BEFORE THE

U. S. NUCLEAR REGULATORY COMMISSION

In the Matter of:	)
	)
INVESTIGATIVE INTERVIEW OF:	)
	)
ALLEN MOSBAUGH	)
	)
(CLOSED)	)

Shoney's Inn
Washington Road
Augusta, Georgia

Wednesday, July 18, 1990

The above-entitled matter convened for INVESTIGATIVE INTERVIEW pursuant to notice at 7:30 p.m.

APPEARANCES:

On behalf of the Nuclear Regulatory Commission:

LARRY ROBINSON, Investigator
CRAIG T. TATE, Investigator
Office of Investigations
U. S. Nuclear Regulatory Commission
Suite 2900, 101 Marietta Tower
Atlanta, Georgia 30303
-and-
RONALD F. AIELLO, NRC Resident Inspector

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PROCEEDINGS:

MR. ROBINSON: Let's go on the record. For the record, it is now 7:30 p.m., Wednesday, July 18, 1990. This is an interview of Mr. Allen Mosbaugh, employee of Georgia Power Company, regarding concerns he has regarding the health and safety of the operation of the nuclear power plant at Waynesboro, Georgia, the Vogtle Electric Generating Station.

Mr. Mosbaugh, do you have any objections to being sworn to your testimony?

MR. MOSBAUGH: No.

MR. ROBINSON: Would you please stand, raise your right hand?

MR. MOSBAUGH: (Complying.)

Whereupon,

ALLEN MOSBAUGH

was called as a witness by and on behalf of the Commission, and having first been duly sworn, was examined and testified as follows:

EXAMINATION

BY MR. ROBINSON:

Q Mr. Mosbaugh, what is your current job title at Vogtle Electric Generating Station?

A I don't know. I am working in a staff capacity reporting to the general manager.

Q Okay. And what was your position prior to being transferred to your current position?

A Prior to that, my pay title had been -- I guess my pay title still is the assistant plant support manager. My functional capacity had been the acting general manager of plant support.

Q And how long have you been working at Plant Vogtle?

A It's approaching -- it will be six years on August 1st of this year.

Q And prior to that, about how many years experience do you have in the nuclear industry?

A I started working in the nuclear industry in 1974, having come out of graduate school where I worked in the nuclear industry at the college that I was at.

Q And that was the University of Cincinnati?

A University of Cincinnati.

Q Thank you. You have talked to me before regarding certain concerns that you have at the Vogtle Electric Generating Station, and what I propose to do tonight is to go through each of these concerns very specifically asking some clarifying questions regarding times, dates, places, people, and how you came about your knowledge of these events in order to help us to better address these issues. The issue I'm going to start with first -- And the way I

plan to do this is to read verbatim into the record from a description of these incidents that were provided to me by you back on June 14, 1990. First of all, I'll show you these things and let you verify that that is, in fact, your write-up.

A Yes. That looks like my write-up.

Q Okay. For the record, I'm going to read the last few paragraphs of a computerized printout of three pages that begins with the sentence, "On the morning of 2/28/90, operations personnel at Plant Vogtle Unit II". However, I'm going to be reading at first from the last paragraph of page two which refers to the three separate violations that are itemized in this write-up. I quote, "All three of these tech spec violations are the result of manipulations, interpretations, or oversights (intentional or unintentional) that would have stopped or slowed schedule progress if the letter and intent of the technical specifications were followed. Instead, the action taken avoided any schedule impact. The probability that all these examples were only personnel error LER's that occurred within a week and avoided schedule impact seems remote indeed. Various inconsistencies in the accounts of these events are an additional cause for concern. In all three cases, there were other courses of action that could have been taken to comply with technical

specifications and avoid serious schedule impacts. Other courses of action include asking for 'waivers of compliance', obtaining engineering evaluations for continued operation, and promptly performing corrective maintenance. These alternative actions were not pursued. The above examples portray the operations approach to schedule versus compliance. The following is a quote made by an operations superintendent and an OSOS on 3/22/90 at 8:00 p.m., Eastern Standard Time, in the small conference room of the Vogtle Service Building at the end of the evening OSOS meeting. Approximately twenty personnel were in attendance. The op superintendent is quoted as saying, 'We've got a lot of work to do.' The OSOS response is, 'It can be done as long as you can take the LER's.' Plant Vogtle has one of the highest LER rates in the region but also has one of the highest capacity factors in 1989 as well as some of the shortest outages. These statistics may be related. The cost of an LER is small. The value of at power hours and critical path outage time is high. The above examples and statements from such high level operations personnel suggest that this relationship is not only recognized but in practice at Vogtle. Management rewards the non-conservative and questionable compliance practices with praise for meeting schedule and takes no action to critically investigate these events, discipline

the responsible personnel, or reverse the dangerous course that Vogtle is on. These occurrences are reminiscent of 1987 when the drive for schedule overrode safety, conservatism, and regulation." And that is the end of the last portion of this three page document.

I will now quote Mr. Mosbaugh's write-up of the first tech spec violation, and I quote, "On the morning of 2/28/90, operations personnel at Plant Vogtle Unit II were performing a monthly technical specification surveillance (4.6.1.1.A) on containment isolation valves. Due to confusion over the task sheet and because the procedure was not followed, only two valves were surveilled. When the paper work was returned to the control room, the shift supervisor realized the error that had been made. He sent the crew out to re-perform the surveillance and check the previous performance records of this surveillance which are located in the control room. He found, as suspected, the same error was made last month. Numerous containment isolation valves (approximately 39 had been mistakenly omitted in the previous performance of technical specification surveillance 4.6.1.1.A. Thus, these valves were inoperable since they did not have a valid surveillance on them. After about two hours, around 10:42, the surveillance had been re-performed. After this, he called the work planning group and informed them of the

surveillance mistake and asked them to initiate a deficiency card. They did so at approximately 11:00 a.m. The deficiency card was then delivered to the control room, and since the surveillance had been completed, no LCO was initiated. This action may constitute another willful violation of technical specifications because, at the time of discovery, the LCO must be initiated and the action statement entered. By procedure, the individual discovering a deficiency should have initiated the DC. By handling the event as above, the discovery time was concealed, entry into the LCO was not made, and actions to place the plant in the 'safe' condition required by technical specifications not initiated. Since Unit I was in an outage, much emphasis had been placed on the need to keep Unit II on line. The LCO appropriate to the above condition of 39 inoperable containment isolation valves would have been a one hour shutdown LCO. Corrective actions could not have been completed within one hour (they routinely took two hours) so a forced shutdown would have had to be initiated. This condition would have also been a notification of unusual event (NUE) which would have been a further embarrassment since Unit I had to report an NUE for the same reasons on 2/23/90. This event is documented in part on DC 2-90-0022."

Mr. Mosbaugh, I would ask you if there are any

clarifying thoughts that came to your mind regarding that particular instance while I was reading it that you'd like to add before we start asking you questions about it?

A No. I think that's everything.

Q Okay. What I will do is I will just go down the write-up and ask initial questions that come to my mind, and of course, Mr. Aiello and Mr. Tate are free to ask anything that's on their mind. My first question was, how did you know that there was confusion over the task sheet and that the procedure was not followed in that particular instance?

A Well, I guess I became aware of that particular missurveillance through some discussion, I think, in one of the morning meetings or maybe a discussion with the engineering staff, and I went and talked to Steve Waldrop, who is the work planning group. Steve Waldrop is the one that provided me most of the information that I have on that issue. He conveyed to me the discovery of this and how, I think, only two of these valves got checked instead of the whole slew of them, and I believe that the LER that was subsequently written on that particular event talks about the reasons why the task sheet was confusing and so forth, but I believe that the information about how the mistake was made, that only two valves were checked instead of the full 39, and that the procedure wasn't

followed, or if they had followed procedure, they would've realized that they needed to check all 39 and so forth. I think that information came mainly from Steve Waldrop and maybe from some other engineers that I talked to, but I think mainly from Waldrop.

Q Was Waldrop the one that initiated the DC?

A I'm not positive about that. I know he was involved in the DC. He may have written it. You know, that's one thing that you may want to get. It will show on the DC who wrote it. I think Waldrop may have been the one that wrote it. He's the work planning -- at the time, you know -- he used to be an engineer in the Engineering Department, but by this time, he is a work planning supervisor. So, you know, he seemed to have firsthand knowledge of what had gone on with it. Like I say, that's where I got most of my information from.

Q Okay. I think we do have some documentation on that issue, and we'll let you take a look at it.

MR. ROBINSON: Do you have any comments that you want to make right now, Ron?

MR. AIELLO: On February 1st, the comments were that the surveillance performed stats for valves two dash total of four dash U four dash two nine three -- it looks like three two four. What authority does the PEO have to NA a certain valve in a certain procedure?

THE WITNESS: You're asking the wrong guy, you know, some of those questions about authority of the PEO. I don't -- I don't -- You know, we have administrative procedures on using NA's and so forth.

MR. AIELLO: The reason I ask is the procedure came back as most of the valves being NA even though a lot of the valves were outside the Containment Building. Does the PEO have the authority to NA a part of the procedure? Does he require the shift supervisor's permission to do that?

THE WITNESS: You're asking the wrong guy.

MR. ROBINSON: I think the key thing there is -- the way I understand the allegation is the shift supervisor at least thought or recognized that the surveillance had been done improperly. At least he thought it had been done improperly, whether it had been or not, and so really the -- like I say, the issue of whether the PEO has authority to NA, I mean, that's something that I think we should research separately.

THE WITNESS: You may want to ask that, but I don't have the answer to your question, and I really can't speak for policy in the operations department.

MR. AIELLO: What is --

MR. ROBINSON: Do you have the copy of the DC on that? Ron, I'm sorry.

MR. AIELLO: Yes, I do. I do.

MR. ROBINSON: Let's let --

THE WITNESS: You know, it's been a couple of months here since I researched these issues.

MR. AIELLO: Typically I believe it's in your procedures that if you discover a deficiency, does the shift supervisor wait until he has the deficiency in hand before he declares the LCO?

THE WITNESS: It has been the operations practice to do that in order to formalize discovery times and so forth. I do not personally believe that it's required. Okay? You know, a time clock should be started at the point of discovery. Discovery would be the point of recognition, you know, that a true problem exists. So, the time clock need not be started at the time a deficiency card is written. It need not be. Certainly they can initiate an LCO without a DC. They do a lot of times, you know. That's very frequent for them to do that.

MR. AIELLO: Is it permissible to declare something inoperable -- is it permissible to wait to declare something inoperable when the DC is received in the control room?

THE WITNESS: If you knew that -- if you knew that you had a operability question -- if you had discovered that information and realized that, it would be

inappropriate not to start the time clock then and to wait until a DC. That would be inappropriate, you know. There is no one to one relationship between DC's and LCO's, you know. Lots and lots of LCO's get initiated without any DC's, and that's merely because they have discovered a problem and entered an LCO because of that.

MR. AIELLO: Is it possible that the shift supervisor was looking for confirmation and, in fact, would be in an LCO by waiting on the DC?

THE WITNESS: Well, you know, certainly that's possible, but on the other hand, the information I got from Waldrop was that they knew what condition they were in before they called him.

MR. AIELLO: The reason I'm asking that is, if you look at the surveillance, the one that was done on 1/3/90, there were no comments, assuming that the surveillance was done in its entirety. If you look at the procedure, you'll find that many of those valves were NA. If you look at the surveillance that was done on February, it's listed in the comment section where Steve Douglas was the unit shift supervisor that only two valves were confirmed to have been, you know -- the surveillance performed satisfactorily. Could it have been when the unit shift supervisor did the surveillance and looked at it, I guess, on March 28 -- February 28th, there may have been a

question in his mind as to what is required to do on the surveillance with regard to the containment integrity?

THE WITNESS: There could have been. All I know is that when I talked to Steve Waldrop, you know, he clearly implied to me that the control room had the records, that they knew there was a problem. I asked him why he thought they wanted him to write a DC, and he kind of said, "I don't know. They just asked me to write it."

MR. ROBINSON: Okay. Let me interject here a minute. Ron, this particular forum is not going to be a forum of treating hypotheses on what could have been. Okay? I just want to get a clarification of the facts as Mosbaugh knows them, and I want him to be free to look at any of the documents that you've picked up regarding the stuff if he needs to look at them for information purposes, and if, you know -- I don't mean to stifle natural technical inquiry from your standpoint, but it's not a point that the conjecture of, "Well, is it possible that the shift supervisor could have been researching the problem?" That's going to come up in interviews when I interview the shift supervisor. We're going to get direct information for that kind of stuff. So, to banter that kind of conjecture around is going to waste a lot of time.

If you've got some definite knowledge, you know, on your own that that's exactly what was done, then, you know,

we need to get that on the record, but we don't want a conjecture about the possibilities of what could have happened and that type of thing.

MR. AIELLO: Okay.

BY MR. ROBINSON:

Q So, the bottom line answer to my first question was this Waldrop fellow --

A Steve Waldrop.

Q He's where you got most of your information --

A Yes.

Q -- about confusion on the task sheet and because the procedure was not followed? Do you --

A Let me just add one other thing there.

Q Sure.

A And it's in the same phrase there, something about other inconsistencies or something like that. I started asking about the inconsistencies of the time, the fact that the DC was initiated that said a tech spec surveillance problem existed was dated after the corrective action had been taken. That seems inconsistent to me, and so, I started asking about that, and one story I got was that they had initiated these corrective actions before, just kind of like it's a contingency, and the other story that I got was, no, that that 11:00 was Central Time.

Q Who were you getting these stories from?

A I can't remember exactly who said the Central Time. I think it was somebody from operations when I brought that up, but I can't recall who it was.

Q And what was the other rationale?

A Well, the other rationale, you know, was kind of unexplainable. I think I asked Waldrop why, you know -- why the DC, you know, had the discovery time of 11:00 on it and it turns out the corrective actions, according to this, were all taken by 10:42, and he didn't have a good explanation for that other than that he had gotten this call or somebody in his organization had gotten the call to write the DC at that point, and, you know, he kind of obeyed and did what they said. The other explanation though that I got was that the 11:00 was Central Time. So, I really don't know if the 11:00 is Eastern Time or Central Time, you know, from looking at it.

Q You made the comment in your write-up that, (reading) "When the paper work was returned to the control room, the shift supervisor realized the error that had been made." Two questions there. Do you know when the paper work on the surveillances was returned to the control room?

A Not specifically.

Q Ballpark?

A I certainly would've thought it would've been, you know, obviously sometime that morning.

Q It looks like you indicate later in the letter that after about two hours passed, around 10:42 a.m., the surveillance had been re-performed?

A Right.

Q Are you trying to indicate that the paper work would've been turned in at least two hours prior to 10:42?

A Yes. Because of the duration -- because of what was the average duration of the task.

Q Okay. And the paper work being turned in means that it's turned in to the shift supervisor or the operations superintendent on shift, or who does the paper work get turned in to?

A I'm not sure there, Larry. I think it goes to the shift supervisor or somebody for sign-off.

Q Okay. And you said at that point in time, when the paper work was returned, the shift supervisor realized the error. Do you know who that shift supervisor was?

A I think -- Let's see. -- I think Waldrop told me that. I think I assumed that was Thornton. That's who's listed here.

Q Okay. Well, we can find out from the logs, but --

A You have to realize I'm looking at these events not from within the control room.

Q Absolutely.

A I'm looking at these events from outside and trying to piece together, you know, from information, you know, what's going on inside the control room, you know.

Q I understand. And that's why I want to get at exactly where you're getting, you know, your information.

A Right.

Q And it's not that -- this procedure is not critical of where you got your information. It's just finding out where you got it and how you know this, that type of thing. So, it essentially goes to the firsthand, secondhand knowledge of the information, how much actual knowledge you have of it, how much you got of it from somebody else telling you about it, etcetera. It determines who we've got to talk to --

A Right.

Q -- to find out the information. You're saying you think the shift supervisor was Thornton.

MR. ROBINSON: Ron, does the records that you --

MR. AIELLO: What's the date?

MR. ROBINSON: Okay. This was on the morning of 2/28/90, and this would've been the shift that was on at 10:42 a.m. and prior to that.

MR. AIELLO: Prior to 10:42?

MR. ROBINSON: Yes. The time just --

MR. AIELLO: At 0633 Central on 2/28/90, the unit shift supervisor was Bill Stevens for Unit I.

MR. ROBINSON: Okay. This is Unit II.

MR. AIELLO: Unit II I don't have. Let me see. Wait a minute. Yes -- no. Unit II I don't have.

BY MR. ROBINSON:

Q Okay. You were thinking it was Thornton?

A I'm thinking it's Thornton.

Q Do you know his first name?

A I think it's Ernie.

Q Ernie Thornton: Okay.

MR. TATE: Larry, what is the reference to the shift supervisor?

MR. ROBINSON: The shift supervisor recognized the error in the surveillance and ordered that it be re-performed, and it was the shift supervisor that called Waldrop.

THE WITNESS: Called Waldrop. Right. And asked for the DC to be written. You know, again, looking at these things, you know, as I must, you know, from a management support side position, you know, what seems strange is when I hear, you know, things like, well, "The SS called me and asked me to write the DC." So I said, "Well, why?" You know, this seems strange behavior. "Why? What's going on here?" And then you start looking

into it and looking at the sequence of events and, you know, just put a little bit of a questioning attitude in there too, and you say, something doesn't, you know, seem quite right here, and that's what I'm saying. Something doesn't seem quite right, and, you know, I queried Steve Waldrop about it a little bit, and it seemed strange to him too.

BY MR. ROBINSON:

Q So, from your experience, it would be more of a normal practice for the shift supervisor himself when he discovers the error --

A Or somebody on his staff. You know, he has a large number of operators and other people that are in the control room and that work for him, and, again, that's what we require procedurally.

Q The information that you got regarding his discovery of the same type of error in the previous month's surveillance when you indicated that numerous containment isolation valves, approximately 39, had been mistakenly omitted, did that information come from Waldrop too?

A Yes. Yes.

Q Okay. When you make the statement, (reading) "Thus, these valves were inoperable," on what do you base that comment?

A If the component doesn't have a valid surveillance

on it indeed, it is almost -- it's kind of, by definition, inoperable. There is a proposed change that the NRC initiated that allows a plant to have 24 hours to remedy such situations, but that change at this time, and I believe it's still true, is not yet incorporated into our tech specs.

MR. AIELLO: That is true. It's a generic letter, I think.

THE WITNESS: Right. Let me just say, just as an example, since the NRC initiated that change and allow 24 hours to complete a incomplete surveillance -- if you all of a sudden discover one, since that was a change the NRC initiated, I'm sure the NRC, if contacted in a case like this, would probably be willing to give that to you since it was at their initiation originally, and we may get to that later, but at the end I say, hey, you got yourself into these situations. There are other alternates, and in this case, that would be an alternate probably that the NRC would've been quite willing to grant.

MR. AIELLO: In order for the NRC to grant that authority to do that, you'd have to have adopted that generic letter into your tech specs.

THE WITNESS: You know, we're in the process of doing that. Okay?

MR. AIELLO: But until that happens, the NRC is

not likely to grant that. We did on one case. We did on one case. I think subsequent to that we did require that that letter be adopted into the tech specs.

THE WITNESS: It would require some special consideration on the part of the NRC, but since they initiated the change, they might be favorable on it.

BY MR. ROBINSON:

Q Okay. The sentence, (reading) "The deficiency card was then delivered to the control room, and since the surveillance had been completed, no LCO was initiated," and we discussed a little bit about that earlier; that you don't have to wait for a deficiency card to be delivered to the control room to declare an LCO. Evidently you can do that. It is -- Is it permissible to do that? I ask that question, I guess, of Ron.

MR. AIELLO: The unit shift supervisors can declare an LCO anytime he feels that he's out of the LCO boundary and into an action statement, and I do believe that in some cases they can wait for the deficiency card to come in before they determine operability, and if they're determined inoperable at the time the deficiency card has been received, that's when the clock starts on some cases.

MR. ROBINSON: And the whole crux of this particular issue --

THE WITNESS: Let me just say something about that. Where the problem -- where the discovery of the problem is occurring outside of the control room, maybe an engineering revelation that a component is not sized properly or a par 21 letter comes in, where there's external discovery, okay, normally that's evaluated in those external circles. A decision is made that, yes, this is a problem. A DC is written and therefore before the -- for the control room. The point of discovery is the point at which that deficiency is delivered to the control room, but where the problem is identified and discovered internal to the control room, such as in the case of an operations surveillance, the situation is a little different. You know, it's internally discovered, and it seems to me that once an operations shift supervisor or other person in the control room believes that there is a problem with the surveillance or something not having been done and thinks there's enough of a problem to send people out to re-perform it, you know, you have to be fairly close to having discovered the problem internally.

BY MR. ROBINSON:

Q And the problem was obviously discovered at the time at least the --

A At the time you took corrective actions.

Q -- the shift supervisor, you know, at least thought that an improper surveillance had been conducted?

A If you think you need to take corrective actions, then you have to have almost discovered that you had a problem.

MR. AIELLO: When this discovery was made, the DC was written by Steve who was directed to write the DC?

THE WITNESS: Yeah. The shift supervisor called Steve Waldrop and said, "We found we have this problem."

MR. AIELLO: All right. Was he asking Steve determine if there was a problem?

THE WITNESS: I asked Steve about if he was the one that had to decide that or had the control room already -- did the control room have the information already, and his indication to me was that, one, the records were located in the control room, and secondly that the shift supervisor had already -- already knew the facts.

MR. AIELLO: Why didn't the shift supervisor write the DC?

THE WITNESS: My question.

MR. ROBINSON: That's right. In that particular format of that deficiency card, 11:00 probably was a good discovery time by Waldrop because that's when he first discovered it, but the true discovery -- We're, I guess,

talking about semantics here. Okay.

MR. AIELLO: Let's see. Do you know if the shift supervisor had already started redoing the surveillance when he had requested Steve to write the DC?

THE WITNESS: Yes. He had already initiated corrective actions before he called Waldrop to write the DC.

MR. AIELLO: So, he was already making the assumption that it was an invalid DC?

THE WITNESS: Invalid surveillance.

MR. AIELLO: I mean invalid surveillance?

THE WITNESS: I would think so.

BY MR. ROBINSON:

Q And approximately eighteen minutes before 11:00, your indication, Mr. Mosbaugh, was that the surveillance had already been re-performed at that time and completed and been re-performed, and this, of course, is Waldrop talking to you about the facts, right? Or are you looking at the log --

A Well, I think the DC -- I think the DC reflects that; that Waldrop --

MR. AIELLO: Do you know what prompted Ernie Thornton to do the surveillance, or was it just coming up on its next monthly surveillance?

THE WITNESS: I believe that sending the operators

out to do the surveillance that they only did two valves on was the performance of a routine monthly surveillance.

MR. AIELLO: But when Ernie told them to do the surveillance, did he direct them to check all of the valves or just those two, or do you know?

THE WITNESS: I don't know. I assume he sent them out with the routine issue of the task sheet.

MR. AIELLO: I guess what I'm trying to get at is, what divine relevation did Ernie have to check all the valves instead of doing it the way they did it the first two previous times?

MR. ROBINSON: Well, we'll ask Ernie about that when we talk to him. Hopefully he'll be able to clear that up.

BY MR. ROBINSON:

Q Did you get information pertaining to this specific issue from anyone else that you can name other than Waldrop?

A I know I talked to some other people, but, you know, my primary source of information is Waldrop.

Q And then your comments about what should have been done is based on your own research --

A My knowledge of --

Q -- and knowledge of --

A -- procedural requirements and reviewing the DC

that I had looked at at that time.

MR. TATE: Did Waldrop indicate to you that he had discussed this issue with anyone else?

THE WITNESS: I do not -- I do not think that the call came in from Thornton -- I'm trying to help you with whoever might be involved here. I assume that's why you asked the question. My recollection of the discussion with Waldrop was the call from Thornton did not come to Waldrop directly. I think it came to somebody else in work planning and then to Waldrop. So, you may need to find out who that other individual is. That's the only other person that I can suggest you try to find.

