-13-76Mix I.D. 204Method of Curing WET BURLAPDate Curing Started 2-13-76Date Curing Finished 2-27-76

## REFERENCE ROUTING

RTN.	CA REVIEW	1.
<u>L</u>	<u>S. Galati</u>	2.
FILE NO.		3.
<u>312702</u>	<u>106</u>	4.
SUBFILE NO.		5.
<u>312702</u>	<u>27</u>	

- |  | Sat.                                | Unsat.                   | N/A                                 |
|--|-------------------------------------|--------------------------|-------------------------------------|
| (1) Concrete surfaces are protected from premature drying.   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| (2) Concrete surfaces are kept continuously wet for at least the first 48 hours after placement and any time during curing when the ambient temp. is above 90°F. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| (3) Concrete surfaces are maintained continuously moist throughout curing period.  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| (4) Wood forms are not left in place during curing.  | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| (5) Concrete surfaces are protected against freezing when the ambient temperature is below 32°F.   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| (6) Rate of air temperature change immediately adjacent to the concrete does not fall more than 3°F in any one hour nor more than 30°F in any 24 hours.          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| (7) Protected from mechanical injury?<br>(Construction equipment, rain, running water, application of curing methods, excessive vibration, loads, heavy shock)   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |

This form is to be used in conjunction with ACI 303, ACI 305 & ACI 306, and specifically refer to Table 1.4.1, ACI 306 (Cold weather).

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Initials of Inspector	<u>Kello</u>	<u>Kello</u>	<u>Kello</u>	<u>Kello</u>	<u>Kello</u>	<u>Kello</u>	<u>Kello</u>	<u>Kello</u>	<u>Kello</u>	<u>Kello</u>	<u>Kello</u>	<u>Kello</u>	<u>Kello</u>	<u>Kello</u>
Date	<u>2/14</u>	<u>2/15</u>	<u>2/16</u>	<u>2/17</u>	<u>2/18</u>	<u>2/19</u>	<u>2/20</u>	<u>2/21</u>	<u>2/22</u>	<u>2/23</u>	<u>2/24</u>	<u>2/25</u>	<u>2/26</u>	<u>2/27</u>

3-1-76

Date

C. Kello

Q.C. Inspector

## CURING REPORT POUR TEMPERATURE RECORD

JOE O. 35.11

POUR NO. 201-5781-001TEMP RANGE OF FRESH CONCRETE DURING PLACEMENT 63°F to 66°F

	DATE	WEATHER CONDITIONS	AMBIENT TEMPS		CONC. SURFACE TEMP	MONITORED										HOURS
			<del>68.00</del> 68.00	<del>74.00</del> 74.00		61.00	63.00	65.00	67.00	69.00	71.00	73.00	75.00	77.00	79.00	
AY 1	2/14/76	PARTLY CLOUDY WARM	60°	73°								73°				10:30
AY 2	2/15/76	CLOUDY WARM	60°	74°	73°											11:30
AY 3	2/16/76	CLOUDY WARM	66°	78°								72°				12:30
AY 4	2/17/76	RAIN WARM	54°	72°						71°						1:30
AY 5	2/18/76	CLOUDY WARM	47°	67°												2:30
AY 6	2/19/76	CLOUDY WARM	51°	70°												3:30
AY 7	2/20/76	CLOUDY WARM	67°	70°												4:30
AY 8	2/21/76	CLEAR COOL	41°	49°											69°	5:30

DDR 2-21/81  
Pg 9 of 13  
70°

## CURING REPORT POUR TEMPERATURE RECORD

JOB NO. 35-10

POUR NO. 201-5781-001TEMP RANGE OF FRESH CONCRETE DURING PLACEMENT 63°F to 66°F

	DATE	WEATHER CONDITIONS	AMBIENT TEMPS <u>58°-68°</u>	CONC. SURFACE TEMP	MONITORED HOURS (24)											
					0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200
DAY 9	2/12/76	CLEAR & COOL	34°	53°												70°F
DAY 10	2/13/76	CLEAR & WARM	46°	72°												70°F
DAY 11	2/14/76	PARTLY CLDY & WARM	44°	70°												70°F
DAY 12	2/15/76	PARTLY CLDY & WARM	57°	72°												70°F
DAY 13	2/16/76	CLEAR & WARM	49°	81°												71°
DAY 14	2/17/76	CLEAR & WARM	57°													71°
DAY 15																
DAY																

FOR INFORMATION ONLY

DDR C-219R10  
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## CURING REPORT FORM &amp; CHECK LIST

DDR C-21911  
Pg 11 of 13

Pour No. \_\_\_\_\_

Location \_\_\_\_\_

Date of Pour \_\_\_\_\_

Mix I.D. \_\_\_\_\_

Method of Curing \_\_\_\_\_

Date Curing Started \_\_\_\_\_

Date Curing Finished \_\_\_\_\_

	Sat.	Unsat.	N/A
(1) Concrete surfaces are protected from premature drying.	_____	_____	_____
(2) Concrete surfaces are kept continuously wet for at least the first 48 hours after placement and any time during curing when the ambient temp. is above 90°F.	_____	_____	_____
(3) Concrete surfaces are maintained continuously moist throughout curing period.	_____	_____	_____
(4) Wood forms are not left in place during curing.	_____	_____	_____
(5) Concrete surfaces are protected against freezing when the ambient temperature is below 32°F.	_____	_____	_____
(6) Rate of air temperature change immediately adjacent to the concrete does not fall more than 3°F in any one hour nor more than 30°F in any 24 hours.	_____	_____	_____
(7) Protected from mechanical injury? (Construction equipment, rain, running water, application of curing methods, excessive vibration, loads, heavy shock)	_____	_____	_____

This form is to be used in conjunction with ACI 308, ACI 305 & ACI 306, and specifically refer to Table 1.4.1, ACI 306 (Cold weather).

When applicable, check to ensure field cured specimens are in place on structure and receiving same cure as parent concrete.

