EXHIBIT 17

K19

Case No. 2-1998-023

EXHIBIT 17

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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In the Matter of: :

INTERVIEW OF :

ROBERT PHILIPS : OI Case 2-1998-023

(CLOSED) :

- - - - - - - - - - - - - - - - - -X

Watts Bar Nuclear Plant

1260 Nuclear Plant Road

Spring City, Tennessee

Wednesday, May 12, 1999

The above-entitled matter came on for interview, pursuant to notice.

BEFORE:

GARY H. CLAXTON, Special Agent

APPEARANCES:

On Behalf of the Interviewee:

ED BIGLUICCI, Esquire

Senior Nuclear Licensing Counsel

Office of General Counsel

TVA Nuclear

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2-1998-023

C O N T E N T S

E X H I B I T S

NUMBER	IDENTIFIED
[NONE.]	

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PROCEEDINGS

MR. CLAXTON: For the record, this is an interview of Robert Phillips. Today's date is Wednesday, May 12th, 1999. This interview is being conducted at the Watts Bar Nuclear Plant, 1260 Nuclear Plant Road in Spring City, Tennessee.

Also present at the interview is Ed Bigluicci who is an attorney with Tennessee Valley Authority, and prior to the interview Mr. Phillips and I discussed the fact that he has allowed Mr. Bigluicci to come in, that he is aware of Mr. Bigluicci's identity and that he is also aware that he can provide information confidentially at any time to the NRC without anyone else being present.

Is that correct, Mr. Phillips?

MR. PHILIPS: Yes, sir, that is correct.

MR. CLAXTON: Okay. Do you have any objections to being placed under oath --

MR. PHILIPS: No, sir.

MR. CLAXTON: -- for the information that you provide?

MR. PHILIPS: No, sir.

MR. CLAXTON: Okay. Would you raise your right hand, please?

MR. PHILIPS: Yes, sir.

Whereupon,

ROBERT PHILIPS,

the interviewee, was called for examination and, having been first duly sworn, was examined and testified as follows:

MR. CLAXTON: You can put your hand down.

THE INTERVIEWEE: Yes, sir.

DIRECT EXAMINATION

BY MR. CLAXTON:

Q Would you give me your full name, please?

A Yes, my name is Robert Lester Phillips, and on my business card, I go by Robert.

Q All right. Do you mind providing your home address and telephone number, in case we need to contact you at a later date?

A Yes, sir. [redacted]

Q As we talk, if you don't mind, if you have a proper name or an acronym, if you would spell that for me, I would appreciate it.

A Yes, sir.

Q For the transcriptionist that will be typing this out later. What was the name of the street that you live on?

A [redacted]

Q Okay. Are you presently employed with the TVA?

A Yes, sir, I am.

Q Where are you employed?

A I am employed at the Tennessee Valley Authority, the Division of Nuclear Power. My address is 1101 North Market Street, and my inter-office code is LP4H-C, and that is located in Chattanooga and the zip code is 37402. My office number is 423-751-8299.

Q What is your occupation?

A My occupation, I am the manager of materials -- well, actually, metallurgy and welding. We changed the name of the organization. What we used to be called materials and code, now we are metallurgical and welding, and I supervise the section over metallurgy and welding.

Q Who is your supervisor?

A Mr. Terry R. Woods is my supervisor.

Q And what type section do you supervise?

A The metallurgy and welding section. He has three groups. He has the code group, and then he has components group, and then he has metallurgy and welding, so I handle all the issues on metallurgy and welding.

Q And were you employed as manager in June of 1995?

A Well, June of 1995 we were transitioning. Paul Guthrie was slated to retire in September of 1995 and so we were transitioning. I am not quite sure what my title was

at the time, but Paul still functioned in his position, which is kind of like a senior specialist, and my title only changed after Paul had retired. So at that time I think I was a PD-9, Paul was a PD-10, something in that range.

Q Do you recall what your responsibilities were in June of '95?

A Well, again, we were in transition, so the responsibilities of then both Paul and myself were like senior metallurgical engineers. I know whether it was clearly defined but the expectation was that I was going to take over the metallurgical and the welding section, that is the expectation.

Q Okay. Do you recall during that time period that some ice basket screws were examined by the Central Lab Services, those screws came from Watts Bar?

A Yes, sir.

Q Okay. What was your involvement with that examination?

A Well, my involvement was that it was only after the fact that they had started looking at the screws and started drawing some conclusion. We would always go out and take what we called a cursory look at what the Central Lab had presented, and a lot of times the Central Lab would ask us questions, mainly because the sites would typically provide them say screws or something like that that they

wouldn't know exactly what they are looking for. So sometimes the lab would ask us, does this make sense or something to that effect.

Q Okay. And what -- how did that fit in with the Watts Bar ice basket screws, what was your involvement there?

