

TRANSCRIPT OF COMANCHE PEAK SITE TOUR, JANUARY 10, 1985  
NRC Technical Review Team with [REDACTED]

(Two tapes: Tape 1, Sides A and B; and Tape 2, Side A only.)

Shannon Phillips, the Senior Resident Inspector at Comanche Peak: We are accompanying [REDACTED] on a tour of the Comanche Peak site. The date is January 10, 1985. The tour group consists of the following individuals: A. Shannon Phillips, John Zudans, [REDACTED] Bob Masterson, J. Cummings, and Ernest Thompson.

John Zudans: We're in the North Yard Tunnel, and [REDACTED] will tell us what he wants us to observe in this area.

Shannon Phillips: First, we want to make sure that everyone is in agreement to tape this walking inspection. [REDACTED] do you agree?

[REDACTED] Yes, I am in agreement.

[REDACTED] I am in agreement.

John Zudans: This red light shows that the tape recorder is on.

[REDACTED] One of the concerns with the North Yard Tunnel is that it is supposed to be constructed as a mirror image of the South Yard Tunnel, and it is not. I worked in both of these areas (the North and the South Yard Tunnel), and one of my concerns is that the hangers in the South Yard Tunnel are not like the ones in the North Yard Tunnel. But, now on our site visit, we see that literally every hanger that was in this area at the time [REDACTED] were welders at the plant has been taken down and are presently being reconstructed. We would also like to check for documentation to see why these hangers were removed when they were once bought off and to check for proper documentation on this problem. We would like to check for trending effects and various items and to see why they have literally changed the whole North Yard Tunnel.

03/25/85

1 FOIA-85-70 TAPE

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At the present time, we are at location Elevation 805 (62 ft, 3 inches off North 16-S, which is a south wing off the North Yard Tunnel). We're viewing the hanger that has been reconstructed totally different from the one that I put in place at the time I worked here. I was going to attempt to show the Technical Review Team (TRT) that the root passes are not acceptable on the flare beveled welds. This particular hanger would have had unacceptable entrapped slag. The unacceptable root pass for flare beveled welds was not properly inspected. I weave welded the electrode over another electrode that I beat the slag off of and used it as filler material. That was in my testimony at the hearing. However, since every hanger in this tunnel has been changed, the hanger is no longer in place.

Bob Masterson: This particular hanger in the North Yard Tunnel is known as a floor-to-ceiling hanger. Because of design changes that came up during the hearing, these now must have slip joints. Most likely, this hanger was changed to allow for the slip joint design change, not because of a welding change.

[REDACTED] If the inspector had not removed the hanger for this design change, and it had not been brought out in the hearings that it was a fixed-in type hanger, then, the hanger would still be in place. We could x-ray the welds that I made and prove the root passes were not acceptable in flare beveled welds in this whole South Yard Tunnel. [REDACTED] has testified that he was the foreman in this area and that he was in charge of 10 to 15 welders at any one time. He instructed me and the other welders to beat the flux off the electrodes and weld over the electrode itself (use as filler material) which is not an acceptable welding practice. I am not saying that this particular hanger is not acceptable, but I think the Technical Review Team should x-ray some of the root passes on these flare beveled welds. They may still have the same problem with fit-up.

Bob Masterson: This particular restraint is a ceiling-to-floor restraint of multiple pipe design. This restraint has two specific hanger identifying numbers (SW2129151Y33R and S2132425Y33R). I would like to officially note that on this particular hanger one of the shims that was installed underneath one of the pipes has a lack of fusion on the root pass of the shim.

Shannon Phillips, Senior Resident: The shim that we were talking about appears to be tack welded on both ends. The defect that was referenced appears to be located where the weld stopped. The requirements will have to be checked relative to how far this weld should extend because it does not completely extend around the shim. [REDACTED] has just made a general comment on a weld surface that has been ground down. Actually, the top part of this weld was left as it and the bottom part is ground down. The important thing would be to determine if any NDE was required on this particular area. In other words, if a penetrant test (pt) was done on the root face, they may have had to grind the surface roughness down in order to find out if there was an indication. We will identify this particular area and see what the story is on that.

Bob Masterson: On this type of a restraint, if it is an NF restraint, the only required examination for Class 1 would be a liquid penetrant test (LPT) or magnetic particle test (MPT). If it is a Class 2 or Class 3, it would require visual examination. These all seem to be Class 3. The last four numbers on this particular restraint are Y33R, the last three indicate that it is a Class 3 ASME hanger which only requires visual examination.