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Initials of Inspector														
Date														

Date

Q.C. Inspector

3777-6

13-C-9927

Date 7-22-76

REPORT

PAGE

Ag 120513  
HCP  
14068  
ref

Brown & Root, Inc.  
P.O. Box 1001  
Glen Rose, Texas 76043

RE: Texas Utilities Services, Inc.  
Comanche Peak Steam Electric Station  
1980-1982 Units 1 & 2  
Job No. 35-1195  
B & R Subcontract No. 35-1195-0225  
Hunt Project 513

Gentlemen:

We report results of concrete test hammer tests to determine compressive strength of concrete.

Concrete Pour No. 035-2755-001

Test Location S.W.T. - FOUNDATION WALL - 1 FT WEST OF EAST WALL  
1 FT NORTH OF SOUTH WALL

Rebound Values

1. 36
2. (47)
3. (44)
4. 36
5. 30
6. 38
7. 36
8. 34
9. 35
10. (51)
11. 38
12. 33
13. (42)
14. 30
15. (29)

Mean Rebound Value = 35Indicated Compressive strength-psi 5,200Tested by Michael J. Harkness  
LEVEL 2Checked by Robert W. Hunt  
LEVEL 2

Respectfully submitted,

ROBERT W. HUNT COMPANY

Robert W. Hunt  
LEVEL 2

219-239

3777-6  
13-C-9927

Date 7-22-76

REPORT

PAGE

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14068  
292

Brown & Root, Inc.  
P.O. Box 1001  
Glen Rose, Texas 76043

RE: Texas Utilities Services, Inc.  
Comanche Peak Steam Electric Station  
1980-1982 Units 1 & 2  
Job No. 35-1195  
B & R Subcontract No. 35-1195-0225  
Hunt Project 513

Gentlemen:

We report results of concrete test hammer tests to determine compressive strength of concrete.

Concrete Pour No. 035-2755-001

Test Location S.W. 1 - FOUNDATION SLAB - INSIDE NORTH WALL 15 FT  
5 FT EAST OF SECONDARY WALL

Rebound Values

1. 39
2. 38
3. 40
4. 39
5. (51)
6. 40
7. (41)
8. (41)
9. 40
10. 39
11. (37)
12. 38
13. (42)
14. 40
15. 38

FOR INFORMATION ONLY

Mean Rebound Value = 39

Indicated Compressive strength-psi 6,000

Tested by Michael H. H. H.  
LEVEL 1

Checked by Robert W. Hunt  
LEVEL 2

Respectfully submitted,

ROBERT W. HUNT COMPANY

Robert W. Hunt  
LEVEL 2

219-239



# Brown & Root, Inc.

## QUALITY ASSURANCE DEPARTMENT DEFICIENCY & DISPOSITION REPORT

PROJECT: CPSES JOB NO.: 35-1195 UNIT: 2 PAGE 1 OF 2

DDR NO. C-246	CATEGORY: E-1	REPORTABLE DEFICIENCY: No
---------------	---------------	---------------------------

DOCUMENT VIOLATED: Gibbs & Hill Spec. 2323-SS-9	REV. NO. 2	PAR. 7.3.a
--	------------	------------

DEFICIENCY

Field cured cylinder No. 6957 on R. W. Hunt Co. Report HCP 8744 failed to meet specification requirement of 85% of laboratory cured cylinders or at least 500 psi above design strength. This concerns Pour No. 201-5781-001 (Containment #2 cavity wall).

See attached Hunt Report HCP 8744.

FOR INFORMATION ONLY

REPORTED BY: C. W. Killough	DATE: 3/23/76	APPROVED BY: Peter L. Bussolini	DATE: 3-23-76
-----------------------------	---------------	---------------------------------	---------------

### DISPOSITION

RESPONSE: REWORK ☐ REPAIR ☐ SCRAP ☐ USE AS IS ☐ OTHER ☒

CORRECTIVE ACTION

This DDR has been cancelled since the field cured cylinders which are the subject of this DDR were not, in fact, representative of the cure of the concrete placed. (Reference DDR C-219, Rev. 1, closed 8-12-76).

ASSIGNED TO: H. C. Dodd, Jr.	DATE: 3/23/76	SUBMITTED BY: R.N. Best	DATE: 8/13/76
APPROVED BY: B&R QA C Killough	DATE: 8-13-76	APPROVED BY: TUSI QA [Signature]	DATE: 8/13/76

PREVENTATIVE ACTION

RESPONSE:

Not applicable.

### QA RECORD ROUTING

RTN. L	QA REVIEW 8/13/76
FILE NO. DDR 76	
SUBFILE NO. C-246	

1. QA HQ
2. RNB
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

ASSIGNED TO: H. C. Dodd, Jr.	DATE: 3/23/76	SUBMITTED BY: R.N. Best	DATE: 8/13/76
------------------------------	---------------	-------------------------	---------------

### CLOSE-OUT (To be completed by Quality Assurance Department)

CORRECTIVE ACTION: <input checked="" type="checkbox"/> SATISFACTORY	VERIFIED BY: B&R QA N/A	DATE: N/A
DEFICIENCY CLOSED: <input checked="" type="checkbox"/>	APPROVED BY: TUSI QA [Signature]	DATE: 8-13-76
REMARKS: NONE	COPIES: TUSI SITE <input checked="" type="checkbox"/> B&R CONST. SITE <input checked="" type="checkbox"/> B&R QA SITE <input type="checkbox"/> TUSI QA SITE <input checked="" type="checkbox"/> B&R QA, HCUSTON <input checked="" type="checkbox"/> TUSI QA, DALLAS <input checked="" type="checkbox"/> NSSS SUPPLIER <input type="checkbox"/>	

FILE NO. 3771-6  
SERIES 13-C-9977

DATE:

3-12-76

Pg 2 of 2

ALFORD  
PAGE

4/1/76  
8744

Brown & Root, Inc.  
P.O. Box 1001  
Glen Rose, Texas 76043

RE: Texas Electric Service, Inc.  
Contract: Peak State Electric Station  
1930 1582 Units 1 & 2  
Job No. 35-1195  
E & P Subcontract No. 35-1195-0225  
Here Project No. 513

## FOR INFORMATION ONLY

Gentlemen:

We report results of Concrete Compression Tests, ASTM C-39 (Revised 1951)