A Well, my involvement at that time was probably next to nothing in that, again, as I stated earlier, I had transitioned from Browns Ferry up to Chattanooga, and I still had a couple of issues back at Browns Ferry. So, typically, they would ask me just like technical consultant. Like does this really makes sense, or the conclusion that we are making make sense? Something to that effect.

Q Do you recall that they made any sort of inquiry in this case?

A They -- I am trying to remember. I don't know how the request came about, or how it came about, but I do recall that the Central Labs, typically, they draw a conclusion, they said that the people at the site had provided them some information. And they had already drawn a conclusion between them and a site personnel that they had saw thermal cycling in the ice condenser. Well, if you know anything about the design of the ice condenser, it is usually, generally designed to be around 15 to 20 degrees Fahrenheit. And it is goes outside of that temperature

range, then it is outside of tech spec. And if it is outside of tech specs, then you are in total violation.

So for us as metallurgical engineers, typically, if we are talking about thermal cycling, you would have to have like a 50 to a 100 degree temperature swing. And so if you had a temperature swing outside of that, then that would mean I violated tech spec, so it would mean a bigger problem than just thermal cycling of ice basket screws. So on the technical merit, the conclusion that they made didn't even make sense. So at that point, when I found out that they had already drawn that conclusion, I made it a principle in life that you don't argue with people if their mind is already made up. If they think that that is what is right, all you can say, provide information and, look, I don't think that is right, and challenge what they say, and I don't think that is right, and then don't try to go any deeper than that.

Q Okay. So what I hear you saying was that you saw possibly some issues that you differed with in the conclusion of the report that was issued by the Central Labs, is that what you are saying?

A Well, yes, sir. In a nutshell, yes, sir. What I was saying, again, the Central Labs, typically, they draw their conclusion from information that is provided to them from the site. So someone from the site has provided them

some information, and I even think they even suggested that they had thermal cycling of the ice baskets there at Watts Bar. So they kind of had written that into the report. But, again, if you look at the design of the ice baskets, it didn't even make sense for them to have thermal cycling. I mean they could have had failure, but how they failed and why they failed, it wouldn't have been thermal cycling.

Q Now, were there other issues -- well, let me back up just a little bit.

A Yes, sir.

Q The report that you are referring to, would that have been the first report dated June 2nd, do you recall that it was the June 2nd report?

A The June 2nd report?

Q Let me ask you this, do you recall that two reports were issued on the ice basket screws?

A I recall that they -- I recall that the Central Labs, had made -- typically, what they will do, they would make a report and they would send it out to the sites. And then a lot of times, if they feel like they made an error, they do what they call an amendment to a report. So they typically made amendments. And I have been working with the Central Labs since June of 1981 and they constantly make amendments. A number might be out of spec or something like that, just slightly out of spec, of if they didn't look hard

enough to see whether the exception or conclusion they wind up making exception to that. And that is their internal way of making changes.

Q Okay. We are looking at the Central Lab Services report Number 95-1021 dated June 2nd, 1995.

A Okay. Yes, sir.

Q And on the second page there are seven conclusions.

A Okay.

Q The seventh conclusion is referring to thermal cycling. Was that what you were just referring to?

A Uh-huh. Right. Yes, sir.

Q Okay. So you had some questions about the findings of the report dated June 2nd?

A Yes, sir.

Q Okay. Were you aware that a subsequent report was then issued?

A I knew that the -- we went out to the Central Labs, and, again, the Central Labs, they have no nuclear plant operational experience. They know nothing about the design. I remember that we did go out there to Central Labs and start asking them some basic design questions like, I believe like -- how many ice baskets there are at Watts Bar? Well, nobody at the lab knew that. What was the temperature at the ice condenser? I don't think anybody at Central

Labs, they didn't know that either.

So you started to -- if you don't know the design of it, you don't know the temperature, how can you reach the conclusion that you had thermal cycling? So it is one of those kind of. And they said, well, we got some information provided to us from the site. And so they took whatever information they got, from whomever they got it from, at face value. And so that face value was, okay, we have -- someone suggested to them that they had thermal cycling. And so apparently that carried over into their report and they wrote it up as such.

MR. CLAXTON: Okay. Mr. Bigluicci was just called out of the room. So why don't we take a short break at 8:41 a.m.

THE INTERVIEWEE: Yes, sir. All right.

[Recess.]

MR. CLAXTON: We are back on the record at 8:41 a.m. Mr. Bigluicci is back in the room.

BY MR. CLAXTON:

Q We were talking about the report that was issued by the Central Lab Services. How did you determine, or how did you pick up on this information that you felt like needed to be corrected regarding thermal cycling?