MR. AIELLO: It would appear to me that when Ernie called up, since he didn't have task sheets for the previous two surveillances and maybe there was a question from the PEO's, that maybe he didn't know if the surveillance was done and he asked Steve Waldrop to check the task sheets, and then upon discovery of the task sheets --

THE WITNESS: I had asked Steve that.

MR. AIELLO: -- realized --

THE WITNESS: I had asked Steve that. You know, whether or not work planning had the previous performance. The key issue here really is the previous -- the key document is really the previous performance sheets, not the

current one, because on the current one, they would have a grace period to give them several more days, even a week, assuming they were doing it on the due date. Okay. So, the key document for the point of discovery is really the previous performance of the surveillance. That's the one that makes it out of date, and so, I had asked him about that, and he said, no, they had those records in the control room.

MR. AIELLO: Typically when I'm in reviewing surveillance task sheets, the one that are in there are the ones that are being ready to sent to work planning or IST, and if I don't catch them in the morning, they're usually gone. The shift clerk picks them up. I don't ever recall seeing any historic task sheets in there which might indicate that Mr. Thornton wasn't sure if the surveillance was not complete; therefore, was reluctant to declare an LCO until he was certain it was deficient in that manner.

MR. ROBINSON: Well, Mr. Thornton will be able to answer those questions.

THE WITNESS: You know, I pursued the same question -- line of questioning with Waldrop, you know, when I asked him about it because that was -- that, you know, to me was the key issue.

MR. ROBINSON: The purpose of this forum again is not to make a decision on the validity of the allegation.

The purpose of this forum is just to clarify and further elaborate on the allegations and to ask, you know, logical, investigative, and technical questions regarding clarifications on the allegation; not to necessarily dispute its validity. That will be done by investigation.

MR. TATE: I have another question I'd like to ask. You were saying that you believe through your discussions with Steve Waldrop that he did not receive a call from the control room, but that someone else in work planning received the call?

THE WITNESS: Yeah.

MR. TATE: But that Waldrop, in fact, was tasked to write the DC. He would've been tasked by someone --

THE WITNESS: I think that the call -- I think the call came in -- And you can -- A quick discussion with Steve will verify that, but -- if my memory is correct, but I think the call may have come in, like, to somebody that worked for Steve or, you know, something like that.

MR. TATE: That's fine.

BY MR. ROBINSON:

Q Is there anyone else or any other specific documents that you would refer us to that you haven't listed in your write-up that you can think of right now?

A I think the DC or control room logs. There is an LER first written on it at this point. Waldrop and the

other principal people performing it.

MR. ROBINSON: Okay. I don't have any other questions on that particular issue. Ron, do you have anything else that you want to --

MR. AIELLO: No. I just wanted to pull up this LER to see if it's the same one he's talking about.

MR. ROBINSON: Okay. Craig, do you have any other questions?

MR. AIELLO: Is this the LER that you're talking about?

THE WITNESS: No. There's an LER on the missurveillance.

BY MR. ROBINSON:

Q Specifically on that --

A The previous performance that was "inadequately performed" because only two of 39 were done, and that in itself is an LER.

MR. AIELLO: Okay. I don't have that one.

THE WITNESS: Any missurveillance is an LER.

MR. TATE: Larry, you opened this with reading a quotation from the end of his letter. Do you intend to go back to that letter?

MR. ROBINSON: No. I was just kind of using that as a preface for these three issues, his general comments about the meaning of these three issues and his

interpretation.

MR. TATE: I was thinking of the comment or the discussion that was made by the operations supervisor or superintendent in the OSOS.

MR. ROBINSON: Good point, yeah.

MR. TATE: Do you recall -- Maybe you could read that quote again.

THE WITNESS: No, I -- You don't have to read it again. Those things stick in your memory.

BY MR. ROBINSON:

Q Who was the superintendent?

A I think I already gave you that information, Larry, but the superintendent that made the comment or the statement, "We've got a lot of work to do," was Jimmy Paul Cash. The OSOS who responded saying, "It can be done as long as you can take the LER's," was Dudley Carter. There were other people present in that room. In fact, there were a goodly number of people present in that room.

MR. AIELLO: Did he say that with a meaningful intent or was he like sarcastic?

THE WITNESS: I don't think he was sarcastic. Cash made his statement, you know, I think in a serious vein. Carter then said, like, kind of matter of factly, like, "It can be done as long as you can take the LER's." And then there was some laughter in the room after he made

that statement, but I don't think he said it sarcastically.
BY MR. ROBINSON:
Q Who all was in that room that were not operations people?
A I thought enough of that particular moment to write down what had been said on a piece of note paper, and I also on that piece of paper jotted down a couple of other names that I recognized at the meeting. I believe that one of the engineers, Dianatti --
Q Dianatti? Do you know how to spell that?
A Hashon Dianatti (sic).
Q Do you know how to spell that?
A Not exactly.
Q Okay. Hashon Tianatti or -
A "D" -- D-i-a-n, you know, D-i-a-n-a-t-t-i, or something like that.
Q Anyone else?
A Debbie Minyard.
Q M-i-n-y-a-r-d?
A I think so. And if I'm not mistaken Bill Burmeister from Ops was in there too. There were a number of other people but I think those were the names I jotted down. I wasn't directly in the room. I was in the doorway. Those were some of the faces I spotted.
Q Can you without worrying about the names you wrote

down, can you remember other people that were in there?

A Not clearly.

Q Okay. Was any of the upper operations management in that meeting? Kitchens, Swartzwelder --

A I think Burmeister and Cash were probably the two highest level Ops people and --

Q You indicated it was an OSOS --

A -- and other management. There was not other high level management present at that meeting. That was an OSOS meeting. So that's kind of like the OSOS whose the head of the shift talking to the other shift members and that would be like maybe a supervisor on down.

Q Okay.

MR. ROBINSON: Craig, do you have anything else?

MR. TATE: No.

MR. ROBINSON: I appreciate you bringing that up. Okay. Any other questions on the first issue here?

MR. TATE: No.

MR. AIELLO: (Negative nod)

MR. ROBINSON: Any other clarifying comments you want to make on that first issue before we take a break or move on?

THE WITNESS: No. I think you've covered everything.

MR. ROBINSON: Okay. It's now 8:25. Let's take

about a five minute break before we get into the next issue.

(Off the record)

MR. ROBINSON: It's now 8:31 and we are back on the record. The next issue we are going to be concerned with is an alleged violation of technical specifications on March 1, 1990 and this too is cited in Mr. Mosbaugh's write up which I read from earlier, and I will now read his write up of this issue into the record and we will discuss it from there. I quote (Reading), "Another violation of technical specifications (3.0.4) occurred on 3/1/90 at approximately 0133 Central Standard Time when a mode change from mode 5 to mode 6 was made for Unit I without all required equipment operable. NI-31, a source range neutron monitor was still inoperable at the time the mode change was made. This is documented in part on DC 1-90-0050 which indicates that an LCO in effect for NI-31 at the time of the mode change. It is normal routine to assure that no mode restraining LCO's are in effect prior to making a mode change. The LCO verification is a simple task and the source range neutron monitor would be one of the most important instruments to have operable to assure sub-criticality in a refueling condition. The DC indicates that the discovery of this mistake was at 6:35 Central Standard Time (after the mode change was made). It is

difficult to understand how this was missed at 0133 Central Standard Time, but the benefits to the schedule are so obvious that it too could appear to be a willful violation. According to the shift supervisor's entries, at 9:52 Central Standard Time (over 8 hours later) they were 'restoring NI-31 to service'. The LCO was still not exited until that afternoon. A savings of about 12 hours of critical path time occurred. In the morning congratulations were offered to operations for a great night and the schedule showed that we gained two hours and were now 14 hours ahead of schedule." Mr. Mosbaugh, that's the end of your write up of this particular issue.

BY MR. ROBINSON:

Q Before we start asking any clarifying questions are there any clarifying comments that you want to make regarding that write up?

A No.

Q Okay. Do you know from your own independent knowledge who the OSOS and shift supervisor was on Unit I that changed from mode 5 to mode 6 without clearing that LCO?

A I don't. It's easy to determine --

Q We have copies of a shift -- are they shift logs?

MR. AIELLO: Shift Supervisor's logs.

MR. ROBINSON: Shift Supervisor logs. And, Ron,

would you please give me the names of the OSOS and the shift supervisor that made the mode change at 0133 Central Standard Time, March 1, 1990?

MR. AIELLO: At 0133 they entered mode 6 and at the time the shift superintendent was Dudley Carter.

MR. ROBINSON: And who was the shift supervisor?

MR. AIELLO: The shift supervisor was Bill Stevens.

MR. ROBINSON: And my questions, again, are directed to you, Ron. From your examination of the logs, evidently the LCO was logged in as being entered on February 28th; is that correct?

MR. AIELLO: That's correct. At 8:08 Central Time by J.D. Williams who was the shift superintendent.

MR. ROBINSON: And who was his shift supervisor?

MR. AIELLO: It looks like Bill Stevens.

MR. ROBINSON: Bill Stevens?

MR. AIELLO: Yeah.

MR. ROBINSON: So was Bill Stevens the shift supervisor on --

MR. AIELLO: I take that -- Let's see. Bill Stevens was the shift supervisor at the time when the LCO's entered. J.D. Williams was the shift superintendent --

MR. ROBINSON: Okay. And when the mode change was made?

MR. AIELLO: Correction. Correction. The mode

change, Dudley Carter, who is a shift superintendent, and Bill Deal was the shift supervisor.

MR. ROBINSON: All right. Fine.

MR. AIELLO: That's not what the DC implies, but that's what the log book implies.

MR. ROBINSON: Okay. Note for the record that the deficiency card --

MR. AIELLO: The deficiency card says the name of shift supervisor reported to was Bill Stevens. The logs indicate that during the mode change that Bill Deal was the unit shift supervisor.

MR. ROBINSON: Okay. It may not have -- When they actually went out of the LCO I believe Stevens was back on shift.

MR. AIELLO: Right. At 0635 usually the shift superintendent takes the watch first and it's so close to shift turnover that Bill Stevens could in fact been on watch, but at the mode entry at 0133, Bill Deal was on watch.

MR. ROBINSON: Again, it is correct that an LER was written for this particular incident and a deficiency card etcetera.

MR. AIELLO: That is correct. LER was written on--

MR. ROBINSON: Is there a referencing number on the LER?

MR. AIELLO: It's LER 1-90-04.

MR. ROBINSON: Okay. Now, for you, Mr. Mosbaugh --

BY MR. ROBINSON:

Q Is there any other logical reason that you can think of that a mode change would have been made from five to six without this LCO being cleared or terminated?

A It seems that the only other explanation is that somebody made a personnel error. As part of my follow up on this I asked, "Well, how many LCO's were in effect? Is an individual having to look through a list of 500 items and checking all them off or is he looking through five items?" And the answer I got was, like, five items. The process of checking the mode restraining LCO's, as I indicated, was a simple process of checking of a few items and certainly it just occurs to me that a shift supervisor, an SRO licensed individual, would be keenly attuned to his critical instrumentation and other equipment.

Q When you were doing your research -- follow up research of this who were you contacting? Who did you get your information from?

A In this case I think I had talked to -- There was a -- I think I talked to Mike Chance, one of our engineers, about the mode changes because he had given me some information -- I think he was an engineer that was working the back shift and he had given me some information that

there were some fairly hurried mode changes that night, and I later determined that I didn't think that had any direct bearing on this mode change, but I think he was there running some of the ESFAS testing.

Q Was he the one that gave you the information that there were only five mode restraining LCO's that needed to be checked?

A I'm trying to think who I got that information from and I'm having trouble remembering. I might have asked somebody in Operations, you know, just in passing. Like, you know, how many LCO's there are, but just from my general information, we, in meetings will go over at times the LCO list. Okay? We'll go over, first off, the real LCO's, the active LCO's, shown daily on the status report. Okay? So they are in front of everybody daily. In other meetings we'll go over the information LCO list, and the information LCO is an LCO that might be in effect for -- might apply to a mode, but not the one you are in. Okay? So, you know, in making a mode change you might want to look at the information LCO list. Historically, though, having reviewed those numerous times, you know, they are, per unit, you know, they are a fairly small list. The basic LCO list is seldom more than three or four LCO's. Active LCO's and information LCO's, I can't remember when information LCO's have been more than five, maybe ten at

the most, items.

Q Is there a new LCO list issued every day?

A Yes, there is.

Q And that's kept in the control room?

A Yeah.

Q And the shift supervisor or the shift superintendent is required to check that list whenever a mode change --

A Yes. That's just a key part of doing business. I mean, that's an essential part of doing business for operations, the shift supervisor.

Q Is he required to initial or sign that list as having reviewed it? Do you know?

A There are procedures for making mode changes. I don't know if those have a sign-off in them.

Q But you think there is a document there that at least on the particular date in question would show you the LCO's?

A You certainly should be able to reconstruct which LCO's information and active were in effect at the point in time that mode change was made. That would have to be in our historical records.

MR. AIELLO: Are you aware of any motive that may have existed for the same shift superintendent that changed modes to write a DC on himself? Is there anything that

might have come down from management to encourage him to do that?

THE WITNESS: I believe that somebody caught the problem, caught the mistake, at around six seven a.m., whenever the DC indicates that it was, and I'm thinking Swartzwelder was involved in that in catching the problem, and, you know, obviously once the problem was identified by Swartzwelder or somebody like that, then the DC was an outgrowth out of that.

BY MR. ROBINSON:

Q What would have been the cost in critical path time if they had kept from changing modes until they cleared that LCO?

A They wouldn't have been able -- That was a mode restraining LCO. We wouldn't have been able to change modes until the afternoon -- until the afternoon of that day. I think I estimate that at roughly 12 hours.

Q When they would have actually put that neutron source range monitor back into operation and that delay from the time they did change modes until the time theoretically they would have been permitted to change modes is a direct addition to critical path time?

A Yes.

MR. AIELLO: To paraphrase, you are saying it takes approximately 12 hours to do that surveillance or --

THE WITNESS: No, I'm --

MR. AIELLO: -- is it 12 hours from the time they do the surveillance before they can change modes?

THE WITNESS: Well, I will have to assume that after they discovered that they made the mistake that they proceeded post-haste with maximum effort -- You know, they just discovered they screwed up. They had a piece of key equipment out of service, okay, when they made the mode change. I would think that they were exercising a maximum effort to restore it to service. So they discovered it around six a.m. and it didn't get back in service, you know, until that afternoon. So --

MR. AIELLO: Eleven twenty.

THE WITNESS: So in actuality that's about how long it took for them to return it to service.

MR. AIELLO: Okay. It says here that the LCO was cleared at 11:20 a.m. Central, the NI-31. The discovery of the DC was 0635. So that's approximately five hours roughly, I guess.

MR. ROBINSON: Well, we will be able to definitely compute the hours when we've got the log entries to show the exact time it was returned to service.

BY MR. ROBINSON:

Q I guess my question, Mr. Mosbaugh, is other than your common sense thinking that -- I mean, are you implying

by this allegation that they knew that this thing was out of service and they went ahead and changed modes anyway? Is that your allegation, and then, expediently put it back in service and took an LER, so to speak, to save that critical path time?

A That's what I'm implying. There are other explanations. The only other explanation I can think of is, well, they made a mistake. They forgot this one. Okay? But -- And that may be, you know, only in somebody's mind can I know that, but when you look at how simple the process is, and you look at how highly trained the individual is supposed to be that's doing that process, again, it gives rise to questioning what the motives were. I can tell you this, it is very clear that during outage periods, especially, that the management pressure on schedule is extreme and it is the focus of activities. I mean, when the status calls are placed in the morning and when the morning meetings occurred, the focus of interest of the general manager is how many hours we gained or lost.

Q Is there usually a scheduled or planned time for a mode change?

A Yes.

Q So a shift supervisor would know whether he is close to schedule or behind schedule or approaching the time when he should be making a mode change?

A Yeah. I mean, our schedules are fairly detailed. They have all the activities in them. They have little flags for mode changes and up and down and key activities in them. At this particular point, you know, we were running, I think, as we began the -- Anything I think we're roughly 12 hours ahead of schedule or so. But, you know, the emphasis on schedule is very extreme.

Q In your opinion do you think a shift superintendent or a shift supervisor would take it upon himself to knowingly make a mode change while a mode restraining LCO is on to avoid criticism in lengthening the critical time path for five, or seven, or twelve hours?

A That would be speculation on my part. I can say that I do clearly -- from a management viewpoint I clearly see praise for shifts and leaders of the shift where we gain time. There is a very definite and considerable amount of praise, you know. "At a boy" for OSOS acts. "We gained 12 hours last night. You did a great job," and that's reflected in numerous meetings during the day in outage periods. The reward system occurs daily.

Q Are there any overt criticisms or negative inverse "at a boys" so to speak when a given OSOS causes a lengthening in the critical path?

A I feel that there's -- It's not anything that I'd say is blatant, but it's definitely there. There is a

reward and penalty situation with definite emphasis on the reward, and of course, if you don't get a reward, you know, it's almost like a penalty.

MR. AIELLO: When a shift superintendent or a shift supervisor does violate a text spec requirement such as this, would that be reflected in his annual appraisal?

THE WITNESS: I don't know how their AR's are set up. I don't know, Ron, how they have their AR's set up. Again I'll say from a management viewpoint, I do not see critical investigation and I do not see people being held that accountable for mistakes that involve an LER or regulatory violation. I do not see emphasis on that, you know, as a penalty.

BY MR. ROBINSON:

Q So, just for my clarification, a mode change done by a shift supervisor, knowing that a mode restraining LCO is in effect would cause entry into 3.0.4?

A It would be a violation of 3.0.4. It's be a violation of 3.0.4. You know, your various surveillances will say 3.0-- The ones where 3.0.4 does not apply will say, "3.0.4 does not apply". For the rest of them 3.0.4 does apply and 3.0.4 says basically you have to meet the LCO condition prior to making any mode change. You can't be in an action statement and make a mode change.

MR. ROBINSON: Okay. Any other questions regarding

this particular issue?

(No response)

MR. ROBINSON: Any clarifying comments you feel you need to make, Mr. Mosbaugh?

THE WITNESS: Just again say one more thing about the reward system. You know, I think there is a general perception and understanding at the plant because of the way the schedule success is rewarded and emphasized. I think also going along with that is certain progression and promotional opportunities, and I'm looking at a larger period of time, but you know, your average guy sees that. He sees the immediate rewards that are given by high level management on a daily basis and he also sees what the company has done over a longer period of time for people -- for somebody that's the schedule pusher. He's progressed in the organization, you know. Perhaps other people that are more cautious or whatever don't advance. I think there is kind of general perception like that. At least I have that perception.

MR. ROBINSON: Okay. Any other questions?

MR. TATE: No.

MR. AIELLO: No.

MR. ROBINSON: Okay. It's now 8:57. Before we get into the next issue let's take another five minute break.

(Off the record)

MR. ROBINSON: It's now 8:59 and we are back on the record. The next issue that we are going to discuss relates to vibration and RHR pump motor and again I will quote verbatim the issue as expressed in Mr. Mosbaugh's write up that was given to me on June 214th. Reading "On 3/5/90 another violation of technical specifications occurred. The B train RHR pump had been experiencing increasing vibration (up to .55 inches per second and 9 mils). Due to this high vibration one of the safety related NSCW cooling water lines at the motor cooler had cracked resulting in NSCW water spraying out at around five to ten gallons per minutes. With the pump vibrating severely and with a failed cooling line the pump should have been declared inoperable. A train of RHR was drained for outage work at the time. Thus, under technical specification 3.9.8.1 both trains were now inoperable. The LCO and action statement for this condition should have been entered which requires suspending all actions or operations involving an increase in the reactor decay heat load or a reduction in boron concentration of the reactor coolant system and immediately initiate corrective action to return the required RHR train to operable status as soon as possible. In addition the action statement states, 'Close all containment penetrations providing direct access from the containment atmosphere to the outside atmosphere

within four hours." Instead, the pump was not declared inoperable. The LCO was not entered. Some of the action statements were occurring by coincidence as scheduled actions to unload the core continued. However, actions to secure containment integrity (particularly containment purge) and actions to place the undamaged A train RHR pump back in service immediately did not occur. Because of the failure to comply with the action statement another violation of technical specifications occurred. Like the previous violations, complying with the above action statements would have affected scheduling because of containment outage work that was in progress." That is the end of the description of the incident as in Mr. Mosbaugh's write up.

BY MR. ROBINSON:

Q Mr. Mosbaugh, do you have any clarifying statements that you want to make regarding this issue before we ask questions?

A No.

Q My first question is how do you know that the RHR pump had been experiencing increasing vibration up to .55 inches per second and 9 mils?

A That was reported in the daily status meeting by the maintenance manager.

Q Who was the maintenance manager?

A Harvey Handfinger.

Q Did he quote those figures on inches per second and millage?

A Yes.

Q Who all was present in that meeting that you can recall?

A The normal daily status meeting which would have virtually all managers starting with the general manager, the two assistant general managers, the department managers.

Q If you would, please, just kind of name names rather than --

A Okay. That meeting would typically have George Bochhold, Skip Kitchens, Tom Green, myself, Ron LeGrand, Harvey Handfinger, Mike Horton and John Aufdenkamp, various -- would have the OSOS for that shift.

Q Okay. Were you in that meeting?

A Yes.

Q Did you hear Handfinger quote the .55 inches per second and 9 mils?

A Yes.

Q Do you have -- We have some records that show some measurements on the vibration of that motor that refers specifically to inches per second and not millage. Do you have any idea how Handfinger came up with a millage figure

at that time?

A They may have gotten it off the vibration instrumentation equipment that they have.

Q You are not sure how he got the mil figure as opposed to the inches per second?

A You can interrelate the two.

MR. AIELLO: There is a conversion?

THE WITNESS: Depending on the frequency that the vibration is occurring at you can interrelate the displacement with the acceleration type numbers.

BY MR. ROBINSON:

Q Do you know how to do that conversion?

A Yeah, with the appropriate charts.

Q So there are charts and tables for that conversion?

A Right. Right.

Q Do you have access to those or does Handfinger have access to those?

A Certainly Handfinger -- I don't know about him personally, but his maintenance department would have people that are experienced in that as our engineering department would have people that are experienced in that. The different types of instruments read out in different values. You might have an instrument that reads in mils. You might have another instrument that reads in inches per

second or others that might read in "g's".

Q Was this outage meeting at which Handfinger quoted these figures, was that on the March 5, '90 that you lead off with this allegation on? In other words, you said on 3/5/90 another violation of text specs occurred.

A Yeah, it would have been -- When the issue first came up in the meeting it would have, you know, the first day or so that the issue came up about the information about the actual measured vibration would have been voiced.

Q Okay. How did you get the information that the water line had cracked and five to ten gallons per minute of NSCW water was spraying out?

A That was also revealed in the meeting that there was a failed cooling line to the motor. Gallons a minute I think I -- It might have been mentioned in that meeting or I might have gotten it from the system engineer, you know, in an engineering staff meeting and asked him exactly how much water was spraying out.

Q Who was the system engineer?

A I'm trying to think who had that at that time.

Q It may have been Mike Chance again. I'm not sure.

Q That's who you think it possibly might have been?

A Yeah. We've changed assignments a couple of times and during the outage we've had a couple of different guys covered some different systems.

Q Okay.

A Lee Mansfield who is the group supervisor over the system engineers -- I think in the course of my looking at that I talked to him about it too.

Q Were you aware of some specific -- How do you know the pump should have been declared inoperable?

A I guess I say that from an engineering standpoint. I brought up -- I questioned some of my people at the time about, you know, "Is operations declaring this pump inoperable and how come we have a failed -- a crack cooling line and so forth and continue to declare this pump operable under those conditions?" I asked some questions about being inoperable because we were exceeding ISIISD vibration criteria and also asked some questions about the cracked cooling lines being operable without the motor cooler -- without the water to the water cooler, but I drew that conclusion that it should have been declared inoperable from an engineering standpoint, a technical standpoint. If a motor -- if a pump is vibrating severely enough to crack attached lines that -- I later found out -- I had some trouble finding out. I asked if the supply line or the discharge line from the cooler was the one that had cracked. I had some trouble finding that information out. The information that I think is correct that I eventually got was that the line that cracked was the

outlet line from the motor cooler. Of the two, that's probably the better one to have cracked, but if it's vibrating severely enough to crack the outlet line, who knows that in the next hour it may not crack the inlet line. So I think, you know, my conclusion that under those conditions should have been declared inoperable is based on exceeding the ISIISD limits being that high and from the fact that it was severe enough to cause damage of cooling supplies. Also I don't know, it seems to me with water spraying around, you know, a high voltage electric motor like that, there's probably an inoperability issue with just the presence of that much water perhaps spraying into the motor and so forth.

