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UNITED STATES

NUCLEAR REGULATORY COMMISSION

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IN THE MATTER OF:

INVESTIGATIVE INTERVIEW

10 CFR 50, APPENDIX B

Interview of William C. Drotleff

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TRANSCRIPT of testimony as taken by and before Sean M Fallon, a Certified Shorthand Reporter and Notary Public of the State of New Jersey, at the offices of Stone & Webster, Three Executive Campus, Route 70 & Cuthbert Boulevard, Cherry Hill, New Jersey, on Wednesday, March 4 1987, commencing at 1:40 o'clock in the afternoon.

ACE FEDERAL REPORTERS
444 North Capitol Street
Washington, DC 20001
202-347-3700

EXHIBIT 74



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MR. MURPHY: It is now 1:40 on March 4th, 1987. This is an interview of William C. Drotleff who is employed by Stone & Webster Engineering Corporation. The location of this interview is the Cherry Hill, New Jersey headquarters for Stone & Webster Engineering Corporation.

Present at the interview are Mr. Drotleff, Mr. William G Meserve, as the attorney representing the Stone & Webster Engineering Corporation, Len Williamson, Larry Robinson, Leo Norton, Mark Reinhart and Dan Murphy.

As agreed, this is being transcribed by a court reporter. The subject matter of this interview concerns TVA March 20th, 1986 letter to NRC regarding their compliance with 10 CFR 50, Appendix B.

Mr. Drotleff, will you please stand and raise your right hand? Do you swear or affirm the information you are about to give is the truth, the whole truth and nothing but the truth, so help you God?

THE WITNESS: I do.

MR. MERSERVE: I might state for the

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record, before we proceed, as I've done in the previous interviews, that my name is William Meserve. I'm with the Boston law firm of Ropes & Gray and I appear here today as counsel for Stone & Webtser Engineering Corporation. I am not counsel for Mr. Drotleff, individually, but I am here at the request of the company, which Mr. Drotleff is an officer, with Mr. Drotleff's concurrence. I've explained to Mr. Drotleff that he is entitled to his individual counsel, and he has indicated that he is content to go forward without his own counsel, but with me sitting in as counsel for the company.

As I've also mentioned in the previous interviews, it would be our preference, in order to insure the accuracy of this record, that the witness have an opportunity to read the transcript and to sign it at the conclusion of this proceeding. It is my understanding that an investigation of this sort, that the NRC does not permit that. We, obviously, will abide by the NRC procedures, but I would simply state for the record that in the interests of insuring

accuracy, we believe it would be preferable procedure to have the witnesses be permitted to read and sign the transcript.

BY MR. MURPHY:

Q. Mr. Drotleff, would you please give us a bit of background information about yourself, regarding your educational background and employment in the nuclear industry?

A. I graduated from the Naval Academy in 1959. I reported for my first three and a half years to a destroyer where I was in gunnery and other deck operations. After three and a half years at sea on a destroyer I was selected by Admiral Rickover to go back to Washington and to go through an interview to join the Navy nuclear program. I was selected in 1962 and I did start the nuclear program in 1962 and went through a year's training in the safe operation, maintenance, engineering of nuclear plants.

After the year's training I was asked to stay on at the Navy reactor prototype at West Milton, New York for about another three years, where I trained operators, Navy officers and enlisted men in the safe

operation of nuclear plants. In that training we taught them about radiological controls, nuclear ~~tranciance~~ TRANSIENTS, maintenance of nuclear equipment and how to go through operating ~~tranciance~~ TRANSIENTS and accidents with the reactors.

After doing ~~three~~ TWO years on the staff at West Milton I went to submarine school and then reported to a submarine where I was the auxiliary division officer and also the reactor officer responsible for the nuclear reactor and I spent about three years there. In addition, I was the operations officer of the fleet ballistic missile submarine, which was the same submarine, ~~at the same time~~ responsible for the operational patrol planning and carrying out of the mission of the submarine. I put in ten years in the Navy.

At the end of ten years I left, joined Stone & Webster Engineering Corporation in 1969 as an engineer, where I was assigned to a nuclear project, the Surry Nuclear Power Plant. I did systems engineering at Surry. On the Surry plant. I also went to the job site and participated as an engineer at the

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site, giving construction or our construction people advice and in the actual construction of the plant. I stayed with the Surry plant until it started up and then I was reassigned on various other nuclear projects for Stone & Webster, including nuclear project for Philadelphia Electric on the high temperature gas cooled reactor, nuclear project for San Diego Gas Electric, which was a pressurized water reactor.