A Well, first of all, I had worked at Sequoia Nuclear Plant from 1985 to 1988, and I served as the

metallurgical engineer there on site, myself and Mr. David Geches. I worked at the plant when it was fully operational to the time they shut down, and then I came back in 1990 when they restarted, so I have made many visits and trips inside the ice condensers, when they had ice weigh-in, when they had ice weigh-in outages, is what they used to call them back in the old days. I had a lot of dealings with the ice condenser. You had to put on thermal clothes and the whole nine yards. And, again, as I stated earlier, it becomes a tech spec issue, if the ice condensers operate outside of a certain temperature range, then we are in violation of our tech specs, and that is a no-no as far as a licensee concern. So just the mere suggestion that you may have had some kind of thermal cycling in your ice condenser doesn't make technical sense to me at all.

Q Were you responsible for reviewing this report for accuracy? My question is we have the report and there is one of the conclusions that you differed with, how did you pick up on that? How was it brought to your attention?

A Oh. We were there at the Central Labs and I think what had happened was they said, here is what we found, something to that effect. I can't even remember exactly how the issue came up, but there were several things that came up. The only one that sticks in my mind is this whole deal about thermal cycling. And there was a young engineer named

Darrell Smith who had just come to TVA. I don't know how long he had been at TVA. And then the other engineers, Delsa Frazier and probably Leslie Blankenship, and I don't know whether Cleveland was there, or Becky Roberts, I think she retired at some point. But none of those people had any operational experience, and the inline reviewer, Delsa Frazier, I don't think that she had any operational experience. So this young man, Darrell, was left to make conclusions on his own.

The conclusion he made, though, again, as I stated earlier, was based off conversation with whomever submitted the screws to him from Watts Bar. So they kind of said, here is what we found, and it was like, how did you come up with thermal cycling? And, again, that is when we just started challenging them.

At that time, 1995, it is still not uncommon even today, if something else is out at the lab, you would be out there looking and they would probably want to share some information with you, say here is what we got, what do you think about it? Myself, I was -- like I say, I have worked with the Central Labs since 1981, so I have a long-term relationship, so they would probably ask me a question just because I had been in the TVA so long and because I have worked in nuclear as well as in fossil and hydro-power, so it was not uncommon for them to ask me questions.

Q Okay. Now, several times you referred to we were out.

A Yes.

Q Quote, "we," unquote, were out.

A Yeah, at the labs.

Q Who else was there?

A You have Terry Woods was there with me and there was Vonda Sissom, I believe Vonda Sissom was there.

Q Now, when you discussed the issue of the June 2nd conclusions with the lab personnel, do you recall that you were there on another matter, or did you go there to discuss that issue?

A Well, again, coming -- still having Browns Ferry fresh on the back burner, I could have been there for a Browns Ferry issue, I could have been there for a Sequoia or Watts Bar. Or, again, as I said, they may have even asked me something about fossil and hydro, just because.

Q Do you recall or did you discuss with Darrell or Delsa the issue of some new unused screws which had come from the warehouse which were tested at Central Labs?

A New and unused screws? Hmm? I am not sure. I do -- I think you showed me earlier a meeting roster and then you are showing me a report. I don't know whether -- which came first at this point. Whether the report came first or the meeting came first, I came remember.

Q Okay. There was -- the report that I showed you was dated June 2nd.

A All right. Yes, sir.

Q And that had the seven conclusions listed on page 2, and conclusion Number 6 discusses the presence of quench cracks in the screws.

A Okay.

Q Which apparently from reading this were present upon receipt from the manufacturer. Did you discuss that with anybody or did you see that as being --

A We probably very could have very well have done that. A lot of times if you get -- what I remember about these screws, there was something screwy about the Westinghouse requirement they had on that. I think Westinghouse had required a EISI 1020 or 1022, somewhere in that range spec, but then they called out for a hardness of about 50 something [inaudible]. Well, if you look at that, the only way they get a 1022 up that high is to go back and carborize it. And when they carb off, do some kind of surface treatment is probably the better way to put it, when they perform this surface treatment, they can either nitrite the surface or they can carbonize it, or carbonitride, so get the surface up hard enough.

So when they do that, chances are when you got something real small in the quenching medium and stuff like

that, you run the risk of having cracks occur. So sometimes it is not uncommon to see quench cracks in carborize surfaces.

Q Okay. The subsequent report that was issued on June 19th.

A Yes, sir.

Q There was some information omitted regarding the set of screws, set B screws, with the new screws which had been taken from the warehouse.

A Okay.

Q And that is the ones I believe that they are referring to in conclusion number 6.

A Okay.

Q Okay. And then that information was omitted from the second report dated June 19th.

A Okay.

Q Does that mean anything to you? Did you discuss that with anybody as to whether this information needed to be taken out, could be taken out, should be taken out? Does that mean anything to you?

A If -- well, let me see look, see what they are doing here. As I stated to you earlier, the Central Labs, a lot of time what they do is if they start drawing some conclusion early on in the ball game and they are not sure of it, it is not -- it wasn't uncommon for them to go back

and amend any report. And usually, okay, yeah, like this over here, they would have the same report number. Then they will go back and say this is an amendment or something to whatever report they had issued out earlier. So, chances are, if they had probably drawn some conclusions that were -- that they weren't sure about, it is not uncommon for them to say, oh, well, maybe I ought to just take that out, or go back and put some information in about it later.