[REDACTED] This is hanger SW2102457Y33R, which is a class 3 hanger. It has been grouted and has apparently been bought off. We will have to check for documentation, of course, but I would like to make official notice that there is not a nut on the Hilti bolt that is installed on this hanger that is supposedly bought off. The reason we believe this hanger has been bought off is because at the time we worked here the procedures required that the grouting not be done until the hanger had been finally bought off. They don't call for grout so they buy it off.

We are now observing hanger No. SW2102460Y33R, which is a class 3 hanger also. We are observing a flare beveled fit-up that has not been completed, and the root opening appears to me to be unacceptable.

Ernest Thompson: We are looking at a flare beveled weld which does not have the root passes in place. The root gap appears to about 1/8-inch maximum. That is about as close as I can measure because I don't have a feeler gage and I can't physically get down in there to make a better measurement.

Also, we note a lack of penetration on the top and bottom weld of this component, and the effect is that it has trapped slag which is visible at the bottom. It is not a flare bevel though.

[REDACTED] In the North Yard Tunnel, we have observed a welder who is welding without fire protection over the components that are located below where he is welding.

We have just observed an empty electrode heat can No. P228, also in the North Yard Tunnel. The time is 10:57 a.m. We will check this later to see if the person comes back to reclaim the rod can and note the time.

[REDACTED] I think I'd check it now.

[REDACTED] I called Rod Check 4 and rod can No. P228 was checked out to CHA welder symbol which belongs to [REDACTED]. He checked it out at 7:40 a.m. today so about 30 minutes are left before the 4-hour limit expires; at that time, it will be out of calibration.

At this point, A. Shannon Phillips invited a foreman at random, from a group of nearby foremen, to talk with the tour group for a few minutes.

[REDACTED] Foreman, [REDACTED] How many men are you in charge of? I've got 13.

Shannon Phillips, Senior Resident Inspector: We're discussing how long rods should be out of the heated electrode rod can. We asked the supervisor how much time is allowed and what procedure is used. He was not able to give us the amount of time the rods are supposed to be in or out of the oven. We asked him about the procedure, and he is presently looking up the procedure to see what it says.

[REDACTED] We had a procedure meeting the other day with all the welders and foremen. They told us that the rods did not need to be out of the rod can for more than one hour at a time. The rods are to be removed from the rod can for

what we can weld in one hour, then we are to go back and get additional rods for an hour's work at a time.

Shannon Phillips: What do you do with the rods if they come back in 2, 4, 6, or 7 hours?

[REDACTED] What do you mean? I don't understand.

Shannon Phillips: What do you do with the rods if they've been out over the allotted time?

[REDACTED] If they have been out over the time allowed, we are to take them back to the rod house, and they will dispose of them and reissue more rods.

[REDACTED] In regard to heat can P228 noted earlier today, we found the welder had located his package, and we questioned the welder as to his procedure for using these electrodes. He indicated he used an indicating device that they had just come out with recently, and before that, he used his hand to determine whether the electrodes needed to be preheated or not. He does have heat indicating crayons in his pocket that he says he uses to check interpass temperatures. There is no way we can tell whether he had those electrodes out from 7:40 a.m. until now. We have no way of telling other than if we could have visually observed the rod can checkout this morning. According to what I see, he hasn't used that device very long to determine whether to preheat. He has indicated they use only the field technique of using their hands to check the temperature. Therefore, there is no way we can verify that the rods were left out of the heat can longer than the procedure allowed.

[Tape 1, Side A ends here.]

[REDACTED] In reference to Rod Can P228, we observed that all the electrodes were missing out of the container. This caused us to question whether the electrodes have been left out of the container longer than the permitted time according to the procedure. We talked with the welder, and he indicated he had an additional 30 minutes left to weld as the rods were checked out at 7:40 a.m. this morning. However, we asked him what his procedure was. He indicated to



us that he did not personally have a preheat bottle, but that the Weld Shop had one bottle that all the welders used, that he borrowed one, and that he did preheat his electrodes. He has an indicating device in his pocket that he uses to determine the base plate temperature prior to preheating or to see if he needs to preheat. Also, he does have heat indicating crayons in his pocket which he indicated to me that he uses to check the interpass temperatures.

[REDACTED] I talked to the welder about Rod Can P228, and he told me that he had checked the rods out at 7:40 a.m., that he had taken them out of his rod can, and he still had at least 30 minutes to weld on this hanger. I asked him for a stub can, he brought it to me; and it had approximately five rods in it along with the stubs, and they were cold. He said he had at least 30 minutes left. At the time that I did the check, he would have been out of calibration by 10 or 15 minutes if he had welded 30 more minutes. The welder's symbol was CHA.

Shannon Phillips: We are still down in the tunnel, and we found one can of 7018 rods unattended that were identified as CMF15 and CM033.