I also had an assignment as the chief power engineer for the engineering corporation in our Boston office, where I was responsible for all the power engineering activities, including our fossil, industrial and nuclear work. In 1980 I was reassigned by Stone & Webster from our Boston office to our Cherry Hill, New Jersey office as the assistant manager. I've been here ever since. As assistant manager, I've also had other responsibilities at this office, which included the manager of projects for our River Bend nuclear project, which is a large boiling water reactor, which we constructed -- engineered and constructed for ~~Bell~~ Gulf States

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Utilities in Baton Rouge, just north of Baton Rouge, Louisiana. That project was completed in 1985, ~~1986~~ and at the completion of that assignment I stayed as the assistant manager of the office.

In 19 -- February of 1986 I took over as the Director of Engineering for TVA. Which brings me up to date.

Q. Okay. Would you please describe for us, Mr. Drotleff, how you first became involved with TVA, your role, participation or knowledge of one in October, or November, 1985, assessment of the situation by a team headed by Mr. White, which involved some Stone & Webster employees, the study headed by a -- a team headed by Mr. Nace, which we will refer to as the Nace report, your knowledge of the TVA line organization's responses to the eleven NSRS Perceptions, your knowledge or participation in the Lundin report, which we've been told took place sometime in February, and what role you had in the March 20th, 1986 letter.

A. Take them one at a time.

Q. Surely.

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A. My first involvement, direct involvement with TVA was -- started on January the 28th, 1986, when I was asked to go down and interview with Bob Cantrell, who was the manager of the office of engineering for TVA. So, I went down there with Ed Siskin and spent the 28th of January reviewing the Engineering Department operations and practices with Bob Cantrell. After two to three hours with Bob I also asked to see several of Bob's assistants, so that I could get an understanding of how the TVA Engineering Department was being managed, where their difficulties were, if they had any difficulties, and to draw my own conclusions as to what the -- what potential problems they might have and I was to present those -- my judgments to Steve White.

Prior to the interview with -- where I went through the interview with Bob Cantrell and his assistant, I had no knowledge of TVA other than what you read in Nucleonics or the newspapers, because there had been some publicity. I was also aware that the engineering manager out of this office, Rick ~~Burns,~~ BYRNES, had also been participating in some

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~~that~~ so I could review it to make sure we were covering all the bases. So, I skimmed through it just to make sure there was nothing new that I needed to know to take some action on.

That was really my only involvement with it. With that particular report.

Q. The Craig Lundin review. Were you involved at all in that?

A. I've never seen it. If there is, I'm not -- I know there was a review by Craig going on, but I never saw it. If there was a written report, I haven't seen it.

Q. Did you have any involvement in the review of the TVA line organization responses to the NSRS Perceptions?

A. Yes. The response on the March the 20th letter. Many of those responses had engineering input, and I wanted to make sure that the engineering input to those responses had been properly reviewed by the right people in ~~the~~ engineering, both the TVA, and the right engineering outside representatives that had been brought in, so that when those responses went in they had appropriate engineering management review. So, I did

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that I also reviewed the responses myself. I read them myself and made sure that I did not disagree with the words that were being written in those responses by the engineers.

BY MR. WILIAMSON:

Q. Mr. Drotleff, when you went down to interview with Mr. Cantrell and were you briefed by Mr. -- or did you brief Mr. White on the results of your interview and your two or three hour, I guess, assessment of the office of engineering?

A. I did.

Q. Do you recall what you related to him?

A. I told him that what I had determined in that one day review of what I consider as some significant problems in their Engineering Department.

Q. Do you recall specifically what those problems were?

A. In general, the Engineering Department was trying to do too many things. The Engineering Department was responsible not only for the nuclear engineering, but they were responsible for the engineering of the hydro, the fossil, all engineering activities

within TVA. At a time when they were having difficulty with their nuclear program, I felt the nuclear management should be paying full attention to the nuclear program and, yet, here they were spending a good deal of their time worrying about the rest of TVA. I thought that was a problem.

I thought it was also a problem of the TVA organization of having engineering being performed by other groups other than the TVA engineering group. If you went to the job sites, the individual site directors had authority to award engineering work to other organizations, or do engineering work themselves. I felt that was wrong. The engineering was not under control. The engineering -- TVA's engineering organization wasn't reviewing it themselves and approving engineering modifications and changes to TVA. One of the first things that my recommendation was, is to consolidate all engineering activities under the Engineering Department.

I felt that they had a two drawing system, where operators were responsible for making modifications to the engineering

drawings. Using those in the operations of the plant. The engineers were engineering from another set of drawings that were not in conjunction -- they weren't the same as the drawings the operators were using, which was leading to further problems in the plant.

There were probably more, but that was the thrust of the kinds of things that I related to them that I thought were the engineering problems.

Q. What was Mr. White's response?

A. I think in most cases he agreed.

Q. Were you then -- were your -- you went down to interview --

A. Well, the interview -- I went down to talk with -- I had been asked to go down there on the 28th, and do an evaluation.