Q At the time of the outage meeting when Handfinger mentioned those figures did you say that the crack was also mentioned in that meeting? In the same meeting?

A Yes.

Q At that point in time did you make any comment about -- in the meeting did you make any comment about, "Hey, shouldn't that thing be declared inoperable," or --

A I don't think I did in the meeting. I think I did outside of the meeting. I asked some questions of my people about operability on it. I asked -- I asked John Aufdenkamp about, how's operations treating, you know, or the operability of this pump with the failed line, and

that was the same time I first tried to pursue with one of the engineers the information from maintenance as to which inlet or outlet line had been cracked.

Q And once you kind of determined in your mind it should be inoperable did you approach anyone in operations with that?

A No, I didn't. I guess I would say at the time I had enough concerns about the operability and questioning to go look for additional information to ask questions as to what the vibration limits were that were appropriate, to ask questions about which lines had cracked, that I started investigating. The point in time that I concluded that the pumps should have been declared inoperable was the point in time that I wrote the document that you are reading from which was some time later.

Q Okay. You made the statement in your write up that, "Thus under technical specification 3.9.8.1 both trains were now inoperable." That was applying your definition of inoperable to the train --

A The B train.

Q Right.

A And the other train being -- should have been under LCO since it was out of service for outage work and I believe it was drained.

MR. ROBINSON: Ron, do you have any questions over

Mr. Mosbaugh's logic about what condition, what action statement, or what condition the RHR train should have been in if in fact that was declared inoperable or if it was inoperable? He quoted -- The question I'm asking, he quoted, "The LCO and action statement for this condition should have been entered which requires suspending all actions for operations involving an increase in the reactor decay heat load or a reduction in boron concentration of the reactor coolant system and immediately initiate corrective action to return the required RHR train to operable status as soon as possible." Was that a correct cite of the action statement?

MR. AIELLO: Yes, that would have been a correct cite.

MR. ROBINSON: Do you have any questions at this point about this issue?

MR. AIELLO: I have one. I have a letter here from Westinghouse Electric Corporation.

THE WITNESS: Yeah, I was going to mention that. Eventually -- There were a number of things going on once the vibration problem came up. There was a design modification made to put in some heavy braces and restrain the pump from vibrating and in addition an expert on vibration was called in from SONOPCO. And later, as Ron mentioned, a letter was issued by Westinghouse stating an

upper limit of vibration above which Westinghouse said the pump was inoperable. Nine mils exceeds the value -- I think the value in there is like 7?

MR. AIELLO: Seven point five.

THE WITNESS: Seven point five in the Westinghouse letter, and that was sent some time later. I don't recall what date. Does that letter have a date?

MR. AIELLO: It was March 15th.

THE WITNESS: Okay. So two weeks later.

MR. AIELLO: Your engineering assessment of operability was made before or after this letter came out? In other words, did --

THE WITNESS: First off, you know, it's not my job to --

MR. AIELLO: I understand that.

THE WITNESS: -- declare operability at the plant.

MR. AIELLO: Your engineering assessment.

THE WITNESS: My questioning, my critically questioning the pump being operable began as soon as I heard we had cracked lines off of it --

MR. AIELLO: So it was before this.

THE WITNESS: -- which was essentially the day that this came up. I continued to gather information over those days I received that letter, and I believe the document you are reading from, I think I initiated after that letter was

initiated.

MR. AIELLO: I have here a --

THE WITNESS: You know, but that's by no means the sole determinate of it being operable or not.

MR. ROBINSON: Just for the clarification of the record, the lettor we are referring to is the letter dated March 15, 1990, to Mr. C.K. McCoy from Mr. J.L. Teen, Manager, Southern Company Projects, Westinghouse Electric Corporation. Okay. Go ahead.

MR. AIELLO: I do have some information on the RHR pumps regarding the inches per second and you do say this information can be converted into mils if we so desire to do that?

THE WITNESS: Yeah.

MR. AIELLO: Because the letter here that we got--

THE WITNESS: You know, I don't know. What it takes to convert is a knowledge of the frequency.

MR. AIELLO: I understand.

THE WITNESS: And that's the frequency of the vibration being measured.

MR. AIELLO: But if I choose to convert .44 inches per second, there is the ability to take that number and convert that to a displacement in terms ---

THE WITNESS: If you know the frequency of that vibration.

MR. AIELLO: All right.

MR. ROBINSON: Are the frequencies mentioned on those sheets, Ron?

MR. AIELLO: I don't see anything on frequency.

MR. ROBINSON: Let the record reflect we are now examining measurements -- a sheet entitled "Measurement point history report", report date 18, July, '90, period reported 3/3/90 through 31 March, '90 and we are looking at various categories, date, time, speed, load, overall -- looks like parameters 1, 2, 3, 4, 5 and 6.

MR. AIELLO: My question is, if Harvey was able to come up with 9 mils is it apparent that he probably would have gotten that information from this source?

THE WITNESS: No, not necessarily. Maintenance has a variety of vibration instruments including some IRD's and some others and some hand-helds, and they may well have used -- gotten that information from a directory.

MR. AIELLO: Would that information be documented somewhere that you know of?

THE WITNESS: I don't know. I would think it would be. I would think it would be under some work order, you know, that they went out to take that information under.

BY MR. ROBINSON:

Q Did Handfinger seem concerned when he mentioned those values in that outage planning meeting?

A I think everybody was concerned. Like I say, I wouldn't necessarily just focus on vibration. As we found out in this case some of the vibration was termed a soft vibration or a resident vibration and was of a lesser concern. Probably to me the fact that the vibration was severe enough to cause damage is something that is very tangible and immediately available to assess operability from.

MR. ROBINSON: Did you have a question?

MR. TATE: Are there minutes made of the daily status meeting?

THE WITNESS: No. There's no formal minutes. I personally keep copies of those and make personal notes on those.

MR. TATE: Do you still have those copies?

THE WITNESS: I don't know. I might.

MR. TATE: Do you know whether or not other people that would have been present at that meeting made personal notes either contemporaneous or after the meetings that might reflect comments made by Mr. Handfinger?

THE WITNESS: The packages passed out -- is a available -- is positioned at everybody's seat. So at the end of the meeting there are less of them there than they passed out at the beginning so I think a lot of people must take them with them and may make notes.

MR. AIELLO: Was this 9 mils that Harvey quoted, was that something that was documented on the daily or was that something that he just happened to spout out during the meeting?

THE WITNESS: Documented? You mean like in the--

MR. AIELLO: Was it in the daily write up?

THE WITNESS: -- package? I don't recall it being written in the package. I think it was something that he said, you know, in discussing the vibration problem

BY MR. ROBINSON:

Q Was he, himself, reading from any kind of little reminder or note or something when he quoted those figures?

A He could have been, but I don't know.

MR. TATE: You commented that everybody was concerned about the amount of vibration. Anything specifically? Any individuals and comments they may have made regarding their concern?

THE WITNESS: Nothing that stands out. I feel like, you know, I mean, George was concerned about the vibration, the maintenance people were concerned, the engineering people were concerned. Like I say, what concerned me most was the report that the line had sheared -- or had cracked, the cooling line. The failure of the cooling line was discussed in that meeting.

BY MR. ROBINSON:

Q If the B train RHR had been declared inoperable, do you have an estimate on what that would have done not only to the critical path time -- Were we in a critical path situation on that unit at that time?

A Well, if you had declared it inoperable it would have kept it in operation. You obviously would not take it out of service. It was circulating water and then cooling the fuel elements that remained in the core. So you would have kept it in service, but you would have declared it inoperable. And once declared it inoperable then you would have taken the text spec actions that were designed to give you a level of -- a second level of defense and that is the buttoning up of containment, is what the text spec kind of requires there and then also actions to -- to ensure that you don't increase the decay heat load. We were unloading the core at the time so we were decreasing the decay heat load, and it was appropriate for those actions to continue, I believe, but I think consistent with continuing to unload the core and being safe would have been to essentially button up the containment. The buttoning up of the containment would have required the containment purge system to have been taken out of service, and that was being maintained in service to provide a better containment atmosphere, you know, to keep build up of any radiation, air borne radiation in containment. So potentially if you

turn the containment purge off you would have had a build up of some activity in containment and you might have had to stop your work, your people, in containment. That would have had a direct critical path impact.

MR. AIELLO: In your opinion --

THE WITNESS: The other factor, the other text spec statement, is to take actions to immediately return an RHR pump to service. You could have worked on the B pump, which we were doing, or you could have taken actions to try and get the A pump back. That would have had a fairly definite outage impact also because the outage is set so much to do one train and then the other train instead of go back and start working that train when the pump's out, the system's drained, its switch gear is out and doing PM's and cleaning. You know, you would have had to step backwards significantly in your work on the A train. So I think from those two reasons there would have been a fairly significant impact.

MR. AIELLO: Buttoning up containment and trying to restore --

THE WITNESS: Mainly of the curtailment of the containment purge. To button up the containment would have required the containment purge valves to be closed and that would have adversely affected the atmosphere in containment. Could have slowed up or stopped work in

containment.

MR. AIELLO: Okay. Was B train RHR at the time they had the NSCW leak, was that pump performing its intended safety function?

THE WITNESS: It was operating. The capability to perform its intended safety function includes its ability to operate in a variety of conditions including earthquakes and various dynamics and things like that. It was operating but whether or not it would have been able to fulfill its intended safety function -- in other words the spectrum of conditions that we require for operability is questionable. Very questionable.

MR. AIELLO: If the NSCW discharge piping had fully ruptured would the pump be able to continue to operate?

THE WITNESS: Probably from a cooling standpoint it would have gotten ample cooling. What all that water would have done to the pump, or to other equipment in the room, from an electrical standpoint I don't know how to answer. And in addition if the vibration was severe enough to break the outlet, it was probably severe enough to break the inlet too.

MR. AIELLO: Was there any indication to your knowledge that the inlet had any damage as a result of the vibrations?

THE WITNESS: I don't think it was ever repaired so I will assume it was not damage.

MR. AIELLO: Okay. That's all.

MR. ROBINSON: Have you got anymore?

MR. TATE: No.

MR. ROBINSON: There was never a DC written on this situation, right?

MR. AIELLO: There was no DC written.

THE WITNESS: Oh, is that right?

MR. AIELLO: I checked on that.

THE WITNESS: Not even on the failed --

MR. AIELLO: No DC written.

THE WITNESS: Okay. I hadn't had a chance to look at that.

MR. AIELLO: We did.

BY MR. ROBINSON:

Q Do you have any direct knowledge that the pump was intentionally left in operation to avoid getting into that action statement on that requirement to suspend all operations?

A Just to clarify, the proper action would have been to leave it in operation. I went through that before. The right thing to do was to keep it in service. My contention was that the proper thing to do would have been to establish that additional level of defense of having the

containment barrier in tact as a back up, which is what I think the text specs intended. Do I have any direct knowledge that those actions weren't taken because they would have impacted the schedule? Was that the cut of your question?

Q Right. That those actions weren't taken -- yeah, because they would have impacted the schedule and would have taken time to do that?

A I can't say I have any direct knowledge. I wasn't party to any discussions where people were saying we ought to do this, but if we do it will affect scheduling or something like that.

Q That's a good point. Do you think operations folks knew what they should have done?

A I certainly would think that an SRO, you know, having a report that he's got a pump shaking this badly and knowing that there's water spewing all over the rim, would have looked at his text spec actions on that, I certainly would have thought.

MR. AIELLO: Well, text specs basically define operability, whether it's operable or not, I believe. There's one log entry in here that -- 3/5/90 at 1:06 Central that states that, "Plans are to continue to run the pump as long as the NSCW leak does not get worse. Two PEOs are standing by at the B RHR pump room maintaining the leak

and ready to isolate it as necessary -- monitoring the leak and ready to isolate it as necessary. Maintenance engineering has been requested to continue to take vibration readings once per hour." To your -- best of your knowledge, do you know if the leak had gotten any worse beyond this particular log entry here, it might have warranted them to make the shutdown or declare the pump inoperable?

THE WITNESS: I wasn't aware of any change in the status of the leak after they -- after that point where they went to the hourly monitoring. What was the date and time of that?

MR. AIELLO: Let's see. March 5, 1990, at 0106 Central was that log entry and it looks like about 14 hours later the core was off-loaded. This was on the same day the reactor was defueled and four minutes after that the RHR Train B was removed from service.

THE WITNESS: Yeah. You know, I hadn't reviewed that recently enough to know what point in time the core was off-loaded, but that's interesting too that, you know, we continued to off-load the core. I don't really find anything wrong with continuing to off-load the core, but that was another way out of the dilemma of operability. One way out would be to comply with the text spec, to say, "This is a damaged pump, and it's inoperable." And the

other way out is to continue to unload fuel as fast as you can so the text spec doesn't apply.

MR. AIELLO: If the pump had failed during this interim, in your opinion do you feel they could have taken the necessary actions for the text spec to button up containment at any point in there?

THE WITNESS: If the pump had totally failed?

MR. AIELLO: Say the leak is at 0106.

THE WITNESS: The problem is if the pump totally failed you would be in a heat up type condition, which --

MR. AIELLO: So if they declared the pump inoperable they'd have to suspend core alterations and secure taking -- secure from removing fuel from the reactor vessel.

THE WITNESS: No. They would not have to suspend core alterations. If they declared the pump inoperable.

MR. AIELLO: Are you sure? Let me double check that.

THE WITNESS: They would have had to button up containment.

MR. AIELLO: I think the thing, if you button up containment, you can't transfer fuel to the spent fuel pool.

THE WITNESS: The buttoning up of containment I think is -- I believe the main impact is on the containment

purge valves.

MR. AIELLO: Let me check that. Let's see action B -- Let's see. (Reading) "With no RHR train in operation, suspend all operations involved in a reduction in boron concentration of the reactor coolant system and immediately initiate corrective actions to return the required RHR train to operations. Close off containment penetrations providing direct access from the containment atmosphere to the outside atmosphere every four hours." If you close off containment penetrations, would not that include access to and from the spent fuel pool?

THE WITNESS: I don't know, Ron. You'd have to research that.

MR. AIELLO: That's my question. If they had to declare the pump inoperable the question remains would they also have to subsequently suspend core alterations? That's what we've got to answer. So what would have been the prudent thing to do in this particular case? That's the question we really need answered.

MR. ROBINSON: Well, I think the question that needs to be answered here is, one, should the pump have been declared inoperable based on its condition. Two, if it had been declared -- since it was not declared inoperable, if it should have been, was that a violation of the text spec? The resulting safety questions as far as

the status of the core and the unloading of the core, I mean, that has to be considered in the big picture, but when we're talking -- I mean, the allegation here is the savings of time by reason of not complying with text specs or declaring operability so that you don't have to comply with certain LCO's -- What you are discussing regarding the core unloading and that type thing, really, I can't comment on them one way or the other, whether that's really the issue here or not.

It's now 9:41. Let's go off the record for a minute.

(Off the record)

MR. ROBINSON: It's now 9:42 and we're back on the record.

MR. AIELLO: There's one text spec that might support one decision one way or the other is text spec 3.9.8.1 states, (Reading) "At least one residual heat removal train shall be operable and in operation. This applicability is in mode 6 when the water level above the top of the reactor vessel flange is greater than or equal to 23 feet." It says, "With no RHR train operable and in operation suspend all operations involving an increase in the reactor decay heat load or reduction of boron concentration of the reactor coolant system and immediately initiate corrective action to return the requirement RHR

train to operable in an operating status --

MR. ROBINSON: Hold on. Hold on. Give her a break.

MR. AIELLO: I'm sorry. Let me rephrase the action. (Reading) "With no RHR train operable and in operation, suspend all operations involving an increase in the reactor decay heat load or reduction in boron concentration of the reactor coolant system and immediately initiate corrective action to return the required RHR train to operable and operating status as soon as possible. Close all containment penetrations providing direct access from the containment atmosphere to the outside atmosphere within four hours," and there is a star that applies to this text spec. "The RHR train may be removed from operation for up to one hour per eight hour period during the performance of core alterations in the vicinity of the reactor vessel hot legs." Therefore it would probably be difficult if they declared the RHR train inoperable to continue with core alterations to be able to complete that.

MR. ROBINSON: Ron, do you have any idea one way or the other whether this particular text spec that you are quoting now was given consideration by these folks or not?

MR. AIELLO: No, I do not.

THE WITNESS: Read the number, but I think he's reading the one I quoted.

MR. AIELLO: It is, but I'm just reading --

MR. ROBINSON: The asterisk.

MR. AIELLO: -- the asterisk was what I was implying to you. The fact that you can secure RHR for one hour per eight hour period during the performance of core alterations. In this particular case it would probably be difficult to completely off-load the rest of the core within that one hour period, if they declared the RHR inoperable.

THE WITNESS: I don't want to get too deep into that, Ron, but the asterisk you read is relative to securing RHR --

MR. AIELLO: Right.

THE WITNESS: -- while you are doing core alteration.

MR. AIELLO: So, but I'm saying --

THE WITNESS: Nothing in there prohibits you from continuing to do core alterations. The prohibition or the limitation is on securing RHR.

MR. AIELLO: We'll need to research this one.

THE WITNESS: You may want to research that.

MR. ROBINSON: Do you have anything, Craig?

THE WITNESS: No.

MR. ROBINSON: Any continuation of your thought there, Ron?

MR. AIELLO: No, we'll have to research this one.

THE WITNESS: Let me just say one other thing --

MR. ROBINSON: Sure.

THE WITNESS: -- since we are talking about potential choices and safety, you know. I mentioned that the text spec requires this additional level of protection that is a tight containment, the containment purge valves closed and so forth within four hours. The choice to continue core alterations, that is, unloading of the core, involves certain risks, such as the drop fuel assembly. The fuel assembly is sitting in the reactor vessel are not apt to fail of their own, but when you start handling the fuel assembly and the fuel handling equipment, the fuel assembly may be dropped, and a dropped fuel assembly can lead to a radioactive release to containment in the vicinity. So in terms of safety, having a buttoned up containment, you know, communications with outside air is important as a level of defense if you are going to continue core operations.

MR. ROBINSON: Okay. Got any --

MR. AIELLO: No.

THE WITNESS: No.

MR. ROBINSON: Okay. It's now 9:47 and before we get into the next issue, we'll take a little break.

(Off the record)

MR. ROBINSON: It's now 9:48 and we're back on the record. The next issue we're going to discuss is an issue regarding the sequencer being out of service, which allegedly places the plant in technical specification 3.0.3, or the motherhood action stand. I'm going to quote from Mr. Mosbaugh's write up on this, which was given to me at an earlier time.

(Reading) "Numerous times in the past at Plant Vogtle the load sequencer has been out of service, inoperable or powered down for various reasons. There have been approximately 38 maintenance work orders issued to perform various troubleshooting, repair, testing or modification on Vogtle sequencers under conditions of licensed operation as well as out of service periods not documented by MWO's. Licensed operation personnel are responsible for determining what technical specification, LCO's, and action statements are require when safety related equipment is unavailable to perform its safety function. Operations had historically determined that only a 72 hour LCO was appropriate for having the load sequencer out of service. Engineering personnel recently were developing some testing procedures that would require the sequencer to be taken out of service. Based on their knowledge of the sequencer's operation and function, they determined that when the sequencer was out of service that the plant would be in

"Motherhood". This is because the sequencer powers relays that are part of the 4.16 KV undervoltage and auxilliary feedwater channels ESF actuation system instrumentation (text spec 3.3.2, table 3.3-2, functional unit 6 d and functional unit 8 a and b). With the sequencer out of service all four channels in each functional unit are inoperable and can not perform the safety function described in the technical specification basis. Since the text spec only provides LCO's for two channels out of service and all four would be out, a condition exists that is beyond the LCO and Motherhood applies. Licensed operation personnel claimed to have previously established a written interpretation of this technical specification, but presently can not find it. Apparently they had inadequate knowledge of this safety related equipment to understand the consequences of their actions. As a result, the plant has been placed on "Motherhood" repeatedly. Entry into "Motherhood" requires reporting to the NRC under 50.73 and a forced shutdown initiated if restoration is not completed within one hour. A forced shutdown also requires notification of the NRC as an emergency event (NUE). Once engineering brought this to operations and management's attention they began to argue against engineering and given interpretations why it was not "Motherhood". On 6/8/90 the assistant general manager of plant support met with the

engineers and tried to sway them to the plant's position stating that he had met with the general manager on the issue. In that meeting it became apparent that the assistant general manager was not adequately informed about the sequencer's operation and could not contest the engineering position. Despite that he took no action to initiate a DC or other action to assure that past mistakes were identified, reviewed, corrected, and reported to the NRC as would be required by 10CFR50.73. As of 6/18/90 no direction has been issued by management to look at previous occasions when the sequencer was out of service."

Mr. Mosbaugh, do you have any clarifying remarks that you want to make at this point before we ask questions about this write up?

THE WITNESS: Just as an update I've asked more recently than those dates as to whether or not people have been asked by anybody to do a review and so forth. And to my knowledge nobody's been asked to do a review up to and including today's date.

BY MR. ROBINSON:

Q Any other comments?

A Not discussed in that write up is the relationship of that write up to the various drafts of the waiver of compliance that was being considered -- I believe eventually requested in an altered form, but there's a

relationship there and I had provided you a marked up version of that where some of the engineers had commented on that write up and indicated that "Motherhood" applied and that we almost needed to ask for a waiver of "Motherhood" to correctly ask -- request that waiver.

Q Right. I have that marked up draft and a draft that you indicated at the time that it was the latest "rev" of the waiver letter.

A Yeah.

Q I'm going to give you these two documents and let you review them again and see if you have an indication that there was an even later draft of the waiver letter. (Handing documents)

A I'd have to look at this whole issue to refresh my memory as to what we ever did, you know, with requesting this waiver because this had to do with the testing of the control room emergency filtration system response time, and eventually we --I'm not sure if we took the unit down over a weekend, or we had a couple of reactor trips, and I think an opportunity became available to do the testing. So right at the moment, I'm not certain if this waiver was ever -- if this waiver was ever requested in this form.

Q I think I may be able to answer your question.

A Ron probably knows that better than I do because he would have been involved in processing it because of my

position in the time frame that this occurred. I was out of the picture, not being on the PRB anymore. You know, I'm outside looking in trying to piece these things together.

MR. AIELLO: This is a copy of the correct waiver that was submitted.

THE WITNESS: Is this the final one that was submitted?

MR. AIELLO: The final one. If you would like to read that and make any amends to your statement as necessary --

THE WITNESS: That's a whole lot shorter. Okay. (Reading document) Hold it now. What are the dates on that? This one is dated June 7th.

MR. ROBINSON: I don't think there were dates on those drafts -- earlier drafts.

THE WITNESS: Okay. I'm not sure how much of that really relates. I just wanted to bring up that other document and the mark up there and the markings on there provided by some of the engineers that had done the review.

MR. ROBINSON: And I will be doing a comparison of the original marked up draft to the second draft that you gave me to the final draft -- what was the final submission.

BY MR. ROBINSON:

Q How did you get the information about the sequencers having been inoperable, out of service, or powered down for various reasons?

A When this response time issue came up -- I'll just name the engineers that are involved. Lee Mansfield is the engineering supervisor over the N trip S (NSSS) systems. The two engineers that worked most heavily on the sequencer issue were Mike Chance and Terrence Forehand. The same engineers met -- are the engineers that met with Tom Green in the meeting that's referenced in there. I first became aware of the issue of the sequencer powering these relays from -- I think it was probably first from Lee Mansfield and saw some of the mark ups there and the talk about when the sequencer is out, or powered down, or out of service, we're in "Motherhood". At that time I know Lee said, "I know we've taken this sequencer out of service before." Okay? I thought back, and I said, "Yeah, I know it's been down powered. It's been out of service before." So a number of engineers have said, "Yeah, we remember, okay, that it's been out of service." The information that I provided in there about x number of 38 or MWO's --

Q Thirty-eight maintenance work orders.