Q Are you aware that -- do you know for a fact that that is what happened, or did you have discussions with --

A No. No.

Q -- whether or not that information should be removed?

A Information should be removed? If -- no, I am not sure. I don't quite remember, but as I stated earlier, I know the lab, it is not uncommon for them to say, okay, well, I probably put something in here I really didn't mean to put in, like if I wasn't relevant. I haven't seen these reports in a while, so I would have to go back and read, and see -- try to get the flavor of what was going on.

Q Okay. But what you are saying is conjecture, I mean you don't know that for a fact?

A No. No, sir.

Q No one told you that?

A No.

Q Okay. Did you -- or were you aware of a conversation with Mr. Adair and Mr. Woods where they discussed the first report? Or did Mr. Woods tell you about the conversation he had with Mr. Adair?

A No, I don't remember that. Mr. Woods had worked here at Watts Bar back in -- I think he came up here in '89, '88, so he knew a whole lot more people than I could ever imagine here at Watts Bar, and still there is not a lot of people I know here. So at that time I may not even have known who Mr. Adair was, who Mr. Adair was at the time. He could have had a conversation with you and I wouldn't have known whether or not you were a Watts Bar employee or not.

Q Okay. Did Mr. Woods discuss with you what -- some problems that he had with the first report as far as wording?

A Well, we talked, again, like I said, we were at the Central Labs, and I think one of these reports may have been there. I can't remember which one, but I do recall asking questions about the -- what the design of the ice condenser, how many baskets, what is the temperature? Or something to that nature and challenging some information that the lab had put in there. And so, I said, okay, they kind of admitted that there is a lot of things they didn't know about ice baskets and ice condenser screws and all that.

Q Okay. Well, let me kind of go at it from this angle. Mr. Woods and Mr. Adair had a conversation, and Mr. Adair is in engineering.

A Uh-huh. Yes.

Q He talked to Mr. Woods and questioned some of the findings or the wording.

A Okay.

Q And some of the findings in the first report. In essence, asked him if he could take a look at the report. And apparently, Mr. Woods, as a result of looking at the report, went to the lab, all right, as you are telling me.

A Right.

Q To talk to them about their findings. And my question to you is, did he give you some background on, hey, we need to go down to the lab and talk to them about this report, take a look at this, or something like --

A We -- like I said, it is not uncommon for us to go to the lab on a number of issues. But we probably went out there to talk about this report, but it might have been coupled with some other issues. Yes, sir.

If you don't mind, I would just like to refresh my memory.

MR. CLAXTON: Go right ahead. Matter of fact, why don't we take a break at 8:53 a.m.

[Recess.]

MR. CLAXTON: We are back on the record at 9:09 a.m., and Mr. Phillips, I would like to remind you that you are under oath.

THE INTERVIEWEE: Yes, sir.

MR. CLAXTON: For the information that you provide.

BY MR. CLAXTON:

Q We have been discussing the two reports dated June 2nd and June 9th from the Central Lab Services, and you have been comparing those reports.

A It is June 19th.

Q Both -- I'm sorry, June -- what did I say?

A You said 9th, it is the 19th.

Q I'm sorry, June 2nd and June 19th.

A Yes, sir.

Q All right. You were comparing the information in both of the reports.

A Yes, sir.

Q And can you summarize basically the difference that you found?

A Yes, certainly.

Q Or what was left out?

A Certainly. I am looking on the first page of a report dated June 2nd, and it is the very last paragraph, and it is the last sentence, and then it continues on the

top of the second page. And on the first report, dated June 2nd, the last sentence in there, they talk about two sets of screws, both A and B, B being the new set. Then the sentence continues on and it gives the implication that they found zinc in the new screws which said that they had quench cracks formed during the manufacturing process.

Well, when I look at the figures in the pages and I look at the conclusions in the table where the EDX analysis were compared, none of them match up with each other. The figures that they were referring to was on Figure 7, the EDX analysis was done on set G, which is Figures 5 and 6, so there is a little bit of confusion, the implication that the new screws had some zinc in them, and just based on what I see in this report, there is nothing to support that.

Q Okay. Now, you have referred to EDX several times.

A Yes, sir.

Q Is that E-D-X?

A Well, yeah, EDX.

Q What does that stand for?

A It stands for energy disperses analysis, and it is a method in which you can find qualitative amounts of elements in a metal sample. It is not very accurate. When it gets to less than half a percent, it is not very

accurate, but it can tell you that something is present, but it is can't give you a quantitative amount, in other words.

Q Now, on the first report dated June 2nd, --

A Yes, sir.

Q -- I think you referred to the set B screws.

A Yes, sir.

Q That -- and reading from the report, it said it revealed the presence of zinc, indicating that the crack may have been present prior to plating.

A Yes, sir.

Q Or formed during the manufacturer's heat treatment.