Cylinder No.	6953	6954	6957
Age-Days	28	28	28
Stc. prf sq. in-lbs.	4257	4219	3559
Max. Load-lbs.	121,500	119,500	102,000
Type of Fracture	REG.	REG.	REG.
Date Made	2-13-76	2-13-76	2-13-76
Date Received	2-14-76	2-14-76	3-12-76
Date Tested	3-12-76	3-12-76	3-12-76
Type of Curing	STANDARD	STANDARD	FIELD
Concrete Mix	204	204	204
Temperature °F	63°	63°	63°
Slump Inches	2 1/2"	2 1/2"	2 1/2"
Air Content	3.5	3.5	3.5
Location Taken Pour±	201-5781-001		
TICKET	11307		
AREA	28.54	28.32	28.66

TESTED BY JS  
CHECKED BY GS

Respectfully submitted,

ROBERT W. BERRY COMPANY

*Robert W. Berry*  
LOVER IT





**Brown & Root, Inc.**  
QUALITY ASSURANCE DEPARTMENT  
DEFICIENCY & DISPOSITION REPORT

PROJECT: CPSES JOB NO.: 35-1195 UNIT: N/A PAGE 1 OF 6

DDR NO.	C-239	CATEGORY:	E-1	REPORTABLE DEFICIENCY:	No
DOCUMENT VIOLATED:	Gibbs & Hill Spec. 2323-SS-9	REV. NO.	2	PAR.	7.3.a
DEFICIENCY	5 field cured cylinders of 14 tested for Pour No. 035-2755-001, dated 2-11-76, service water intake structure base mat, failed to meet specification requirement of 85% of laboratory cured cylinders or at least 500 psi above design strength. This involved Mix I.D. 204 only.				
	See attached R. W. Hunt Co. Reports #8539, 8543, 8545, 8547 and 8549.				
FOR INFORMATION ONLY					
REPORTED BY:	C. W. Killough	DATE:	3-15-76	APPROVED BY:	Peter L. Bussolini
				DATE:	3-16-76

DISPOSITION

CORRECTIVE ACTION	RESPONSE:	REWORK <input type="checkbox"/>	REPAIR <input type="checkbox"/>	SCRAP <input type="checkbox"/>	USE AS IS <input type="checkbox"/>	OTHER <input checked="" type="checkbox"/>
	This DDR has been cancelled since the field cured cylinders which are the subject of this DDR were not, in fact, representative of the cure of the concrete placed. (Reference DDR C-219, Rev. 1, closed 8-12-76).					
	ASSIGNED TO:	H. C. Dodd, Jr.	DATE:	3-16-76	SUBMITTED BY:	R. N. Best
PREVENTATIVE ACTION	APPROVED BY:	B&R QA	DATE:	8-13-76	APPROVED BY:	TUSI QA
	Not applicable.					
	QA RECORD ROUTING					
		RTN	QA REVIEW	1. QA Tech		
		L	8/14/76	2. RNB		
		FILE NO.	DDR 76	3. _____		
		SUBFILE NO.	C-239	4. _____		
				5. _____		
ASSIGNED TO:		H. C. Dodd, Jr.	DATE:	3-16-76	SUBMITTED BY:	R. N. Best
						DATE: 8/13/76

CLOSE-OUT (To be completed by Quality Assurance Department)

CORRECTIVE ACTION:	<input checked="" type="checkbox"/> SATISFACTORY	VERIFIED BY:	B&R QA	DATE:	N/A
<input checked="" type="checkbox"/> DEFICIENCY CLOSED:	APPROVED BY:	DATE:	8/13/76	APPROVED BY:	Peter L. Bussolini
REMARKS:	NONE	COPIES:	TUSI SITE	<input checked="" type="checkbox"/>	
		B&R CONST. SITE	<input checked="" type="checkbox"/>	B&R QA, HOUSTON	<input checked="" type="checkbox"/>
		B&R QA SITE	<input type="checkbox"/>	TUSI QA, DALLAS	<input checked="" type="checkbox"/>
		TUSI QA SITE	<input checked="" type="checkbox"/>	NSSS SUPPLIER	<input type="checkbox"/>

FILE NO. 3777-6  
ORDER 13-C-9977

Date: 3-10-76

REPORT 8539  
PAGE 1  
CDORC-239  
Pg 2 of 6

Brown & Root, Inc.  
P.O. Box 1001  
Glen Rose, Texas 76043

RE: Texas Utilities Services, Inc.  
Command: Peak Steam Electric Station  
1930-1982 Units 1 & 2  
Job No. 35-1195  
B & R Subcontract No. 35-1195-0225  
Hunt Project No. 513

FOR INFORMATION ONLY

Gentlemen:

We report results of Concrete Compression Tests, ASTM C-39 (Hunt E1001)

Cylinder No.	6260	6261	6264
Age-Days	28	28	28
Str. per sq. in-lbs.	4734	4558	3809
Max. Load-lbs.	135,000	130,000	110,000
Type of Fracture	Reg.	Reg.	Reg.
Date Made	2-11-76	2-11-76	2-11-76
Date Received	2-12-76	2-12-76	3-10-76
Date Tested	3-10-76	3-10-76	3-10-76
Type of Curing	STANDARD	STANDARD	Field
Concrete Mix	204	204	204
Temperature °F.	61	61	61
Slump Inches	2 3/4	2 3/4	2 3/4
Air Content	3.2	3.2	3.2
Location Taken	Pour 035-2755-001		
TICKET	10984		
RESC	28.52	28.52	28.58

TESTED BY: GS  
CHECKED BY: JR

Respectfully submitted,

ROBERT W. HUNT COMPANY

*Robert W. Hunt*  
LEVEL 2

FILE NO. 3777-6  
ORDER 13-C-9927

Date: 3-10-76

REPORT  
PAGE

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Pg 3 of 6

Brown & Root, Inc.  
P.O. Box 1001  
Glen Rose, Texas 76043

RE: Texas Utilities Services, Inc.  
Command: Peak Steam Electric Station  
1980-1982 Units 1 & 2  
Job No. 35-1195  
B & R Subcontract No. 35-1195-0225  
Hunt Project No. 513

Gentlemen:

FOR INFORMATION ONLY

We report results of Concrete Compression Tests, ASTM C-39 (Hunt E1031)

Cylinder No.	6788	6789	6792
Age-Days	28	28	28
Str. per sq. in-lbs.	4975	5082	4074
Max. Load-lbs.	141,500	145,000	116,000
Type of Fracture	REG.	REG.	REG.
Date Made	2-11-76	2-11-76	2-11-76
Date Received	2-12-76	2-12-76	3-10-76
Date Tested	3-10-76	3-10-76	3-10-76
Type of Curing	STANDARD	STANDARD	FIELD
Concrete Mix	204	204	204
Temperature °F	68°	68°	68°
Slump Inches	3"	3"	3"
Air Content	3.4	3.4	3.4
Location Taken Pour	035-2755-eel		
TICKET	11053		
MP5A	28.44	28.53	28.44

TESTED BY: GS

CHECKED BY: P.G.

