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UNITED STATES NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF:

DOCKET NO:

7c

COMANCHE PEAK TECHNICAL REVIEW TEAM

FEEDBACK INTERVIEW OF



TELEPHONE CONFERENCE CALL



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	UNITED STATES OF AMERICA
	NUCLEAR REGULATORY COMMISSION
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4	COMANCHE PEAK TECHNICAL REVIEW TEAM
1	FEEDBACK INTERVIEW
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8	Ace-Federal Reporters, Inc. Suite 402
9	444 North Capitol Street, N.E. Washington, D. C.
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11	The telephone interview commenced at 10.03 a m
12	Chet Poslunsy presiding.
13	PRESENT:
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15	CHET POSLUSNY
16	ERNIE THOMPSON
17	NRC Technical Review Team
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24 Foderal Reporters, Inc.	
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1	PROCEEDINGS
2	MR. POSLUSNY: We will start here. For the
3	record, this is an interview
4	purpose of providing feedback regarding the technical
5	review team assessment of certain concerns raised about.
6	the Comanche Peak facility. Present at this interview are
7	myself, Chet Poslusny of the technical review team; Ernie
8	Thompson, also of the team; and Tao Shou Hou; and we are
9	talking to
10	As agreed, this interview is being transcribed
11	and a copy will be provided to
12	addition, we will be providing a copy of our SER, safety
13 .	evaluation report, which will include this item that we
14	are going to discuss today. We will send you a copy of
15	that also.
16	We would like to start a discussion of the
17	technical concerns. Mr. Thompson will begin.
18	MR. THOMPSON: Let me first of all be sure that
19	we have characterized your allegation correctly, sir. As
20	we understand it, your allegation was that an improper
21	weld design was used to attach Cadweld sleeves to 2-inch
22	thick A588 steel plate details on steam line penetration
23	assemblies of the reactor containment building. I believe
24	your assertion was that the steel plate details used were
25	susceptible to laminar tearing when tensile-loaded in the

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1 thickness direction. This is a condition which you felt 2 would result if Cadweld sleeves were welded to A588 steel 3 plates. Is that correct, sir?

Partly.

MR. THOMPSON: If it is not correct, would you clarify.

7 The fact that when the members came to the job site, they were already showing signs of 8 laminar tearing at the welded joints of the members 9 themselves, not in the Cadweld sleeve area. We had cracks 10 11 from 2 to 3 inches long -- I don't know how deep in the welded areas -- but in the members themselves, showing 12 that this seal, whether it is 588 or not, is definitely 13 14 susceptible to laminar tearing.

MR. THOMPSON: Are you now talking about the material of which the penetration sleeve assembly itself was made?

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Yes, sir.

MR. THOMPSON: Because that threw us off a little bit. There was no A588 steel specified for the penetration sleeve assembly itself. There were specified two other materials, I believe. That is A516, grade 70 and ASME SA 537, class 2, and then an SA 533, grade 6. The reinforcing plate was SA 537, class 2. So you are saying then that these materials which were part of this

> penetration sleeve proper showed laminations? 1 Yes, sir. 2 MR. THOMPSON: Did you say that these had 3 already been repaired prior to receipt or that you had to 4 repair them after receipt? 5 They were repaired at the job site, 6 after it was determined that if the members were remade or 7 remanufactured, it would cause a job delay of at least six 8 9 months. MR. THOMPSON: Were these repairs in the gussets 10 themselves or in the pipe section? 11 In the gussets themselves. 12 MR. THOMPSON: There are some standing gussets. 13 I think they were not too high, maybe 2 or 3 inches high. 14 Does that sound about right for the gussets? 15 I am not sure what you are 16 referring to as "gussets." 17 MR. THOMPSON: If the penetration sleeve itself 18 is a pipe, correct? 19 No, sir. Not what I am talking 20 about. We must be talking about two different things. 21 This is not a pipe. This is a rectangular member or a 22 square member, it is made out of 2-inch plate fabricated 23 up. It is an I-beam-like section which makes a perfect 24 square with a square hole through the middle. 25