A Yes, sir.

Q And that was not included in the second report, or was it your understanding --

A I just -- I haven't -- I looked at the second report, but going back to this first report, the table that they refer to, and they talk about the presence of zinc, that is actually in set G. When I look at this description of set G, it says screws removed from service. The set B you were referring to was the new screws, and those are actually on Figure 7.

Now, looking at the second report, that sentence is removed from the first page. Matter of fact, I see there are major differences, I guess, just looking at it, on the

one, two, three, fourth -- one, two, three. Okay, the third paragraph on the old one -- on the, pardon me, the report dated June 19th doesn't even mention the service temperature or someone saying the screws were over-torqued, that is missing out of this report.

The chemical analysis, they have -- their earlier report, it stated something about the 1022, and that has been removed or revised. The micro-hardness, a lot of things have been taken out of order, so it has been rearranged also, so it is not a one-for-one comparison.

Q Rob, do you see a section of an EDX analysis here?

A Yes. Okay. Okay. Now, yeah, now the EDX analysis, it talks about -- it corrects it, and it talks -- states that that was from G, as I pointed out about that earlier. So now they talk directly about that. Okay. So, yeah, that agrees with what I was saying earlier.

They did the EDX analysis and when they did the EDX analysis on G, they said they saw some zinc, but also they point out they had some lap regions they discovered at the tip and the root [inaudible]. That is typical of the rolling, thread rolling process. And zinc being very ductile, if I have a lap or something in there, I could have very easily squeezed it in there. It doesn't necessarily mean that it was -- well, yeah, well, you could have had a crack prior to, but it doesn't necessarily mean that the

plating process got the zinc in there, anything could have got it in there.

But I guess my whole point was, Mr. Claxton, is that this first report kind of implies that the set B screws had zinc in them, and on the second one it doesn't even mention that at all.

Q Now, it does talk about set B screws later on, [inaudible].

A Right here. Over here where they talk about the SEM of the fracture surface revealed that it failed by a void coalescence. They are just talking about the --

Q And also here when it talks about the microscopes represented screws from each set with a turn to be tempered. Figure 12, about slack quenching. Here, once again, I thought I saw set B in here.

A Yeah, you did. Keep going. The intermediate transformation products was --

A Discovered at the --

Q -- root of four new screws from the set B, one screw set from that page.

A Right. Yes, sir. But, again, as I was pointing out to Mr. Bigluicci, this original statement they had there kind of alluded to that you saw some zinc in the cracks there, and there was nothing to substantiate that. So apparently they removed that information from this report

because either they could substantiate it -- I don't know why. They just -- maybe they got challenged, but they couldn't substantiate what they saw. There is no pictures to substantiate what they saw there. So that probably is the reason why that was removed from the second report.

Q Do you have an opinion on it, this statement with regard to the set B screws?

A Okay. I need to look at this. Let me look at --

MR. CLAXTON: Well, why don't we go off the record just so we can understand what each other --

THE INTERVIEWEE: Okay.

MR. CLAXTON: I am not sure what you are looking at or talking about.

THE INTERVIEWEE: Yes, sir.

MR. CLAXTON: So we will go off the record briefly at 9:16 a.m.

[Recess.]

MR. CLAXTON: We are back on the record at 9:24 a.m. Mr. Phillips has been, again, looking at the two reports to compare the information. And we were talking about the location of the original report. And I think Mr. Bigluicci is going to look into the -- where we might locate that, whether it is at Central Labs.

BY MR. CLAXTON:

Q And, Mr. Phillips, I think my question to you

would be the information that is contained at the bottom of the June 2nd report --

A Yes, sir.

Q -- regarding the set B screws.

A Yes, sir.

Q And the information as it continues over to the top of page 2.

A Yes, sir.

Q Where it talks about the manufacturing process or certain properties would probably occur during the manufacturing process.

A Yes, sir.

Q Can you, from reading that information in the June 2nd report, would that be significant to you, whether or not appeared in the second report?

A See, if you asked me about it back June 1995, no, because someone had made a conclusion of a thermal cycling. If I have quench cracks, then quench cracks do not qualify as thermal cycling. If you are asking me today, it would become a quality control issue that I would be concerned about, but it doesn't necessarily -- wouldn't necessarily affect the function, fit, form and function of the screw.

Q Now, if the author of the first report, June 2nd, determined that there were some properties exhibited in the screws as a result of the manufacturing process, and the way

-- let me ask this. The way it is being described here, the properties in the screw, would that cause some concern, or would that be cause for a further investigation, in your thinking?

A What it would do, typically, if you have something you want to make extremely hard, if it is under a high load like it is in a gear, then quench cracks are not acceptable. But if it in something that is very low load, you just have it on there for just wear resistance, then quench cracks doesn't matter at all. Typically, we use a lot of material like hard facing materials in the welding arena. We weld them up onto turbine blades or whatever, and cracks are just expected to be there. You just can't get around it, it is just a fact of life. But putting the hard material on there, are you making the surface hard just because of wear resistance, not for load carrying ability?