Respectfully submitted,

ROBERT W. HUNT COMPANY

*Robert W. Hunt*  
Level 2

FILE NO. 3777-6  
ORDER 13-G-9227

Date:

3-10-76

REPORT  
PAGE

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8545

DDRC. 239  
Pg 4 of 6

Brown & Root, Inc.  
P.O. Box 1001  
Clen Rose, Texas 76043

RE: Texas Utilities Services, Inc.  
Command: Peak Steam Electric Station  
1930-1932 Units 1 & 2  
Job No. 35-1195  
B & R Subcontract No. 35-1195-0225  
Hunt Project No. 513

## FOR INFORMATION ONLY

Gentlemen:

We report results of Concrete Compression Tests, ASTM C-39 (Hunt E1001)

Cylinder No.	6802	6803	6806
Age-Days	28	28	28
Str. per sq. in-lbs.	5168	4924	4095
Max. Load-lbs.	146,000	140,000	116,500
Type of Fracture	REG.	REG.	REG.
Date Made	2-11-76	2-11-76	2-11-76
Date Received	2-12-76	2-12-76	3-10-76
Date Tested	3-10-76	3-10-76	3-10-76
Type of Curing	STANDARD	STANDARD	FIELD
Concrete Mix	2011	204	204
Temperature °F.	60°	60°	60°
Slump Inches	2"	2"	2"
Air Content	3.4	3.4	3.4
Location Taken Pour <sup>II</sup>	035-2755-001		
TICKET	11074		
AREA	28.25	28.43	28.45

TESTED BY: GS

CHECKED BY: R.G.

Respectfully submitted,

ROBERT W. HUNT COMPANY

*Robert W. Hunt*  
LEVEL II

FILE NO. 3777-6  
ORDER 13-C-9927

Date: 3-10-76

REPORT  
PAGE

HCP# 8547  
PDR C.23  
Pg 5 of 6

To: Brown & Root, Inc.  
P.O. Box 1001  
Glen Rose, Texas 76043

RE: Texas Utilities Services, Inc.  
Command: Peak Steam Electric Station  
1930-1932 Units 1 & 2  
Job No. 35-1195  
B & R Subcontract No. 35-1195-0225  
Hunt Project No. 513

FOR INFORMATION ONLY

Gentlemen:

We report results of Concrete Compression Tests, ASTM C-39 (Hunt E1001)

Cylinder No.	6816	6817	6820
Age-Days	28	28	28
Str. per sq. in-lbs.	4790	4910	3904
Max. Load-lbs.	136,000	139,500	111,000
Type of Fracture	Reg.	Reg.	Reg.
Date Made	2-11-76	2-11-76	2-11-76
Date Received	2-12-76	2-12-76	3-10-76
Date Tested	3-10-76	3-10-76	3-10-76
Type of Curing	STANDARD	STANDARD	Field
Concrete Mix	204	204	204
Temperature °F.	60	60	60
Slump Inches	2 3/4	2 3/4	2 3/4
Air Content	3.2	3.2	3.2
Location Taken	Pour 035-2755-001		
TICKET	11097		
RESEA	28.39	28.41	28.43

TESTED BY: GS  
CHECKED BY: JR

Respectfully submitted,

ROBERT W. HUNT COMPANY

Robert W. Hunt  
LEVEL II



FILE NO. 3777-6  
ORDER 13-C-9927

Date: 3-10-76

REPORT

PAGE

8549

DOR C. 239

Pg 6 of 6

to: Brown & Root, Inc.  
P.O. Box 1001  
Glen Rose, Texas 76043

RE: Texas Utilities Services, Inc.  
Command: Peak Steam Electric Station  
1930-1982 Units 1 & 2  
Job No. 35-1195  
B & R Subcontract No. 35-1195-0225  
Hunt Project No. 513

## FOR INFORMATION ONLY

Gentlemen:

We report results of Concrete Compression Tests, ASTM C-39 (Hunt E1001)

Cylinder No.	6830	6831	6834
Age-Days	28	28	28
Str. per sq. in-lbs.	4822	4733	3774
Max. Load-lbs.	137,000	134,500	107,000
Type of Fracture	Reg.	Reg.	Reg.
Date Made	2-11-76	2-11-76	2-11-76
Date Received	2-12-76	2-12-76	3-10-76
Date Tested	3-10-76	3-10-76	3-10-76
Type of Curing	Standard	Standard	Field
Concrete Mix	204	204	204
Temperature °F.	63	63	63
Slump Inches	3	3	3
Air Content	2.8	2.8	2.8
Location Taken Pour	035-2755-001		
TICKET	11113		
AREA	28.41	28.42	28.35

TESTED BY: GS  
CHECKED BY: OR

Respectfully submitted,

ROBERT W. HUNT COMPANY

*Robert W. Hunt*  
LEVEL III



**Brown & Root, Inc.**  
QUALITY ASSURANCE DEPARTMENT  
DEFICIENCY & DISPOSITION REPORT

PROJECT: CPSES JOB NO.: 35-1195 UNIT: 182 PAGE 1 OF 19

DDR NO. C-220 CATEGORY: E-1 REPORTABLE DEFICIENCY: No

DOCUMENT VIOLATED:  
Gibbs & Hill Spec. 2323-SS-9

Field cured cylinders for auxiliary bldg. east wall and elevator shaft, Pour Nos. 002-5778-001 and 002-5778-004, placed 1-15-76, failed to be 85% of standard cured specimens or plus 500 psi over design strength. See R. W. Hunt Reports HCP 7335 to 7337 and HCP 7339. (Attached)