A Okay. -- is based on a review of the NPMIS computer maintenance work order tracking system that we have. Lee and I went in there and he showed me how to call

up the sequencer by tag number. So I browsed through the work orders that had been conducted there. One of the problems with our maintenance history, it's difficult to ascertain from the maintenance history the extent that an item is out of service. It's not well documented in the maintenance history. So you have to look at the work that was performed, but some of this work is of a kind that they wouldn't do it hot, okay? And things like that. So you fairly well know that the sequencer had to have been out to do this kind of work. But it's hard to say, each and every work order, whether the sequencer was powered down to do that work or not. It's not well documented.

Q You made the comment later on in your write up that "operations had historically determined that only a 72 hour LCO was appropriate for having a load sequencer out of service." How do you know that operations had historically determined that?

A I remembered that being discussed previously, and Aufdenkamp and I talked about that and they had linked the sequencer text spec to the diesel text spec. We said, "Well, the sequencer load on is on the diesel, so whatever applies to the diesel applies to the sequencer," and 72 hours had been used. Some people, Tom Green being one, said he had seen a text spec interpretation. In fact, fairly recently in the time frame of that write up, maybe

around the time of the meeting he held, he said, "I had that text spec interpretation in my hands. I was looking at that just a couple of weeks ago."

Q He made those comments directly to you?

A He made those comments in a meeting that I was present in and I think it was that meeting with those engineers.

Q Let's go ahead and talk about that meeting since we are on that subject. Obviously Tom Green is the person you are referring to when you talk about the assistant general manager of plant support?

A Right.

Q And the engineers that you mentioned earlier are the engineers that were in the meeting with him on June 8, '90?

A Right.

Q Kind of describe that meeting. You were in that meeting too, right?

A I was in that meeting, most of the meeting.

Q Kind of describe what went on in that meeting.

A Tom Green asked for that meeting. The engineers had been pouring over logic, you know, logic diagrams that -- solid state logic diagrams that very few people can read and understand. They had come to this conclusion in looking at this response time testing that there would be a

problem in taking the sequencer down because their reading of the logic diagrams and how the sequencer functions and the text spec says that would be "Motherhood" and we wouldn't be able to do it -- intentionally enter "Motherhood" to do this testing. So that had been voiced up through the chain of command. So this meeting was occurring maybe several days after -- maybe even a week after the engineering interpretation had come up. And Tom Green asked for the meeting. And it was held on the third floor of the service building in the engineering conference room, and it started off -- Tom Green started drawing on the board a blocked diagram of the sequencers and what they control and how they work, and you have to realize that Tom has recently come out of SRO school and to some degree was demonstrating his recently acquired SRO knowledge on Vogtle. And he started talking about channels and trains and talking about how, you know, if the sequencer was out that it would not affect the whole train and started giving that kind of logic, where the channels, and where does it go from trains and where does it go to channels and started a presentation to my thinking was to sell a point to the engineers. What happened is that one of the engineers spoke up and said, "No, it's drawn like this, and no, the sequencer powers those relays, you know, and if you cut the power off they lose power to these relays and then they

can't -- if they have no power, they couldn't perform their safety function." Okay. So the meeting kind of evolved that way, and Tom could not dispute what they were saying. The thrust of that meeting, you know, was to say, "No, we are not at "Motherhood". We can go do this testing. The waiver doesn't have to get into the "Motherhood" issue because we can take it out for 72 hours, or 6 hours, or whatever." And the whole thrust of this thing was to look at completing the control room ventilation response time testing. But for me the issue, you know, rapidly went to an issue of, "Oh, we didn't understand how this thing works, you know, and we've been using the wrong text spec interpretation or the wrong LCO in the past," and I think once the engineer said, "'Motherhood' applies here," and then this comment from Tom came up that he had just seen the text spec interpretation and he had had it in his hands, you know, just weeks before, and, you know, at that point the meeting kind of broke up because the point that was trying to be sold was disputed. I felt like Tom had accepted the fact that the logic was if you have a sequencer out of service you are in "Motherhood" because you've got four channels out and the text specs only address having two channels out.

Q Was Mansfield and Chance and Forehand in that meeting?

A Yeah.

Q Anybody else other than you, those three and Green?

A That was it.

MR. TATE: Who was the engineer that spoke up?

THE WITNESS: Chance.

MR. AIELLO: You have two sequencers, right?

THE WITNESS: Yeah.

MR. AIELLO: Doesn't one sequencer affect one train and the other sequencer affect the other train?

THE WITNESS: Yeah, that's true. The text spec isn't written that way though. The text spec is written channels per train.

MR. AIELLO: I understand. There's one functional unit in Table 3.3-2 that states, "Functional unit I, safety injection (reactor trip, heat water isolation, component cooling water, control room emergency infiltration system actuation, start diesel generators, containment cooling fans, nuclear service cooling water, containment isolation, containment ventilation isolation, and auxiliary feedwater motor driven pumps)." What that encompass a sequencer? Would the sequencer fall within that functional unit to your knowledge?

THE WITNESS: I don't understand your question, really, Ron. I have -- I think I had the text spec that applies. You are kind of asking the same questions I asked

-- I went back later, Larry, and asked the engineers --I started thinking about this and said, "This does not seem exactly right here. We have two sequencers," okay? So I went back just within the last couple of weeks and talked to Mansfield about that in some detail and I have subsequently convinced myself that I was right all along, that I understood the issue all along, and that the way the text spec is written, it doesn't matter that there are two sequencers or two trains. You take a sequencer out of service, you lose four out of four channels, which is beyond what is specified in the text specs. I was chuckling a little bit when you were struggling through the reference because it's only about -- you know, subparagraph, you know --

Q Right.

A -- four times and functional unit, etcetera, but --

Q Right.

THE WITNESS: Ron, this is the text spec here that is the problem text spec.

MR. AIELLO: 6d.

THE WITNESS: Loss of degraded 4.16 KV and the text spec says, "Total number of channels, four per train." And, yes, there are two sequencer, okay, but on a per train basis there are four per train that channels to trip, minimum channels operable is three per train, and, you

know, here's these action statements, and when you've lost four out of four, you're in "Motherhood" on that text spec.

MR. AIELLO: So what you are saying is by definition of the total number of channels, since they have "per train" in there, you are implying --

THE WITNESS: Per train applies to A train, per train applies to B train.

MR. AIELLO: You are implying that you have to have both A and B train?

THE WITNESS: That's the way the text spec reads.

MR. AIELLO: Because it does conflict with the functioning unit 1B, which requires you to have one out of two channels to trip, minimum channels operable two --

THE WITNESS: This is a very complicated text spec.

MR. AIELLO: Absolutely.

THE WITNESS: Larry, I think I referenced two. Right here is 6d.

BY MR. ROBINSON:

Q Yes, you referenced 6d and functional units 8a and b. Functional unit 6d and functional units 8a and b.

A Let me get 8 if I brought it.

MR. AIELLO: I have 8 here.

THE WITNESS: For some reason or other it looks like I'm missing a page.

MR. AIELLO: I have 8a and b here.

THE WITNESS: There it is. I have it. There's 8 and here's 6 d. I guess the bottom line on this, Ron, is that the people that I consider expert on the logic and the design and who have critically looked at these text specs have convinced me that having the sequencer out of service is a violation of both these text specs at the "Motherhood" level, and they've convinced me of that and I consider them to be expert.

MR. TATE: Who are those people?

THE WITNESS: Mansfield, Forehand, Chance. And they are the people who marked up the copy that you have over there of the waiver letter and there are several notations in the margins. I believe "Motherhood", you know, is appropriate.

BY MR. ROBINSON:

Q Who was the original drafter of that waiver letter without the comments?

A The original draft of the waiver letter came from SONOPCO, from Corporate.

Q Do you know who would have drafted that for Harriston's signature.

A Probably a guy like Stringfellow. In fact I believe it was Stringfellow.

Q All right.

MR. AIELLO: To your knowledge did they downpower

or de-energize either of the sequencers for this particular test regarding this waiver of compliance?

THE WITNESS: No, I don't believe so. I think the engineers would have objected strongly to that having just gone through this exercise.

MR. AIELLO: That's in keeping with the logs.

BY MR. ROBINSON:

Q Do you know that the engineering comments in the margin of this draft on the waiver letter ever got back to Stringfellow or whoever was going to be making subsequent drafts?

A Those comments were provided formally through the comment process. I believe that a number of people, and I can't say for sure on Stringfellow, but those comments were provided by them to the -- through the approval process on site, and I have to believe that it got to management and got back to SONOPCO.

Q I'm kind of interested in that process when letters or position statements are drafted over in Birmingham by SONOPCO and they are sent to the Vogtle site for comment. Are you familiar with the process that goes on? Who gets them? Who makes comments on them? How they are finally sent back to SONOPCO?

A You know, for this kind of a request, if originated in SONOPCO by, let's say, Stringfellow, would usually be

telecopied into the NSAC group. I think maybe a guy like Allen Rickman might receive those in NSAC or Rick Odom and then they would be distributed by those people to engineering operations and departments for comment then usually on something that involves a NRC submittal like a waiver or an LER or documents like that, those would receive PRB review. Any correspondence that goes to the NRC receives PRB review. These waiver letters receive PRB review.

Q Would each iteration of drafts of these waiver letters receive PRB review or would it only be the final agreed upon draft that would receive this review?

A You may not have a formal PRB meeting on each and every one. In fact, sometimes if only minor changes are made in a final submittal a decision may be made to revise it a little bit from what PRB approved and that's the one that gets sent with few revisions, without a re-PRB on it. Our practice would usually be though to send PRB members a copy of the final. What I'm saying is, sometimes there are some changes made even after the last PRB look at it.

Q Okay. Let's continue the process. After the PRB looks at it and approves it, where does it go then? Back to SONOPCO before it goes to NRC --

A Yeah.

Q -- or does it go to NRC directly?

A No, it'd go back to SONOPCO and then be signed out by Harriston.

Q And what changes is SONOPCO allowed to make to it after the PRB has approved it, if any?

A They could make -- There is nothing that keeps them from making a change after the PRB review.

Q Would they come back to the site with a change they made?

A If they made a change after PRB review they might just refer that back to NSAC, to technical support NSAC, and say, "We altered this," and our response might be, "Well, that's not a big change or that doesn't substantially change the document."

Q Would somebody from NSAC make that judgment?

A Yeah. Probably a guy like Aufdenkamp in most cases.

Q When there are a bunch of changes made to a draft internally on site, numerous iterations of a given letter they say is eventually going to go to the NRC -- I guess you've already answered my question -- not necessarily all those iterations are reviewed by the PRB?

A That's right. We went through that process, like the response to the confirmation of the action letter, and some other things like that when there were a lot of iterations -- went through that response, or process, on

the revision to the site area emergency LER.

Q And the cover letter?

A And the cover letter.

Q We'll get into that in detail tomorrow night. I guess my next question --

MR. ROBINSON: Ron, are there any questions you want to ask regarding the sequencers and the applications of his referenced text spec to the sequencers? Is there any question in your mind that you are thinking along the same lines with him now?

MR. AIELLO: Well, I understand where your interpretations are coming from.

BY MR. ROBINSON:

Q And so, this meeting that Green called with the engineers was to, as you say, argue against engineering and give their rationale as to why they were not in "Motherhood'?

A (Affirmative nod)

Q I think you indicated that Green stated by drawing train diagrams and block diagrams on the board, but that the bottom line was that his arguments were countered by the engineers to his satisfaction or just that he could not respond to them?

A It was clear that they had much, much more intimate knowledge of the way the sequencer worked than he

did, and they presented information that clearly showed that four out of four channels per train would not be able to perform their safety function in the event of the sequencer being downpowered, you know, and they presented that very clearly, and he could not rebut that or give an alternate explanation.

Q And to your knowledge, to this date, there has been no effort by anyone in operations or anyone other than you or perhaps the engineers involved to research past situations where the sequencer have been downpowered or out of service?

A That's correct. You know, to my knowledge the whole issue has been dropped. Okay. The old tech spec interpretation, if there ever was one. Nobody's written a new tech spec interpretation saying that, you know, "When sequencers are out, you're in "Motherhood". No research for potential LER's has been requested. You know, like I say, I initially asked Aufdenkamp and Horton if Green had requested either of them to do such research for potential or past LER's, and more recently I -- The key group that would be asked that would be Aufdenkamp's because his people write the LER's, and I asked him, you know, very recently if anything had been initiated yet. To my knowledge, nothing has been initiated and basically the issue of doing an investigation has been dropped.

MR. AIELLO: If repairs had to be made on the sequencer, how would that affect the tech specs during operation?

THE WITNESS: If the sequencer had to be downpowered or portions of it taken out of service or whatever, those portions that affect relays that are associated with those channels and those portions of the tech spec, you would have to enter "Motherhood" to accomplish those repairs. Entering "Motherhood" to accomplish those repairs would be permitted by the NRC. NRC does permit the entry -- a voluntary entry into "Motherhood" if necessary for maintenance. Does not permit it for convenience.

MR. AIELLO: Maintenance testing for surveillance.

THE WITNESS: It will permit it as necessary for maintenance, and I think, you know, if you had to repair something to get it working right, that would be a justifiable reason for entering "Motherhood". You would only have a very limited time to do your work.

MR. AIELLO: Would not a control room emergency filtration system be considered a surveillance test they were doing?

THE WITNESS: I'm really not particularly raising any issues with respect to the control room emergency filtration system and its testing. It was merely the topic

that engineers were investigating when they found the sequencer "Motherhood" problem.

MR. AIELLO: No. I'm referring to like any historical times when they've had to downpower the sequencer. Would it not have been for either maintenance testing or surveillance rather than a convenience to test something else? Did you know of any, I guess is what I'm asking, where the case has historically been for maintenance testing or surveillance?

THE WITNESS: Ron, the problem in knowing when the sequencer has been powered down before is work history. It's hard from the work history and the MWO history to determine that, and in addition, a number of engineers have told me, "I know we've taken it down other times." If it's been taken down, you know, before, you know, some of those times may have been for testing. Again, that's not a point of contest. The point of contest is that how long was it taken down when it was taken down? Was it taken down for two hours for testing" If it was, there's problem there. Okay? We had been going forward with the thought that it could be down for as much as 72 hours, and that's what the core operations people believed was, you know, appropriate. So, given that that was the thinking, we may well have had it down too long. We may have had it down for inappropriate reasons, you know, and only a fairly detailed

look at that history is going to tell you where you erred in the past with this new information about the relationship to "Motherhood", and only by doing an investigation of that and a detailed work history review and so forth are we going to find out, and to date, nobody has initiated anything to attempt to do that.

MR. ROBINSON: Anything else?

MR. TATE: Yes. Your personal inquiry, the personal investigation of the letter which has been read into the transcript, indicates that when you were looking on the MPMIS computer that you found 38 times the system had been down; is that correct?

THE WITNESS: I found 38 maintenance work orders that had -- that the nature of the work described indicated to me there was a reasonable potential that portions or all the sequencer might have been downpowered to do that work. Okay. You know, when you look at the work history and it says, "Change out a circuit board in the sequencer," I would not normally expect us to pull -- change a board in the sequencer with the sequencer hot. Okay. Just normal good work practice would say, I think they may have downpowered it to do that piece of work. When I looked through the work history, you know, I found 38 MWO's. Okay. And I think there's a good probability that, in those 38 MWO's downpowerings occurred, and I also know tat

talking to the engineers, the engineers have said to me, "We've taken that sequencer down before." Okay. People that, you know, were system engineers or worked with systems that closely interfaced.

MR. TATE: That would be Chance and Forehand?

THE WITNESS: Yes. Mansfield. Mansfield told me that. He said, "We've taken the sequencer down before."

MR. TATE: When you did your review of the computer system and came up with these 38 MWO's, did you make a record of the dates or MWO numbers? Let me just say, where I'm leading to is I think you're indicating what we need to do is a more in-depth investigation into this, and then I'm asking, I guess, how would you lead me to do that? I don't know whether or not we have access to the MPMIS system. Do you have access?

MR. AIELLO: I have access.

THE WITNESS: You did. All you need to do is -- all you need to do is call up the tag number of the sequencer of each one, and there's four sequencers and it will list the work history and the MWO's.

MR. TATE: That would give like an MWO number?

THE WITNESS: Right. And then you can put your cursor on that number and it'll five you the pages that show the work performed, the work described, you know. You can get that information. My write-up -- and I hope it's

written correctly, but if I recall, my review revealed that there were 38. Yeah. There have been 38 work orders issued to perform various troubleshooting, repair, testing, or modification. Okay. I'm not saying that all 38 of those involved downpowering the sequencers.

MR. TATE: I understand.

THE WITNESS: My first problem is that I can't easily tell.

MR. TATE: But that would be --

THE WITNESS: But I saw enough in those 38 that led me to believe that it is extremely probable that among the 38 there were definitely cases where it had to have been downpowered to do that work.

MR. TATE: And that should be readily discernible with further review of documentation, correct or incorrect?

THE WITNESS: It wasn't real easy for me to do. Okay? The problem is that the work described just isn't -- you know, it'll say that --

MR. AIELLO: What he's saying is that a lot of times the MWO is written and it's so vague on the first page that you really can't discern as to what maintenance is being requested to be done.

MR. TATE: Your comments about Mansfield saying that, "We've taken it down," that would be other than through MWO's; is that correct?

THE WITNESS: Yes.

MR. TATE: Would there be a record made of that?

THE WITNESS: The guy that used to be the system engineer for the sequencer is a guy by the name of Brian Stewart, and the -- from what I've been able to tell is that he might be -- he might be the best source of confirming Mansfield's comment about having -- it having been taken down, you know, other times for testing, or you know, other than might be documented on MWO's.

MR. TATE: Is Stewart still at Vogtle?

THE WITNESS: No, but he's in town. He works over at SRS.

MR. TATE: SRS stands for?

THE WITNESS: Savannah River Site.

MR. ROBINSON: I don't have anything else. Any other clarifying aspects that you can think of, Mr. Mosbaugh, regarding the sequencer issue?

THE WITNESS: No. I think that's it.

MR. ROBINSON: Okay. Well, it's now 10:37 and my inclination is to not get into another new issue tonight. We'll get into the temporary procedure change issue and the diesel generator false statement issues and any additional information that you want to give us on the FAVA issue and any additional issue that you have tomorrow night, and I appreciate your time and patience tonight, and I'll look

forward to seeing you tomorrow night at 7:30.

It's now 10:38 and this interview is terminated.

(Whereupon, the interview was terminated at 10:38 p.m., Wednesday, July 18, 1990.)

REPORTER'S CERTIFICATE

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission

in the matter of:

NAME OF PROCEEDING: Allen Mosbaugh

DOCKET NUMBER:

PLACE OF PROCEEDING: Augusta, Georgia

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.

Susan M. Bradshaw

Official Reporter
Ann Riley & Associates, Ltd.

OFFICIAL TRANSCRIPT OF PROCEEDINGS

CONFIDENTIAL SOURCE

Agency: U. S. Nuclear Regulatery Commission

Title: Interview of: ALLEN MOSBAUGH

Docket No.

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(202) 293-3950

BEFORE THE

U. S. NUCLEAR REGULATORY COMMISSION

In the Matter of:	)
	)
INVESTIGATIVE INTERVIEW OF:	)
	)
ALLEN MOSBAUGH	)
	)
(CLOSED)	)

Shoney's Inn
Washington Road
Augusta, Georgia

Thursday, July 19, 1990

The above-entitled matter convened for the continuation of the INVESTIGATIVE INTERVIEW pursuant to notice at 8:02 p.m.

APPEARANCES:

On behalf of the Nuclear Regulatory Commission:

LARRY ROBINSON, Investigator
CRAIG T. TATE, Investigator
Office of Investigations
U. S. Nuclear Regulatory Commission
Suite 2900, 101 Marietta Tower
Atlanta, Georgia 30303
-and-
RONALD F. AIELLO, NRC Resident Inspector

PROCEEDINGS:

MR. ROBINSON: It's now 8:02 p.m. Thursday, July 19, 1990. This is a continuation of an interview of Mr. Allen Mosbaugh regarding safety concerns that he has at the Vogtle Electric Generating Station. The first portion of this interview was conducted on the 18th of July, and you are reminded, Mr. Mosbaugh, that you are still under oath for purposes of this interview and based on that I'll again -- Present at this interview as were present at the interview on the 18th are, obviously, Susan Breedlove, the court reporter, NRC OI Investigators Larry L. Robinson and Craig T. Tate and NRC Resident Inspector Ron Aiello.

Whereupon,

ALLEN MOSBAUGH

was called as a witness, and having previously been sworn, was examined and testified as follows:

EXAMINATION

BY MR. ROBINSON:

Q Mr. Mosbaugh, are there any items or issues with regard to what we talked about last night on the 18th that you want to clarify or discuss?

A Yeah, there were two things. The first one is, I wanted to clarify my statements about attributing a quote from Tom Green and that had to do -- I think I made the statement that in the meeting with Tom Green, that Tom

said something about 72 hour text spec interpretation and he had had that last -- He had looked at that last week or in the past week or so and on further recollection of that I believe I did not hear that directly from Tom Green in the meeting, but I heard it from Lee Mansfield later, who heard it from Tom Green in that meeting. I was present for most of that meeting but not all that meeting. So I got that through Mansfield and not directly from Tom Green. I wanted to clarify that.

Q I appreciate that. And this was pertaining to the issue regarding the sequencer?

A The sequencer. The meeting held with the engineers about the sequencer and the "Motherhood" implications of taking the sequencer out of service.

Q Are there any other items that needs --

A Yeah. There was one technical item. That was an item brought up by Ron Aiello. It had to do with the text spec on operability of the RHR system in I guess it's mode 6 and there was an asterisk in there and the asterisk says something like the RHR pump can be taken out of operation for one hour out of eight during core alterations near the hot legs and we said that might require some further looking into. And I read text specs today. I believe the basis of the allowance to take the pump out of service during core alterations -- and it says alterations near the

hot leg. I think that for water clarity purposes and conductive currents and so forth, I think that allowance is in there to have RHR pump off for a brief period of time so that visually the assemblies could be seen better for core alterations and then allowance was in there for a short period of time to have the RHR pump off. In the context that we were looking at that issue, my point had been that the core alterations, that is the unloading of the core, could have proceeded under the conditions that existed and the allowance to turn the pump off for an hour out of eight is just that. It's an allowance to turn the pump off. It is not a prohibition that the unloading of the core could not occur. That's my understanding of that text spec and the basis for it. So I think that supports my belief that the core unloading could have occurred and probably should have occurred.

MR. ROBINSON: Do you have any questions about that, Ron, or comments?

MR. AIELLO: There is one regarding, if he declared the RHR pump inoperable, I believe the text specs said you had to isolate containment?

THE WITNESS: It said isolate direct connections with the atmosphere. And I didn't look into that piece of it yet, but since the transfer canal is under water, okay, I believe that that would not necessarily be viewed as a

direct connection with the containment -- of the containment in the outside atmosphere. Indeed the sludge lancing operation that we do under the refueling conditions has -- We asked Westinghouse to devise a method where the loop seal would always be in place with sludge lancing so that we could meet that kind of a text speck, and in that case there is communication, but it is not a direct communication of inside containment atmosphere to outside containment atmosphere. You know, we had them put a special tank in so there was a loop seal. It would seem to me that the transfer canal and the way it operates would be similar.

BY MR. ROBINSON:

Q I believe when we spoke briefly outside just prior to going on the record here tonight, I thought I recalled you mentioning another little clarification of some type of issue that involved a four hour notification or something?

