

# EXHIBIT 8

Case No. 2-1998-023S

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EXHIBIT 8



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WITNESS EXAMINATION

CURTIS OVERALL

BY MR. McNULTY, MR. BEARDEN,

AND MR. CLAXTON

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E X H I B I T S

NUMBER IDENTIFIED

[NONE.]

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## P R O C E E D I N G S

1:00 p.m.

1  
2  
3 MR. McNULTY: Today's date is February 11th,  
4 1999. The time is approximately 1:35 p.m. My name is  
5 William McNulty. I'm a special agent with the Office of  
6 Investigations, U. S. Nuclear Regulatory Commission.

7 Also present with me, and I'll ask him to  
8 identify himself, is Special Agent Gary Claxton.

9 MR. CLAXTON: I'm Special Agent Gary Claxton of  
10 Region Two, Nuclear Regulatory Commission Office of  
11 Investigations.

12 MR. McNULTY: Also with us today we have Mr. Bill  
13 Bearden. I'll ask you to identify yourself and your  
14 position, Mr. Bearden.

15 MR. BEARDEN: I'm Bill Bearden, Reactor Safety  
16 Inspector, Division of Reactor, Safety Region Two, Atlanta.

17 MR. McNULTY: Our purpose here today is to  
18 conduct an interview of Mr. Curtis Overall. Mr. Overall,  
19 I'll ask you to identify yourself for the record and spell  
20 your last name, please.

21 MR. OVERALL: Yes. My name is Curtis Overall,  
22 O-v-e-r-a-l-l.

23 MR. McNULTY: Okay. Do you have anyone present  
24 with you today, Mr. Overall?

25 MR. OVERALL: Yes, I have Ms. Anne Harris.

1 MR. McNULTY: In what capacity is Ms. Harris here  
2 as?

3 MR. OVERALL: She is here as a support role.

4 MR. McNULTY: And is it your wish to have her  
5 present with you during this interview?

6 MR. OVERALL: That's correct.

7 MR. McNULTY: Mr. Overall, I'll ask you to raise  
8 your right hand.

9 Whereupon,

10 CURTIS OVERALL,

11 The Interviewee, was called for examination and, having been  
12 first duly sworn, was examined and testified as follows:

13 MR. McNULTY: First, Mr. Overall, we had had a  
14 discussion off the record before we started here. There  
15 were a couple of things we wanted to put on the table. One  
16 is, we had granted your request to provide you with a  
17 transcript of this interview as soon as we receive it, and  
18 we do intend to do that.

19 Secondly, you had requested that we not release  
20 this transcript to any other agency until our investigation  
21 is complete; is that correct?

22 MR. OVERALL: That is correct.

23 MR. McNULTY: Okay. I can say that our normal  
24 policy is not to release any transcripts until an  
25 investigation is complete, unless the Commission determines

1 THE INTERVIEWEE: No.

2 MR. CLAXTON: I'm sorry, the lower ice condenser  
3 area.

4 THE INTERVIEWEE: No one had any business to be  
5 in there unless he was working for the ice condenser crew.  
6 Operations would walk through occasionally, because that was  
7 their system too, to make sure everything was going right,  
8 you know, checking temperatures and doing normal routine  
9 checks that they had to do.

10 BY MR. McNULTY:

11 Q In your experience, would those type of screws be  
12 used in any other function in that area, other than the ice  
13 condenser basket?

14 A You mean anywhere else in the plant?

15 Q In that area where they could have found their  
16 way into your system.

17 A This particular screw is tailored to the baskets  
18 only. They're called out, identified, very well on the  
19 Westinghouse drawings. These are ice condenser basket  
20 screws.

21 Q And they are safety-related?

22 A In my opinion, they're safety-related because  
23 they're a piece product of a partner of a safety-related --  
24 level one component.

25 Q Were you aware if they were manufactured as

1 safety-related?

2 A No, sir. I would assume they would have been  
3 because --

4 Q Could they have been -- commercially, could they  
5 have been dedicated?

6 A I didn't really go into the factions of the  
7 dedication. I know they were QA level to get them out of  
8 our stores to buy, if they were needed.

9 Q But you don't know how they were purchased?

10 A No, sir, I wasn't there when that evolution took  
11 place. They were purchased through Great Lakes Screw  
12 Company, I believe.