Q. Okay.

A. What do you think of this, what do you think of that? Where are their problems? I think I had been asked, based on my background and experience, could somebody come in and make a quick judgment as to what kinds of problems were being faced by the Engineering Department.

Q. The subsequent weeks after that you were involved in addressing some of these engineering concerns, some of the perceptions that NSRS had raised, and you were directly involved, you said.

A. After I took over. Now, I went down and did the evaluation on the 28th and over the next week or two, perhaps, gave my conclusions, my results to Steve White, and his staff in Chattanooga. I took over as the Director of Engineering on the 13th, and I think it was probably very shortly after that that I was even made aware that there was such a thing as an Appendix B letter or these NSRS concerns. I wasn't even aware of that until sometime after I took over. That there was a letter. At that point I became involved in making sure that engineering was properly addressing the answers to those issues.

Q. Were you at that point, once you became involved, were you satisfied with the responses that you were receiving from the line personnel?

A. The people underneath me at first I don't think were doing a thorough job in

answering the questions. For example, one of the issues had to do with electrical installation at Watts Bar. The initial response that I read said, essentially, there have been allegations that there are electrical cable problems. We've looked at those concerns. We've looked back at five other fossil plants that we've built that have years of operating experience and history behind them. We've also talked with other people at other nuclear plants. We don't have a problem with our old operating plants, therefore our cable installation is acceptable. Essentially. If I boil it down. I said, that's not good enough. We've got to go back and do a more thorough review. So, I brought in some additional S & W people. I also ~~put~~ SPOKE TO John Kirkebo, who was the head of the technical branches. I Told John to start paying personal ~~attending~~ ATTENTION to the responses that were being pulled together under those -- for that letter. As a result, we strengthened and took a more positive response. In the electrical issues, we decided we've got to go in and perhaps do some testing. We've got to go back to

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cable manufacturers and get some additional data from cable manufacturers. So, as the engineering input to the responses was looked at and reviewed, I think that in many cases they became stronger and they were better responses by the time the letter finally went out.

BY MR. REINHART:

Q. Mr. Kirkebo, when you went down there --

A. Drotleff.

Q. Drotleff, I'm sorry. What did I say Kirkebo? I meant Drotleff. When you went down there to get up to speed and do your evaluation up to the time you took over, even then, what was your feeling with regard to the criterion three design controls that were in existence there in the Engineering Department?

A. I felt they were weak. I think this is one of the things I mentioned earlier where we had -- if you went to a job site, the site director had the authority to award engineering work to other organizations or have engineering work done whenever and essentially however he wanted. That's poor design control. I felt it was weak. One of

my initial conclusions to Steve White is design control is very weak.

Q. Would that be true at all the job sites? Like every one of them was like that?

A. I didn't look at Belefonte at all, and, of course, if we are talking only the first couple of weeks there, I was more concerned and the questions were based towards the two operating units, which were shut down, Sequoyah and Browns Ferry, at that point. I wasn't even worried about Watts Bar. I was more worried about the two units -- the two stations that were shut down. That's -- all of my questions addressing design control at that point were geared towards modifications that were being made to the plants after they were in operation. So, I didn't spend any of my initial time looking at Watts Bar.

Q. Subsequent to that period did you get involved at Watts Bar?

A. Yes.

Q. What did you think about their design control system?

A. I felt it was weak, but they had never gotten into operations, so they didn't have

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the opportunity, the years of operation where your modifications and operators could change the engineering design. I felt it was weak, but I felt it wasn't probably in as bad a shape as the other two, and, therefore, shouldn't get top attention in my mind, until -- until this Appendix B letter popped into the -- into existence and we had to address those eleven issues on the Appendix B letter. I felt then that those issues that were raised on the Appendix B letter for Watts Bar might apply back over to the other units, so I told my people, when we look at them, let's also think about these things for Sequoyah and Browns Ferry.

Q. In looking at the way NSRS presented that, under bottom line they really put design control there, they say, design control is not initially specified up front, nor is final configuration feedback given to design. How would you -- would you agree, disagree, clarify that?

A. I guess I can't comment on their -- on how they got there, but --

Q. I mean just your feeling as to the

situation regarding up front design and feedback. I'm guessing they mean, when they say configuration feedback, they are saying if something changes in the field, that's fed back to the design organization.

MR. MESERVE: Do you want to see the document he's looking at?

THE WITNESS: I'd like to take a look at it, but I'm generally familiar with the area you are talking about.

BY MR. REINHART:

Q. I'm looking at this first item under bottom line there.

A. I'm really not familiar when we say design control is not initially specified up front, why they make that statement. Nor is final configuration feedback given to design.