A I may have -- Yesterday, I'm not sure if we were on the record or not when we mentioned it, but I talked to you about a condition that developed when the tape was on the diesel and the diesel failed to start because the tape was present. We then researched back and determined when the tape was installed on the diesel. And because with the tape present and on -- it was on the fuel rack, on some of the linkage on the fuel rack -- at the point the tape was

installed the diesel became inoperable and subsequently it actually failed to start because of the presence of that tape. So because we could tell when the tape was put on we knew the initial point of which it became inoperable. When some of the engineers looked at the records of logs we found that that overlapped with the period of time when the opposite train of containment coolers was out of service under an LCO. So what in back researching that was found was that therefore both trains of containment coolers were inoperable at the same point in time. One because its diesel was inoperable and the other because it was out of service under an LCO. That condition is being reported as an LER, but I believe that condition may be reportable as a four hour condition under 50.72, a condition which by itself could have led to the loss of the safety function. This is essentially the reportable criteria and that's a four hour report and it seems like a four hour report has not been made, let me say, and it is proceeding to be reported as an LER instead and I think that may be a problem.

Q It seems like we were talking about that on the record as part of the sequencer issue --

A Yeah, I think that may have been on the record.

Q -- as to trains and --

A Yeah.

Q So that's really a separate and distinct issue in your mind?

A That's a separate issue. People were not knowledgeable that that condition existed when it was in existence, but after the fact, you know, the overlap has been determined and once the overlap has been determined it seems to me that the reporting under the four hour criteria is appropriate rather than reporting as the 30 day LER and that's the issue. It's an issue of reporting.

Q I guess my first question is, when did this happen?

A I don't know, I some how have the right stuff tonight. Roughly sometime maybe June 18, 19 -- in that kind of time frame.

Q Do you have any indication that anyone knew at that time that it should be reported as a four hour --

A Nobody could have known at that time, okay? The sequence is as follows: The one train of the containment cooler was out under an LCO, then the LCO was cleared. Then maybe a day later the diesel failed, but it failed because of tape that had been put on it two days before and so that's what caused these two conditions to exist at the same time. Because of that, a single event, that is the placement of the tape on the diesel caused the loss of safety function, you know, both trains being inoperable at the same time.

Q And when would you say that the discovery of that event should have happened?

A Some people -- some people felt it should have been a four hour. Okay. The requirement to report it as a four hour was brought up.

Q Oh, it was?

A Yes.

Q When was the situation discovered?

A A few days after the diesel failed to start and the work orders were researched such that they knew when the tape had been place on the diesel.

Q And you don't have those dates with you?

A No, I don't. I don't have that.

Q But it's been a number of days or weeks that have gone by between the discussions about it possible being--

A It's been at least three weeks.

Q Three weeks. Okay.

A Probably.

Q So the discovery time is at least three weeks ago?

A Probably.

Q Okay. Approximately three weeks ago.

A But I understand some licensing people at SONOPCO, I believe Jack Stringfellow, felt it should have been four hour report, and I felt it should have been a four hour report and I think some of our inside people here thoug

it should have been a four hour report.

Q And who made the decision that it was not going to be a four hour report?

A I believe that the decision to treat it not as a four hour report was Bill Shipman and Skip Kitchens?

Q Bill Shipman's position is?

A He's the general manager of support in SONOPCO.

Q He's in Birmingham?

A Yeah, Birmingham.

Q So you are thinking that it was a discussion or a meeting of the minds between Kitchens and Shipman regarding --

A That's what I believe.

Q How do you know that?

A I heard that from John Aufdenkamp. He was pursuing the four hour reporting and he talked to Stringfellow who also felt it should be a four hour and then it was decided, according to John -- that's where he got the information -- it was decided in an agreement between Shipman and Kitchens that it did not need to be four hour.

Q At this point in time you have a package of documents that you feel are explained enough to turn over to me or do you want to do that and then give them to me, or --

A I don't have -- All that I had, just luckily, with

me was a series of shift supervisor and control logs that show when the containment cooler was out of service and when the diesel was out of service.

Q Do you plan to put together a package?

A Yeah, I'll put together an explanation of what happened over time with it.

Q I would appreciate that as soon as you can get it to me.

A Yes. I guess I first found out about the condition when one of my engineers said something, you know, "We had both trains of containment coolers out at the same time." Or something like that. And when I heard that I started asking questions.

MR. ROBINSON: Is there any -- Do you have any questions? Are there any questions in your mind, Ron, about that issue or has he been given enough information to even formulate a question?

MR. AIELLO: I have no technical questions.

MR. ROBINSON: Craig?

MR. TATE: No questions.

BY MR. ROBINSON:

Q Is there anything else that you want to add to that now, you know, obviously based on the fact that a package will be following?

A No.

Q Okay. Are there any other items that we discussed last night that you have any clarifications or additions?

A No, I don't think so.

Q Okay. The first issue that I want to discuss with you tonight involves some information that you provided to me earlier regarding a temporary change to procedure and an apparent text spec violation by not properly, administratively handling the final disposition of this procedure and also an indication of a back-dating or a falsification of a date on an official record. What I will do is, I will give you the package of documents that you gave to me with your explanatory notes and kind of let you explain that situation from the beginning. (Handing documents)

A Okay. This information was provided to me by Carolyn Tynan. She's the plant review board secretary and therefore she handles all the procedures that are approved through the plant review board. She showed this to me and was upset over it.

Q When you say, "This" what are you speaking of?

A What she showed to me was a copy of a temporary change to procedure form that you have in this package and what she showed to me was how the department head signature had been crossed out and another individual had signed it for him and the signature that was crossed out is Jim

Swartzwelder's signature, originally dating this at 5/31/90. That signature is crossed out and Jimmy Cash's signature is above it.

Q Dating it?

A The crossing out cancelled the approval state of the department head line, with the check then being placed in the "disapproved" block and then signed as "disapproved, Jimmy Paul Cash," and then dated 6/12/90. What upset Carolyn about it was that she had the original of this document personally in her hands on 6/15. She was handling that original as PRB secretary. So she had the original of that document in her hands and it had Jim Swartzwelder's signature without the cross-out, without the Jimmy Paul Cash signature on it, and she had possession of it on 6/15. Okay. Then later she came across the -- She had the original in her possession. She must have processed that original and it must have gone to Jimmy Paul Cash, you know, maybe later in the day. Then obviously later in the day he signed it and that would have been at least on 6/15 because that is the date she had the original without the cross-out. So at least on 6/15 or later Jimmy Paul Cash must have signed it and changed it to disapprove, but dated it 6/12.

Q And why would he have dated it 6/12?

A Well, the significance of dating it 6/12 is that

the temporary change -- and it has to be PRB approved, or cancelled in this case, within 14 days and that's a requirement of administration -- the administrative portion of the text specs. The original date on this, the initiation date is 5/31. So if this action, resolution of it, occurred on 6/15, that would have been 16 days later, violating the 14 day requirement. By dating it 6/12, that would have been 13 days later within the text spec requirement and you know, that's essentially the issue.

Q Did Carolyn Tynan have some conversations with Jim Swartzwelder regarding this issue?

A I don't know if Carolyn had any conversations with Swartzwelder, but she brought it up to her supervisor, John Aufdenkamp, and they had -- Carolyn may have had conversations with Greg Lee, who is the operation procedure person. Aufdenkamp, I know, had a conversation with Swartzwelder about it, and essentially confronted him with the handling of this temporary change, and Swartzwelder admitted to him that it had been inappropriately handled. Carolyn had, because she was upset, was kind of demanding that John push the issue and get operations to write a DC on themselves for the handling of it.

Q Did you get --

A Aufdenkamp pushed that issue with Swartzwelder and

Swartzwelder agreed to take that action.

Q Did you get that information directly from Aufdenkamp or did that come from Carolyn Tynan?

A Both.

Q Both. And what did Swartzwelder -- What was Swartzwelder's response to Aufdenkamp's question?

A He said, you know, it'd been mishandled. He agreed to have a DC initiated. Jimmy Paul Cash was to write the DC. Carolyn waited all week for a DC to be initiated. John receives the DC's daily in his capacity as Technical Support Manager.

Q John Aufdenkamp?

A John Aufdenkamp does. None came through the process. The system -- By Friday Carolyn was sufficiently upset that no action had been taken, that she wrote two DC's herself. She wrote one on the back-dating and she wrote one of the violation of the 14 days.

Q And what was the disposition of those DC's? Do you have any idea?

A Well, I happen to bring those tonight too. Because they have now been dispositioned, I got these copies today. The one on the -- not approving procedure -- the divisions, he says, that the temporary change to the procedure, 18.028, did not receive final approval or disapproval, nor was voided within the required 14 days of implementation,

that's the statement of the deficiency. The one has been dispositioned and a root cause worksheet is filled out. The root cause worksheet says the responsible person did not insure that it was approved within -- processed within the 14 days. That person has been counselled and that person is going to review the requirements in our procedure to process for GPC.

Q And who was that responsible person?

A That was -- That's a good question. I'm not sure if that's Greg Lee or Jimmy Paul Cash. I'm not sure which one had the true responsibility for handling this.

Q Who wrote that disposition? Do you know?

A Jimmy Paul Cash is the one whose signature is on here.

Q As writing up the disposition of that DC?

A Yes.

Q Oh. So he may be talking about himself as being the person that was counseled, etcetera, when he is writing up that disposition? Right?

A Well, I think it could be him or Greg Lee.

Q Okay.

A One other note on this is that is the disposition that is approved. There is another disposition on here that is crossed out.

Q Read that, please.

A The disposition that's cross out essentially blames the handling of it on the PRB and I would imply from that, maybe on the PRB secretary, since she administratively handles the PRB's business and states that the department that caused this problem is NSAC. That's subsequently crossed out and it's indicated in the approved version that the department that caused this problem is operations.

Q Is it true that the PRB tabled the decision of the disposition on this DC at least once?

A I don't -- I don't know.

Q Seems like I remember a comment like that.

A I think they tabled the -- I believe the procedure or the TCP was tabled.

Q Right. Right.

A The DC, I --

Q Excuse me, I meant the TCP.

A Yeah, the TCP went into the PRB and was tabled by the PRB. I believe the reason why it was tabled by the PRB was due to technical deficiencies, errors, mistakes, etcetera, in the procedure.

Q Does the PRB have any responsibility with respect to meeting that 14 day disposition deadline once it's in the hands of the PRB, so to speak?

A I think the primary responsibility on that is on the department. It's the Department's TCP.

Q Okay. What the disposition on the other -- the nature of the DC?

A The nature of the other one says contrary to our procedures, it says, "QA records will exhibit appropriate signatures and dates." It says contrary to that an inappropriate date of 6/12 was used when it was actually signed on 6/15. That disposition -- there's a root cause worksheet. That again appears to be filled out by Jimmy Paul Cash who is the investigator that signed it. The cause stated is that the TCP 18.028 was not dated with the date on which the decision to void the procedure was made, not the date on which the original was actually signed. This was a personnel error. So the reason being given is that the date that was put in was the date on which the decision to void the procedure was made.

Q And that disposition is written by Cash?

A Yeah. I talked to Carolyn about that statement today and she does not believe that 6/12 is the date that the decision was made on either.

Q Okay.

A But that is the stated cause. The corrective actions state that the responsible person has been counseled on the necessity for accurate times and dates and the TCP has been correct via record corrections notice.

MR. ROBINSON: Ron, let me ask you a question. Did

you make an effort to search for that TCP?

MR. AIELLO: Yes, I did.

MR. ROBINSON: And what were the results of your search?

MR. AIELLO: When I went down to document control for the TCP, it was not down there, and I was told that we would have had to gone upstairs to get it on Tuesday night, and it was about 10:00 at night, and I decided I wasn't going to wait for it, and if I needed to get the TCP I would pursue it the next time I was in the office.

MR. ROBINSON: Did you indicate to me that you got some information that that TCP hadn't even been logged in?

MR. AIELLO: I received a temporary change notice to procedures log that said that the permanent was voided, but I could not ascertain from this particular piece of paper the existence of the TCP's location.

BY MR. ROBINSON:

Q Mr. Mosbaugh, are you prepared to give me --

A I will give you these disposition copies of the two DC's.

Q Thank you. Do you have anything you want to add regarding that issue?

A I guess the -- I believe that management, you know, is aware of -- management Tom Green, as a minimum; perhaps George Bochhold -- they are aware of the back-dating and

other than the dispositioning of the DC, I haven't observed any other corrective actions or disciplinary actions associated with Cash's activity.

MR. ROBINSON: Okay. Do you have any questions, Mr. Tate?

MR. TATE: Why is it that you believe that Green and Bochhold are aware of the back-dating?

THE WITNESS: I can't say for sure about Bochhold, but I know that Green is, and I know through Aufdenkamp.

BY MR. ROBINSON:

Q Did Aufdenkamp tell him or --

A I think Aufdenkamp told him about it. Yeah.

MR. ROBINSON: Do you have anything else you want to add on that, Ron?

MR. AIELLO: Now that this is out in the open by way of the event investigation, do you have any reason -- do you know of any reason why Jimmy Paul Cash would be the investigator or evaluator on his own DC?

THE WITNESS: Probably because there is nothing to prohibit that from happening.

MR. AIELLO: Is that routine though that somebody makes an error on a DC, especially if he's the shift supervisor? Do you know if they will routinely use the person who made the error to be their own investigator?

THE WITNESS: I wouldn't say that that's routine,

but there's nothing that keeps it from happening. You know, the DC's are assigned -- They go into NSAC. They are generally assigned back to the department that caused the problem, but whether or not they would be assigned to the individual, you know, would have to be a decision of that department.

MR. AIELLO: Do you by chance have the record correction notice on you?

THE WITNESS: No. No.

BY MR. ROBINSON:

Q Mr. Mosbaugh, the next issue I want to discuss is an issue that you brought to our attention last night, July 18, after the formal interview was over regarding the discovery of some safeguard material in -- shall we term it "other than secure" locations in the SONOPCO offices? Is that correct?

A The material, I believe, was in terms of security and safeguards nomenclature was unsecured. It also appears to be uncontrolled, and, yes, it is apparently located in the Birmingham offices of SONOPCO, the Inverness Building, I believe.

Q Would you first please explain to us how you came to know about this and then briefly describe the nature of the circumstances?

A Yeah. I, having previously been responsible for

the security department, had participated in the NRC Enforcement Conference on the latest violation that Vogtle received on failure to properly control safeguard materials and as a result of that violation and subsequent enforcement conference, Vogtle received $50,000 in fines. I attended and made some of the presentations at that enforcement conference. One of the corrective actions that we agreed to take because of that violation was to issue a letter to all Vogtle personnel asking them to search their work location and assure that there were no uncontrolled safeguard documents in their possession or in their work area. SONOPCO issued a similar letter. We did a letter at the plant and SONOPCO issued a letter in SONOPCO offices in Birmingham.

Q How long ago was this?

A That was a committed corrective action to occur by June the 30th so the searches were to have occur by June 30th and signed and turned back in. That was the commitment made to the NRC. I think the actual letter that went out, at least on site, required that action by June 27th. So it'd be my best guess that those searches occurred, you know, by the end of June.

Q At SONOPCO as well as local?

A At SONOPCO as well as at Vogtle because the 30th was the NRC commitment date. I'm not aware that anything

of significance was found at the site. But I became aware that some uncontrolled safeguard documents, some of significance to me, were found in SONOPCO offices. I first became aware of that through the NSAC department and in discussions with Rick Odom I went to Herb Beacher, who had received this telecopy from Amy Streetman, an engineer in the Birmingham office.

Q Please describe the telecopy briefly for the record.

A The telecopy is dated July 17, 1990, a time of 8:48. It's from Amy Streetman in Birmingham to Herb Beacher at Vogtle.

Q And how many pages does it contain?

A It's five pages, and the first page is kind of a summary of the types of documents found and the rest of the pages are some more details on the types of documents found. It doesn't say anything too much about their storage status. It does indicate the individual that had these documents and they were part of somebody's old files and office files and things like that. My understanding from Herb Beacher is that these documents were uncontrolled from a security sense and that's based on his discussions with Amy. That is, because the Birmingham office is located in not a protected area, or vital area, the requirement for storage of safeguard documents would be

that they be secured in a GSA approved safe or file cabinet. Because they are essentially in the public domain, a GSA approved safe or file cabinet is required. I do not believe that any of these documents were found or were being stored in a GSA safe or file cabinet. They were being stored like on bookshelves or in somebody's desk or in an ordinary file cabinet or office storage like that.

When I reviewed the types of documents on here some of them seemed significant to me and --

Q What were some of the --

A -- and in total -- Let me say that in total, the technical contents of the documents seems comparable to or similar to that which was found in the Tony Prestifillipo safe, or file cabinet, in the protected area that led to the $50,000 fine.

Q That was the Prestifillipo safe on site?

A That was in the protected area. I asked Tony Prestifillipo today to review -- Tony Prestifillipo is a security engineer expert in security systems and safeguard issues. I asked him to look at this list and give me his assessment of the significance of it and whether or not it was comparable to what he had in his file cabinet and he stated that it looked comparable to, in terms of technical content and safeguards content, listed in this document are three -- the words that are used -- preliminary draft

security plans and supporting documentation. The three -- It says, "I will send three plans." It says, "Three. One stamped. Two not stamped." Tony Prestifillipo's file cabinet had one copy of Rev. 11 of the security plan. The current Rev. is Rev. 18. One of the other items of significance that I think is -- Tony indicated he thought was significant here is an item called "Security officer response time," and it gives a particular file number for that. So it's not stamped. There is some documents here on the memo from SCS to GPC on observation of the security cameras at night. That was a letter that detailed some of the weaknesses or deficiencies in the camera coverage ability at night time. I guess looking -- and there's a lot of other things. There's vendor manuals on the security systems and there's miscellaneous letters. There's deficiency cards on camera assessment. There's information on vital area separation. There's a number of things here, but in all Tony's belief and my belief is that the significance of this is not too different in terms of technical content than what was in his file cabinet.

We also talked about the greater significance of the other aspects of this information. You know, understand all I have is this description of it. I haven't looked at the documents firsthand, you know, and seen exactly what they are, but from these descriptions this

information was not in a protected area. The safe, the file cabinet, that Prestifillipo had was left unsecured overnight for roughly 12 to 15 hours one night and it was located in a protected area. The only people that could access it would be people that are badged to get in the protected area. People that have had a -- been finger printed, had an MMPI background checks. You know, all the things it takes to get in a protected area would have been the type of people that could have accessed it, and it was only unsecured for 12 to 15 hours. This information apparently is in Birmingham where -- under a less secure condition than a protected area. It may have been unsecured for a long period of time, much, much longer than 12 hours. Perhaps if it were on somebody's bookshelf or in somebody's file cabinet, it could have been there for months or years.

So based on those factors we thought that though the technical content was comparable, the significance of the lack of control was probably greater.

Q Do you feel that in addition to that the significance of this documentation being found at this time one of the significant aspects would be that this was found after each of the SONOPCO employees had already submitted their letters back in that they had done a search of their areas?

A I believe that -- You know, I believe that what this is is a compilation of the documents that were found as a result of searching per their letters.

Q Okay.

A That's what I believe this is. The front of it has Amy Streetman's signature on it and says, "Inventoried by Amy Streetman," and Amy Streetman is a project engineer in security who handles some security projects in SONOPCO and some of the individuals or locations here are some other engineers that have handled security in SONOPCO and then files. But I think the discovery of these documents is probably a result of looking, searching areas per those letters.

Q So not as a result of it being found by an additional search after the employees --

A I don't believe so. I don't believe so.

Q Perhaps it's just a late response to the deadline on the corrective action that was promised?

A My guess is that these documents were found when the letter searches were done, probably prior to the end of June.

Q Okay.

A Okay? And they are now being compiled and summed up here, and I believe this information was sent to Herb Beacher by Amy Streetman to be included in the violation

response to the $50,000 fine. I guess the issue with that is that they were probably found as a result of the corrective action taken for the fine; however, the requirements to report uncontrolled safeguards materials, once determined to be significant, requires reporting under 73.71 within one hour of discovery.

Q And I believe you had some discussions with some SONOPCO personnel that were at the site regarding that reporting issue; is that correct?

A Yeah. (Pause) I'm trying to decide if it was yesterday. It was yesterday or the day before.

Q Well, the FAX is dated the 17th. If it would have been on the same day as the FAX, it would have been the day before yesterday.

A I can't recall if it was the 17th or the 18th. I could ascertain that later. But I mentioned to Herb that I thought that the content of this, you know, and the fact that it was outside of a protected area and could have been uncontrolled for a long time, but the documents are also, you know -- There are some additional issues above and beyond the violation -- the $50,000 violation, but not the fact that they contain safeguards information and are not stamped as such is kind of a new issue. The fact that -- I think you would have to classify these documents as uncontrolled. That is not contained in some central log

that accounts for their existence. So there's several things that are above and beyond the conditions that were cited in the previous violation here. I stated to Herb Beachey that I thought they were significant. I asked him if SONOPCO was initiating or preparing to initiate a one hour report on this, and he indicated no report had been made. So I discussed it with a couple of other people and toward the end of the day I was able to tell that no reports had been initiated. It appeared that this information seemed significant, that a number of people knew about it. So out in front of my office, Tom Green, Bill Shipman and Paul Rushton, I found them and said -- Well, Tom Green actually brought it up and I chimed in with some of the specifics about it. Said that Amy Streetman had telecopied this down to us and I thought this was potentially reportable. Shipman and Rushton claimed no knowledge of uncontrolled documents. They said, "Well, that's the first I've heard of this."

Q Is that believable to you?

A Well, some of the stories I got earlier in the day from some of the NSAC people who had talked to Jim Bailey, who is a SONOPCO licensing manager that works for Bill Shipman, was that Bailey knew all about it, and that indeed Bailey had mentioned it to the NRC at a quarterly meeting that they held at SONOPCO.

Q Who were the NSAC people that were talking to Bailey?

A Odom, Rick Odom. Do apparently Bailey knew about it.

Q Had Bailey mentioned the discovery of this?

A He had mentioned -- All that Odom said from Bailey was that Bailey had mentioned it -- findings, "it" -- finding some documents in SONOPCO, security document in SONOPCO, at a quarterly meeting with the NRC.

Q Did you have any feel for when that quarterly meeting was?

A Weeks ago.

Q So theoretically -- I mean, would you classify that as a report?

A No. That can't be considered a 73.71 report. We have procedures for making a 73.71 report. You fill out the paperwork. You send it to the control room. The control room picks up the red phone and they call the operations center and indeed the code of federal regulations states that the reports have to be made to the operations center.

Q How would the reports be handled from a SONOPCO standpoint?

A SONOPCO should immediately upon finding safeguard documents uncontrolled of significance should immediately

call security at the site. Indeed the letter that I had drafted to have the people search their areas that's one of the sentences in there. "If you find uncontrolled safeguards documents immediately call security department." That is in the site letter. I can't say for absolutely certain that the same phraseology was used in the SONOPCO letter, but I think they would have copied that up there.

Q So the report, even though the discovery was made at SONOPCO by SONOPCO people the report responsibility would have still ended up being a site responsibility?

A It should have gone to the site. Two things need to be done in finding uncontrolled safeguards documents that pertain to Vogtle. It is the Vogtle security system that we are trying to protect. It's the health and safety of the public from the operation of Vogtle and its safeguards -- security needs to know what has been decontrolled so that if compensatory measures or additional checks are needed, additional patrols are needed by the officers, security needs to assess that and implement that. Then the reporting requirement is required which is an obligational licensee, which is, you know, the plant, and those reports are made through the red phone in our control room. So it has to come back to the site for the essence of the issue, which is the security of the plant.

I talked to the Captain, the security Captain,

today who is acting security manager Johnson, Captain Johnson, and asked him if he had seen the Amy Streetman letter and was aware of the specific documents that were uncontrolled and if he was taking any measures and he was unaware of the Amy Streetman telecopy. I told him to get a copy from Herb Beacher.

Q That was today your conversation with Johnson?

A That was today, right. This morning around 8:00.

Q And in your discussion outside your office with Rushton, Green and Shipman, you indicated two of those denied any knowledge of it. That was who again?

A Rushton and Shipman said, you know, like, "This is the first I've heard of that." Rushton then said something like, you know, "I think we may need to make a one hour," or something like that was Rushton's comment, and then Shipman said something about being under the grace period, meaning from the previous violation, and I think I said something like, "The grace doesn't apply to the reporting of events." The NRC may not issue a repeat violation because of this being found as a corrective action from a previous violation, but we still have to report. More discussion of, "Well, I think it's covered under the grace period," and eventually they walked off and didn't initiate any action.