13 Q So they could have been purchased as commercial  
14 grade?

15 A That I'm not aware of. I did know that these  
16 screws had been shipped -- conversation with a Westinghouse  
17 representative that they were supplied by the same vendor to  
18 all the ice condenser plants in the United States and  
19 abroad.

20 MR. CLAXTON: Now, we haven't had a chance to  
21 look at the screws that you have. You said you found a  
22 quantity of screws; about how many did you find?

23 THE INTERVIEWEE: About 170 to 200, around.

24 MR. CLAXTON: Were they all exactly the same, to  
25 the best of your knowledge?

1 THE INTERVIEWEE: There were several that were  
2 whole screws like you're seeing there.

3 MR. CLAXTON: Okay.

4 THE INTERVIEWEE: And the majority of them were  
5 broken piece parts as you see right here, stubs, some of  
6 them with holes all the way through them because they broke  
7 and sheared completely off.

8 MR. CLAXTON: But best you can tell, they were  
9 all ice condenser basket screws?

10 THE INTERVIEWEE: Yes, sir.

11 MR. CLAXTON: And what are these used for?

12 THE INTERVIEWEE: They're holding the baskets  
13 together. The baskets are 48 feet long. There are four 12-  
14 foot sections, and these couplings at these 12-foot sections  
15 contain 24 of these screws. The top ring contains I think  
16 10 or 12. That's where you lift the basket with, okay, and  
17 you raise the basket to lay it, you peel it from the top and  
18 unpin it from the bottom and pull it up.

19 Every six feet at the first six-foot level,  
20 there's one screw, single screw, and some basket detents.  
21 Now, what I mean there, in coupling at the six-foot level,  
22 there's a coupling which gives -- these couplings give  
23 structural a feature into the basket to keep it from  
24 collapsing. All right, the basket -- and in that coupling  
25 area, there is a cruciform. It's a piece of sheet metal

1 that's tack-welded in. That's to maintain the ice geometry,  
2 if you know what I mean there, during an accident, during a  
3 severe accident, to maintain the ice stays in its actual  
4 position during all phases of an accident.

5 The screws are at all the other connections, as I  
6 told you. There's 24 at each fork that -- at each 12-foot  
7 connection, there are 24 screws. Roughly, about 100 or 102  
8 screws per basket.

9 MR. CLAXTON: Now, do these screws -- is there a  
10 mesh of some type? Is that when you say the basket? Is  
11 that a mesh-type material?

12 THE INTERVIEWEE: The basket is a one-inch by  
13 one-inch square on center, carbon steel square mesh. It's a  
14 rolled sheet metal of carbon steel that's been rolled, seam-  
15 weld, hot-dipped, galvanized carbon steel. The ring is set  
16 inside the basket on the inside. Screws are drilled --  
17 screw holes or pilot holes are drilled through the mesh  
18 material and also into the ring where these screws fasten  
19 into to join the two piece parts together.

20 MR. CLAXTON: I understand. So, going back to  
21 the original question, the best you can tell, everything you  
22 found in the melt tank appeared to be the ice basket screws.  
23 Was there any other foreign material?

24 THE INTERVIEWEE: There was a little bit of dust  
25 and debris, hair, dust, nothing metallic.

1 not have any torque values?

2 THE INTERVIEWEE: I don't recall any torque value  
3 at all, whether to use an air-driven gun or a hand-held  
4 screwdriver or just what.

5 MR. CLAXTON: Just said install them?

6 THE INTERVIEWEE: Yeah, it says install. And to  
7 me, what I read into the installation, was like snug-tight,  
8 you know, just put them in, take them in until they're  
9 really good and fastened and you know, don't really put a  
10 lot of excess force on them. Now, that's my interpretation.  
11 Y'all may find something different, but that's what I came  
12 up with. The extent of condition, as I recall was -- this  
13 was before we did any lab evaluations or anything -- was  
14 that I felt like, due to being a repetitive task of weighing  
15 the ice and possibly over-torquing of these basket screws  
16 and temperature change.

17 Now, you'll see in this testimony, people talk a  
18 lot about thermo-cycling, and here, you may be misled saying  
19 that it's we're taking it from cold to hot, cold to hot,  
20 cold to hot, repeatedly. It's not that at all. The ice  
21 condenser was built together in the late seventies. These  
22 screws were already in place long before we let it ice. All  
23 right, during the evolution of the first ice cool down,  
24 everything was brought to a 15-degree temperature, which was  
25 acclimate all the metal around the screws and everything to

1 -- you know how metal acts in cold versus hot. So we would  
2 load the ice condenser. We weighed every basket, which I  
3 always told them to do so we would have a base line trending  
4 of all the waste baskets.