QA RECORD ROUTING

RTN.	REVIEW
L	8/20/76
FILE NO.	DDR-76
SUBFILE NO.	C-220

1. CALOK
2. RWB
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

REPORTED BY: George H. Fisher DATE: 2/17/76 APPROVED BY: Peter L. Bussolini DATE: 2-17-76

DISPOSITION

RESPONSE: REWORK ☐ REPAIR ☐ SCRAP ☐ USE AS IS ☒ OTHER ☐

CORRECTIVE ACTION

~~The deficient test results on the field cured cylinders are attributable to freezing temperatures as shown by the attached daily temperature log, and improper curing and/or handling of these test cylinders. The laboratory cured test cylinders gave satisfactory test results and the attached two QC Curing Reports document that satisfactory curing was performed on the in-place concrete.~~  
(See Corrective Action on attachment). W. F. 1/28/76 8-19-76

ASSIGNED TO: H. C. Dodd, Jr. DATE: 2/17/76 SUBMITTED BY: Brockton T. Cole DATE: 2-24-76

APPROVED BY: B&R QA DATE: 2-26-76 APPROVED BY: TUSI QA DATE: 8/19/76

RESPONSE: AND C. Killough DATE: 8-19-76

PREVENTATIVE ACTION

See attached IM-3080, IM-3079, IM-3106 and BRV-1587.

ASSIGNED TO: H. C. Dodd, Jr. DATE: 2/17/76 SUBMITTED BY: Brockton T. Cole DATE: 2-24-76

CLOSE-OUT (To be completed by Quality Assurance Department)

CORRECTIVE ACTION:

☒ SATISFACTORY

☒ DEFICIENCY CLOSED:

APPROVED BY: TUSI QA DATE: 8/19/76

VERIFIED BY: B&R QA C. Killough DATE: 8-19-76

APPROVED BY: B&R QA Peter L. Bussolini DATE: 8-19-76

REMARKS: NONE

COPIES:  
B&R CONST. SITE ☒  
B&R QA SITE ☐  
TUSI QA SITE ☒  
TUSI SITE ☒  
B&R QA, HOUSTON ☒  
TUSI QA, DALLAS ☒  
NSSS SUPPLIER ☐

Attachment to DDR C-220

Corrective Action

The attached QC curing reports and concrete test hammer test reports document that satisfactory curing was achieved on the in-place concrete.

FOR INFORMATION ONLY

W. F. Tylu

8-19-76

COMANCHE PEAK STEAM ELECTRIC STATION  
DESIGN CHANGE/DESIGN DEVIATION REQUEST

DDR C-220  
Pg 3 of 19

Safety Related

DC/DD Request No. 136

1.a ORIGINATOR: TUSI VENDOR ☒ CONSTRUCTION

Description of Design Change/Deviation Requested:

Applicable Spec/Draw Document 2323-55-9 3 2-9-76

Request Engineering Concurrence with the "Use As BROWN & ROOT INC" Date  
disposition of DDR No. C-220.

RECEIVED

Justification:

See Corrective Action Disposition of Subject DDR. Results of 1976 Tests are Also Enclosed.

Request Prepared by D. A. Fellinger Title Civil Engineer Date 7-23-76  
QUALITY ASSURANCE

1.b TUSI RESIDENT MANAGER

☒ Recommend Approval ☐ Recommend Disapproval

TUSI Resident Manager's Signature [Signature] Date 7-23-76

2. DESIGN ORGANIZATION

Design Engineer's Comments: (Changes/Deviation to be made)  
Concrete test hammer tests indicate satisfying compressive strengths.

Schedule: None

Change/Deviation ☒ Approved ☐ Not Approved

Engineer's Signature [Signature] Title Struc. Engr. Date 8/3/76

Independent Design Reviewer's Comments: Agree with Design Engineer's comments and approval.

Independent Design Reviewer's Signature [Signature] Date 8/4/76

Interdisciplinary Reviewer

	Initials	Date
Structural		
Nuclear		
Mechanical		
Electrical	<u>N/A</u>	
QA		
Other		

Proj. Mgr. Accp. [Signature] Date 8/4/76

QA RECORD ROUTING

RTN.	QA REVIEW
DR	
SUBFILE NO.	

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

3. TUSI (DALLAS) Initials Date

Responsible Engineer [Signature] 8/6/76  
Project Engineer [Signature] 8/6/76

APPROVED FOR CONSTRUCTION:

Project Manager's Signature [Signature]

Date 8/6/76

DDR C-220  
Pg 4 of 19



# Brown & Root, Inc.

P. O. BOX 3, HOUSTON, TEXAS 77001

## MESSAGE

## REPLY

To C. H. GATCHELL

REF. DDR C-220

2/26/76

DA

PLEASE HAVE G+H ENGR. REVIEW  
THE ATTACHED COPY OF DDR C-220  
AND NOTE THEIR CONCURRENCE WITH  
THE "USE-AS-IS" DISPOSITION ON THE  
REPLY PORTION OF THIS MEMO, THEY  
MAY KEEP THE DDR COPY FOR  
THEIR FILES.

THANK YOU,

BY JIM STANCOFF. B&RQA

DATE \_\_\_\_\_

INFORMATION ONLY

84  
136  
SIGNED \_\_\_\_\_



PDR C-220  
Pg 5 of 19

# CONFIRMATION COPY

International Telex Corporation  
Western Union International, Inc.

TX UTILITY DAL

NO. 9

MAY 5 1976

ETT-158

CAUDLE

64H JOB 2323

REUR: DC/DD REQUEST NO. 84

PLEASE REVISE DESIGN ENGINEERS COMMENTS ATTACHMENT TO THIS REQUEST  
TO READ AS FOLLOWS:

TEST DATA TO CONFIRM THAT REPRESENTED CONCRETE IN THE  
ILIARY BUILDING WAS NOT ALSO SUBJECTED TO ADVERSE  
EFFECTS OF FREEZING AS NEEDED. SWISS HAMMER TESTS  
WOULD FULFILL THIS REQUIREMENT.