Q Did Green have any memorable comments regarding

that?

A Nothing other that -- something to the effect that, Well, it was in your house and I wanted to make sure you knew." Or something like that.

Q He was the one that brought up the issue?

A Yes. He was the one that first said something to Rushton and Shipman about it. And Shipman, Rushton and Green really didn't have much details and I heard them talking about it and I stepped up and said, "Well, Amy Streetman sent a telecopy down here," you know, and some of the details.

Q So if and when -- Obviously a one hour report was not made. If and when a report is made at all, since it comes back through the site, you would probably be aware of it?

A Yes.

Q And to this time, to your knowledge, has a report been made?

A No.

Q Any other aspects of that issue that you want to continue to elaborate on?

A No, you know, other than it seems to me that the one hour report, you know, was missed weeks ago.

MR. ROBINSON: Mr. Tate?

MR. TATE: Yes, sir. Prior to speaking with Green,

Shipman and Rushton, you initially spoke to Herb Rushton -- Herb Beacher?

THE WITNESS: Yes.

MR. TATE: Is that correct?

THE WITNESS: I found out that there had been this telecopy from Odom. He said Beacher had the telecopy. I went to Herb Beacher and looked at the telecopy and got a copy of the telecopy.

MR. TATE: I think you said that after you spoke to Herb you spoke to some other people. Do you recall who those people were?

THE WITNESS: Yeah. I mentioned the telecopy from Streetman to Aufdenkamp also. I mentioned it to Lee Mansfield and Robert Moye, both of those individuals -- Moye is currently Prestifillipo's supervisor and Mansfield used to have security responsibilities.

MR. TATE: So Moye would currently be in security at this time?

THE WITNESS: No, Moye is in engineering. Prestifillipo is a security engineer. He was the individual that was responsible for the unsecured safe that led to the $50,000 fine.

MR. TATE: I believe you said that after you spoke to these other people, which would include those that you've just mentioned that it was clear to you that no one

was going to take any action on it and that's why you discussed it with Green, Shipman and Rushton; is that correct?

THE WITNESS: When I started getting the feedback I started getting from Odom and Aufdenkamp, which had come from Bailey, was the SONOPCO view on it was that they weren't going to do anything on it because it was in the "grace period" and they had talked to the NRC in the quarterly meeting, and you know, that was essentially what was being used as the excuse for no further action.

MR. TATE: Thank you.

BY MR. ROBINSON:

Q Have you or anyone else written a DC regarding this?

A I haven't. I don't believe anybody has.

MR. ROBINSON: Ron, do you have questions regarding this issue?

MR. AIELLO: I don't have any technical questions right now.

MR. ROBINSON: Do you have any comments that you want to make, Mr. Mosbaugh, regarding this?

THE WITNESS: No.

MR. ROBINSON: Thank you. It's now 9:05 p.m. We will take a five minute break.

(Off the record)

MR. ROBINSON: It's now 9:12 p.m. and we are back on the record.

The next issue we are going to discuss is an issue that Mr. Mosbaugh and I have discussed previously regarding a filtration system that has been proposed to be install at the Vogtle site. It is under the acronym FAVA, F-A-V-A. Mr. Mosbaugh has provided me documentation regarding this issue that is in the site employee concern files and also some copies of some memorandum and documents that have been exchanged between himself and the general manager, Mr. Bochhold.

BY MR. ROBINSON:

Q Mr. Mosbaugh, would you please in your own words explain the FAVA issue and your concerns regarding this issue?

A Okay. There are actually four different filings that I made to the -- to Bill Lyons, who is the coordinator of the Vogtle quality concerns programs. The first one is dated February 15, 1990. The second one is dated March 16, 1990. The third one is dated June 1, 1990. And the fourth one is dated June 11, 1990.

The issue with the FAVA system dates back more than a year. This particular system is a microfiltration system and its intended purpose was to filter out very fine particulate out of our radioactive waste -- or liquid

radioactive wastes that the plant generates. The system is located in the Alternate Redwaste Building, which is attached to the south end of the plant. That Alternate Redwaste Building was added to the design of Vogtle at the last minute prior to the completion of construction and licensing and in that building is accomplished the treatment of the liquid radioactive waste that had originally been intended to be done in a lot of other equipment, in evaporators that are located in the auxiliary building and in the equipment that is housed in the solidification building, which was never completed.

So essentially the system that was put in that building is a system added at the last minute. Instead of completing the permanent plant systems that had been intended to handle the liquid and solid radioactive waste. It was not felt cost effective to complete those systems and so this temporary -- initially the systems that were put in the Alternate Redwaste Building were temporary vendor supplied systems. That is, the equipment was not owned by Georgia Power or by Vogtle. It was a vendor skid that was leased from a vendor. More recently, however, the equipment in that building has been purchased by Georgia Power Company. So that's a little bit of the background.

What happened is, Unit I started up. There was some difficulty, or perceived difficulty, in meeting some

of the discharge limits and there was a lot of liquid redwaste management problems, water management problems, and there started occurring some conditions where batches that needed to be released to the environment were high in niobium, the particular isotope that was causing release limit problems. These releases were, you know, using up a large portion of the niobium limit. So there was an effort to figure out a better way of filtering this liquid radioactive waste and this microfiltration unit was proposed would be capable of filtering out this niobium, which was felt to be in fine particulate form.

So an effort was made to procure a system, a skid, that would do that filtration and one was procured from a small vendor whose name is Larry Fava. That's where the FAVA microfiltration unit term comes from. That skid was fabricated by this small vendor and delivered to the plant. It is essentially a small pressure vessel with a lot of associated piping and in the pressure vessel is essentially a small pre-coatable, powdered demineralized filter and there's a control panel that controls solenoid valves and so forth. That skid is placed inside a concrete vault in the ARB -- that's the Alternate Redwaste Building. The skid was procured sole source procurement to the FAVA company and it was later determined through a quality assurance audit that the equipment had not been properly

procured. That the appropriate quality assurance program, appropriate commitments to reg guides, specifically here Reg Guide 1.143 had not been adhered to. And a quality assurance audit found that they have essentially a programmatic breakdown in procurement and meeting FSAR committed requirements in an audit. A significant audit finding was issued by the quality assurance department, and because of that finding, the system was removed from service.

It was operated for some period of time and before that the finding was issued and it was removed from service. And what had happened in the meantime was the real cause of the high niobium discharges using up a large fraction of the limit was determined, and it was determined that an error in the software for calculating the niobium discharge limits was the real reason why we were using up such a large fraction of limit. They had made an order of magnitude -- I think it may have been two orders of magnitude, miscalculation in the environmental concentration factor. So indeed, the plant was never even close to exceeding its niobium 95 discharge limits at all and the problem was a software error, and we thought we were, but we really weren't even close.

Nonetheless, the effort to install this equipment had proceeded despite the reason for needing it in the

first place, having evaporated -- The equipment was installed. It was put in service. After that the explanation for the need for the equipment shifted from to remove niobium 95 and it shifted to being needed to removed cobalt 58 and 60. Okay. Two other particulate radionuclides, and that was the explanation. And there's some old write-ups that show that niobium 95 was why we needed this system initially.

At any rate, then it was put in service. Then it was removed from service after the QA audit. That history kind of takes you up to the -- about February of 1990. And what happened at that point in time is a resurgence of effort to reinstall this equipment. Nothing had really changed on it. The old QAI finding, you know, issues still remain, but there was a resurgence and interest in putting it back in service. And I believe about the same time the equipment had been bought from the vendor and was no longer a rented vendor service. I think it was now owned by Georgia Power.

So the chemistry and health physics department and the operations department were the initiators and they went to engineering and asked to have this equipment installed under a temporary modification. That temporary modification then came to the plant review board on which I was a member. When I saw the temporary modification and

knowing some of the history and programmatic problems and the quality problems and the quality assurance and the reg guide commitment problems with the FAVA system, you know, I was kind of outraged and objected strongly in the PRB that we couldn't do this. And I guess I'll then get into some of the things that are wrong with the skid.

Reg Guide 1.143 applies to liquid redwaste treatment systems. This is a liquid redwaste treatment system. It handles liquid redwaste. It filters the redwaste and therefore that reg guide does apply to it and in the reg guide there is a position statement and that's a part of the reg guide that's a requirement. Vogtle is committed to -- I'll just read some of the items out of the concern here.

Q Sure.

A (Reading) "Vogtle is committed to regulatory guide 1.143 and FSAR chapter 1.9." There's where we describe all the reg guides we commit to. We are committed to that. The FAVA filter system was being added to the plant's design by a temporary modification and that's what had come to the PRB and those were being processed as a temp mod under our administrative procedure 307, temporary modifications.

The temporary modification that was issued for this is check safety related. At Vogtle liquid redwaste treatment systems are classified under our system as safety

related and the temp mod was check safety related. Our procedure for any safety related temp mods requires technical design, engineering reviews. Our management had stressed recently that we needed to treat temporary systems from a design standpoint just the same way we treat permanent systems, that we should apply the same controls and --

Q Your management --

A Ken McCoy, specifically, had recently stressed treating the temporary systems, vendor systems, just like permanent systems. Like I said, the FAVA skid is a system handling radioactive material in liquids. The regulatory position section of Reg Guide 1.143, Section C.1.1.1, requires that systems should be designed and tested to the requirements set forth in codes and standards listed in Table 1. You go to that table and it states what codes the pressure vessel has to be. It states what codes your atmospheric tanks have to be, what codes your pumps must meet, your heat exchangers, your piping and valves and so forth. The pressure vessel in this system is a non-code vessel. It's not code. It's not stamped in any way under any code. So it's a non-code vessel. In fact all the components in the system are non-code. The table 1 that the reg guide references requires some of these vessels to meet ASME code section 8. Piping and valve has to meet

ASME 31.1 requirements and so forth, and essentially this system meets no codes.

Another section of the reg guide states that this is regulatory position C 1.1.2. It states that plastic pipe should not be used in a radioactive waste treatment system. This system is build primarily out of all PVC piping, plastic pipe. All the pipe is PVC and most all the fittings are BVC and really the components in the system that are metal are just valves that are in between PVC fittings and those valves are a variety of different materials, brass and bronze and again, they are non-code. They are more like hardware store type components.

It's been Georgia Power's policy that should requirements in reg guides are treated as "shalls," that they are a regulatory requirement. That is a Georgia Power Company position.

The table 1 that I referred to and additionally stating the codes for construction of the system, and it also requires testing requirements. The codes require that these components be tested. The pressure vessel had not been pressure tested. Also the regulatory position section C.6 states the quality assurance programs requirements for a redwaste system, and we treat redwaste treatment systems as augmented cue and there are certain portions of 10CFR50 Appendix B that apply to these systems. This particular

skid was not constructed with any quality assurance program. There is no quality assurance program used on it. The skid was received into the plant, not through the formal process, through the warehouse and the QC inspection and so forth. It was received in and put into place. So it's actual receipt on site was inappropriate. That was one of the original QA audit finding issues.

So, you know, basically what you have -- and I'm not going to go over everything that's in my write up here because it's fairly extensive, but you basically had a system that met none of the requirements.

Q Do I have a copy of the write up that you have in front of you?

A Yes.

Q All right.

A It doesn't meet the code requirements. It doesn't meet the material requirements. It doesn't meet the testing requirements. It doesn't meet the quality assurance requirements. I mean, it's -- it's totally across the board and violates all commitments in this reg guide.

Q So when that came to the PRB in February and you sitting on it and you pointed this out to the PRB --

A Right.

Q -- what happened?

A Well, with the temporary modification there was a safety evaluation. Okay. And the safety evaluation had been done by SCS for SONOPCO and the safety evaluation was with the package, and you know, I started criticizing the safety evaluation because it didn't address the issues. In fact, the safety evaluation admitted that all requirements of the reg guide were not done. And it only then proceeded to say, "Well, this is a temporary system." It said that the plastic piping -- There was a little calculation in the safety evaluation that said the plastic piping could withstand the radiation for 180 days. Okay? And it checked -- you know, it went through all the standard 50.59 questions to determine that it was not an unreviewed safety question and had them all checked so that it passed the safety evaluation. But the only technical issue in the safety evaluation was that the plastic piping wouldn't be exposed to so much radiation that it would degrade, you know. Add a couple of other things on the vessel -- the code requires that pressure vessels have a relief valve on them, for example. There is no relief valve installed on this pressure vessel.

Q Was it your opinion that the safety evaluation was inadequate?

A The safety evaluation was totally inadequate.

Q Was there an issue in the PRB as to whether or not

the reg guides applied to this piece of equipment or not? Whether or not the reg guides applied?

A That was discussed but I think it was recognized that they did apply. So kind of, in a sense, since what I had was essentially across the board violations of everything, the issue kind of came down to one of, can you use a safety evaluation, a 50.50 evaluation, to justify violating every nuclear regulation in the book and quality assurance program requirements. Okay? You know, that was essentially what the issue came down to if you wanted to state it in a few words, and the Board didn't really know the answer to that and there started being a good bit of discussion. It was tabled from one meeting. George Bochhold started getting involved in the meetings. There were at least a half of dozen little meetings on this with the Board.

Q What was the split and who were on the sides of the issue in the Board?

A Ultimately when it came down to a vote, I was the only person who voted against it. Another member on the Board who voted for it later admitted to Bill Lyons that he felt intimidated and pressured by George Bochhold's presence.

Q Who was this?

A That was Gus Williams. He was acting as an

alternate for Aufdenkamp.

Q And he is still on site out there?

A Yes. I believe that is document in Bill Lyons quality concern package as part of his investigative work.

Q What is your knowledge of the motivation of those that wanted to install that piece of equipment other than the fact that they had already bought it and paid for? Was there any motivation other than that?

A I believe that people in operations and the health physics department think that the system is beneficial from a ALERA standpoint in minimizing releases to the river NRF finds, and I'll have to say, the system should be beneficial. I mean it's a precoatable IN exchange filler and it should -- each new processed element that you add into a treatment stream should add an increment of reduction in the affluent. It's my judgment, however, that this particular system, our releases have been fairly low in terms of our annual limits. That it's not been conclusively proven from data that I've reviewed and that other engineers have reviewed about this system that it is terribly effective in reducing these very small colloidal particulate radiation, and certainly it's not effective to the extent that it would in any way justify exposing ourselves to the risk of unsafe operation in a system that's not quality, that could fail, and so forth. I guess

I'd add a couple of other technical things. I mentioned that it was made of PVC pipe. It's made of ordinary PVC pipe and not CPVC pipe, which is a high temperature pipe. Ordinary PVC pipe is unsuitable for any service much above 100 degrees and certainly any service that approaches 120 is totally unsuitable. This is located out in the Alternate Redwaste Building, which is a non-air-conditioned building. It's a steel panel building. It draws -- It is operated under a slight net air infiltration. That is, it has ducts in it that are drawing suction on the building. So the air that enters the building is the outside ambient air. The temperatures recently have been over 100. It's inside the steel panel building with the hot sun beating down on it. So the temperature operation of the building, you know, can exceed 100 degrees without too much imagination.

When in the course of one of the PRB meetings we had the designer from SCS on the phone. His name is Gwenn, I believe, John Gwenn. And I mentioned the temperature of operation, the PVC pipe and he said, "Well, if I had known that it was going to be in that kind of environment, I would have never approved PVC pipe," you know, a statement like that. So there was recognition of design inadequacies in the material selection and so forth on the part of the designer, you know. So my point is, we have a system that

doesn't meet the regulatory requirements, doesn't meet code and really is made of materials unsuitable for the operating conditions and therefore could easily fail and that failure could subject us to a substantial risk. I guess I'll get into that part of it because that's one of the later submittals. It's more of a discussion of the risks. At any rate it went to -- It was taken to a vote. My technical issues that I had raised of compliance were not addressed by the Board. They were not itemized and addressed. You know, "It's okay to have class b because of this. It's okay not to have a relief valve because of this," you know. "It's okay to have this brass non-code valve in here." You know, none of that was ever itemized or addressed. In fact, the designer -- the designer never saw the skid. The SCS engineer that did the safety evaluation, he has never laid eyes on the skid. He admitted that in a conversation. That sometime is okay, the designer would do that, but that's okay because he has a set of as built drawings and a spec sheet. Okay. There is no spec sheet on this. There is as built drawing on it. The only documentation there is on this is a 8 and 1/2 by 11 simplified schematic. So the standard engineering paperwork that comes along with this is not in existence. There's no assembly records. The PVC is solvent welded. Okay. What procedures were used in solvent welding the

PVC's? You know, nobody knows. There's no quality assurance program been used in the assembly and manufacture of it. You know, all of the key elements are missing.

Q Am I missing a point here, or am I to understand that this system was just to be installed for a very short period of time as a stop gap type system?

A Well, it was initially installed in early '88 and it's still in service now. I don't know how short of period of time you would call stop gap, but there is a current plan to replace this with a regulatory compliance system and that system currently is -- probably will get delivered maybe this coming September.

Q So your issue, of course, is the fact that this system should have never been installed in the first place?

A Should have never been installed in the first place. Once it had been removed from service because of the gross violations by the quality assurance -- found in the quality assurance audit should never have reinstalled - Should never have reinstalled.

A Okay. And should have been left out of service until a compliance system could be procured. The risk of operation of this thing far exceed any benefits.

Q And what are the risks of operating that?

A I'll jump into that and maybe cover a little more

later, but the risk, when I started looking at the system is one that -- It fails the safety evaluation. Let me talk a little bit about the safety evaluation. When you do a 10CFR5059 review, you have to conclude that no unreviewed safety question exists and two key aspects -- on two key aspects this system fails the safety evaluation. One is does this system increase the probability of an accident. Okay. And my answer on this system is yes because there's no QA, because the materials are inappropriate, they violate regulatory requirements, you know. The probability of an accident is increased and it's increased significantly over a system that's made of stainless steel and all welded joints and would be compliant with regulatory guide 1.143. So it fails the safety evaluation on that. The other thing with the safety evaluation is, are the consequences of an accident increased? Okay? And it fails the safety evaluation on that count as well because when I started looking into that aspect of this system and the Alternate Redwaste Building, when you look at the consequence of an accident or the probability of an accident, you are comparing it to what has previously been evaluated. So when I started asking what the bounding accident was for this system that had been used as the basis for the safety evaluation I was told that the 5059 was based on the failure of the recycle hold-up tank in the

basement of the Auxilliary Building, 100 feet below grade in a total *seismic and concrete building. That was the bounding accident. Okay? That particular accident is in Chapter 15 of the FSAR. That's stated as the Bounding Accident for a Liquid Redwaste System. That accident is specified as an ANS class frequency 4 accident, which is the most infrequent accident. And the consequences of that accident are described in the FSAR as a pathway of radioactive liquid release through cracks in the basement of the Aux Building into the dirt down into the aquifer, that is the release pathway that has been evaluated. So the frequency is class 4 and the pathway is into the dirt and into the ground. The accident that could potentially happen with this system installed up at grade in the Auxilliary Redwaste Building is that this is a steel panel building and what occurred to me was that some of this PVC pipe breaks, cracks and this thing starts spraying water out in this building. There's hose connections in addition. I didn't mention that, but this is connected up to the permanent stainless steel piping via lots of hose connections. So maybe one of these hose things blows off or a hose splits and sprays water. When you look at the design of the Alternate Redwaste Building there's a concrete sill and it has a "Z" flashing on it like that (gesturing). And the side that sticks up is on the inside

of the building and then the steel paneling is laid in the Z flashing. The design of that type of building is such that when it's rained on from the outside, the Z flashing catches the rain and keeps it outside the building, but on the inside of this building, the Z flashing creates a large cup, a large lip, and in fact there's a lip like this at each of the I beams as you go up the wall inside the building. So any liquid that would spray out inside that building would be trapped in all these Z cups and ends up being directed down the wall out the Z flashing underneath the steel paneling and out into the gravel and out into the paved road that leads into the fuel handling building. So the pathway of an accident in this case would be a failure of some of these plastic pipes or hoses spraying onto the walls of the building, going out the building and flowing down the driveway into a storm drain. The storm drain then very quickly go right outside of the protected area fence into an unrestricted area. At that point you are outside of an area whose access is controlled for the appropriate purposes of prevention of exposure to radiation and that becomes a safety concern, you know, right at that point with exceeding 10CFR20 limits to unrestricted areas. So here's a whole new pathway of a release, you know, not into the ground water. This is the surface water released. The probability of one of these plastic pipes breaking isn't

the ANS class 4 -- I might add that the ANS class 4 is the probability of a large break LOCA. Okay. One of those very improbable events. So my finding was that the safety evaluation failed on both counts. It was not enveloped by previous accident analysis in terms of the released pathway and it was not enveloped by other calculations of the probability of occurrence. It failed on both counts as an unreviewed safety question. It should never have been approved, you know. So PRB again went ahead, a vote was taken. The shift supervisor signed the paperwork. Hold tags were lifted off of it and it was returned and put back in service. At that point when it was put back in service I wrote a deficiency card on it; the reason being that now the actual condition existed because it had been returned to service. I said in the deficiency card that it was potentially reportable, and I think that pretty well takes us -- Let me cover the second PRB meeting. After it was initially approved and put in service, the general manager I guess got concerned about what had occurred and what had been allowed to occur. I believe part of this concern was the fact that I had by that time filed the quality concern. So a new series of PRB meetings were held and I got a lot of attention from Paul Rushton and SONOPCO and Mark Ajulini and SONOPCO.

Q As a result in your part in these new PRB meetings?

A As a result of the quality concern.

Q What happened in the new PRB meeting?

A At that point the general manager asked -- It went to the Board to be, let me say, reapproved again. Re-reviewed by the Board. And at that Board meeting was the Board meeting where I brought to the Board my researching on the enveloping on previous accident analyses, and I presented information to the Board in that meeting that showed it had not been enveloped. That got a lot of the other Board members concerned, and basically all the Board members then at that meeting expressed concerns. I had already filed the quality concern at that point and said that the general manager didn't handle the non-unanimous vote properly and he attempted to explain the handling of the non-unanimous vote at that Board meeting. Our procedures require for him to immediately address the Board at the next meeting or next opportunity on any non-unanimous vote and nothing had been done. Okay. So he attempted to rectify that and because so many members were concerned at that meeting, he ask -- the general manager asked all the members to write down their concerns. He collected all of them and he handled addressing those concerns himself, to my knowledge.

Q Did you submit some concerns at that time?

A My concerns at that point were already in the

quality concerns program. But the other members each wrote some things down that they were concerned about in that meeting. The general manager handled addressing those concerns. I think Bill Lyons may have assisted in that, and eventually another meeting occurred to vote again on it.

Q Do you have any idea that any of those concerns that you talked about were inadequately handled or improperly handled?

A It must have been handled to the satisfaction of who had submitted them. It would be my opinion that they were not properly handled because I don't see how any explanation could justify, you know, approving the system for service.

Q So the concerns were pertaining to that particular system, not just general --

A Oh, yes.

Q -- concerns about the handling of the PRB?

A My presentation in the PRB showing how the safety evaluation was inadequate, how the frequency was increased, how the new pathway existed and so forth disturbed a lot of the members. Okay? And because of that they started questioning FAVA. Okay. And they wrote up concerns addressing some thoughts that must have stimulated with them about their view of FAVA. Anyway, eventually another

meeting was held to vote again on it after the individuals concerns had been addressed. We had yet to get a new safety evaluation because at the last meeting I had essentially shown that the safety evaluation that had been provided was inadequate. We had yet to get a new safety evaluation and I think I had said to the PRB secretary, "Well, they can't vote on this. We don't have any of the new safety evaluation information." At that time I got a call from my wife at home who had locked herself out of the house with one of my children who had a high fever, and I had to leave and rescue them. That afternoon the meeting went on and they voted on the -- the second time they voted with me absent and voted to approve it again.

Q Do you know the split on that vote?

A There was no split on that vote. There was a descending opinion issued by John Aufdenkamp that it was not appropriate to take the vote with me absent.

Q Was there any comment regarding -- I mean, I realize you were not at the meeting, but from your discussions with Aufdenkamp or anyone else that was in the meeting, was there any comment about the absence of the safety evaluation?