5 Then we melted it after several years. Here's  
6 your thermal cycling -- brought it back I think to over 100-  
7 degree temperature in there. I'd say, here goes your  
8 expansion. Okay, if perhaps these screws have been over-  
9 torqued during construction, and they could have fallen out,  
10 fell apart, had broken at that point in time when we were  
11 lifting them up, because a lot of the load is being  
12 transferred to these screws. Now, this is before we knew  
13 after the lab reports that we had found some microscopic  
14 fractures in the ones that we had removed for testing, plus  
15 the ones that had been broken, and plus new ones that we had  
16 in stock showed similar cracks.

17 BY MR. McNULTY:

18 Q Okay, I think --

19 A And I was asked also -- do you want me to  
20 continue on with the PER of this?

21 Q Right, yeah.

22 A All right. I came up with a corrective action  
23 plan, which was -- I wish I had my PER in front of me to go  
24 with it, but you can read it there -- was to go out and do a  
25 random sample via using a video camera, which we've used

1 then hopefully, as a coalition of Westinghouse, myself, tech  
2 support and design, would sit down and try to come up with a  
3 what-can-we-do-here, what kind of dilemma are we in, fuel  
4 loading down the road here, you know, what do we need to do  
5 here.

6 And my corrective action plan only got done to  
7 the point of getting the metallurgical test done that I had  
8 requested. The rest of the steps were transferred back over  
9 to engineering where they took away my corrective action  
10 steps and superseded them with proceeding going to  
11 Westinghouse for them to resolve the issue and close out the  
12 PER.

13 Q So you never actually did the surveillance with  
14 the camera?

15 A No, sir. It was never allowed to be done.

16 Q Okay. And then what happened? You can just kind  
17 of walk us down through the events here.

18 A I got approved the metallurgical report for -- I  
19 think it was June the 2nd, as I recall, and June the 19th.  
20 That was the two report. First report, I had very good  
21 rapport with a Ms. Vonda Sisson, a metallurgical engineer on  
22 site. She had helped me in the past with other  
23 metallurgical problems we'd had with a PER I had on barrier  
24 seal ice condenser, where we were dealing with rubber  
25 components at that time. And I worked with them very close

1 for almost two years, that PER, and it was about this high  
2 when the PER was finished, going to Pawling, New York, and  
3 everything, doing testing with the vendor and everything, to  
4 be able to leave our bearing seal intact. So I had a lot of  
5 faith in what Vonda had done. She had done some stuff for  
6 me metallurgically at the labs, you know, helping us to  
7 determine extent of condition or what the problem or the  
8 failure was and causal factors and stuff like that.

9 So she took these screws. I gave her some of the  
10 broken ones. I went down into the plant and retrieved  
11 several screws, as I recall, from the baskets, the tops of  
12 the baskets, not -- we didn't pull the baskets all the way  
13 up. We took them at different levels when we went out and  
14 got what we could get. We got some from the top and the  
15 bottom, ones that were accessible to get. We sent those off  
16 and plus a graph sample of a few screws from the power  
17 stores where we keep our brand new screws and different  
18 material.

19 And they were sent off. I asked them to  
20 determine the mode of failure, what caused these things to  
21 fail. They knew the condition of the environment these  
22 screws were in and what the purpose and life of these screws  
23 were for.

24 MR. CLAXTON: Just for the record, did you  
25 separate these screws in any way?

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1 this course of action. I shared with him the corrective  
2 action plan. He was in a big hurry to get the corrective  
3 action plan out, because usually in a PER process, you had X  
4 amount of days to get the corrective action plan. So I was  
5 trying to do in a hurry, but also trying to be a little  
6 investigative as I went along, trying to cover everything I  
7 could think of in the time frame that was allowed to us to  
8 get a corrective action plan on the table.

