TEXAS UTILITIES SERVICES INC.
AGENT FOR
TEXAS UTILITIES GENERATING COMPANY
ACTING FOR
DALLAS POWER & LIGHT COMPANY
TEXAS ELECTRIC SERVICE COMPANY
TEXAS POWER & LIGHT COMPANY

THIS SPECIFICATION COVERS

NUCLEAR SAFETY RELATED EQUIPMENT

COMANCHE PEAK STEAM ELECTRIC STATION
UNITS NOS. 1 & 2

#8
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64

PIPING-NUCLEAR
SPECIFICATION NO. 2323-MS-43A
(SHOP FABRICATION OF PIPING 2 1/2-INCH NOMINAL DIAMETER AND LARGER AND PIPING MATERIAL SUPPLY REQUIREMENTS)
OCTOBER 24, 1974
REVISION 1 - JUNE 2, 1975
REVISION 2 - JANUARY 30, 1976
REVISION 3 - MAY 27, 1977
REVISION 4 - MARCH 8, 1982
REVISION 5 - JULY 3, 1984

THIS DOCUMENT AFFECTED BY DESIGN CHANGES

(TUSI REFERENCE 07043.1)

THIS FABRICATION SPECIFICATION SUPPLIES PART OF THE INFORMATION REQUIRED BY PARAGRAPH NA-3250 OF THE ASME BOILER AND PRESSURE VESSEL CODE SECTION III FOR DESIGN SPECIFICATIONS

PMGM-870

- [X] APPROVED
- [ ] APPROVED EXCEPT AS NOTED
- [ ] NOT APPROVED - REVISE AND RESUBMIT
- [ ] FOR INFORMATION ONLY

CHECKED FOR GENERAL COMPLIANCE WITH PLANS AND SPECIFICATIONS. THIS DOES NOT RELIEVE THE VENDOR FROM RESPONSIBILITY FOR THE CORRECTNESS OF HIS WORK OR FOR FULFILLING THE OBLIGATIONS OF HIS CONTRACT WITH TEXAS UTILITIES GENERATING CO.

By _____ Date _____

K. L. SCHEPPELE
24652
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS

DATE 4/5/84

GIBBS & HILL, INC.
ENGINEERS, DESIGNERS, CONSTRUCTORS
NEW YORK, NEW YORK

FOIA-85-59

FOR OFFICE AND ENGINEERING USE ONLY

M452

3.7.4.4 PIPE CUTTING

Pipe cutting shall be performed by machining, sawing or cutting with iron-free aluminum oxide abrasive discs. When powder or arc cutting is used, all remaining slag, scale, or oxides shall be removed by machining or grinding of the cut surface to sound metal as verified by a liquid penetrant examination. Torch cutting is allowed for carbon steel, provided the surfaces be ground smooth following the cutting operation. The material shall be preheated to the same temperature used in the Supplier/Fabricator's qualified welding procedures prior to torch cutting.

3.7.4.5 BENDING AND FORMING

3.7.4.5.1 GENERAL

a. Bending and forming shall be in accordance with the ASME Section III Code and the additional requirements specified herein.

b. All bends and formed materials shall be smooth, free from cracks and surface defects to the extent that it does not violate the limitations of the ASME Code.

c. If heat treatment, hot bending or hot forming is performed, the material shall be degreased as specified in paragraph 3.12.6 to prevent carbonization of the material. Spools RH-1-SB-04-1 and CT-1-RB-26-8 are exempt from this requirement.

d. Pipes shall be sand filled and tamped before hot bending.

e. During heating, hot bending or hot forming, the temperature of the pipe shall be checked with optical pyrometers or approved crayons to prevent overheating and to assure bending within the specified temperature range.

f. The final bend dimensions shall be within the tolerances given by PFI Standards ES-3 and ES-24, where pipe bends in sizes 3-inch through 8-inches shall have a tangent of minimum 2T at each end of the bend.