In this particular case, just looking at the way just -- so they have got a 1022 and it is a self-tapping screw, it is probably just so that the screw can cut into whatever else it is going to cut into. It is intended for this screw to be harder than I guess the basket itself, the sheet metal that makes up the basket.

Q Okay. Let me ask you this, the author of the first report dated June 2nd noted the manufacturing process had caused some -- is it quench cracks?

A Yes. Uh-huh, quench cracks.

Q And I think what I hear you saying is that that may or may not be significant, depending on the use of the screws.

A That is correct.

Q From your reading of the second report, was that addressed in any way?

A Mr. Claxton, I didn't get a chance to thoroughly go through the second one, but, however, looking at it, not necessarily. I am a little bit confused because in the paragraph on the second page, and it is the one, two, three, four, five -- fifth paragraph down, they start talking about flat quenches and stuff like that, which says that the screws hadn't been properly heat treated, that is what that suggests. And slack quenching doesn't necessarily translate into quench cracks. Those are two separate processes.

Q Let me ask you this, were you involved in any way with the writing or the reconciliation report?

A No, sir, other than the fact that we may have challenged some of the conclusions that they had.

MR. BIGLUICCI: Let me -- when he refers to reconciliation report, he is not referring to report number 2, he has got a separate report.

THE INTERVIEWEE: Oh.

MR. BIGLUICCI: Authored about a year or so ago.

THE INTERVIEWEE: Okay.

BY MR. CLAXTON:

Q This is a report, I have a cover letter from Mr. Woods addressed to Mr. Maddox, dated October 20th, 1998, and it is a reconciliation report.

A Okay.

Q Comparing the findings of the two reports that we have just been looking at. Are you familiar with this reconciliation report?

A Very -- only scant. Mr. Woods did that report himself entirely, so I don't think he had much help on that at all.

Q All right. Have you had a chance to read it?

A No, sir.

Q It is fairly lengthy, about 14 pages, so I won't ask you to try to familiarize yourself with it now. Since you didn't have anything to do with it, I won't ask you any questions about your input in it.

A Hopefully, he picked up on the differences that I picked up on just right offhand.

Q Did you ever review that second report when it was issued at the time, 1995?

A Probably not. No, uh-uh. Typically, what would do is that an issue would come at each one of the sites, we would make sure that the sites have total responsibility and

ownership of it. So the person that would have been responsible for its content would have been Vonda Sissom.

Q All right. Now, just so I understand, you and Mr. Woods questioned the wording or the findings in the first report?

A Yes, sir.

Q And is it fair to say that as a result of your questioning the first report, a second report was issued?

A They have some discrepancies here, and once you challenge the discrepancies, like I just saw here, then Central Labs, they would always go back, say, oh, we made a boo-boo, and they would go back and issue out a second report. So, typically, no. I had some other issues I know that was coming up at Browns Ferry, probably would have -- they probably would have said, does this sound okay, or something like that. But reviewing it, no.

MR. BIGLUICCI: I am a little unclear on that one.

THE INTERVIEWEE: Yes, sir.

BY MR. CLAXTON:

Q Well, let me -- maybe I can restate it.

A Okay. Certainly.

Q You can answer it yes or no.

MR. BIGLUICCI: If you can, answer it yes or no.

THE INTERVIEWEE: Try for yes or no, yes, sir.

BY MR. CLAXTON:

Q You read the first report.

A Right. Yes, sir.

Q And there were some questions regarding the wording or the findings.

A Yes, sir.

Q And some of those concerns came or originated from you?

A Uh-huh.

Q Okay. A second report was issued. Did you ever read that second report at the time it was issued to see if you still had problems with it?

A Let's see, I want to answer your question directly?

Q I understand that.

A All right. To answer your question directly, no. Now, would I have known about parts of the contents prior to its issue, then, yes. And if they would have gone back -- the only -- like I said, the technical concern I would have had at that time was the issue of thermal cycling. So if they would have said, look, we have thought about this thermal cycling, and, yes, you are right, it doesn't make sense, then I am happy with whatever they put in there at that point, if they got rid of that. For me that was a major stumbling block.

Q And I think you just answered my question, but let

me restate it directly. Did you have any concerns with the information in the first report concerning the set B screws which were the new unused screws?

A No, not that I remember. No, sir. I just -- after you put this report back in front of me, I am a little bit concerned about some of the content. I am over here kicking myself in the butt, how did this statement over here, right here, slip past me way back when? But I don't know. Again, like I said, my brain shuts down. When they say thermal cycling, it just shuts down. Like if that is wrong, then this -- you probably could find a whole bunch of other things wrong.

Q Okay. Now, you said this statement.

A Uh-huh.

Q You pointed to a statement and said it caused you some problems.

A Yes, sir.