> MR. HOU: I think you may think that A588 steel 1 plate is part of the penetration assembly, is that right? 2 3 I do not remember exactly. 4 MR. HOU: But your concern is about the 5 integrity of the plate, the 2-inch plate? The 2-inch plate used, regardless 6 7 of what material it is. Because it is definitely susceptible to laminar tearing, as was demonstrated by the 8 9 laminar tears in the plate when it was received at the job 10 site. 11 MR. HOU: You think the plate is used for the containment penetration? 12 13 Pardon me? MR. HOU: You think that the plate is part of a 14 15 penetration assembly? 16 Yes, sir. It is a part of this 17 plate assembly. That is what was repaired, this 2-inch 18 plate assembly. 19 MR. THOMPSON: Did you say these were I-beams? 20 They'd be fabricated pieces out of 21 2-inch plate that form more or less an I-beam. 22 MR. THOMPSON: You said they were a square 23 member when they are through with it? 24 It forms a square box. 25 MR. HOU: I think Mr. Thompson is trying to

explain to you that if the plate itself is not a part of the penetration assembly and also the plate is subject to compression, you will not cause the concern of the laminar tearing.

The mechanism I'm talking about had Cadweld sleeves that were to accept number 18 rebar attached to it top and bottom. The welded tubes, the very outside of the member and therefore any stress applied in tension would be through the Z direction. I cannot believe that a force inside the containment building itself would not put pressure in a tension direction.

MR. THOMPSON: I am confused now. What you are talking about is not what we were looking at.

I do not have a set of plans, obviously. You should have. It is a square member that was fabricated up out of 2-inch plate. It is a not a member that the main steam line goes through, but it is the member that the number 18 rebars are attached to.

MR. HOU: I can explain to you, one, the penetration sleeve actually is a pipe type, the pipe shape. These are 2-inch plate is not the penetration. They are not welded to or is part of the penetration assembly.

This plate is actually the anchor plate. You attach the rebar to it. The rebar goes through the hole and then there is a Cadweld sleeve, but that is after you

weld, and that weld is a weld that is just temporary to 1 hold the rebar in position before putting the Cadweld. 2 After that, you rour the concrete. This is subject to 3 compression because the rebar, the end is through the hole; 4 the compressing force would not cause laminar tearing 5 effect through the plate. 6 MR. THOMPSON: He is not talking about that. He 7 is talking about something we haven't looked at. 8 MR. HOU: He is concerned about the effects to 9 the penetration of the integrity of the plate itself, 10 subject to laminar tearing. 11 MR. THOMPSON: Not the hardware we looked at. 12 He is talking about something different. 13 14 Yes, sir. 15 THOMPSON: That square structure, was that --16 MR. since you said Cadweld sleeves and bars were welded top 17 and bottom, it must have been encased in concrete. 18 Yes, sir. 19 MR. THOMPSON: These are associated with the 20 main steam line penetrations? 21 That is correct. 22 MR. THOMPSON: Is this part of a pipe, by any 23 24 chance? Sir, it has been a long time since 25

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> I was there. It is hard for me to remember all the 1 2 terminology. MR. HOU: This is for tension on the rebar, is 3 that correct? 4 I didn't understand you. 5 This is for tension on the rebar. MR. HOU: 6 7 Yes, sir. MR. HOU: But this is anchor plate. 8 MR. THOMPSON: It can't be, he said it is a 9 square member. 10 this square member -- we are having 11 a little difference of opinion here. We did find an A583 12 material which was used as an anchor plate to the ends of 13 rebar, and these anchor plates were anywhere from 12 14 15 inches square to somewhat larger. They varied in size. It was just a single piece of plate with a hole cut in the 16 middle. It was slipped over the rebar and a Cadweld 17 sleeve was pack-welded to it, then the Cadweld joint was 18 made. Those were what they call anchors for the ends of 19 rebar, which were not attached to the penetration 20 assemblies. These were later encased in concrete. Is 21 that what you are referring to? 22 YEncased in concrete? I am not 23 sure if we are talking about the same member or not. 24 25 MR. THOMPSON: These plates had no welding on.