g. Bending of the containment spray system's spray headers to the radii shown on Drawings 2323-M1-0504 and 2323-M2-0504

shall be performed using Category 301 piping as shown in the piping specification sheets of Appendix 1. This application does not require selected pipe with closer than standard wall tolerances.

h. Pipe bend radii, measured from the center of curvature to the center of the pipe cross-sectional area, shall be a function of the nominal pipe size D and the wall thickness as listed in the following tabulation, unless otherwise indicated on the piping drawings:

Nominal Size Range	ANSI Schedule or Wall Thickness	Bend Radius	Minimum Required Wall Thickness Prior to Bending
2 1/2 thru 24"	40, 40S	6D	1.06 tm or minimum wall thickness requirements of paragraph 3.7.3.10.a whichever is greater.
14" thru 18"	3/8"	7D	1.06 tm or minimum wall thickness requirement of paragraph 3.7.3.10.a whichever is greater.
20" thru 24"	3/8"	8D	1.06 tm or minimum wall thickness requirement of paragraph 3.7.3.10.a whichever is greater.

Nominal Size Range	ANSI Schedule or Wall Thickness	Bend Radius	Minimum Required Wall Thickness Prior to Bending
2 1/2 and Larger	80, 80S, 120 140, 160 and heavier non-standard wall	5D	1.08 tm or minimum wall thickness requirements of paragraph 3.7.3.10.a whichever is greater.

where tm shall be determined in accordance with paragraph 3641.1 of the applicable subsection of ASME Section III Code or the piping specification sheets for pipe specified to minimum wall, considering the tolerances given in Paragraph 3.7.3.10.a of this specification and with a 1/16-inch corrosion allowance for carbon steel piping. Temperatures and pressures shall be taken from the specification sheets of Appendix 1.

3.7.4.5.2 AUSTENITIC STAINLESS STEELS

a. Piping shall not be heated above 1950F during hot bending.

b. Bending at temperatures below 800F shall be considered cold bending.

c. All stainless steel piping subject to hot bending shall receive a solution anneal and a rapid quench following the bending operation.

d. Hot bending and subsequent heat treatment can be done in one operation providing the temperature of the material does not fall below 1700F during the bending and prior to quenching.

e. Forming operations, except for machining and grinding, on piping larger than 4-inch nominal pipe size which changes the circumference or wall thickness of the piping by more than 2 percent shall be followed by solution annealing and quenching.

f. Forged and bored pipe shall be solution annealed and quenched after the boring operation.