Final configuration feedback given to design? That's really the as-built, as-constructed condition. After you finish building the plant our engineer is given the opportunity to take a look at the actual, final construction status of the plant to compare it to their engineering design. In that -- that, I feel, is a weakness. That is

one of the weaknesses that we addressed.

Q. Okay.

A. The other one, design control does not initially -- I guess not initially specified up front, I think I disagree with that. When we say there is no -- that's almost like saying there is no design control up front. Design control being specified up front is a weakness, in my mind, as to how they do it. It's a very cumbersome way. That was one of the issues that we also addressed. How do they prepare their specifications? How do they prepare their drawings? We felt that's an area that was cumbersome. It wasn't adequate for the heavy nuclear program that they had and then had to be improved. That's an area that we went to work. So, I can understand their concern there, but we considered it areas that were weak.

Q. What mechanism did Watts Bar use to feedback information to design? Was it like a field change request or something like that, if the field did something? How did they let the engineer know, say, before system turnover, maybe a final walk down? Was there

any mechanism in between that was used to feedback with?

A. I guess, again, I don't know all of the areas.

Q. Yes.

A. But, it would really vary with the kind of work that you were talking about. For example, pipe supports, which is a key area. At that point they had a -- if there were modifications made to the engineer's design, those modifications would be made by construction representatives who would draw a sketch of their modification. They would give it to an engineer in the field to review that modification of the sketch, to see if he agreed or disagreed with it. That was then concurred with or not concurred with by the TVA engineer.

Q. I see.

A. So, there would be, in many cases, a sketch of any modifications that were made to the engineer's design. For each and every area I don't know at this point what mechanism was used to feedback the design.

Q. When you say a sketch, is that a control

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document?

A. They were, yes.

Q. They were.

The final thing there, after the hyphen, NSRS says, margins of safety are indeterminant. That could be a pretty serious charge.

Do you think that was a proper way to characterize the problem? Really thinking of Watts Bar.

A. Well, again, I can't -- I don't know exactly why they made that statement, but in order to determine whether or not the plant was actually constructed in accordance with the engineer's requirements, there are certain things that have to be -- that are modifications that have to be fed back to the engineer, so that he can determine whether or not somebody has changed his design requirements. I think TVA had a system to feedback to the engineers. I think it was a very cumbersome system and it was very difficult to work that way, but they did have a feedback system. But, it needed to be improved. But, they had ways of getting

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information to the engineers to -- so that they could do an evaluation of their design.

Q. Okay. Before construction, when the design is formulated, the engineer would put in some margins of safety before people ever went out to construct.

Do you have a feel if those were being questioned, the initial design margins of safety, or was it because of failure to feedback we don't know if the design is implemented?

A. I guess I ~~don't~~ DIDN'T ever feel that anybody was questioning the original design. That never -- I don't feel that ever entered into the questions. The real question was, have they built what you engineered.

Q. Okay. In the design or engineering area was there a tabulation of CAQ's, NCR's, CAR's that showed you a definitive list that had been identified that required work, through the QA process? Did QA provide you with this kind of --

A. They didn't provide it to me, but there was a -- there is a mechanism for tracking CA -- what you call a CAQ, a condition adverse

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to quality, within TVA. They did have a mechanism for that and there were master listings of identified adverse conditions.

Q. When you say they didn't provide it to you, did they provide it to responsible people that worked for you?

A. Within TVA there was an orgarizational mechanism to do it. There is tracking of CAQ's and that tracking mechanism is distributed to certain responsible people within TVA. The project manager or the project engineer. The branch chiefs. There were certain people that are on distribution for that who have to take action.

Q. I see.

A. When I say me, as Director of Engineering those things don't necessarily come to the top all the time.

Q. Did any ever get escalated up to that level?

A. Yes. As a matter of fact, that was one of the programs that we wanted to work on down there was to make sure that problems got escalated to the top sooner and more of them. We felt that management should be more

directly involved in specific problems that were being identified on the projects.

MR. REINHART: Okay.

BY MR. NORTON:

Q. Mr. Drotleff, did you get involved with the review of the March 20th letter at all?

A. Yes, I did.

Q. How did you become involved?

A. I can't remember the exact date, but I know I took over the 13th of February, and there was a lot going on for the next several days, but somewhere right after the 13th of February I was called to a meeting in Chattanooga by Dick Gridley, the manager of licensing and safety, and in that meeting was Steve White, Bill Wegner, Bob Brodsky, Dick Kelly. I'm not sure if Jim Huston was there or not. This would have been somewhere, I guess, between the 13th and 20th of February. Somewhere in that time period. I was asked by Dick to go and review the response to an NRC request for compliance with 10 CFR 50, Appendix B on Watts Bar. Gridley told me eleven issues have been identified by NSRS. Some number of issues that we have to respond

to the NRC in a certain time frame. We are going to present to Steve White our proposed response and would I sit in on the meeting.