9 MR. CLAXTON: So that I can understand, the  
10 metallurgical evaluation was your initiative?

11 THE INTERVIEWEE: That's correct.

12 MR. CLAXTON: But Mr. McCormick didn't interfere  
13 or try to hinder it in any way?

14 THE INTERVIEWEE: No, sir. Not as I recall.

15 MR. CLAXTON: Did you take the screws personally  
16 over to the labs?

17 THE INTERVIEWEE: No, I gave them to Vonda and  
18 she carried them to the Central Labs in Chattanooga and gave  
19 out a request order, more like a work order, for what they  
20 wanted to do for the PER of the customer, who I was the  
21 customer.

22 MR. CLAXTON: I understand.

23 THE INTERVIEWEE: Yeah. For them to be tested  
24 for us.

25 MR. CLAXTON: And then what was the result? You

1 said you had two reports.

2 THE INTERVIEWEE: The first report, as I recall,  
3 it came out with several modes of failure. It came out with  
4 different -- some of the screws were found to be very  
5 brittle or very not too ductile. You know, if you know what  
6 ductile and brittle means -- most reports talk about  
7 intergranular separation, which is basically brittle, and  
8 this means the same thing, as I recall, as ductile. It's  
9 ductile, you know, the screws were brittle. The report, as  
10 I recall, came out with seven modes of failure, you know,  
11 from thermal cycling could have been the contributing cause,  
12 over-torquing. There were various amounts of corrosion  
13 present in the screw threads. They displayed  
14 microfractures, probably clinch cracks from perhaps the  
15 vendor in their annealing process or their manufacturing  
16 process of the screws. And they came up with a definitive  
17 reason why the screws failed. I can't recall exactly what  
18 those were, but one of them, I think, was from stress  
19 overload, I think was one of the causes that they wrote in  
20 the first report.

21 And the first report also had many pictures,  
22 close-up pictures, magnification of these screw heads, the  
23 ones we found broken, the ones that were removed from  
24 service. They were categorized in the picture in the  
25 reports in lots like Set A, Set B, Set C, and even new

1 screws. And they had a picture, and I think it was Figure 7  
2 in the first report, displaying a close-up picture of a new  
3 screw with a crack in it in the thread route. The second  
4 report did not show that figure. It down-played somewhat,  
5 in my opinion, the severity of what the first report  
6 displayed. And we were told that after the first report hit  
7 the streets, if you will, it came over with a REM's number,  
8 which is the filing number of the week put into our  
9 archives, and it had the same report number. I think the  
10 report number was 1021, as I recall. I may be off on that,  
11 but --

12 MR. CLAXTON: The second report had the same  
13 REM's number as the first?

14 THE INTERVIEWEE: No, it didn't have the same  
15 REM's number. It had one number less, like 503, and this  
16 one was like 504. It had a bunch of numbers in front of it,  
17 but the same -- it had the report number, 101021 on both of  
18 them, but the two separate dates, and you know, June 2nd,  
19 versus June 19th was the second report.

20 MR. CLAXTON: The significance of what you're  
21 telling me, does that mean that the first report was never  
22 put into archives?

23 THE INTERVIEWEE: That's correct. It was told -  
24 - I was told to re-send those reports by Vonda to her  
25 higher-ups. She didn't tell me who, but they said that

1 MR. CLAXTON: And then you gave her that report  
2 back?

3 THE INTERVIEWEE: I gave her all the reports that  
4 I could have got back.

5 MR. CLAXTON: Or gave everything that you had.  
6 Did you tell her that you had given out some of the others?

7 THE INTERVIEWEE: Sure, and she understood that.

8 BY MR. McNULTY:

9 Q How much time elapsed before when you received  
10 that first report and then you were asked to give it back?

11 A I don't recall. My notes are on the trial.

12 Q Well, was it within a week? Was it relatively  
13 soon?

14 A Well, you can look at the dates on the first and  
15 second report, you know.

16 Q Like two days difference.

17 A It wasn't very far, because June 14th, as I  
18 recall, was our meeting with engineering, that that's the  
19 day I believe I had to return all -- I brought all the  
20 reports over to that meeting that day that I had and gave  
21 them to Vonda on June 14th, as I recall.

22 MR. CLAXTON: And you eventually got a second  
23 report?

24 THE INTERVIEWEE: I got a second report, yes,  
25 sir.

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1 quite right, I believe.