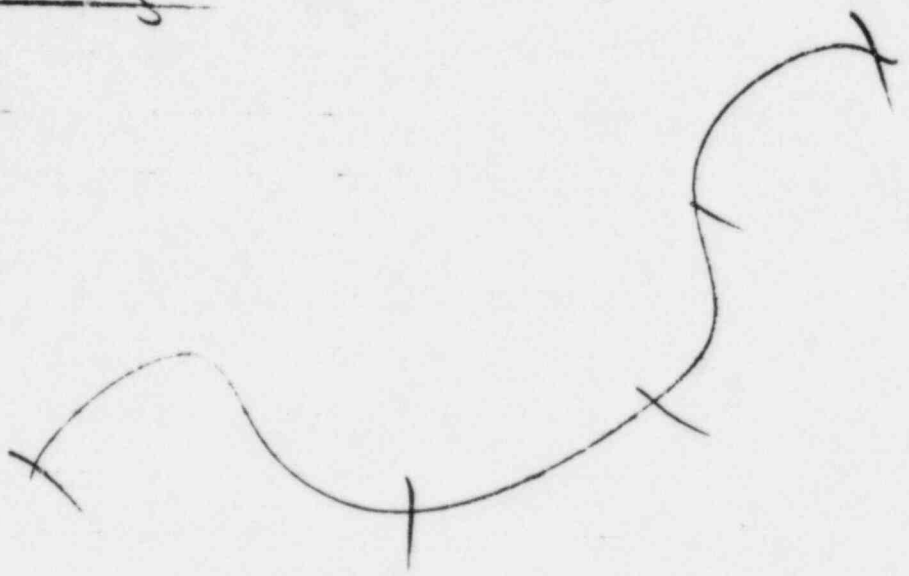
Category 11, AP9, item 26

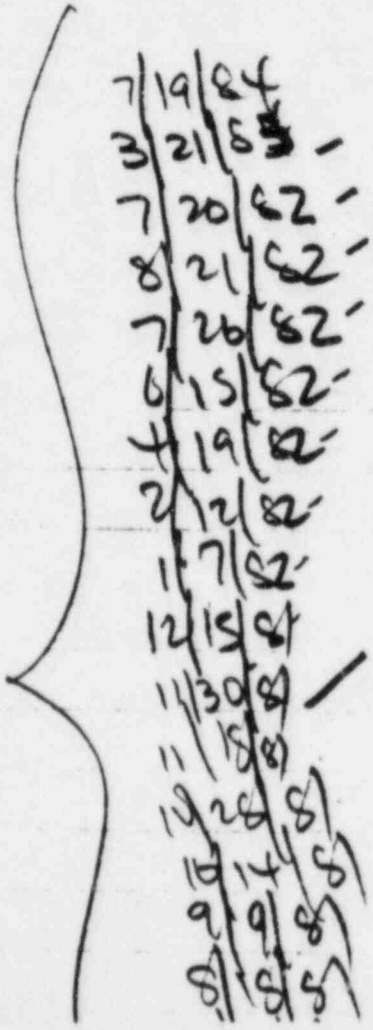
AP-9 - SS Containment Spray (?) line area on elevation 1979 was heated in order to move the line in April or May 19(?).

- ~~Hook up piping~~

- 84-006, 3/7/84, A-21 Testimony p. 20-21

Bill Wright





SL-2-90406 R-1
4" CC-2-166-152-3

aus. S.S. welds

					POR
	1				0808A ~~B107~~ A208
WPS	99028	rev 4	P8-P8	4/13/80	9/18/78
	99031	rev 1	P8-P8	3/29/82	9/18/78
	88011	5	P8-P8	4/7/80	0808AB107 12/18/76
Monoress fillet welds	81221	0	P8-P8	11/1/83	
	88012	5		4/9/80	0808AB203 12/13/76
	88021	7		4/1/80	0808AA204 2/20/76
	88022	7		4/9/80	0808AA109 10/25/76
	88023	10		3/18/82	0808AA114 3/9/78
	88025	5		3/16/82	0808AA114 3/9/78
cavity Seal welds	88026	2		11/19/82	[redacted]
	88032	8		1/11/82	0808BB112 5/9/78

Category II, APG, Item 27

at a temperature of not less than 1100 F may be considered to be the tempering phase of the heat treatment.

NC-2190 NONPRESSURE RETAINING MATERIAL

Material performing a nonpressure retaining function welded to a pressure retaining material need conform only to the requirements of the specifications for material listed in Tables I-7.0. Temporary and minor attachments as specified in NC-4435 may be of noncertified material.

NC-2200 MATERIAL TEST COUPONS AND SPECIMENS FOR FERRITIC STEEL MATERIAL

The requirements for material test coupons and specimens shall be in accordance with the material specifications.

NC-2300 FRACTURE TOUGHNESS REQUIREMENTS FOR MATERIAL

NC-2310 MATERIAL TO BE IMPACT TESTED

NC-2311 Material for Which Impact Testing Is Required

(a) The Design Specifications shall state whether or not impact testing is required for the pressure retaining material of which the component is constructed. When impact testing is required, the test temperature shall be specified and the tests become a requirement of this Subsection.

(b) When pressure retaining material is required by (a) above to be impact tested, it shall be tested in accordance with the requirements of NC-2300. However, even when impact testing is specified in the Design Specifications, impact testing of the materials described in (1) through (7) below is not a requirement of this Subsection.