Q Okay. And you --

A I am talking about the thermal cycling. I said, oh, yeah, pardon me, I said, I am just sitting here looking at this statement right here.

Q Okay. And that is the last sentence on the first page.

A First page, right. This is where there is almost an implication that they had found some zinc in the set B

screws. And when you look at the table and the information, it is actually referring to the set G screws. So I am just sitting there thinking, hmm, that don't make sense. But, again, that is probably one of those examples where my brain shut down on this thermal cycling, and if that was bad, then, for me, I would said, all right, everything else is bad. I usually shut down.

Q Now, again, let me make sure I understand you, when you say gave you problems, are you saying that at that time you wish you had caught that, or you should have caught it, or you thought you would have caught it? I mean you are saying there is an error there that --

A Yeah, that is an a glaring error.

Q You feel like at this time you should have caught that?

A Yeah, I probably should have caught it. But, again, we weren't really there -- we were there to challenge the conclusions. They had made a conclusion that they had seen thermal cycling, somebody had made that conclusion. And so, again, if you look at an ice basket, thermal cycling don't make sense to me, so if I look at the report, this report right here, if they say thermal cycling, then I am already at odds with everything.

Q Okay. We are not so concerned about the thermal cycling.

A I understand.

Q But this statement at the bottom of page 1, and just to make sure I understand what your concern was, what was your concern with this statement?

A Okay. Just reading it just a couple of minutes okay, there is an implication here that they saw some zinc in the set B screws. And I am not saying that they did or they didn't, but if I was challenging that today, I would ask them to show me the evidence you have that. And they refer to Figure 7, so when I go to Figure 7, I show -- they show me one screw over here and it is at 400X, there is no presence of zinc in it, and granted that it is a Xerox, I said, okay, well, -- then they said, well, the evidence came from the EDX and that is on Table 1. So I go to Table 1, it says, oh, well, this is from a crack on set G screws. So that is not G, not of that information actually relates to B, it only relates to set G.

Q Okay. And everything you just said refers to the report dated June 2nd?

A Yes, sir.

Q Okay.

A Dated June 2nd. So if I looked at the set B screws, which were supposedly the 12 new screws, and I look at this statement that they made, it almost implied that they saw something. Now, if they did see it, they didn't

document it in this report.

Q I see. From the context of what you are saying, a fact I understand that I want to ask you directly.

A Yes, sir.

Q Did you instruct anyone at the Labs to remove the references to set B screws?

A No, sir.

Q Okay. Do you know if Mr. Woods instructed anyone?

A No, sir. I don't remember if -- no, I don't remember at all.

Q Okay. Did you have anything to do with the rewriting of the report? I mean the actual rewriting. Did you do -- did you review the first report, put a red pencil to it, anything along those lines?

A If I looked at this second report, and, again, --

Q Okay. I'm sorry. We are back [inaudible], yeah, we had better refer --

A June 2nd.

Q Yeah, we had better refer to it.

A June 2nd. If I looked at June 2nd, if there was anything I would have noted, it was just for clarification purposes. First of all, when we would write a report, it would be different from this. It would be clear here is an introduction, here is a discussion, here is different properties, and it would be like a road map where you could

follow. And then there would be a protocol or order of things that we would have had to make it easier for your reader. And then I would try to make sure that all the figures and the conclusions and stuff match up. And then after the conclusions and stuff, the figures and conclusions match up, then you sit back and throw the whole thing down and say, all right, does this make sense? So when I send this second -- this report dated June 2nd through the sanity test, which says does it make sense, the conclusions on -- conclusion 7 doesn't make sense to me.

Now, you are asking me specifically about the set B screws. Dealing with fasteners all the time, typically, you could see cracks in the fastener but it doesn't affect its fit, form and function, not necessarily affect its fit, form and function, because of the service load. It just depends on how you got it loaded. If it is a load in tension, then, yes, it could affect. If it is a load in sheer, no, it wouldn't affect it at all.

Q All right. Now, if we can shift back over to the meeting of June 14th now.

A Yes, sir. All right. Yes, sir.

Q Do you recall that meeting?

A No. They -- even the interest we had there at Watts Bar changed. So many things changed. I probably was -- again, I had just transferred from Browns Ferry. If it

came up to Watts Bar to talk about ice condensers, it may have been -- the same day I may have had other meetings that I was attending also, and I just wasn't really sure of. And I am pretty sure that if there were a literal transcript of the words that were there, if you went there and you probably looked for did Robert Phillips say one or two words, probably not. I probably just sat in the room and daydreamed about Browns Ferry maybe.

Q Okay. And I may have asked you before the interview started, and we will probably need this for the record. I think I showed you a list of the --

A Attendees.

Q The attendees at that meeting.

A Yes, sir.

Q And there is --

A My name is on this.

Q Your name.

A One, two, three, four, five -- I am the fifth name down.

Q Okay. You recognize that as your signature?

A Yes.

Q Okay.