2 Q Do you recall who you discussed it with?

3 A I believe it was with Landy McCormick. And also,  
4 the June the 14th meeting, we had on site where Terry Ray  
5 Wood, I believe his middle name's Ray, was hosting the  
6 meeting to discuss the PER and the metallurgical report  
7 findings, where we were to take the old reports. I  
8 surrendered the old reports to Vonda Sisson that day. And  
9 he went into the details of this not being a 5059 issue, not  
10 a safety-related issue, that we need to put this bed. He  
11 re-emphasized big time to Mr. Yetter, the late Gordon  
12 Yetter, that Westinghouse involvement must intervene as soon  
13 as possible to get this rectified to determine if this was  
14 safety or not safety, you know, to basically get this thing  
15 put to bed.

16 I had taken over a section of the basket that I  
17 had at my disposal, and a ring, just to show the engineering  
18 people how these screws actually fit together, where the  
19 fracture occurred, and how these two members were like in a  
20 shear where they would break. And I never did get to speak  
21 very much. I was out-voiced quite a bit, and Terry  
22 basically controlled the meeting.

23 During that metallurgical staff was asked to  
24 leave and take the reports with them, and that --

25 Q Was that the first report or the second report?

1 A They took the second report back on the 14th, I  
2 believe, in that meeting we had.

3 Q Where did the meeting take place?

4 A On the site, in one of the engineering design  
5 conference rooms at Watts Bar.

6 Q [REDACTED]

7 A [REDACTED]

8 Q [REDACTED]

9 [REDACTED]

10 A [REDACTED]

11 [REDACTED]

12 [REDACTED]

13 [REDACTED] You'd have to go through my notes and  
14 what I testified to in trial. [REDACTED]

15 [REDACTED]

16 [REDACTED] And I happened to  
17 have a copy, after I went back to Watts Bar and went through  
18 my files, and I found a copy of a roster where his signature  
19 was on that roster that I had passed around, along with  
20 everyone participating in that meeting, as actually being  
21 there during that meeting.

22 Q Do you still have that list?

23 A Yes, I do. And Vonda Sisson, I believe, and  
24 several others testified that [REDACTED] was present at the  
25 meeting, and he was [REDACTED] as he always is in

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1 could these fail?" She said, I believe, she said, yes,  
2 under the right condition.

3 MR. CLAXTON: For the benefit of some technical  
4 staff member that may be reading your testimony, you've  
5 referred several times to the trail.

6 THE INTERVIEWEE: Sure.

7 MR. CLAXTON: Do you mind briefly just telling,  
8 just for the record, telling us which trial that you're  
9 referring to?

10 THE INTERVIEWEE: This was the trial of December  
11 16th, 1997. Administrative Law Judge hearing, Department of  
12 Labor in Knoxville, Tennessee.

13 MR. CLAXTON: Why was Ms. Sisson testifying?

14 THE INTERVIEWEE: She was brought up to testify  
15 as a witness on the lab reports, my involvement with her  
16 through the course of the discovery of the screws and her  
17 interactions with me and the screws, getting them to the  
18 lab, what the lab results came up with, how she interpreted  
19 the lab results, so on and so forth.

20 MR. CLAXTON: Now, how did the lab reports tie  
21 into your Department of Labor hearing? You refer to it as a  
22 trial; I'll call it a hearing.

23 THE INTERVIEWEE: That's fine. Well, basically,  
24 if I'm reading you right, your question right, is that the  
25 discrimination of me being laid off for raising concerns was

1 contributed to the finding of these screws being at a poor  
2 time.

3 MR. CLAXTON: I see.

4 THE INTERVIEWEE: And TVA keeping this  
5 information from NRC, which would have kept them from being  
6 licensed.

7 MR. CLAXTON: I see.

8 BY MR. McNULTY:

9 Q I'd just like to ask a couple of questions about  
10 the lab reports, Mr. Overall. You said that you had dealt  
11 with Ms. Sisson before?

12 A Uh-huh.

13 Q Did you ever asked her what happened here?

14 A In what respect?

15 Q Why were the reports different?

16 A She -- I vaguely remember and it may be in my  
17 notes, but I vaguely remember her stating that when the  
18 reports were asked to be rewritten, that the lab people --  
19 she didn't name names that I recall, but I do know this very  
20 strong in my mind, that the lab personnel that wrote the  
21 first report were sticking to their first report. Now,  
22 these people are experts in their field. They're -- some of  
23 them are doctors, I think, you know, PhDs, you know, they're  
24 specialists, and they're there to look for reasons why  
25 things happen. I mean, they've got millions of dollars