(1) Material with a nominal section thickness of ⅝ in. and less;

(2) Bolting, including studs, nuts and bolts, with a nominal size of 1 in. and less;

(3) Bar with a nominal cross-sectional area of 1 sq. in. and less;

(4) All thickness of material for pipe, tube, fittings, pumps and valves with a nominal pipe size 6 in. diameter and less;

(5) Materials for pumps, valves and fittings without pipe connections of ⅝ in. nominal wall thickness and less;

(6) Austenitic stainless steels;

(7) Nonferrous materials.

(c) Dropweight tests are not required for the martensitic high alloy chromium (Series 4XX) steels. The requirements of NC-2331 apply for these steels in all thicknesses.

NC-2320 IMPACT TEST PROCEDURES

NC-2321 Types of Tests

NC-2321.1 Dropweight Tests. The dropweight test, when required, shall be performed in accordance with ASTM E-208-69. Specimen types P1, P2, or P3 may be used. The results, orientation, and location of all tests performed to meet the requirements of NC-2330 shall be reported in the Certified Material Test Report.

NC-2321.2 Charpy V-Notch Tests. The Charpy V-Notch test (C_v), when required, shall be performed in accordance with SA-370. Specimens shall be in accordance with SA-370, Fig. 11 Type A. A test shall consist of a set of 3 full size 10 × 10 mm specimens. The test temperature and the lateral expansion, the absorbed energy, and percent shear fracture, orientation and location of all tests performed to meet the requirements of NC-2330 shall be reported in the Certified Material Test Report.

NC-2322 Test Specimens

NC-2322.1 Location of Test Specimens. Impact test specimens shall be removed from the locations specified for tensile test specimens in the material specification. For bolting, the C_v impact test specimens shall be taken with the longitudinal axis of the specimen located at least ½ radius or 1 in. below the surface plus the machining allowance per side whichever is less. The fracture plane of the specimen shall be at least one diameter or thickness from the heat treated end.

NC-2322.2 Orientation of Impact Test Specimens

(a) Specimens for dropweight tests may have their axes oriented in any direction. The orientation used shall be reported in the Certified Material Test Report.

(b) Specimens for C_v impact tests shall be oriented

Category II, AP9, item 28

CPSES/FSAR
TABLE 6.2.2-4

CONTAINMENT SPRAY SYSTEM MATERIALS*

Component	Quantity	Material
Chemical additive tank	1	SA-240 Type 304
Recirculation sump screen	2	ASTM A-478 Type 316
Spray Pump	4	
Casing		SA-351 CF 8M
Shaft		SA-182 Grade 316L
Impeller		SA-351 CF 8M
Chemical eductor	4	SA-351 CF 8
Heat exchanger	2	
Tubes		SA-249 Type 304
Shell		SA-516 Grade 70
Valves, 2 1/2 in. or larger	40	SA-351 CF 8
Piping		SA-312 or SA-358
RWST	1	TP 304 or 316
Liner		SA-240 Type 304L
Structural wall		Reinforced concrete
Stop valves, chemical additive tank	4	SA-351 CF 8

*All materials conform to ASME B&PV Code, Section III, Class 2 or 3.

Category 11, App, Item 29

7. Shepard, R.M., Massie, H.W., Mark, R.H., and Docherty, P.J., Westinghouse Mass and Energy Release Data For Containment Design, WCAP-8264-P-A, June 1975 (Proprietary) and WCAP-8312-A, Revision 2, August 1975 (Nonproprietary).

8. Bordelon, F.M., Massie, H.W, and Zordan, T.A., Westinghouse Emergency Core Cooling System Evaluation Model - Summary, WCAP-8339, June 1974.