RE HERSPERGER/EJ ZIGMOND

GIBBS HILL NY

TX UTILITY DAL

GIBBS HILL NYK

FOR INFORMATION ONLY

REH  
AMR/PCS/950.84  
Outgoing  
THS  
E92  
068  
(B+R)

OFFICE MEMORANDUM

Dallas, Texas May 7, 1976

Mr. C. H. Gatchell

Comanche Peak Steam Electric Station

Deviation Request 84

Ref: GTT-158

File No. 03211 & 09410

DDR C-220  
Pg 6 of 19

Attached is an executed copy of Deviation Request, DRT-84, with status of Not Approved. Design Engineer's comments have been revised per telex GTT-158. Brown & Root should be directed to perform Swiss Hammer test to confirm that concrete in the Auxiliary Building, as represented by the frozen field cured cylinders was not also subjected to freezing.

TYLER

take care  
of: j. ...

JOB NO. 35-1195

RECEIVED

JUN 07 1976

RWC/RMK:jet  
Attachment

E C E I V E

Robert W. Caudle  
Robert W. Caudle

Any bldg  
east wall & 1/4 shaft

002-5778-001  
002-5778-004

FROM: PROJ. ENGR.	
CIVIL	
ELECTRICAL	
MECHANICAL	
WELDING	
SCHEDULE	
ESTIMATING	
COST	
DOC. CONTROL	
_____	
_____	
_____	

CASH      ACTION

FOR INFORMATION ONLY

DIST.	DATE
DODD	/
BONIN	
CHILDRESS	- 7 /
MCCLEINTOCK	
BUSSOLINI	/
KOTOWSKI	
WELLER	/
.	
JWS	/
R/D	1960

3777-6  
13-C-9927

Date 7-22-76

DPK ✓  
Ag 705 19  
REPORT HCP 14069  
PAGE 1 of 2

Brown & Root, Inc.  
P.O. Box 1001  
Glen Rose, Texas 76043

RE: Texas Utilities Services, Inc.  
Comanche Peak Steam Electric Station  
1980-1982 Units 1 & 2  
Job No. 35-1195  
B & R Subcontract No. 35-1195-0225  
Hunt Project 513

Gentlemen:

We report results of concrete test hammer tests to determine compressive strength of concrete.

Concrete Pour No. 002-5778-009

Test Location AVR BLDG. - ELEVATOR SHAFT - SOUTH WALL

Rebound Values

1. (58)
2. (52)
3. 44
4. 43
5. (37)
6. 47
7. 46
8. 42
9. (37)
10. 41
11. 46
12. 51
13. 40
14. 42
15. (54)

Mean Rebound Value = 45

Indicated Compressive  
strength-psi 6,800

Tested by Michael Horkota  
LEVEE II

Checked by Robert W. Hunt  
LEVEE II

Respectfully submitted,

ROBERT W. HUNT COMPANY

Robert W. Hunt  
LEVEE II

3777-6  
13-C-9927

Date 7-22-76

DUK  
Pg 8 of 19  
REPORT  
PAGE 2 of 2  
HCP14069

Brown & Root, Inc.  
P.O. Box 1001  
Glen Rose, Texas 76043

RE: Texas Utilities Services, Inc.  
Comanche Peak Steam Electric Station  
1980-1982 Units 1 & 2  
Job No. 35-1195  
B & R Subcontract No. 35-1195-0225  
Hunt Project 513

Gentlemen:

We report results of concrete test hammer tests to determine compressive strength of concrete.

Concrete Pour No. 002-5778-004

Test Location AUX BLDG-ELEVATOR SHAFT-WEST WALL

Rebound Values

1. 42
2. 46
3. 50
4. 47
5. 45
6. 44
7. 52
8. 46
9. 48
10. 44
11. 48
12. 45
13. 53
14. 30
15. 46

Mean Rebound Value = 46

Indicated Compressive  
strength-psi 7,000

Tested by Michael Morhite  
LEVEL 1

Checked by Robert W. Hunt  
LEVEL 1

FOR INFORMATION ONLY

Respectfully submitted,

ROBERT W. HUNT COMPANY

Robert W. Hunt  
LEVEL 1

FILE NO. 3777-6  
ORDER 13-C-9927

DATE: 2-13-76

Pg 9 of 19

REPORT  
PAGE

7335

To: Brown & Root, Inc.  
P.O. Box 1001  
Glen Rose, Texas 76043

RE: Texas Utilities Services, Inc.  
Command. Peak Steam Electric Station  
1980-1982 Units 1 & 2  
Job No. 35-1195  
B & R Subcontract No. 35-1195-0225  
Hunt Project No. 513

Gentlemen:

We report results of Concrete Compression Tests, ASTM C-39 (Hunt E1001)

Cylinder No.	5329	5330	5333	5334
Age-Days	28	28	28	28
Str. per sq. in-lbs.	5500	5435	3695	3733
Max. Load-lbs.	156,500	154,500	105,500	106,200
Type of Fracture	Reg.	Reg.	Reg.	Reg.
Date Made	1-15-76	1-15-76	1-15-76	1-15-76
Date Received	1-16-76	1-16-76	2-12-76	2-12-76
Date Tested	2-12-76	2-12-76	2-12-76	2-12-76
Type of Curing	STANDARD	STANDARD	Field	Field
Concrete Mix	116	116	116	116
Temperature °F	60	60	60	60
Slump Inches	13/4	13/4	13/4	13/4
Air Content	2.5	2.5	2.5	2.5
Location Taken	Pour 002-5778-	001		
TICKET	3245			
AREA	28.45	28.42	28.55	28.39

TESTED BY: *P.G.*

CHECKED BY: *QR*

FOR INFORMATION ONLY  
Not to be used for  
ROBERT W. HUNT COMPANY

QA  
Rec'd Feb 16, 1976

*Robert W. Hunt*  
LEVEL II

Form RCP-E1001

ROBERT W. HUNT COMPANY.