A Well, this is my script, the sign-in, yes, sir.

Q You didn't have someone sign in for you?

A No, sir.

Q Okay.

A No, sir. That is my left-handed scratching. Yes, sir.

MR. CLAXTON: Okay. Do you have any questions, Ed?

MR. BIGLUICCI: No, I don't have any other questions.

MR. CLAXTON: Do you need to take a break? I think at this --

THE INTERVIEWEE: Yeah.

MR. CLAXTON: Why don't we break at 9:41.

THE INTERVIEWEE: Okay. Yes, sir.

[Recess.]

MR. CLAXTON: Back on the record at 9:45 a.m., with the same parties present.

BY MR. CLAXTON:

Q Do either of you have any questions about what we have talked about?

A No, not really. Other than the fact that I just can't recall the meeting that was -- that you had the roster there. I may have been there present physically, but not mentally. And the other part is that when I look at those reports today, if I looked at what was on the June 2nd report and I looked at parts of what is on June 19's, I can probably see why the Central Labs may have said, ah, this

information wasn't really necessary, it really didn't add to the validity of the conclusion, the outcome. I think if you start looking at it, they didn't totally, deliberately remove information about set B, they just kind of changed some of the things that they had said about set B in there. They made some not necessarily strong, as a matter of fact, I don't even consider those strong when I look at the function of those screws, when I look at the set B screw on that paragraph that I am referring to, they said, well, I saw something and maybe I saw some thinking there. Well, that is extraneous information, it really didn't mean much. And then when I looked at it over on the second report, it just wasn't that important. So, typically, like I said, the labs, they usually do stuff like that all the time.

Q All right. I might invite you to read the reconciliation report.

MR. CLAXTON: Ed, could you provide a copy of that to him.

MR. BIGLUICCI: I sure can. Okay.

BY MR. CLAXTON:

Q And if -- and the reason I say that is, from what I hear you saying, and this is not a criticism of you, but it sounds like there is some conjecture that this may have been what happened, this may have been what Central Labs was thinking.

A Uh-huh.

Q And you are thinking, well, this could have happened. But I would like for you to read the reconciliation represent --

A Okay.

Q -- that Mr. Woods wrote.

A All right.

Q If you have any question, you know, if you think you need to provide some more information on -- regarding, you know, the importance of that set B screw, whether it should or should not have been in there. But I think to save time, you know, so you don't have to read that reconciliation report now, would you take a look at that.

A All right.

Q In relation to the two met lab reports.

A All right. Yes, sir. I need to --

Q I would be glad to talk to you again regarding any other information that you may have. Now, go ahead if you want to.

A I was just putting -- I think I have Mr. Bigluicci in here. Let me just check first. Yeah, I already have you in there.

Q Okay. What I would like to do, we have talked quite a bit about technical aspects of these two reports. And you told me earlier that you were a metallurgist.

A Yes, sir.

Q Can you tell me a little bit about your professional background? Are you degreed?

A Yes, sir, I have a B.S. in metallurgical engineering from the University of Tennessee, registered PE since 1987. I worked at NASA combustion engineer and TVA fossil and hydro division, TVA nuclear division. I worked for a Canadian paper firm in South Alabama called MacMillan-Bloedel.

Q How do you spell it?

A MacMillan-Bloedel? Okay. It is capital M-a-c-and-then-capital-M-i-l-l-i-a-n, and Bloedel, the Canadian spelling is capital B-l-o-e-d-e-l, Bloedel.

Q Thank you.

A Pine Hill, Alabama.

Q Now, when did you receive your degree?

A [redacted].

Q Okay. Do you have any other advanced degrees or professional degrees? You said you were a professional engineer?

A Yeah, a registered professional engineer, registered in the State of Tennessee, license number 019616, and took a couple of graduate courses in metallurgy as well as executive management.

Q Okay. And you have been a metallurgist ever since

you received a degree?

A Yes, sir.

Q All right. Have you provided all the information freely and voluntarily this morning?

A Yes, sir.

Q Okay. Have you received any threats or promises regarding the information you have given?

A No. No, matter of fact I am quite well aware of NRC Form 4 and 10 CFR 50.9 and 50.7 for disclosure.

MR. CLAXTON: All right. If you have no further questions. Mr. Bigluicci, if you have no further questions.

MR. BIGLUICCI: I have nothing.

MR. CLAXTON: We will conclude the interview at 9:50 a.m.

[Whereupon, at 9:50 a.m., the interview was concluded.]

CERTIFICATE

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:

Name of Proceeding: INTERVIEW OF
ROBERT PHILIPS
(CLOSED)

Docket Number: 2-1998-023

Place of Proceeding: Spring City, TN

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission transcribed by me from recorded tapes provided by the Nuclear Regulatory Commission, and that the transcript is a true and accurate record of the foregoing proceedings to the best of my belief and ability.

Martha Brazil
Transcriber
Ann Riley & Associates, Ltd.