6.2.2 CONTAINMENT HEAT REMOVAL SYSTEMS

The Containment Spray System (CSS) is designed to remove heat from the Containment environment following a LOCA, a main steam line break accident, or a feedwater line break accident. Major components of the CSS are the RWST, Containment spray pumps, Containment spray heat exchangers, spray headers, spray nozzles, and Containment recirculation sumps.

Each unit of the CPSES is equipped with two redundant Containment spray trains, each designed to provide emergency Containment heat removal in the event of a LOCA. This system, in conjunction with the ECCS, removes postaccident thermal energy from the Containment environment, thereby reducing the containment pressure and temperature.

6.2.2.1 Design Bases

The CSS is a nuclear-safety-related system and is classified as seismic Category I. The system is designed in accordance with NRC Regulatory Guides 1.1, 1.26, 1.29, and 1.82 and in accordance with GDC 38, 39, 40, 41, 50, and 56 of Appendix A of 10 CFR Part 50.

The CSS operation is divided into two phases, initially operating in the injection phase and then the recirculation phase. Two redundant and physically separated spray trains are provided for the

4C (1) [redacted]

C A S E

(CITIZENS ASSN. FOR SOUND ENERGY)

1426 S. Polk
Dallas, Texas 75224
214/946-9446

Category II.
AP 13
Item 19

[redacted]

'83 FEB -7 P12:03

DOCKET NUMBER
PROD. & UTIL FAC. 50-445/446

Docketing & Service Section
Office of the Secretary
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Sir:

SUBJECT: In the Matter of
Texas Utilities Generating Company, et al.
(Comanche Peak Steam Electric Station,
Units 1 and 2)

Affidavit of [redacted]

We are attaching the original signed affidavit of [redacted] which was attached to CASE's 2/3/83 Supplement to CASE's Motion for Protective Orders for [redacted]

Respectfully submitted,

CASE (CITIZENS ASSOCIATION FOR SOUND ENERGY)

[redacted]

Attachment

FOIA-85-59

D502

M455

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2/3/83

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

AFFIDAVIT OF [redacted]

Q: Please state your name and address for the record.

A: My name is [redacted]

Q: Please tell us a little about your background at Comanche Peak plant.

A: I worked for Brown & Root at Comanche Peak for almost five years. It would have been five years in February 1983. I started out in cable tray hangers. I worked for [redacted], until [redacted] I was [redacted]

In [redacted] I was busted back, supposedly for absenteism but I believe for allegedly [redacted] cooking ribs in a weld rod can. (I wasn't.) About the end of November 1982, I was contacted by [redacted] about the waste of materials, and ordering of equipment for drilling through rebar and concrete and gifts received by me and others for ordering all the equipment for drilling through the rebar and concrete. I was told by him that I should turn over the documentation which I told him I had on the holes I had drilled in rebar and concrete without having documentation and —

Relates to AC-40
AC-18
AQC-14

8302080173 830203

authorization to Ron Tolson. I asked Mr. Vega if I was going to have a job Monday morning; he said, oh yeah, yeah, no problem, no problem, nobody's going to know about this. And [redacted] I was fired, on [redacted] A welder and I were over in the containment building delivering a tool that we had borrowed, and we were fired for leaving our work area two minutes before the first whistle blew.

Q: Tell us about the drilling through the rebar you mentioned.

A: You know the article that came out in the paper about rebar drilling and all that?

Q: The article from the FORT WORTH STAR-TELEGRAM dated 1/7/83 titled "Cover-up at Comanche Peak is charged" which I've shown you as being CASE Attachment 9 to CASE's 1/11/83 Written Argument on Issues?

A: Yes, that's the article. Well, I'm the one that started the rebar drilling. I'm the one that ordered the material to get it, and I'm the one that broke [redacted] in. He used to work for me. I went to [redacted] who was my immediate supervisor and told him that I wanted something besides what I had, that I didn't want to go to the next Brown & Root job and say I knew how to drill holes through concrete and rebar. And I got out of it.

Q: They were buying these -- what do they call them -- rebar eaters?