FILE NO. 3777-6  
ORDER 13-C-9227

Date: 2-17-76

7 LXX C-1-1  
Pg 10 of 19

REPORT  
PAGE

7336

To: Brown & Root, Inc.  
P.O. Box 1001  
Glen Rose, Texas 76043

RE: Texas Utilities Services, Inc.  
Command: Peak Steam Electric Station  
1930-1932 Units 1 & 2  
Job No. 35-1195  
B & R Subcontract No. 35-1195-0225  
Hunt Project No. 513

Gentlemen:

We report results of Concrete Compression Tests, ASTM C-39 (Hunt E1001)

Cylinder No.	5344	5345	5348
Age-Days	28	28	28
Str. per sq. in-lbs.	5512	5700	3583
Max. Load-lbs.	156,500	162,500	153,000
Type of Fracture	Reg.	Reg.	Reg.
Date Made	1-15-76	1-15-76	1-15
Date Received	1-16-76	1-16-76	2-12-76
Date Tested	2-12-76	2-12-76	2-12-76
Type of Curing	Standard	Standard	Field
Concrete Mix	116	116	116
Temperature °F	58	58	58
Slump Inches	1 1/2	1 1/2	1 1/2
Air Content	2.9	2.9	2.9
Location Taken Pour	002-5778-	001 -	
TICKET	9270		
AREA	28.37	28.50	28.47

TESTED BY: *F.G.*

CHECKED BY: *JK*

FOR INFORMATION ONLY

Respectfully submitted,

ROBERT W. HUNT COMPANY

*Robert W. Hunt*  
LEVEL II

Form RCP-E1001

ROBERT W. HUNT COMPANY.

FILE NO. 3777-6  
ORDER 13-C-9927

Date: 12-17-76

REPORT  
PAGE

DUK V-  
Pg 11 of 19

7337

TO: Brown & Root, Inc.  
P.O. Box 1001  
Glen Rose, Texas 76043

RE: Texas Utilities Services, Inc.  
Command: Peak Steam Electric Station  
1930-1982 Units 1 & 2  
Job No. 35-1195  
B & R Subcontract No. 35-1195-0225  
Hunt Project No. 513

Gentlemen:

We report results of Concrete Compression Tests, ASTM C-39 (Hunt E1001)

Cylinder No.	5358	5359	5362
Age-Days	28	28	28
Str. per sq. in-lbs.	4860	4776	2987
Max. Load-lbs.	137,500	136,000	85,000
Type of Fracture	Reg.	Reg.	Reg.
Date Made	1-15-76	1-15-76	1-15-76
Date Received	1-16-76	1-16-76	2-12-76
Date Tested	2-12-76	2-12-76	2-12-76
Type of Curing	STANDARD	STANDARD	Field
Concrete Mix	116	116	116
Temperature °F	62	62	62
Slump Inches	2 1/4	2 1/4	2 1/4
Air Content	2.7	2.7	2.7
Location Taken Pour	002-5778-	001-	
TICKET	9291		
AREA	28.29	28.50	28.46

TESTED BY: *P.G.*

CHECKED BY: *JK*

QA

Respectfully submitted,

ROBERT W. HUNT COMPANY

FOR INFORMATION ONLY

*Robert W. Hunt*  
E/EC II

Form HCP-E1001

ROBERT W. HUNT COMPANY.

FILE NO. 3777-6  
ORDER 13-C-9927

Date: 2-12-76

DIX 0-220

Pg 12 of 19

REPORT  
PAGE

7339

To: Brown & Root, Inc.  
P.O. Box 1001  
Glen Rose, Texas 76043

RE: Texas Utilities Services, Inc.  
Command . Peak Steam Electric Station  
1930-1932 Units 1 & 2  
Job No. 35-1195  
E & R Subcontract No. 35-1195-0225  
Hunt Project No. 513

Gentlemen:

We report results of Concrete Compression Tests, ASTM C-39 (Hunt E1001)

Cylinder No.	5351	5352	5355	
Age-Days	28	28	28	
Str. per sq. in-lbs.	5537	5672	3439	
Max. Load-lbs.	158,500	161,500	98,000	
Type of Fracture	Reg.	Reg.	Reg.	
Date Made	1-15-76	1-15-76	1-15-76	
Date Received	1-16-76	1-16-76	2-12-76	
Date Tested	2-12-76	2-12-76	2-12-76	
Type of Curing	Standard	Standard	Field	
Concrete Mix	116	116	116	
Temperature °F	59	59	59	
Slump Inches	2	2	2	
Air Content	3.2	3.2	3.2	
Location Taken	Pour	002-5778-004		
TICKET	9278			
AREA	28.62	28.36	28.50	

TESTED BY: *[Signature]*

CHECKED BY: *[Signature]*

Respectfully submitted,

ROBERT W. HUNT COMPANY

FOR INFORMATION ONLY

*[Signature]*  
LEVEL II

Brown & Root, Inc. Post Office Box 1001, Chicago, Texas 78042

February 19, 1976

DDR C-220

Pg 13 of 19

BRV-1587

R. W. Hunt Company  
810 S. Clinton St.  
Chicago, Illinois 60607

ATTN: Mr. A. J. Bray

Texas Utilities Services, Inc.  
Comanche Peak Steam Electric Station  
1980-82 2300 MW Installation  
Field Cured Cylinders - Concrete

Dear Mr. Bray:

Please notify the Concrete Superintendent each time cylinders for field curing are moved from your laboratory to the parent concrete structure. This is to assure that the responsible parties will be aware of their location and the necessary protection and curing can be provided. Instruct your responsible personnel regarding the importance of this action.

Sincerely,

BROWN & ROOT, INC.

FOR INFORMATION ONLY

Peter L. Bussolini

Peter L. Bussolini  
Project Quality Assurance Manager

PLB/GHF/pw

cc:

R. W. Caudle (6L)  
H. C. Dodd, Jr. (1L)  
C. H. Gatchell (1L)  
D. L. Hansford (1L)  
B. K. Kinkade (1L)  
C. E. Bonin (1L)  
P. M. Milam (1L)

## CURING REPORT FORM &amp; CHECKLIST

DDR C-220

Pg 14 of 19

Pour No. 002-5778-004Location AUXILIARY Bldg (ELECTRICAL CONTROL) ELEVATOR BASEDate of Pour 1-15-76Mix I.D. 116Method of Curing WET BURLAP; PONDING; INSULATION MATSDate Curing Started 1-15-76Date Curing Finished 1-29-76

- |  | Sat.                                | Unsat.                   | N/A                      |
|--|-------------------------------------|--------------------------|--------------------------|
| (1) Concrete surfaces are protected from premature drying.   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (2) Concrete surfaces are kept continuously wet for at least the first 48 hours after placement and any time during curing when the ambient temp. is above 90°F. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (3) Concrete surfaces are maintained continuously moist throughout curing period.  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (4) Wood forms are not left in place during curing.  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (5) Concrete surfaces are protected against freezing when the ambient temperature is below 32°F.   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (6) Rate of air temperature change immediately adjacent to the concrete does not fall more than 3°F in any one hour nor more than 30°F in any 24 hours.          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (7) Protected from mechanical injury?<br>(Construction equipment; rain, running water, application of curing methods, excessive vibration, loads, heavy shock)   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

This form is to be used in conjunction with ACI 308, ACI 305 & ACI 306, and specifically refer to Table 1.4.1, ACI 306 (Cold weather).