[REDACTED] We are in the South Yard Tunnel, and we are using a flashlight to look at line DD-1-YD-20. The spool number is 17-0-3.

This particular line is the one that I testified about earlier that had extensive problems with the construction of the hangers. There were numerous arc gouges in the pipe; therefore, many repairs were made on the stainless steel pipe itself as a result of having to cut these hangers down and replace them with hangers that were acceptable. We need to check for documentation on how many weld repairs were made on this line to repair gouge marks in the pipe during my employment in 1980. I also testified extensively that the first time you turned a gouge mark in this particular line you were warned; the second time you were terminated. Also, this particular line is the line that I referred to as the one that had to be bought off by QC by a particular time of the day that the gold hats came down and were going to do the determination.

Shannon Phillips: I am asking [REDACTED] where those gouge marks are located precisely and to show us their location now.

[REDACTED] Okay, there were numerous gouge marks in the area of concern where the hangers went around the pipe and also in the other portions of the line itself where somebody had dragged their leads over the pipe, caused an arc into the pipe, and damaged the pipe. Literally, they had so many problems down here on this particular line that they actually told their welders and fitters that if anybody got caught putting a gouge mark in here they would be terminated the second time.

[REDACTED] We are in the Yard Tunnel. I have found a wall mounted support that has absolutely no clearance on the top or bottom of the pipe. During my time at Comanche Peak, I had lots of inspections that were rejected for that particular reason in this Yard Tunnel because there was no clearance top or bottom as required by the procedure. The hanger referred to is CT126004Y65P.

[REDACTED] We are at Elevation 816 in the South Demineralized Tank Corridor. We are looking at the hanger that I testified about that had arc blow on the hanger, and also that it had a scrap material piece used in the hanger which caused welding problems. Therefore, we had arc blow due to the material being already welded on and having paint on it, etc.

Shannon Phillips: This is the general area where the hanger is located. We are going to get the line number which is CT1YD02YD. That is the number of the line that is about 6 feet from the hanger.

[REDACTED] I just indicated to Mr. Phillips the reason why this hanger may not have been located to begin with is that once we got down here and I went directly to the source, then, I realized that maybe I had given wrong directions to the investigators and that is probably why this hanger was never found. It appears to be the same hanger that I referred to. Of course, we will have to check for documentation. It does appear to be the same hanger that was mentioned as a counterfeit hanger and also the one that contained arc blow on it in the Demineralized Tank Room. We are in a demineralized tank room.

[REDACTED] My concern was a floor mounted support; it had loose shims under the bottom and had been bought off. It had loose shims that could be moved around with the hand, turned, and probably pulled out. I never tried to

pull them out. I was going to check for that, but it has been removed and a wall mounted hanger has been put in its place. We are in Unit 1, at the 816 elevation, in the South Yard Tunnel.

John Zudans: It is 12:49 p.m. at this time. Progress is slow, but we are approaching the location that [REDACTED] wanted to see. Hopefully, we will get most of the touring done today, but the paperwork will probably not be done today.

Bob Masterson: [REDACTED] has indicated that he had put a piece of scrap I beam on the hanger in question on CT system. We should check for the dye marking on the piece of material and compare that against the dye marking that should have been on the original piece to see whether it is the same type of dye stamp.

Shannon Phillips: To close out this particular item, we are at Elevation 816 in a tunnel. The identifier on the wall is 29 feet 6 inches O/CSC tank area near the exit door.

[REDACTED] We are still in the Unit 1 South Yard Tunnel, and I testified about a particular line that the gold hats had come down and chewed my gold hat out about and said that if we didn't have it bought off by 5:30 p.m. that afternoon that we would all be kicking our hats down the cattle chute. We have now located this line, and I will get a hanger number and a line number. It is Hanger No. DD1-003-116-Y-35K and contains the weld symbol BNU.

Shannon Phillips: I just identified the various hangers that [REDACTED] was talking about.

The spool line number in the hanger area is DD-1-YD-20.

[REDACTED] I would like to make a brief comment that the entire line is what we were referring to, not the particular hangers. The entire line was supposed to be bought off, including the hangers. That is why the gold hats were down here chewing out my gold hat because they weren't pleased that it hadn't been bought off at that time.



That would be an accessible gap for welds.

Shannon Phillips: We are still under the tunnel, and we are talking about a large piece of welded tube that could be radiographed. The symbol on this particular one is D-23-27-SW. We need to identify this and see what the code requirements are; whether just a visual was required on it, or NDE was required, or whatever.

[REDACTED] If the Technical Review Team could review the documentation on this particular line system, pull out all of the hangers that I welded on with my symbol in the weld filler material log, and do an x-ray of the nature that we spoke about, they will see that the route passes are not acceptable, and the integrity of the weld has been compromised.