A: Yes, from Drillco Manufacturing Company at their branch office in Miami, Florida. I told Mr. Vega that I had taken a trip to Miami, Florida, watched the Dallas Cowboys play; that I took about $300 down there with me and came back with more money than I took; that me and my wife took an all-expense paid trip, were treated to the best meals and everything else by

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Drillco Manufacturing Co.; and that I had been sent $400 from them as a gift or whatever you want to call it through Western Union. All this was because I had ordered those parts from Drillco. I told him I also knew for a fact that another man had received two motorcycles as a gift because he ordered Drillco parts. And a week later I was out on the street.

Q: They're not supposed to use rebar eaters onsite?

A: Well, they are and they aren't. If they've got documentation and authorization from engineers, it's all right to use them in certain parts of the buildings. If there's no documentation for it, you're just not allowed to use them, period, because it'll cut through anything. It's that type of drill.

Q: But if they cut through any of the rebar in the wall, they're supposed to be careful not to damage the rebar any more than they have to and they have to get approval before they do it, is that right?

A: Right. You've got to have approval and you've got to have documentation by engineering. And some of it was done without having any kind of documentation or approval.

Q: Did you do some of that too?

A: Yes, I'm the one that originated it. I'm the one that ordered it from Miami. It was over $50,000 or so when I ordered the first order of equipment through [redacted]

Q: And he was aware of it and approved it?

A: He approved the ordering of it and what it did because it was like 90% difference in that and Hilti bolt. What it amounted to is Hilti organization came in there with the same thing, but basically you had to drill more holes

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in the wall and you had to mount Hilti bolt drills to hold this particular apparatus they had; and Drillco had a vacuum plate where all you had to do was plug it in the wall and hook it on the wall and drill it. In man hours, it saved a lot of time.

Q: But were things done that weren't supposed to be done they way they were done?

A: Well, that's sort of what it amounted to. I've got documentation for the past 1½ years when I took it over, and later [redacted] was made foreman over it.

Q: You've got documentation on that?

A: I've got about the holes that I've drilled and was ordered to drill because my job was on the line. I've got about a year-and-a-half of documentation. It's like a diary. I kept a daily log on what percent I cut out of the rebar, when it was done, the date, and everything else. And what I was told by general foremen and three stripers (which are next to a gold hat, which is a superior general foreman); I was told to do it or go out the gate. And this is the documentation I was told to turn in to Ron Tolson.

Q: Did you turn it over to him?

A: No, I did not. I still have all the documentation.

Q: You said you know [redacted] who was mentioned in the newspaper article?

A: Yes, and I also know [redacted] who was also mentioned in the article.

Q: So what was said in the article about holes being drilled through the concrete and rebar is true?

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A: Yes. Also, I was ordered on several occasions to loan out my rebar eater to other people. I can't swear what they did with it, but they could have used it to drill holes in the concrete and rebar without anyone knowing or authorizing it and without documentation.

Q: You said you also worked in the Unit 1 containment on the main steam line?

A: Yes. The things I've seen done and the things I've done under orders is ridiculous. I [redacted] (12) I (4) AP-13 saw him put [redacted] of pressure on it to move the pipe. This was a 32- (9) inch main steam line. I [redacted] (10) to pull it up to six inches, and then I [redacted] o[redacted]

Q: Was this the main polar crane, the one that they use to refuel?

A: Right. I've been in steel fabrication all my life. [redacted] I'm no young pup. I'm not an engineer, but I know if that pipe ever gets in a bind and comes loose, it's going to be like a rubber band that's held taut. The hangers aren't going to do a bit of good.

I put in about 90% of the feedwater hangers, which is for your main lines for flooding in case of an accident. I put them in and had to take every one of them out because they were underdesigned. And you're talking about a year or two of work. I had a crew of 8 to 14 people, and this was my job. I had basically all of the main steam and all of the feedwater. This was after I got through with the rebar drilling.

not really allegation

Q: We've just shown you a copy of NRC Form 3, Notice to Employees.