They were square pieces of material. When I say "no 1 welding," I mean they were not made of several members 2 welded together. 3 This is a fabricated member made 4 out of several pieces of plate. 5 MR. THOMPSON: Do you have a drawing that you 6 could reference for us? 7 No. It is made out of about 12 8 pieces of plate. 9 MR. THOMPSON: 12 pieces, boy. 10 Where the welds were made holding 11 the member together is where it started tearing, coming 12 13 apart. MR. THOMPSON: Were these welds -- do you know 14 whether the welds were either all fillet welds or 15 primarily fillet weld or groove welds? 16 The welds at the assembly itself 17 are full penetration welds. They were made in such a 18 manner that they pulled on the plate in the Z direction, 19 and that is what started pulling it apart. That is what 20 showed the tendency to laminar tearing. 21 MR. THOMPSON: Do you happen to know who 22 fabricated that structure? Was that fabricated by an 23 24 outside vendor? It was fabricated by an outside 25

1 vendor.

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2 MR. THOMPSON: Do you know the company that made 3 it?

No, sir, I do not.

5 MR. THOMPSON: At this moment I have no further
6 questions to ask him. I don't know what to look at now.
7 We did not look at this type of a structure at all.

8 MR. POSLUSNY: Would it be helpful -- how would 9 you be able to find it without any further information? 10 MR. THOMPSON: All I can do is look for 11 something else that is associated with the main steam 12 penetration assembly what is not a square structure. 13 Let me tell you that it is about a

14 3-foot square. The plate itself is an I-shaped member.
15 It is about 6 to 8 inches wide, as I remember.

16 MR. THOMPSON: Through and up and over? 17 Yes, sir. They started up, are 18 penetrated, and they continued on up. This member is made 19 to connect where those bars are cut.

20 MR. THOMPSON: Was this associated perhaps with 21 the George Washington bridge? Do you know what I mean by 22 that?

No, sir.

24 MR. THOMPSON: Then we will forget that. I'm 25 trying to get the structure. I don't know where it is

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located. I don't know where it is. 1 MR. HOU: According to the drawing, all those 2 penetrations appear to be pipe-shaped. We are going to 3 look more. If we are not able to find any penetration 4 assembly and a square plate with it, then maybe the square 5 plate is not used for the penetration. We --6 I know it was for penetration. 7 MR. HOU: You know that the square plate is for 8 9 the penetration? Yes, sir. I saw it. 10 MR. HOU: How do we know this? How do we know 11 it is not a square plate but used for attaching the rebar? 12 If not, is for the penetration. Also, the material appear 13 to be the same materials you called as A588. So at this 14 moment I feel maybe to yourself, the square plate is for 15 the penetration, but maybe it is just for attachment of rebar 16 at the anchor plate. 17 These anchor plates, there is no concern. That 18 was the subject of compression instead of tension. 19 No. This was attached to number 20 18 rebar at the top, and 3 inches further down on the -- 3 21 22 feet, pardon me, further down on the assembly, number 13 rebar were attached to the bottom of this fabricated 23 24 member. 25 MR. HOU: In that case, that means very likely

this one is at the anchor of the rebar, so is not for 1 penetration. Is anchor plate for rebar. 2 MR. THOMPSON: There is just one thing I am 3 still confused on on this structure you are describing. 4 You said it was both a square assembly, built like a 5 square about 3 feet square out of maybe a dozen pieces of 6 plate, but you also mentioned it was an I-shaped member. 7 Did you mean that you had built-up sections of I-beams 8 that were welded together in the form of a square, or do 9 you mean that when the square was completed, if you looked 10 at the cross section of it, it was an I-beam? 11 No, sir, it is more or less an 12 I-beam section built up into the form of a square. 13 MR. THOMPSON: If I took this square and sliced 14 through one side of the square and looked at that cut edge, 15 is that the I-beam shape looking at the cut edge? 16 The I-beam shape would be if you 17 made a horizontal cut through the member and looked at the 18 end section. 19 MR. THOMPSON: Okay. So it sounds to me like 20 you are describing something that was fabricated by 21 welding into I-beam shapes, and then the I-beam sections 22 were welded to form a square. 23 Yes, sir. 24 MR. THOMPSON: And you said the I-beam sections 25