A I don't think so. This is the concern here dated 3/16 is the one that addresses the new pathway, and specifically that's the one that gets into the fact that an

accident, a break of some of this piping, will result in exceeding 10CFR20 limits by a wide margin, perhaps by thousands or even tens of thousands times over the 10CFR20 limits. And in that package is the calculations that were done by -- by I guess about March 6th or so. SCS finally did a calculation that addressed an event in the ARB. That was the first time that any calc had been done in terms of an ARB accident and they address a gaseous release in this.

Q As opposed to a spraying liquid release?

A And they do not address a liquid release. And what they say is, "Well, okay. Something could break in this system and these are the activities that would be in the liquid and the operator would turn it off within 30 minutes." They take credit for 30 minute operator action. They say X gallons would be released. They say that all that liquid would be contained in the building and they say this amount of it would go into the area and it would be drawn into the Aux Building and therefore the gaseous release pathway would be the same gaseous release pathway as was used for that tank in the bottom of the building and says therefore it's enveloped, but they never address a liquid release.

Q They are saying that any liquid release would be contained below the flashing?

A Yes, that's what they are saying. So they

essentially ignored any pathway of a hose rupture spraying on the walls. But that's the first time on 3/6 that there is any calc of any event in the ARB. So that essentially says to me that this has been an unreviewed issue until this date. That, at this time, is the first time they reviewed it. It is an inadequate review as of that date. You know, that's the first time it's even been looked at.

Q And when was the second PRB vote taken? Was that after that calc or before it? Do you remember?

A I can't remember right off. I'm thinking it was before. I'm thinking that it was before.

Q It sounds like that would be associated safety evaluation data that they did not have access to when they made that second PRB vote that you referred to.

A I don't have enough -- Let me see. No, I don't have it. We can get it out of PRB.

Q But all of the packages that you've been looking through that are laying there on the table right now, I have?

A You have all these.

Q So, okay. Anyway, this package has that calc and has this stuff about the pathway. It has an assessment of the probability of failure. I guess another issue that's in this second package here is something that I found out in this time. What I indicate is on January 9, 1990

another purchase order was issued to reinstall the FAVA filter. Okay. I have a PO in here. This PO was cut to reinstall this thing before it ever came to the PRB. Okay? So somebody was obviously assuming it would be successfully approved.

MR. TATE: Who was that somebody?

THE WITNESS: Who initiated the PO? The PO would have been initiated by somebody in the Redwaste Department or the Chemistry Health Phys Somebody who maybe under LeGrand. Project name, Dav ber. Dave Schreiber's name is on the PO. He's in operations, redwaste area. Anyway, this PO provides service to reinstall the FAVA filter. This PO, the boilerplate was put on it to comply with reg guide 1.143. At this point the procurement department having realized how this thing had been put through the first time without the appropriate procurement requirements, and that was corrected and this PO addresses that all work must be done in accordance with the reg guide. Okay?

BY MR. ROBINSON:

Q And is there some kind of certification anywhere that it had been done that way?

A Well -- Yeah, here. (Reading) "Vendor to certify that materials supplied meets the requirements of reg guide 1.143. Material is exempt from GPC QC inspection

requirement." And the PO is to provide service to reinstall the FAVA filter. "Provide need and material to reinstall the FAVA filter and make operational."

Q Do we have a vendor signature that meets the reg guide anywhere?

A Well, let me tell you what I found was performed under this PO. The vendor came in and reinstalled the FAVA filter. But what I found out was he changed out the pump that was on the skid and he changed it out with an off-the-shelf pump, which does not meet reg guide 1.143 requirements.

Q Well, the whole filter doesn't meet it either, still?

A That's correct. I mean, everything originally didn't meet it. Okay? But here's a new PO issued that has requirements, okay? And it was done in violation of those requirements. Okay? And this new pump -- the pump that had been on this skid earlier was an air pump and it was changed out with an electric pump and it's a hardware store variety type electric pump. I don't know -- Well, that change-out violates the procurement requirement here. That new pump also is a higher pressure pump. So it's not just an identical change-out. It's a higher pressure pump. And so all kinds of new issues come up like knew hydros, okay? And relief valves appropriate to new pumps, and essentially

nothing was done.

Q Not evaluated.

A Not re-hydroed, not evaluated and like I said, this new pump -- the vendor brought the new pump in on his truck and put it in the system. I'm not even sure that the new pump is even documented under -- you know, a work order. I don't think there's anything on it. So after I found out about this new work violating some specific requirements on the PO that was -- that's an additional item that essentially another programmatic breakdown has happened on a new PO, you know, that has specific departments.

Q Do you have any indications of any improper relationships between the vendor and --

A Well, that's an interesting question. Our Chemistry and H? department purchased this vendors truck at a bargain price.

Q Purchased the truck for them or purchased the truck from the vendor for Georgia Power?

A Yes. Yes.

Q The FAVA truck is a very nice diesel -- large diesel truck with a covered box on the back. This is a big truck. I don't know what -- I think it's a Ford. This is not a pickup variety truck. This is a mid-sized heavy truck and it's in excellent condition. It came to my attention, this purchase of the vendor's truck, by the

Chemistry and Heath Physics Department because the PO came across my desk. The purchase order for capital items used to all be run through me. I saw this truck purchase order for the FAVA truck, and I took it to the general manager and I said I felt the purchase order was inappropriate because at that particular time this vendor, the FAVA company, was bidding on the new skid which was a multi-hundred thousand dollar project. The permanent --

Q The unit would be replacing --

A The permanent one. That had gone out for bids and FAVA was on the list for that, and it was out for bids and at the same time the FAVA company was offering us this truck. I also got some correspondence from our Atlanta Highway Vehicle department who had evaluated the truck and the price that it was being offered at and a letter was written back saying that it was an excellent buy and that this truck was being offered to us for $10,000 and they had evaluated it in the Atlanta area as being, you know, 60 percent more than that. So it was being offered at a very attractive price. And because of that and because of the fact that it was being bid -- the new skid was being bid at the same time, I told the general manager I thought it was inappropriate and that that purchase order should be sat on and no action taken. He agreed with that, and the PO was sat on. The bid was eventually awarded to another company

and then the PO went through and we now own the truck.

Q Any other indications -- Who is the FAVA representative?

A Larry Fava.

Q Larry Fava. He is the man who is making the contact with Georgia Power employees regarding the filtration system?

A Yes. He's the guy that came in to reinstall -- This is a one-man company, if you will.

Q And FAVA did not get the bid for the permanent replacement?

A No.

MR. TATE: Is FAVA the manufacturer of the filter or is he just installing it?

THE WITNESS: Both. One other thing, it was reported to me by the engineers that Larry Fava had provided Ron LeGrand, or Ron LeGrand's department a personal computer.

BY MR. ROBINSON:

Q For?

A For their use, yes.

Q Anything else on the --

A That pretty well covers most of the details on the second one. Let me go to the two in June.

MR. TATE: Is this still on FAVA?

THE WITNESS: Yes. At this point in June -- and I'll have to credit Ron Aiello for this -- Ron had asked some questions about Part 21 on a security item, and so what I had done was to get a copy of new reg 302, which is the NRC's detailed guidance document on 10CFR21 reporting, and I read that to bone-up on the security issue, and when I read it, it had FAVA written all over it. So when I started looking at it, it helped me to clarify my thinking in terms of the conditions and violations that existed in FAVA with a regulation and specific definitions and so forth. When I started reading the Part 21 it defines a term fairly clearly which is a substantial safety hazard. And it defines a substantial safety hazard as something that would cause a major reduction in the degree of protection provided to the public health and safety, and a specific example listed in new reg 302 is the release of radioactive material to an unrestricted area in excess of 500 times the limits of appendix E, table 2, 10CFR20. I had already calculated that a very conservative assessment of spraying release out of this ARB could result in many thousands of times of the 10CFR20 limits to unrestricted areas. So with that piece of information it became clear to me that, one, design inadequacies and materials inadequacies and all kinds of inadequacies existed in FAVA that could result in a substantial safety hazard, you know,

with this definition and it became very clear to me at that point that the FAVA situation was reportable under Part 21. So this write-up to Bill Lyons states that. I had already initiated the deficiency card, which is to be reviewed for reportability under all parts. It, by this time, had already gone to the PRB and had been decided that it was not reportable. It went back to the PRB after I ceased being a member of the PRB and the PRB decided that no reporting was required.

BY MR. ROBINSON:

Q Are you indicating there were two separate decisions on that DC or just the one decision on --

A Well, actually the NSAC department -- Actually the operations and NSAC departments are supposed to -- they get cuts at determining if there is reportability, and then the DC goes to the PRB for concurrence with reportability. It went to the Board and no reportability had been deemed appropriate. So about this time I concluded that it should be reportable under Part 21. I was aware that it hadn't been, and I went to the NSAC group and said, "Hey, you ought to take a look at the FAVA DC in terms of Part 21 reportability." They pulled it, re-evaluated and I believe have sent a letter to SONOPCO saying they think it is potentially reportable under Part 21, and that's the status as I know it.

Q Right now.

A Right now. But, no report has been made to date, but I think that's the status of it.

Q Initially you thought it was reportable under a different aspect because of the violation of the reg code -- the reg guide requirements.

A The reportability that I thought it was reportable under initially would have been a condition under 10CFR5072 or 73, a condition -- I think the paragraph would have been a condition outside --I'm sorry, an unanalyzed condition that that significantly compromises plant safety under that particular reporting requirement.

Q But you are saying that the Board is not supposed to consider reportability under just one angle there. They should give an --

A A DC is supposed to be evaluated against all items. So this submittal on 6/1 concludes that it is reportable under Part 21. The submittal on 6/11 concludes that it's reportable under 10CFR5072 or 73 because with the definition in new reg 302 a condition that -- I feel that a condition that significantly compromises plant safety has been defined as 500 times the tendency of our limits. Okay? So what this write up says is that I think it's probably also reportable under 10CFR5072 or 72 also, under that paragraph and Part 21. And the other thing that had

happened by that time and that's the last submittal on June 11th was that it had been reported to me that the large bay door that accesses the Alternate Redwaste Building had been observed to up. Okay? This is a big truck loading type door. It's maybe 20 feet wide and 40 feet high. It essentially opens up the whole side of the building. I had been involved in responding to the NRC when we got the license on Unit I relative to commitments we had to make about this Alternate Redwaste Building and relative to a demand by the NRC that we provide the building with HEPA HVAC system and we committed at that time to providing air filtered by a HEPA, H-E-P-A, system, and we responded that way as a condition of the license, that we would install HEPA filtration ventilation to the building, and we had eventually done that and we had stated to the NRC that would we provide a net air infiltration to the building. We couldn't commit to a negative pressure because the building is too leaky in terms of -- It's not a tight building. It's a steel panel building, but we committed to a net infiltration of air. So with that information and the information that this door was wide open, I checked the building periodically and what I found was that for two days in a row, I went out and looked at the building and the bay door is wide open, and nobody was doing anything, hauling anything in and out. There wasn't a truck delivery

occurring, nothing was occurring. I went inside the building and all the doors in the little attached control room were all open and the wind was blowing in the big door and blowing out the other doors and obviously the condition was not a necessary condition.

MR. AIELLO: Was the system in operation?

THE WITNESS: I don't know. It's hard to tell. There was some chugging noise and things like that in the building, but knowing whether it's in operation or not, I don't really know how to know, you know, which lights to look at or whatever. I was looking in from the outside, from the Bay door, and it's all posted as a radiation area, roped off and so forth. I recognize that lifting the door open to deliver something in a truck or haul something out of the truck is a necessary part of the operation, but the door being open all day and all night, you know, I checked it several times and I never saw any activity. It had just been left open. So this last one, part of the file on 6/11, addresses the condition that the door is wide open. Obviously we're violating our stated intent to have a net air infiltration into the building via a HEPA system. In addition to the process that might be going on in the building there's lots of stored radioactivity in the building. There's liners of demineralized resin that have radioactivity on them. You know, there's stored

radioactivity in the building, and you know, certainly that kind of operation could give rise to the potential for a uncontrolled and unmonitored release of radioactivity with the doors all being wide open. So that's the last of those submittals and one other thing has happened since then. When a letter was written there were several conditions established for the return of the FAVA system to service. Okay? Hoses meeting reg guides were supposed to be installed on it. There was always supposed to be an operator present when it was operating. Covers were supposed to be put on and I believe George Bochhold talked to the NRC about the FAVA situation and the NRC asked George Bochhold to have a review done of the ARB, the building, and maybe the building's design, and that all occurred back in probably March. And some of the engineers -- Well, Paul Rushton had the action to have this design review done and I asked some of our redwaste engineers several times about had any results ever come from that study and the answer was always, "No, we haven't ever heard anything." More recently they finally produced the study, and I recently got a copy of that study and they've done new calculations that supplement those that were done on March 6th and I'm reviewing those currently.

BY MR. ROBINSON:

Q Okay. How do they appear to you?

A The appear to only address exceeding 10CFR20 limits when averaged over an entire year. Basically they say -- they kind of take my assumptions of the pathway leaking out of the building. They change the concentrations that are in the water from this set of calculations. They use a different set of activities that are much lower in the source water and say those are normal concentrations. Then they say that some drainage area applies which is about a mile by a mile and they use average rainfalls and they dilute it all into the year's rainfall and then they apply a 10 to 1 dilution factor in the Savannah River and with all that then they say the water in the Savannah River would only be 30 to 40 percent of the limit, or something like that. That's their approach, was to average it over an entire year. I feel that that misses the point in terms of the 500 times the 10CFR limits in unrestricted areas. The Savannah River is not the first unrestricted area that this liquid would occur in as soon as it leaves the protected area fence it's in an unrestricted area. So I think they've missed the point on that.

The other aspect of it that I'm looking at is that if you assume this liquid leaves the building, the pathway for a gaseous release off the liquid now changes. It's not through the HEPA ventilation system through the Aux

Building and up the stack. It's now evolved directly off of a liquid, you know, that's spilled out onto the ground and the pathway through the Auxilliary Building is assumed to occur over two hours. It would seem that the release from the liquid on the ground already outside would be nearly instantaneous. So I think there is a whole different evaluation done, or needs to be done, on the gaseous release and they do know the calculations on the gaseous release. So I'm still looking at that and I'm in the process of getting back to Bill Lyons on that.

MR. ROBINSON: Ron, do you have any --

MR. AIELLO: I just have one. You mentioned something back a little bit about when they -- they didn't test the vessel itself. Was there a hydrostatic test done on the whole system conclusive?

THE WITNESS: The vendor never did a hydro test. After I started asking questions about the hydro and the compliance with the reg guide a test was done by Bill Barrett and some of the system engineers, a hydro test was done. It was done for a design condition of 100 PSI and was done to 150 pounds.

MR. AIELLO: Did that include the vessel?

THE WITNESS: That included the vessel, the pressure vessel.

MR. AIELLO: Was that part of the engineering

evaluation? Engineering review?

THE WITNESS: No, it's not. The initial safety evaluation was signed before that and indeed the PRB vote was taken before any hydro test results were available to the PRB and in fact, that was one of the things that I had asked -- I felt the PRB should have to review and it was not until after the PRB voted that any hydro test results were provided. The safety evaluation initially done by SCS and Ramsey was done in I think late '89 prior to any hydro. So at that point no hydro had been done. They stated in their safety evaluation I think that a hydro had been done but that was incorrect.

MR. ROBINSON: Do you have anything?

MR. TATE: I have a number of questions. I think I followed most of this. When you initially started talking about FAVA you referred to it as a sole source procurement.

THE WITNESS: Right.

MR. TATE: We're really looking at a number of acquisitions. The first time, I believe you said, it was leased; is that correct?

THE WITNESS: It was -- An evaluation was done and there is procurement paperwork that authorizes it as a sole source signed by Bochhold.

MR. TATE: And is it procurement meaning that Vogtle would own that property or they were leasing it?

THE WITNESS: No. That it would not be competitively bid. Sole source in the context I'm using it is that it would not be -- that the solicitation of a skid like this as a vendor service provided to Vogtle would not be competitively bid. It was sole sourced.

MR. TATE: I guess I'm -- the operative word here is procured, not sole sourced. Did you own the equipment initially?

THE WITNESS: Initially we did not own it. It was provided as a vendor service.

MR. TATE: Did that service at that time have any requirements to it to which the --

THE WITNESS: No. No, the original sole source procurement of this skid is about his service lacked any appropriate regulatory and quality assurance program.

MR. TATE: And later it in fact was bought outright by the plant; is that correct?

THE WITNESS: Yeah. I'm making sure I've got my information correct here. In that Alternate Redwaste Building there are two systems. One is called a New Pack system and I know that one was leased and later bought, and I've been assuming in what I've been stating that FAVA was leased and later bought, but now I'm not quite as sure about that right now since you've focused on that. I can find that out by reviewing the procurement documents and

make sure I'm right in what I've said here. I would want to do that since I --

MR. ROBINSON: Go ahead and do that.

MR. TATE: Yeah, I would be interested also in whether or not there are any requirements for each of those acquisitions, whether it is a lease or a actual purchase. In other words, a purchase of equipment vice purchase of service.

THE WITNESS: There's got to be requirements on both of them, you know, in either case the plant has to meet, and whether we are buying and owning it or it's going to be installed in our building and not owned by us, we have to meet our committed requirements for plant equipment that handles licensed material. I think the requirement exists in either condition. To my knowledge -- There's a whole quality assurance audit on the original findings that the procurement was done improperly and that appropriate requirements were not placed on it. There's a whole QA audit on that that finds significant findings on that.

MR. AIELLO: Was it initially procured as a need for the system or was it procured to test the system?

THE WITNESS: To test.

MR. AIELLO: In other words, is it a full scale system or is a miniature --

THE WITNESS: There's a lot of stuff that calls it

a test unit. Some of the write-ups I've seen call it that. It seems to be able to handle the normal and full flow though. I don't know how you differentiate from a full scale test unit and a permanent unit. You may be testing it to decide if it is effective in working.

MR. TATE: To continue on, it looks like this came into the plant then on a lease. The problems of whether or not it was an adequate unit, that was brought to some people's concern before it was actually purchased from FAVA; is that correct?

THE WITNESS: If I'm correct on lease then purchase, yes.

MR. TATE: Do you know who it was that was pushing the acquisition on this? What person?

THE WITNESS: I know that Ron LeGrand, the Chemistry and HP manager, is a proponent of FAVA and the FAVA system, a strong proponent.

MR. TATE: Is FAVA a local company?

THE WITNESS: No, it's out of Plymouth, Massachusetts, I believe. Up near the pilgrim plant.

MR. TATE: Do they provide similar units to other nuclear plants?

THE WITNESS: They may. I've not specifically aware of their units at other plants. I have not seen any in my personal experience, but there may be units at other

plants.

MR. TATE: Also, back to some of your earlier comments, Ken McCoy had indicated that temporary systems, i.e. vendor owned systems.

THE WITNESS: Vendor and temporary systems should get the same treatment as permanent systems?

MR. TATE: In what way did he make that known to you?

THE WITNESS: Made that statement in a meeting with most all the department managers.

MR. TATE: Was that a generic kind of a comment or --

THE WITNESS: Yes. That was not relative to this system or any special issue.

MR. TATE: What general time frame was that comment made?

THE WITNESS: Prior to February, but probably only maybe several months prior.

MR. TATE: February of 1990?

THE WITNESS: 1990, yeah, but probably maybe within two or three months of that time frame. I mention it in here that it had been not too much earlier.

MR. TATE: You were explaining that at a point in time that virtually all members of the PRB became concerned when they learned that it was test or the unit was non-

enveloped?

THE WITNESS: When I explained to them a little more about the tendency of our -- the 5059 review and it not being bounded by previous acts of an analysis.

MR. TATE: And you indicated that the general manager was involved at that time and that Bill Lyons assisted the general manager?

THE WITNESS: The general manager became personally involved in the PRB meetings after the first one or two meetings.

MR. TATE: And the general manager at that time was?

THE WITNESS: George Bochhold. He started running the meetings.

MR. TATE: To skip ahead a little bit, we were discussing the bargain for which the FAVA truck could be purchased and then later the computer was given to Ron LeGrand's group.

THE WITNESS: Right.

MR. TATE: Do you know if that computer was ever incorporated into the property management system at the plant or was that --

THE WITNESS: I tried to find that computer after some of my engineers mentioned it to me, and I was unable to find it on-site. Gus Williams was the individual that

told me about that computer and I tried to find it and could not find it on-site. The last explanation I got about it was that FAVA had taken it back.

BY MR. ROBINSON:

Q Do you have any idea when they first gave it to LeGrand's group?

A I think probably about the time the FAVA skid first arrived, in that time frame.

Q Still in the lease time frame if there was a lease?

A Yes.

MR. TATE: Do you have any reason to believe that it was not taken back by FAVA?

THE WITNESS: No, no reason to believe anything else. That's just the explanation I got.

MR. TATE: That explanation came from whom?

THE WITNESS: I think that explanation came from Gus also. He had told me where it was and I went to look there and didn't find it and he said, "Well, I know it was there, and I saw it here," and I think he may have checked into it a little more and he may have gotten that explanation from somebody else.

MR. TATE: That's all that I have.

MR. ROBINSON: Do you have anything?

MR. AIELLO: No.

MR. ROBINSON: I don't have anything. Do you have

any additional final comments you want to make regarding this issue?

THE WITNESS: This is a very extensive issue that has a long history and, you know, we really haven't had time to cover everything. I think, you know, most of anything we haven't covered though is in this write-up.

MR. ROBINSON: In that documentation that I have a copy of?

THE WITNESS: Yes.

MR. ROBINSON: I thank you on that issue. It is now 10:48. We will take a two or three minute break.

(Off the record)

MR. ROBINSON: It is now 10:53 p.m. and we are back on the record. The next issue we are going to discuss regards Mr. Mosbaugh's allegation of false and/or misleading statements on the part of Georgia Power, SONOPCO personnel regarding diesel generator starts and diesel generator air quality in a number of different documents and verbal presentations to the NRC. Mr. Mosbaugh has provided a written explanation of these concerns on two separate occasions. I am going to provide a copy of this to the court reporter and it will be included in the record verbatim from my copy of this write up. I will give this write-up to Mr. Mosbaugh for his examination to insure that it's complete. (Handing document)

THE WITNESS: Yeah, this is the latest version on the statements on the LER.

MR. ROBINSON: Okay. You have --

THE WITNESS: The reason why I am frowning a little bit was I guess I'm not sure if I gave you or if you have a write up --

MR. ROBINSON: The confirmation package.

THE WITNESS: -- that addresses the confirmation.

MR. ROBINSON: A separate write-up?

THE WITNESS: A separate write-up.

MR. ROBINSON: If you gave me one I have it somewhere.

THE WITNESS: It's possible that I didn't give you that. What happened is, I was preparing those and the issues kind of merged together -- At the end they merged together and I had started off with two separate write-ups and then as they merged together I continued the one that addressed the LER and didn't update the other one. So it's possible that I may have only given you that one.

MR. ROBINSON: I think I have the other one and I'll check for it. If I do, I will make it an exhibit to this transcript.

THE WITNESS: Okay.

MR. ROBINSON: Okay. The document that I am going to have typed into the record at this point is

approximately five and half pages of single-spaced typewritten form.

(Whereupon, the following is the write-up as given to the court reporter for transcribing it into the record:)

***** PLEASE NOTE *****

The level of detail contained in this concern will allow the Vogtle and SONOPCO management to conclusively identify the author. Because of the high level of the personnel involved and the seriousness of these concerns, I request that you do not reveal the text of this letter or the fact that this information was obtained thru an allegation, to Vogtle or SONOPCO personnel. I feat that retaliation including the possibility of physical harm could come to me or my family. I am concerned because of recent articles surrounding Gulf Power, a Southern Co. subsidiary, and the Jake Horton case as well as my observations of Georgia Power, SONOPCO, and Vogtle management for many years.

***** PLEASE NOTE *****

The Georgia Power Company has made two material false statements in written correspondence submitted to the NRC regarding Plant Vogtle's emergency diesel generator's control and starting air supplies and diesel generator testing. The statements are contained in correspondence ELV-01516 submitted on 4-9-90 in response to the NRC's

Confirmation of Action letter. The purpose of ELV-01516 was to explain Georgia Power's review, investigation and corrective actions taken with respect to the events involved in the Site-Area Emergency of 3-20-90 and to request the NRC to lift its hold on criticallity and resumption of power operations on Vogtle Unit 1.