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Do you recall ever having seen that posted at Comanche Peak?

A: No, I don't. You've got bulletin boards in front of the main tool room, one on the turbine deck, and one in the Administration Building. I had access as a [redacted] to all of them, and I don't remember ever seeing it.

I don't know what can be done about the waste, the materials, and the back-stabbing that goes on at Comanche Peak. There are $100 plus per Hilti bolt that are scrapped daily by the skip pan full. There's wood, lumber, steel, and what it's costing the taxpayers, it's ungodly. There's no reason for it. It's ridiculous, it's the misfits, it's the supervision you've got out there. For instance, the general foreman on nights built a gold hat a sun deck or porch on his house. I tried to fire this man three times but I couldn't do it; they wouldn't let me do it because he'd ~~been~~ out there five or six years, and he was a good ole boy. I tried to fire him three times for inadequate work. He could not handle his position. And here they were paying him $14 or more an hour. Now this man is a general foreman, underneath a gold hat, in charge [redacted] on nights. The man is unqualified, incompetent, can't do his work. He's cut holes in hangers where if there were any kind of vibration the hanger would fall off the wall; he used a cutting torch, and you're not allowed to use a cutting torch on any kind of material out there on a pipe hanger unless it is done in the Fab Shop under QA supervision. Well, he cut holes in them so that sometimes he couldn't even figure out his holes, he couldn't figure out the tolerances or anything. And this man is now a general foreman on nights on [redacted]

AH-18 rev.

AH-10

AH-9 relates

I can tell you lots of things. I was a supervisor for four years out there. Let me just give you a general perception of what's going on there.

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I've been in steel work all my life -- I've been a fabricator, I've supervised a shop, and the whole bit. You've got people out there who do rebar tying. You've got two pieces of steel to tie together with a piece of wire. This is rebar people, all right? All they've got to do is to go up there and tie the rebar, and pour the concrete around it. It's all a hidden object, right? This entire rebar organization and building department has come into pipe hangers. The entire rebar staff out there is a kind of clique, and they went into the hanger department. They suddenly became hanger geniuses. There's one man out there right now who, three weeks before he was transferred from scaffold and rebar said, "Man, I don't know how in the hell you read these blueprints -- I don't know how in the hell you can make these things (pipe hangers)." And as God is my witness, three weeks later this man was a General Foreman over pipe hangers. He was a general foreman next to a gold hat over pipe hangers. He suddenly knew all about pipe hangers. He suddenly knew all about steel. And here was a man that has done nothing but concrete and rebar all his life. But all of a sudden he is a steel genius because he is in the clique, because he belongs to the building department out there, because he is one of [redacted] little boys.

There's jokes floating all over that plant where they show a pipe hanger tied together with wire or nailed together with wood because of the carpenters and rebar hands that came over into pipe hangers. They're coming over as foremen, they're coming over as General Foremen and they're coming over as gold hats (superintendents). And all of a sudden they know everything about pipe hangers and about steel.

I'm just fed up with it, cause I've got to live here. I was here before

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they came. I'll testify in the hearings, I'll talk to anyone who can see that something's done about this. I'm not sure that Comanche Peak is safe.

[redacted]

Date: 2/3/83

[redacted]

STATE OF TEXAS

On this, the 3rd day of February, 1983, personally appeared Robert L. Messerly, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes therein expressed.

Subscribed and sworn before me on the 3rd day of February, 1983.

Loretta Rayner
Notary Public in and for the State of Texas

My commission expires: 2/29/85

Category 11 [illegible]

A 8305

5/20/87

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RESULTS OF INTERVIEW WITH [redacted]
AS RECORDED BY NRC INVESTIGATOR H. BROOKS GRIFFIN
ON NOVEMBER 1, 1983.