So, I did. However, I think the meeting only lasted about five or ten minutes. I think Steve White was dissatisfied with the performance of the people in the meeting and presenting him information, and he said, get out of here and when you get your act straight, come back and see me again. He never really got beyond the cover letter in that meeting. I'd guess it was a five or ten minute meeting.

They were discussing issues on the cover letter. We never got into the technical details. So, after the meeting was over I got the technical details and I said, hey, we better -- engineering has got to take a look at these. I don't know if engineering was even aware of them or not, so I called John Kirkebo and told John to make sure that he was -- would get directly involved, and I also called Tony Capozzi, who I had just brought in as the head of engineering quality assurance. What we called engineering assurance. It was

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an arm that I had wanted to expand within the engineering organization to make completely responsible for the quality of engineering work. Got ahold of both Kirkebo and Capozzi and said, hey, let's get into these things and make sure they are getting the right engineering reviewed.

Q. What was the cause of Mr. White's dissatisfaction?

A. I don't know. At that point it was still absolutely new to me, but I do know there was a draft letter, a draft cover letter, and he was just dissatisfied with -- I think, as a matter of fact, I think they were -- Brodsky and Gridley didn't necessarily agree with all of the words in there, and it was like incomplete staff work is the way I look at it as an old Navy man. When your staff comes to you and there is disagreement between two or three people on the words and you say, hey, if you guys can't agree on this letter, why are you presenting it to me. The meeting broke up.

Q. Possibly there was a disagreement between Gridley and Brodsky regarding the

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wording of the cover letter, itself?

A. I can't remember. I know it had something to do with -- whether it was the wording or the contents of the cover letter. There was some disagreement in there on the letter. In my mind it might have been -- I would guess it was Brodsky and Gridley, but I could be wrong on those two specific things.

Q. At that meeting, Mr. Drotleff, do you recall any -- at that meeting or any subsequent meeting, for that matter, do you recall any discussion of legal precedence?

A. No.

Q. Following this meeting in -- sometime around February the 20th, were you involved in any other reviews of drafts of the cover letter?

A. I don't think so. After that I pretty much -- I told John Kirkebo, who was the Director of Engineering Technical Services, the branch that -- the technical branches reported to him, I told John to get directly involved and to stay on top of the responses and also to be my representative for the TVA work -- engineering work going on in that. I

don't remember if I saw that March 20th draft before it went out. I don't think so. Because John went down to the meeting when the March 20th draft was finalized and he represented me.

Q. Now, as I understand it, he also signed off on the letter for you?

A. Yes.

Q. Was that done with your permission?

A. Yes.

Q. Or --

A. Absolutely. I saw the letter after that and is there anything that I would disagree with John having signed it for me? Absolutely not.

Q. The NSRS Perceptions in front of you there --

A. I would like to say that the only reason that John signed for me was because I wasn't there. He -- I concur with his signature.

Q. Well, did John read the letter to you before he signed for you?

A. I don't think so, no.

Q. He just had your full authority to approve?

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A. Yes.

Q. On your behalf.

MR. MESERVE: Just to make the record clear, you said he went down for you. Where did John clear the letter and where were you?

THE WITNESS: The meeting, I believe, was in Chattanooga. Of course, engineering is in Knoxville, which is over a hundred miles away.

BY MR. NORTON:

Q. The NSRS Perceptions, Mr. Drotleff, which we discussed a few minutes ago, from your position of Director of Engineering and based upon the experience you've had there, are any of those perceptions accurate?

A. I think, yes, there were problems in many of those areas that they talked about. I mentioned the electrical.

Q. Yes, sir.

A. There were problems. Those problems have to be addressed.

Q. From the standpoint of engineering compliance with Appendix B, were any of the Appendix B requirements in March, 1986 not

being complied with?

A. I guess I'm not sure I understand the question.

Q. In March, 1986 time frame, from your position as Director of Engineering, in your opinion were any of the requirements of Appendix B not being complied with? For example, we've discussed the weaknesses in the design controls.

A. I think -- what I think is that they were making mistakes. They were making errors. There were some things that weren't being done right. However, we were identifying those and correcting them as we went.

Q. Okay.

A. So, there were things that had to be improved on and done right. I felt our job was to get in there and find out what was being done wrong and get them being done right.

Q. So, you were looking strictly prospectively or from a corrective standpoint?

A. And whatever we saw as a problem, looked backward and find out, hey, how far back does

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that problem go? Was it -- if there is a problem here now could that problem have -- could that have existed at Sequoyah back when Sequoyah was being engineered and constructed.

Q. You mentioned the cumbersome feedback system to design engineers from the construction site. Because of the cumbersomeness of the system, did any information fail to be fed back?