Another aspect of the South Yard Tunnel visit is to check all the weld filler material logs for [REDACTED] to check how many electrodes were used, where they were used, and see if they were used for repairs instead of for construction of the hanger itself.

Shannon Phillips: We are in the Unit 1 North Pump Room, and we are looking for one of the items that [REDACTED] want to point out.

[REDACTED] This hanger is the one that I discussed that had the gouge mark in the pipe that I feel caused my termination. It also contains a piece of scrap material that has the heat number that we transferred from the piece sent from the Fab Shop onto a piece that we found lying on the floor in the North Pump Room.

[REDACTED] I am observing a hanger in the North Pump Room. The pump number is 8CC10411 or 8CC10011; we cannot clearly read the identifying numbers.

Shannon Phillips: The location of this particular base plate that ties onto a pipe like a pipe support is located near three....

[Tape 1, Side B ends here]

Shannon Phillips, Senior Resident: The time is 1:21 p.m., and we're still in Unit 1 in the north pump room. We are continuing the Comanche Peak site tour. To repeat again, [REDACTED] have agreed to talk on tape. I'd like to ask them that question again.

[REDACTED] Yes, we did agree to talk on tape for purposes of documentation of what we viewed in the plant. The hanger that we referenced earlier as being adjacent to valve No. ICC-145; my concern with this hanger was that rebar was cut to facilitate installing the Hilti bolt without proper documentation from QA; I mean that the engineers and Quality Control did not inspect this work.

Shannon Phillips: We are completed with the description of the prior item.

We have moved on to Unit 1 to component 2 in the cooling water room. We're at elevation 790 going into a room marked CL-F-A.

[REDACTED] We just went to find hanger No. TWX039714A35R. I'm not sure which one it is supposed to be; I will have to look at the paperwork. Anyway, we went to the area, and the hanger in question appears to have been removed and replaced, either with sway struts or another type hanger. I could not locate the tube steel it was made out of (approximately 6-inch tube steel) coming off the wall; it was not present. We're on the 790 level in the component cooling water room.

Bob Masterson: The TRT will get a copy of the hanger number for the TWX hanger and determine whether it has been replaced, voided, or whether it is still intact. Then, we will follow up on that position.

John Zudans: I have requested access to the spent fuel pool for the [REDACTED] to look at the liner from the edge of the pool not in the pool, and apparently at this point, we will not be granted access. This is only for the record, we understand this is their policy.

[REDACTED] We are on level 832 in the auxiliary building. What I was going to try to show was that the hanger I had testified about had 50 weld

rods, or so, checked out on it. It was a very small support, and there was no way to use that many rods for that hanger. There is no way to do this, because it has been taken down.

Shannon Phillips, Senior Resident: The problem that was just described has apparently been fixed.

[REDACTED] We are approximately on the 852 level in the electrical building at elevation 854 or 855. We're observing the hanger that I testified about as being the one that I pulled a hole in the concrete with. There were four other holes adjacent, and to the left (in the immediate vicinity) of that hanger. We're now viewing this portion of the floor. The area seems to be larger than I estimated.

[REDACTED] We're at hanger No. CC1137700E63R. In addition to my testimony about the hole that I pulled in the floor by removing the Hilti bolt, there are also four adjacent holes that were apparently drilled all the way through a 9-inch thick floor. There is no traceability as to their repair, there is no inspection record, etc.

[REDACTED] We want the record to show that four additional holes were drilled completely through the floor in the electrical control room adjacent to this particular hanger. Not only did I see these holes, but [REDACTED] also saw them; therefore, we just want to document that more than one person did see this hanger problem. Documentation may not show that the hanger was moved to its present location because of the four holes that were drilled through the floor, but it may. Mr. Joe Tapia assures me that he will investigate this and pull the necessary documentation. From the level immediately beneath this one, he will look up at the bottom of the floor to see if he can spot the holes because at this time we are not able to observe the bottom of the floor now.

[REDACTED] We have run out of time so we are going to end our site tour, but several items remain to be verified. We still have various documentation and procedural requirements that we want to check. The holes in the floor of the electrical control building have not been visually observed because the

components are in place so the holes cannot be viewed. Mr. Joe Tapia is going to try to locate them from the bottom of the floor. Also, a hanger on the turbine deck has a crack in the weld that needs to be examined. [REDACTED] wants to look at the missile hatch doors and check their documentation. We want to go into the cable spreader room to show the TRT the plug welds. We know about additional documentation that needs to be verified. We have other concerns regarding problems with the plant. At this time, we'll close our tour because we are out of time.

Shannon Phillips, Senior Resident: This concludes the tour that we started. The time now is 3:04 p.m.