On November 1, 1983, [redacted], a former Brown & Root(B&R) [redacted] at the Comanche Peak Steam Electric Station (CPSES), was telephonically interviewed by NRC Investigator H. Brooks GRIFFIN. [redacted] stated he had worked in [redacted] pipehanger crew until he left his employment with B&R in [redacted]

[redacted] stated he used a Hilti drill to drill holes in concrete, but stated he never used a Drillco drill or made cuts through rebar. [redacted] said that when he struck rebar, he attempted to relocate he hole within the tolerances imposed by procedure. [redacted] stated that when he could not relocate the hole, he turned the matter over to [redacted] who would arrange to have the rebar cut.

[redacted] stated he was unaware of any improper or unauthorized cuts made on hangers using a torch. [redacted] said the B&R supervision was very "touchy" about using torches on hangers, and that crew members were required to use radial arm saws to alter hangers even though it was very time consuming. [redacted] said that using a torch was "strictly forbidden", and that he never used one. [redacted] also said he was not present nor was he aware of the relocation of the main steam line using the polar crane in Unit I.

[redacted] stated that during the time he was employed a CPSES, nobody ever intimidated or attempted to intimidate him into conducting his work improperly. [redacted] stated that everyone he worked with followed procedure as far as he knew.

END OF RESULTS OF INTERVIEW WITH [redacted] ON NOVEMBER 1, 1983.

Signature: H. Brooks Griffin

H. Brooks GRIFFIN, Investigator
OI Field Office, Region IV

IN457

AP-13

Category II AP-13 Item 7D
A4 83-005 5/20/83

a problem, you've got to to figure some holes were drilled, a hundred and something holes for one hanger to try and find a decent spot to hang it without hitting rebar. This brings on frustration on the men, they go to their foreman, the foreman goes to [redacted], [redacted] says go down and see [redacted] and drill the damn thing and put it up.

Q I understand. Let's move on. You stated in your affidavit to CASE that you observed or witnessed the use of the polar (phonetic) crane to pull up a piece of thirty-two inch pipe; is that correct?

A That is absolutely correct.

Q I'm not an engineer; I don't understand the significance of this. Could you explain it to me, please?

A All right. What it amounts to is the main steam pipe has a condensation joint like for -- expansion joint is what it's called. It's a huge horseshoe type shape, and this thing is coming out of the turbine building. All right. This thirty-two inch main steam pipe, it's coming out -- it's anchored in concrete all the way around it, it's a fixed object, you can't move it, right? It comes into this expansion joint, makes huge

horseshoe shape and it goes down into each one of the steam generators, which there's four of them, in the containment building.

It was attached through the wall and it was also attached to the steam generator in the compartment inside the containment building. So [redacted] pipes had been in there because somebody else was hollering, production, production, production, and [redacted] and put [redacted] There is a guy --

THE WITNESS: What was that guy's name? Have I got his name down there?

MS. ELLIS: I don't think you have got a name in here.

A I'm hell on names today, ain't I? But what this gold hat did was ordered his people to raise it up with the polar crane. I can't remember [redacted] on this because they had a big gauge on it that showed tonnage when you pull on it. [redacted], and whatever tonnage -- seemed like to me it was [redacted] it was ungodly because everybody scattered when they seen that needle going up as the

crane was pulling on it. The reason I know this for a fact is because I was pipe hanger foreman at that time between 860 and 905 elevation in the containment building. I had all of main steam and all of fourteen-inch feedwater lines that run all through that area.

Q Supports for them?

A I had all the pipe supports. [redacted] let [redacted] pull this up, [redacted] which is a guy about -- I don't know, if you seen him you would think he's eight foot tall, but he's only about seven feet tall and four foot wide, I'm serious. Look him up out there, you will -- he's got a head on him that big around.

[redacted] the horizontal way. And they put it into position and [redacted] and hold that [redacted]. When they cut the temporary hookup that they had [redacted] generator loose, it flopped like [redacted] and echoed through that whole containment building.

Q So you're saying they put this complete pipe under tension in this movement?

A (Nods head affirmatively).