A. Oh, yes. The answer is, yes.

BY MR. ROBINSON:

Q. Mr. Drotleff, how much experience do you have in the quality assurance Appendix B arena?

A. Well, the projects -- I've worked on projects that have applied Appendix B in Stone & Webster since it went into effect. So, from the application of having to comply with Appendix B on projects, where Stone and Webtser is issued procedures and controls for assuring that they do comply with Appendix B in the engineering construction, I'm familiar with the application of it.

Q. So, you feel qualified to make a judgment as to whether a certain engineering

application is or is not in compliance with the aspects of Appendix B?

A. Yes, I feel qualified to make a judgment as to whether or not the engineering is in compliance.

Q. After February 13th, when you took over as the Director of Engineering, did you spend most of your time or all of your time in Knoxville in engineering?

A. I would guess for the next month, fifty to sixty percent of the time in Knoxville. The rest of the time I tried to make sure that we got around to visit the sites. I specifically wanted to meet all the engineers, let them see me, let them know what my thoughts were, what my program was, so we took time out and visited the job sites, called all of the engineers in in small groups, let them see us, let them know what we were doing, let them know what our program was and then gave them an opportunity to ask questions. Got them in groups of twenty-five or so in the room and went around the room and let them all identify themselves, tell us what they were doing, tell us what was on their mind. Went

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to Sequoyah, Browns Ferry, Watts Bar, Belefonte. I spent quite a bit of time at Chattanooga talking with the staff at Chattanooga, but the engineering headquarters was Knoxville, so we spent quite a bit of time in Knoxville.

Q. Was John Kirkebo primarily down in the Chattanooga area or was he with you?

A. John was with me. However, there was so much going on that we split up the duties quite often. There would be two or three different meetings going on. Quite often one would be in Chattanooga, one would be in Knoxville. There would be something else going on at the Sequoyah site, and we would have to split up, so we would divide the responsibilities and I would take part and I would delegate certain actions to him.

Q. After this first meeting with Mr. White that you described was about a ten minute meeting with incomplete staff work, specifically with regard to the evolution of the cover letter to the March 20th corporate position, did you -- were you in attendance at other meetings where that subject was

discussed or drafts were passed around for comment?

A. I don't recall. I really don't.

I think that was the only -- I think that was the only meeting I attended, but there may have been one more, but I honestly -- I can't remember. There was so much going on at the time, I just can't recall.

Q. Did you have a personal feeling as to whether or not, from an engineering standpoint, Appendix B requirements were being met at Watts Bar?

A. Yes, I think they were being met.

Q. Minimally?

A. Watts Bar had a lot of problems, but I think they were being met. I think, in order to complete the meeting of the requirements it was going to take a lot more engineering.

Q. I think you said earlier that once you got involved in the preparation of the technical responses that pertained to engineering, and I'm talking about the responses to the eleven or -- ten or eleven NSRS Perceptions, that once they were

finalized, did you review and approve the final wording of the technical responses as they pertained to engineering?

A. Yes, I believe I did.

Q. And that presented an accurate picture of what was happening in those areas?

A. Yes.

Q. Do you know if John Kirkebo got involved in the subsequent drafts of the cover letter to the March 20th submission?

A. I don't know.

Q. But at the time when the final package, both cover letter and technical responses, were essentially ready to go out, he had your full authority to sign off as your representative, that both the cover letter and the responses were okay?

A. That's correct. And the reason was, by that point John had been so heavily involved in the preparation of the technical responses, people reported to him, had been reporting to him constantly and pulling those together, that he was much more familiar with the technical details of those specific responses than I was, and I felt comfortable with either

him or I being down there. I felt very comfortable with him signing them.

Q. Was he briefing you as to the status of the preparation of these responses on a regular basis?

A. Absolutely.

Q. So, it was not just a matter of you trusting his capability and judgment as an engineer, it was a matter of you being satisfied, yourself, through his briefings, that they were adequate?

A. Through his briefings and also in having brought in some of the other engineers that had been working on the responses and sitting with me and going through them. The technical part of it during that time period. So, when we got to the end I was ready.

Q. At any point in time did you ever get any indication from any source that Mr. White's advisors were concerned about submitting a material false statement to the NRC in connection with this corporate response to compliance with Appendix B?

A. I never heard that at all. I had no indication of it.

Q. Were you aware of any, I'll call it, word engineering or strategy or tactical meetings of any of these staff members to very carefully word the cover letter to the corporate response?

A. I'm sure someone must worry about how do you word letters. You ought to be very careful about how you word them, but were there some strategy meetings, I'm not aware of it.

Q. Nothing unusual or --

A. No.

Q. Or undue, to your knowledge?

A. Not to my knowledge.

MR. ROBINSON: I don't have anything further right now.