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Initials of Inspector	<i>CLB</i>	<i>ACI</i>	<i>ACI</i>	<i>ACI</i>	<i>ACI</i>	<i>ACI</i>	<i>ACI</i>	<i>ACI</i>	<i>ACI</i>	<i>ACI</i>	<i>ACI</i>	<i>ACI</i>	<i>ACI</i>	<i>ACI</i>
Date	1/14/76	1/17/76	1/18/76	1/19/76	1/20/76	1/21/76	1/22/76	1/23/76	1/24/76	1/25/76	1/26/76	1/27/76	1/28/76	1/29/76

1-30-76  
Date

C. Tillough  
Q.C. Inspector



# CURING REPORT FORM & CHECKLIST

DDR C-220  
Pg 15 of 19

Pour No. 002-5778-001

Location AUXILIARY Bldg. (ELECTRICAL CONTROL) EAST WALL

Date of Pour 7-16-76 1-15-76

Mix I.D. 116

Method of Curing WET BURLAP, PONDING, INSULATION MATS

Date Curing Started 1-15-76

Date Curing Finished 1-29-76

- |  | Sat.                                | Unsat.                   | N/A                      |
|--|-------------------------------------|--------------------------|--------------------------|
| (1) Concrete surfaces are protected from premature drying.   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (2) Concrete surfaces are kept continuously wet for at least the first 48 hours after placement and any time during curing when the ambient temp. is above 90°F. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (3) Concrete surfaces are maintained continuously moist throughout curing period.  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (4) Wood forms are not left in place during curing.  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (5) Concrete surfaces are protected against freezing when the ambient temperature is below 32°F.   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (6) Rate of air temperature change immediately adjacent to the concrete does not fall more than 3°F in any one hour nor more than 30°F in any 24 hours.          | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (7) Protected from mechanical injury?<br>(Construction equipment, rain, running water, application of curing methods, excessive vibration, loads, heavy shock)   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

This form is to be used in conjunction with ACI 308, ACI 305 & ACI 306, and specifically refer to Table 1.4.1, ACI 306 (Cold weather).

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Initials of Inspector	<i>Full</i>	<i>SL</i>	<i>SL</i>	<i>SL</i>	<i>SL</i>	<i>SL</i>	<i>SL</i>	<i>SL</i>	<i>SL</i>	<i>SL</i>	<i>SL</i>	<i>SL</i>	<i>SL</i>	<i>SL</i>
Date	1/16/76	1/17/76	1/18/76	1/19/76	1/20/76	1/21/76	1/22/76	1/23/76	1/24/76	1/25/76	1/26/76	1/27/76	1/28/76	1/29/76

1-30-76  
Date

C. Tillough  
Q.C. Inspector

DDR C-220 JANUARY  
Pg 16 of 19

FOR INFORMATION ONLY		
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## INTEROFFICE MEMO

DDR C-220

Pg 17 of 19

IM-3079

TO: P. L. Bussolini

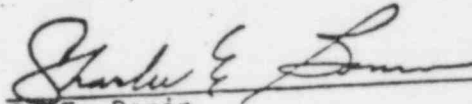
DATE: February 18, 1976

FROM: C. E. Bonin

SUBJECT: Concrete - Field Cured Cylinders

Request Hunt Lab to notify the Concrete Superintendent or his designated representative (s) at what time during the day, following the initial 24 hours curing period at the lab, the field cured cylinders are being returned to the in-place parent concrete location from the laboratory. Such notification will insure that craft personnel are aware of the location of the cylinders.

FOR INFORMATION ONLY

C. E. Bonin  
Assistant Project ManagerWEF  
CEB/GWM/JMJ/eke

cc:

T. L. Howard  
A. Depew  
B. G. Banks  
B. K. Kinkade  
W. F. Tyler

## INTEROFFICE MEMO

DDR C-2205  
Pg 18 of 19

IM-3080

TO: Travis Howard  
Al Depew

DATE: February 18, 1976

FROM: G. W. McGee

SUBJECT: Concrete - Field Cured Cylinders

Recently, several field cured cylinders have had compressive strength results which are low because of exposure to freezing weather and rough handling. Please emphasize to craft personnel that all field cured cylinders are to be treated and cured with the same attention and protection that is given to in-place concrete. This is a G&H specification requirement which is imposed in order to verify that proper curing is being done. Proper curing and protection, as is done to the in-place parent concrete, of the field cured cylinders will result in good strength results.

GWM/JMJ/eke

cc:

C. E. Bonin  
W. F. Tylerfor Willard E. Childers  
G. W. McGee

DDR C-220

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## INTEROFFICE MEMO

IM-3106


TO: P. L. Bussolini

DATE: February 19, 1976

FROM: H. C. Dodd, Jr.

SUBJECT: DDR C-220, IM-3079, 3080

In reviewing the action response to the DDR and the two subject memos, it comes to mind that your Curing Report Form & Checklist(s) might be revised to include a checklist for field cured cylinders to insure that IM-3080 is complied with.

  
H. C. Dodd, Jr.  
Project Manager

HCD/TAC/eke

cc:

W. E. Childress, Jr.  
C. E. Bonin  
W. J. Tyler  
D. L. Howard  
A. Depew  
B. E. Banks  
B. K. Kinkade  
G. W. McGee  
T. E. Cole  
T. A. Caudle  
R. N. Best

see also BRV-1587