1	were about 6 inches wide, I believe?
2	I said as I remember.
3	MR. THOMPSON: Right. Okay. Let's see if I had
4	any other questions.
5	Did you see the piping through these, or were
6	these just being installed before the pipes were there?
7	They were being installed before
8	the pipes were there.
9	MR. THOMPSON: I see. Okay.
10	They were just starting up with
11	the containment wall when these were installed.
12	MR. THOMPSON: So this goes through the
13	containment wall, then?
14	Yes, sir.
15	MR. THOMPSON: And by "containment wall" we are
16	talking the concrete structure?
17	Yes, sir.
18	MR. THOMPSON: You said they are 3 feet in
19	diameter. I don't suppose you knew the size of the pipe
20	that was supposed to go through them?
21	No, sir, I don't.
22	MR. THOMPSON: Okay. I can't help any further.
23	Those are all the questions I have.
24	MR. POSLUSUY: There is no value in talking
25	about our findings.

1	MR. THOMPSON: No. He is talking about a piece
2	of hardware we haven't even found.
3	(Discussion off the record.)
4	MR. POSLUSNY: we are going to have
5	to check this out. We will have to get back with you in
6	the future.
7	If I can be of any more help to
8	you in describing it, I will say it is on the west side of
9	the containment building. It goes from the containment
10	building to the turbine building.
11	MR. THOMPSON: Okay. This went from the west
12	side of the containment building to the turbine building.
13	Do you know whether that is unit 1 or unit 2?
14	It was the first unit built,
14 15	whichever one that is.
14 15 16	WR. THOMPSON: Turbine building of unit 1. All
14 15 16 17	Tt was the first unit built, whichever one that is. MR. THOMPSON: Turbine building of unit 1. All right. That might help us a little further.
14 15 16 17 18	It was the first unit built, whichever one that is. MR. THOMPSON: Turbine building of unit 1. All right. That might help us a little further. MR. POSLUSNY: Just in case we need to do this,
14 15 16 17 18 19	The was the first unit built, whichever one that is. MR. THOMPSON: Turbine building of unit 1. All right. That might help us a little further. MR. POSLUSNY: Just in case we need to do this, would you be available to show it to us on the site?
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14 15 16 17 18 19 20 21 22 23 24 25	<pre>It was the first unit built, whichever one that is. MR. THOMPSON: Turbine building of unit 1. All right. That might help us a little further. MR. POSLUSNY: Just in case we need to do this, would you be available to show it to us on the site? Yes, sir. MR. POSLUSNY: Okay. So you wouldn't have a problem with doing that? No, sir. MR. POSLUSNY: I want to thank you for your time. As I said, we will look into this and get back to you and</pre>

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1	appreciate your help in clarifying this. I would like to
2	go off the record right now.
3	(Discussion off the record.)
4	MR. POSLUSNY: Thank you very much. Thank you
5	for your time.
6	(Whereupon, at 10:17 a.m., the interview was
7	concluded.)
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CERTIFICATE OF OFFICIAL REPORTER

This is to certify that the attached proceedings before the UNITED STATES NUCLEAR REGULATORY COMMISSION in the matter of:

NAME OF PROCEEDING: COMANCHE PEÁK TECHNICAL REVIEW TEAM

FEEDBACK INTERVIEW OF

TELTPHONE CONFERENCE CALL

DOCKET NO. :

FLACE :



DATE:

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission.

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