BY MR. REINHART:

Q. Mr. Drotleff, you said that even though John Kirkebo signed the letter, you subsequently read it and agreed with it?

A. Yes.

Q. Was it clear to you what the letter was saying?

A. Yes.

Q. Can you tell us what the term, no

pervasive breakdown, meant in that letter?

And I'll show you the thought there, if you'd like. In that second paragraph on page --

A. You want my interpretation?

Q. Yes, sir, please.

A. My interpretation, if you have a pervasive breakdown is that if there is a pervasive breakdown there is an extensive breakdown that covers more than one aspect of your quality assurance program. Covers more than just engineering. It covers more than just fabrication, construction, testing, operation, or it covers one of those areas in a very extensive fashion and it is so extensive that you can't recover. You haven't got the documentation or the backgrounds to be able to recover and confirm that any of those activities have been correctly done. You can't correct the situation without, perhaps, absolutely undue cost. Tearing out major sections of concrete. I mean, that's what I will consider a pervasive breakdown.

Q. So, you are saying, basically, more than one area or one area very seriously?

WCJ

A. In such a fashion that you can't identify the problems and correct them.

Q. Would it necessitate all aspects of all areas?

A. When you say all aspects of all areas --

Q. Well, as opposed to one area extensively, to the point where you couldn't recover, could it be -- I guess what I'm saying, you are not saying to us that you would need to have a breakdown of all aspects of all areas?

A. No. I think a breakdown in any area that is extensive, where there isn't enough background information, documentation, whatever, for you to recover, find out what your problems are and correct them in a cost effective fashion.

MR. REINHART: Okay.

BY MR. NORTON:

Q. One last question, Mr. Drotleff. If you were asked the question, are -- as of March, 1986, are the requirements of Appendix B being met at Watts Bar, what would have been your answer?

A. Yes.

WCB

Q. Does that mean all of the requirements of Appendix B?

A. Yes.

MR. NORTON: Okay.

BY MR. MURPHY:

Q. Mr. Drotleff, when you say you agree with the letter, inasmuch as it covers these particular NSRS Perceptions, are you saying that you agree with the letter based on the perceptions that engineering is involved in as opposed to not all eleven perceptions?

A. Yes. Some of these were out of the engineering area. I'm really only concerned about the specific engineering inputs and making sure that the right TVA engineers had looked at those and agreed with them and written them. The right S & W or outside people had also looked at them, and that I had looked at them and I agreed with them.

Q. But --

A. And that -- to me that's what that cover letter was.

Q. When you say you concur, you concur with those areas that involved engineering, not -- as opposed to all eleven?

A. Right. There are some areas --
Q. You have no idea?
A. I have no knowledge of.
BY MR. ROBINSON:
Q. I just have one further question. Back in the February, March of '86 time frame, what degree of confidence would you have, as director of engineering, that if you went and picked a hanger drawing at random, and you went out in the plant and looked at that hanger, that it would be installed as indicated on the drawing?
A. Are you talking Watts Bar specifically?
Q. Watts Bar.
A. At that point I wouldn't have a high degree of confidence.
Q. On a scale of one to ten, with ten being the greatest degree of confidence, can you give me an estimation of where your degree of confidence would range?
A. I would guess you'd have a fifty-fifty chance.
MR. ROBINSON: Okay.
THE WITNESS: However, I also would say that programs should be in place to make

sure that before you operate that plant, that you better get your confidence level up and you better check it. I just think they were incomplete at that time. They had not completed the necessary, as-built, as-constructed verifications and that was a big part of our program to go back in and say, you are going to do it before you finish this plant.

MR. MESERVE: Were programs in place or under way to do that?

THE WITNESS: There were programs. They had programs in effect, but, as I say, I think they were cumbersome and they needed to be improved. That's what we were doing.

BY MR. NORTON:

Q. And they didn't always work? All the -- you replied to an earlier question that all of the construction information did not always make it back to design.

A. Let me go back over that with you, because I really --

Q. All right. Please.

A. As I took the question, does information always get back to Engineering.

Q. Yes.

A. The answer is, no. The information is not always, but not necessarily Watts Bar. For example, there were modifications being made at both Sequoyah and Browns Ferry that didn't make it back to Engineering. There were certain licensee event reports, operating incidents, that didn't make it back to engineering. So, I say that their programs had weaknesses in them that had to be corrected.

Q. Was this also true for Watts Bar?

A. I would guess it's worse for the others, because they were in operation. It's much easier when you've only got two organizations, engineering and construction. Was everything getting back to engineering at Watts Bar? I don't really know, but I would guess that it wasn't a hundred percent.

BY MR. WILLIAMSON:

Q. Certain amount of your effort was directed at plants that had been operational plants, Sequoyah and Browns Ferry, as I understand it, is that correct?

A. I would guess that -- to say that was my

highest priority initially, because those were the units --

Q. From what you had read and from reviews that you had conducted, from the information you had received, at the time the March 20th letter was submitted to the NRC, would you say that Sequoyah and Browns Ferry were in compliance with Appendix B?

A. Yes.

BY MR. ROBINSON:

Q. In your opinion, Mr. Drotleff, is it necessary to have a pervasive QA breakdown to be in noncompliance with Appendix B?

A. You are really getting beyond my expertise.

MR. ROBINSON: Okay. I don't have any other questions.

MR. MURPHY: Anything?

MR. MESERVE: May I just --

MR. MURPHY: Sure.

BY MR. MESERVE:

Q. From an engineering point of view, Mr. Drotleff, did the back-up material to the March 20th letter paint an accurate picture of the issues that were raised by the NSRS, as

far as you are aware?

A. I'm not even sure I understand that question.

Q. Okay.

A. Were the responses the correct responses?

Q. Yes. The responses that were attached as the backup to the March 20th letter, were you satisfied that those, as to those issues that related to areas within your sphere, that is the engineering issues, that those particular issues had been adequately and accurately addressed so far as you were aware?

A. I felt they were accurately addressed. They were adequately addressed, but I would like to say minimally adequately addressed, because there were additional actions that had to be put into place. For example, design control. We, over the months that I was there, concentrated very heavily on improving the design control process. We put months of work into coming up with better ways of making modifications, making sure that all the organizations that were involved in design control activities and making a modification

had proper input, was properly documented, recorded, so many of those were beyond the scope of the answer on design control. I think the answers were correct, they were adequate, but I also think that in some cases they were relatively minimal, because there was a lot more going on to solve and correct the problems at the time.

Q. Did the cover letter, as you read it, accurately summarize the technical backup to the extent that you were involved with the technical backup?

A. Yes. I don't disagree with it. The cover letter as it pertains to the attachments.

Q. Based on your definition of the pervasive breakdown that you offered a couple minutes ago, to your knowledge, was there a pervasive breakdown at TVA in March 20th, 1986?

A. No.

Q. And you also described, I think in response to question from Mr. Norton, that -- it was Mr. Robinson asked you about hanger installations at Watts Bar. Were you

satisfied that if a hanger had been improperly installed at Watts Bar, that even if information was not always getting back to engineering, that, nevertheless, there were procedures in place whereby that would be dealt with prior to the time of any application for an operating license?

A. I was satisfied that either procedures were in place or that they were putting procedures in place to make sure that that happened. As a matter of fact, that's one of the specific programs that we developed and is now being implemented at Watts Bar. So, I was satisfied that we knew enough where the problems were and specifically in that particular area, and that we were going to make sure that the engineering was correct and the construction was correct before it was done.

BY MR. MURPHY:

Q. Let me bring up just one little minor point at this time. Are you aware of the fact that like in February of 1985 they certified that Watts Bar was ready for fuel loading?

A. I wasn't aware of it until after I took

over on February the 13th. Then I found out that they had applied, yes.

Q. Were they ready at any time after you -- since you've taken over that job, were they ready for fuel loading?

A. I don't think they are ready for fuel loading now. No, they are not ready for fuel loading.

Q. Then that letter was a little premature, would you say?

A. I never saw their application, so --

Q. But you know that it existed?

A. Yes.

BY MR. REINHART:

Q. When did you become aware that that letter had been submitted?

A. The fuel loading letter?

Q. Right.

A. I would guess it was in March, fairly soon after I got there.

MR. REINHART: Okay.

BY MR. MURPHY:

Q. Were you surprised? I mean, did the letter have some type of impact on you? Did you say -- you know, the fact that they -- I

mean, were they even close to being ready for fuel loading, as you perceived it?

A. Well, there is a lot of hindsight. Things came out. When you start digging in, you find that the industry has moved on. There is a lot more stringent set of standards and requirements that you should meet today that maybe you should have met years and years ago. I was surprised.

Q. Might these requirements have been in effect in '85, do you think?

A. Well, they were premature.

MR. MURPHY: I don't have anything further.

Just one closing statement. Mr. Drotleff, have I or any other NRC representative either threatened you in any manner or offered you any reward in return for this statement?

THE WITNESS: No.

MR. MURPHY: Have you given this statement freely and voluntarily?

THE WITNESS: Yes.

MR. MURPHY: Is there any additional information you would like to add for the

record?

THE WITNESS: I don't have any.

MR. MURPHY: We thank you for your time and appreciate your spending this time with us and answering our questions. The interview is concluded at 2:45 on March 4th, 1987.

William C. Drotleff
SEPTEMBER 22, 1987