In ELV-01516 page 3, item 4 it states "GPC has reviewed air quality of the D/G air system including dewpoint control and has concluded that air quality is satisfactory. Initial reports of higher than expected dew points were later attributed to faulty instrumentation. This was confirmed by internal inspection of one air receiver on April 6, 1990 which showed no indication of corrosion and daily air receiver blowdowns with no significant water discharge."

The above paragraph is materially false by omission and/or commission in that it presents a conclusion (that air quality is satisfactory) that cannot be concluded from objective evidence and knowledge of Vogtle's Diesel generator air systems. This includes the dewpoint measurements taken, the procedures used, the maintenance history of the DG 1A dryers, the operation alignments, the air quality acceptance criteria requirements of the Vogtle diesel generators from the Vogtle FSAR and Vogtle's response to Generic Letter 88-14 in correspondence ELV-

00197 page 3. The following substantiates a less than satisfactory history of air quality:

1. Vogtle's response to Generic Letter 88-14 presents the "maximum dewpoint acceptance criteria for the VEGP diesel air start system --- as 50 F at system pressure" (225 to 250 psig).
2. Prior to 6-28-89 dewpoints were not regularly checked with no measurements taken in 1987 and only one taken in 1988. The 1988 value is theoretically impossible (less than 32 F).
3. Since the equipment used to measure dewpoints measures at atmospheric pressure and the criteria is at system pressure, a calculation or correction must be performed to adjust to reference pressure. The maintenance procedure in use is contrary to the dewpoint measurement equipment vendors recommendations in that it uses a pressure regulator which the vendor says holds moisture and gives false readings.
5. Readings obtained on 3-9-90 and 3-31-90 exceeded acceptance criteria and were as high as 80 F. This was explained as "faulty equipment" but after that, on 4-6-90, valid dewpoint readings of 84 F were measured for Unit 1 DG air dryer KO1 and 83 F for KO2 as documented on DC 1-90-186. Maintenance work order 2-9000964 documents air quality problems on the Unit 2A

diesel where nearly every dewpoint measured exceeded acceptance criteria when measured with several kinds of instruments. Values as high as 95 F were measure on 4-9-90 thru 4-11-90. DC's were not written for these out of spec. conditions. Maintenance work order 2-9001136 documents continuing dewpoint problems on the 2A diesel.

6. The air dryers for the Unit 1A diesel generator have been out of service for excessive periods of time. Maintenance work order 1-88-02991 was open from 5-10-88 to 5-2-89 to repair both the KO1 and KO2 dryers. Refrigeration compressors as well as condensing fans have been broken. When preparing to perform the UV testing of the diesels for the IIT, air dryers were found out of service.
7. Despite having the air dryers out of service the associated compressors have remained in service.
8. The diesel generator utilizes a pneumatic air control logic system which has extremely small orifices as small as 6 thousandths of an inch. The air control system takes its air from the starting air system.
9. Qualitative and gross observations at a few points in the system, one air receiver tank and a filter, is not sufficient to confirm satisfactory air quality and internal cleanliness of hundred of air lines after years

of inadequate air dryer maintenance and dewpoint testing.

10. Air in the diesel building is not air conditioned and therefore the air compressors utilize ambient air which in the Central Savannah River Area is typically extremely warm and humid.

11. For periods of operation without dryers in service (which have been extensive) the air in the receiver would be saturated and have a dewpoint of that of room temperature. Receiver blowdown would not alter those conditions. For summer at Vogtle that would be 90 - 100 F. Using psychometric charts a drop of approximately 30 F. in dewpoint would occur upon pressure reduction to the control air pressure of 80 psig. This would produce a dewpoint of 60 to 70 F which exceeds the acceptance criteria. This value is surprisingly close to the valid measurements recently taken with the dryers out of service. Clearly air quality should be expected to be unsatisfactory during periods when the dryers have been out of service.

Considering item 1 thru 11, the only conclusions that can be drawn is that the air quality for the Vogtle Unit 1 Diesels is unknown and indeterminant for the first 2 1/2 years of post license operation with known lengthy periods of dryers out of service during which times air

quality probably was unsatisfactory against the acceptance criteria stated in response to Generic Letter 88-14. For the most recent period since 6-28-89 air quality was measured and generally met acceptance criteria except when dryers were out of service (the extent of which is difficult to reconstruct) at which times air quality was probably again unsatisfactory. At the time that correspondence ELV-01615 was signed by Georgia Power, 2 of 4 diesels had air quality problems with high dewpoints (outside acceptance criteria) ranging from 64 to 84F.

Dewpoints that high could easily result in water in the air lines as room temperatures cycle (when cool night or early morning air is drawn into the room). The outside air dampers locations in the Diesel rooms make this a distinct possibility. The present of any water in the lines will lead to corrosion and particulate matter formation which could be carried to the pneumatic logic boards, sensor valves and other pneumatic components and could easily cause malfunctions.

In ELV-01516 page 3 item g. it states "Since March 20, 1990, GPC has performed numerous sensor calibrations (including jacket water temperature), extensive logic testing, special pneumatic leak testing, and multiple engine starts and runs under various conditions. Since March 20, the 1A DG has been started 18 times, and the 1B

DG has been started 18 times, and the 1B DG has been started 19 times. No failures or problems have occurred during any of these starts. In addition, an undervoltage start test without air roll was conducted on April 6, 1990 and the 1A D/G started and loaded properly."

The above paragraph is materially false by omission and/or commission because according to Vogtle control room logs and procedure 14980 data sheets the 1B DG had been started 29 times (see Note * below) since March 20, 1990. It experienced 8 failures or problems during these starts and one problem with control air pressure between starts as follows:

Start	Date	Time	Comment
1	3-21-90	21:49	Diesel failed to start
2	3-21-90	21:56	Diesel failed to start
3	3-21-90	22:02	
4	3-21-90	22:59	Diesel had to be stopped due to low lube oil pressure and hi oil filter DP
5	3-21-90	23:14	Diesel had to be manually stopped because of high fuel oil DP
6	3-22-90	00:17	
7	3-22-90	04:28	

1	8		3-22-90	07:14	
2	9	#	3-22-90	08:54	
3	10	#	3-22-90	09:21	
4	11	#	3-22-90	09:50	
5	12	#	3-22-90	10:09	
6	13		3-22-90	11:06	Diesel tripped Hi Lube Oil Temp
7					
8	14		3-23-90	05:09	Got B phase 127 Undervoltage
9					relay flag on start
10					
11	15		3-23-90	17:30	Diesel tripped Lo Jacket Water
12					Press./Turbo Lube Oil Press.
13	16		3-23-90	17:44	
14	17		3-24-90	00:48	Got generator ground relay 164
15					dropout on start. Received
16					DG1B Trip Hi Jacket water
17					alarm. DG should have tripped
18					but didn't.
19	18		3-27-90	16:49	
20	19		3-27-90	19:09	
21	20	*	3-27-90	19:51	
22	21	*	3-27-90	19:57	
23	22	*	3-27-90	20:04	
24	23		3-27-90	22:20	Diesel 1B Undervoltage Test
25	24		3-28-90	04:03	Diesel TS Surveillance 14980

25	3-28-90	13:50	
26	3-28-90	13:56	
	3-28-90	15:27	Diesel 1B Declared Operable
	4-30-90	05:15	Got Maint. lockout alarm due to low control air pressure (41 psi)
27	4-04-90	16:32	
28	4-05-90	00:30	Functional test of design change DCP 133
29	4-05-90	03:07	Diesel TS Surveillance 14980
Date of ELV-01516 4-9-90			
30	4-10-90	01:37	Surveillance 14980
31	4-12-90	10:20	Surveillance 14980
32	4-16-90	00:00	Surveillance 14980
33	4-18-90	07:59	Surveillance 14980
34	4-19-90	03:14	Diesel inadvertently emergency started while performing Surveillance OSP-14619-1

NOTE: # Denotes start not logged in control log but data sheet exists per procedure 14980-1

* Denotes start logged in control log but not documented by data sheet per procedure 14980-1

From the above it is clear that there have been numerous trips and problems with the 1B diesel since 3-20-90, many which are associated with features being

investigated to determine the cause of the 1A diesel failure, such as CALCON switches and control air. In addition, even if you disregard the trips and problems, there were only 14 successful starts on 1B Diesel since the time of the last trip and only 3 starts since the time of the last problem and the date of ELV-01516.

It is clear that the data do not support the claims made in the letter of "No failures or problems during any of these starts" for this diesel. It is particularly disturbing that Georgia Power had misled the NRC with this information, information presented to convince the NRC of the reliability of Vogtle's diesel generators and to obtain permission to resume power operations.

Since the cause for failure of the Vogtle diesel generator 1A and the subsequent testing and reliable operation of both 1A and 1B diesels is particularly significant to the Site-Area Emergency, the Confirmation of Action Letter and associated regulatory action and since ELV-01516 was signed by the Senior Vice President of SONOPCO, these Material False Statements are very disturbing.

Detailed information and source documents including Diesel start and failure data used to compile the above concern have been provided to the Al Chaffee of the NRC IIT team.

****** PLEASE NOTE *****

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***** PLEASE NOTE *****

(End of write-up)

MR. ROBINSON: Mr. Aiello, you've read this document prior to our meeting here today. Is there anything from a technical standpoint that you'd like to ask Mr. Mosbaugh about from that write-up?

MR. AIELLO: I have read and understand Mr. Mosbaugh's concern. I presently have no technical questions.

MR. ROBINSON: At this point, Mr. Mosbaugh, do you have any technical aspect of that particular issue that you

would like to clarify to Mr. Aiello?

THE WITNESS: No, I don't think there's anything new on those issues since I did that write-up. Obviously Ron knows the additional problems we have experienced on the diesels in a reliable operation since I provided those write-ups, and I guess we're still working through those problems at the plant trying to determine what the cause of all those is.

MR. ROBINSON: Is that correct, Ron?

MR. AIELLO: That's right.

MR. ROBINSON: Are you aware of those?

MR. AIELLO: The latest one that I'm aware of with respect to the diesel concerns is the attempt to try to start it with the push button.

THE WITNESS: Yeah, and the -- Well, I'll refer to them as weak air starts. We have had, I believe Unit II diesel fail to start due to weak air rolls, air starts, five times in one -- Unit I diesels failed to start due to a weak air roll one time and that the initial thinking on that is that it is related to some air valves and just today Cooper Diesel has issued a Part 21 on some of the parts in the air valves and I, you know -- I don't know at this point if there's any relationship with the air system and these weak air starts or the starting air or the control air. The current thinking is that it's related to

some binding that is occurring in the air parts, but there could be a relationship, and like I say, we're still working through those problems. In addition, above and beyond the problem with the weak air rolls is the problem that the diesel experienced I guess late yesterday and today with inadequate voltage and VARS control and failed rectifiers and failed regulation and that happened on I think it was the 1B diesel, which ever one is currently under LCO as well. So that's a problem on top of the air roll problem.

MR. ROBINSON: Okay. In view of the fact that the rest of the issues regarding this particular topic are going to be issues of willfulness and intent regarding the false statement portion of the allegation. I'm going to go ahead and excuse you from the rest of the interview. I appreciate your assistance from a technical viewpoint.

MR. AIELLO: If you need anything, let me know.

(Mr. Aiello exits room.)

BY MR. ROBINSON:

Q I may have found the other write-ups that we were talking about earlier.

A Yeah. Okay. Do you have an air one? Okay. This is the one I'm calling the COA write-up. This is Rev. 1 of the LER write-up, and what you gave me before is Rev. 2 of the LER write-up. This is superseded essentially.

Q Okay. So this was just added to by Rev. 2 or were there some changes in this portion of it?

A Probably very little changes. Mainly additions.

MR. ROBINSON: Let the record reflect that I am adding to inclusion into the body of this transcript an additional write-up provided on June 14th to me by Mr. Mosbaugh regarding the response by SONOPCO to the NRC confirmation of action. This particular document is headed by a paragraph and asterisks, bordered by asterisks, that says, "Please note:" starting with the sentence, "The level of detail contained in this concern." It is a six page document.

(MR. ROBINSON TO COURT REPORTER:) So you will type both of those into the record as the concerns prefacing our discussions.

(Whereupon, the following is the write-up as given to the court reporter to transcribe into the record:)

Georgia Power has made an additional Material false statement in written correspondence to the NRC in Licensee Event Report 90-006 submitted 4-19-90. It is similar to the Material false statement made on 4-09-90 and involves the claims of successful starts without problems on Vogtle's Diesel generators that failed during the Site-Area Emergency of 3-20-90.

On page 5 under item D it states "Numerous sensor

calibrations (including jacket water temperatures), special pneumatic leak testing and multiple engine starts and runs were performed under various conditions. After the 3-20-90 event, the control systems of both engines have been subjected to a comprehensive test program. Subsequent to this test program, DG1A and DG1B have been started at least 18 times each and no failures or problems have occurred during any of these starts. In addition, an undervoltage start test without air roll was conducted on 4-6-90 and DG1A started and loaded properly."

The above statement regarding the number of successful starts without "failures or problems" subsequent to the control systems comprehensive test program is materially false by omission or commission. The 1B diesel control logic testing was completed on 3-27-90 just prior to performing the first undervoltage test at 22:04 CST on 3-27-90 and prior to declaring the diesel operable at 15:27 CST on 3-28-90. Completion of this testing is the earliest point in time that a claim of completing a comprehensive control systems test program could be made. Subsequent to that date and time until 4-19-90, DG1B has been started only 11 times.

The 1A diesel control logic testing was completed on 3-31-90 just prior to performing the first undervoltage test at 22:53 CST on 3-31-90 and prior to declaring the

diesel operable at 11:54 CST on 4-01-90. Completion of this testing is the earliest point in time that a claim of completing a comprehensive control systems test program could be made. Subsequent to that date and time until 4-19-90, DG1A has also been started only 11 times.

The material false statement is similar to the one made by Georgia Power on 4-9-90 in correspondence ELV-01516 and again falsely overstates the extent of reliable starting experience with DG1B and DG1A. Concern was raised by plant staff on 4-18-90 with the SONOPCO Licensing Engineer, the SONOPCO Licensing Manager, the SONOPCO General Manager Plant Support, the Vogtle General Manager, the SONOPCO Vice President Vogtle and the SONOPCO Senior Vice President Nuclear as to the accuracy of the Diesel start information and the fact that there had been "failure and problems" prior to submittal of the LER. SONOPCO was pressed for time and issued the LER without adequate verification and in the face of concerns for the accuracy of the information raised by the site. The issue of the accuracy of correspondence ELV-01516 including specific failure information was raised by site personnel on the phone call with the above personnel at the same time.

On 4-30-90 the Vogtle General Manger was provided a memo with start data on the DG1B, derived from control logs, shift supervisor logs and source diesel operating

logs, that clearly showed that previous statements made to the NRC were false. He took no immediate action and ask for the information to be validated by operations and engineering. The information was validated on 5-1-90 and found correct. It was presented again to the General Manager on 5-2-90 and in this presentation it was stated that statements on both diesels 1A and 1B were incorrect in the LER and that the letter ELV-01516 was wrong as well. Still he took no action to promptly inform the NRC of the false statement and suggested that a revision to the LER by prepared. He also suggested that the letter ELV-01516 be corrected by including a correction in the letter being prepared for submittal to the NRC on 5-15-90. The General Manager did not follow up on the progress of these revision actions or set any time table for completion as he normally would on important issues. A revision was made to the LER and approved by the PRB on 5-8-90. On 5-10-90 the PRB reviewed the 5-15-90 letter (actually submitted on May 14) to the NRC. It had nothing that addressed or corrected the material false statement as previously suggested by the General Manager. SONOPCO and the General Manager were heavily involved in writing, editing and specifying the contents of the May 15 letter. The PRB made a comment on the fact that the letter did not address the material false statement and assigned the General Manager an action item

to resolve that.

After the General Manager saw the action item his secretary came to the PRB secretary's office and said, "Doesn't NSAC have anything better to do than assign the General Manager action items?"

Later on 5-24-90 the General Manager signed the action item off as complete and attached a note instructing the Technical Support Manager to use the LER cover letter to correct the other incorrect document. SONOPCO most always drafts the cover letters, not the Technical Manager.

On 5-11-90 the PRB met again with the General Manager to approve the "final" version of the May 15 letter to be sent to the Senior Vice President SONOPCO for signature. Again no correction had been made and the previous material false statement was not addressed. The "final" version was approved. The individual that had raised the issue of the material false statements had been removed from the PRB by a memo from the General Manager (NOTS-00382) dated 5-10-90 and effective 5-11-90.

By May 15 the revised LER was with SONOPCO. No action occurred to submit the LER to the NRC until about the first week in June when again site personnel began asking SONOPCO about what was taking so long to submit the correction. SONOPCO licensing personnel told site personnel that the Senior Vice President Nuclear planned to

sign the revision on June 8 (the day of the IIT presentation to the Commission on the Vogtle Site-Area emergency). On June 8, 11 and 12 an extraordinary number of meetings and telephone calls occurred over the diesel start information. Quality assurance was directed by the Senior Vice President to audit all of the Diesel start logs. When this was completed, no errors were found in the information that had been presented to the General Manager over a month before on 4-30-90. With this done the Senior Vice President asked for a "complete revision" and updating of the LER. This was done and a revised LER was PRB approved by 6-22-90. Only 3 of 8 pages needed any rewrite on the "complete revision". A complete revision had originally not been planned until 6 months after the event. The "complete revision" LER switches the counting and reporting of Diesel generator starts and failures to "valid" starts and failures per Reg Guide 1.108. By doing so correlation between the previous LER can not be made without detailed and specific data on each start. While the original LER was being drafted it was suggested that we might want to use "valid starts and failures" but that method was discounted because it was recognized that we had a very few valid tests. If the original LER were stated in terms of valid starts we could only "Subsequent to this test program the DG 1A and DG 1B have had 6 valid starts

without problems or failures."

On 6-28-90 and 6-29-90 a total of 6 cover letters to be sent in with the LER revision were originated and proposed by SONOPCO. Each is different and attempts to explain the Material False Statement in a different manner:

Draft		
07:51	6-28-90	This draft says that all tests were counted but only valid failures were considered in reaching a conclusion there were no problems or failures.
08:55	6-28-90	This draft says that all tests were counted regardless of whether they were valid or not.
07:55	6-29-90	This draft says that the COA response letter used the words "Subsequent to the event" and that the LER inadvertently used the words "Subsequent to the test program" but should have been consistent with the COA response letter and the verbal presentation in Atlanta.
11:42	6-29-90	This draft says the LER statement didn't consider failures and problems associated with troubleshooting and restarting the Diesel and should have been "Subsequent

to the event" which is consistent with the COA response and the verbal presentation.

12:06 6-29-90 This draft says that "If the comprehensive test program completed with the first Surveillance 14980-1 then there were 10 successful starts on DG1A and 12 on DG1B as of 4-19-90.

13:11 6-29-90 This draft says that "If the comprehensive test program completed with the first Surveillance 14980-1 then there were 10 successful starts on DG1A and 12 on DG1B. It also says that test program starts were included in the original count and that was due to poor record keeping practices and no definition of the end of the test program.

These explanations are all untrue and are being concocted after the fact without regard to how and why the errors were actually made. In short these are lies and an attempt to coverup the careless personnel errors made by the operations superintendent and General Manager which originated in the verbal presentation, were repeated in the COA response letter and were carelessly restated in the

LER.

A look at the Diesel generators starting and failure history after the LER was written on 4-18-90 provides a technical as well as a objective view of the reliability of the diesels which is at the heart of the Material False Statement.

Diesel Generator 1B

Date	Time	Result
04-19-90	03:14	Diesel was inadvertently started due to personnel error in performing Surveillance 14619-1
04-19-90	09:55	Successful start
04-29-90	09:09	Successful start
05-23-90	12:26	Diesel Tripped after start
05-23-90	13:10	Diesel Tripped after start
05-23-90	14:12	Successful start manual trip
05-23-90	14:45	Successful start manual trip
05-23-90	21:18	Diesel tripped after start on low turbo lube oil pressure
05-23-90	21:38	Diesel tripped after start on low turbo lube oil pressure
05-23-90	21:57	Diesel tripped after start on low turbo lube oil pressure
05-23-90	22:55	Diesel tripped after start on Hi Jacket water temperature

05-23-90	23:37	Diesel tripped after start on Hi Jacket water temperature
05-24-90	12:29	Successful start
05-24-90	12:42	Successful start
05-24-90	12:53	Successful start
05-24-90	13:10	Successful start
05-24-90	15:19	Successful start
05-24-90	15:30	Successful start
05-24-90	19:16	Successful start
05-26-90	20:28	Successful start
06-01-90	11:45	Successful start

Clearly this diesel generator continued to experience an excessive rate of trips and failures most of which were the same kind of failure that led to the station blackout at mid-loop that occurred on 3-20-90. Clearly this diesel was not reliable as the COA response letter and the LER tried to convey. As further proof of the unreliability Georgia Power had to initiate a design change to remove some of the unreliable components from the control logic after experiencing all the additional failures.

Considering the evidence:

The words are false in counting the starts.

They overstate the reliability of the diesel.

They were used by NRC to make decision "Significant

to the Regulatory Process" (To allow Restart).

Concern was raised about the accuracy of the start data before submittal of LER.

SONOPCO personnel recognized that the previous (COA) statements were false before submittal of the LER.

Factual data was presented disputing the data after submittal and stating that information provided to NRC was incorrect.

Substantial delays occurred in starting to correct the LER.

Additional delays were introduced after beginning correction (QA audit).

Revisions were delayed until after critical meetings with NRC (6-08-90 IIT presentation to Commissioners)

Additional unplanned delays were introduced (complete revision) after QA audit substantiated inaccuracy claim.

Multiplicity of revision letters (also false) to explain the mistake.

Submittal to AEOD by LER revision to correct multiple non-LER errors.

Performance of the Diesel itself proves the unreliability and the falseness of the statements given to the NRC.

Above actions did not proceed without repeated and continuing expression of concern from the plant employee who exposed the Material False statement.

One can only conclude that Georgia Power did indeed make Material False Statements in written correspondence to the NRC due to as a minimum careless disregard and willfully conspired to delay and cover up the disclosure of those false statements.

(End of write-up)

BY MR. ROBINSON:

Q Okay. Let's talk first about the original LER and the subsequent iterations of changes to the LER and which of those were approved by the PRB and then I believe there was a subsequent change that had not yet been approved by the PRB the last time we talked.

A That last Rev. was approved by the PRB and was submitted under a cover letter. I believe it was signed out by Harriston on June 29th.

Q Okay. And I'm aware that the cover letter is a separate item of discussion on its own, and we'll get into that, but why don't you just go ahead and kind of start from when the discovery was made that there was a need for correction of that initial LER and why that was deemed necessary and some of the history.

A Yeah. The history really starts with the

confirmation of action letter.

Q Okay.

A The confirmation of action -- It's actually the confirmation of action response letter. The NRC had as a result of the site area emergency on March 20 when we had a station black out occur because of loss of off-site power and the failure of our diesels to start, we had a significant event. The reactor was a mid-loop. The core started heating up and a site area emergency was declared. The NRC sent in an incident investigation team. As a result of all that the NRC issued a confirmation of action letter confirming certain actions we were taking and placing a hold on mode 2 operation of the plant. So the NRC imposed a restraint on return to power operations as a result of that confirmation of action letter. And approval of the regional administrator was required to resume power operations. A confirmation of action response letter was then sent to the NRC on April 9th of 1990. That letter was, to my knowledge, drafted in Birmingham in SONOPCO and at least in my level in the organization there was no involvement in the preparation of that letter. The general manager might have been involved, but very few people on the site had any input, you know, drafting, involvement in the preparation of the confirmation of action response letter. It was prepared in SONOPCO.

Q Do you know who at SONOPCO would be doing that drafting?

A No, I don't. I would suspect somebody in the licensing department, you know, in Jim Bailey's organization, but, you know, Harriston, McCoy and McDonald could have been personally involved. So -- That letter then, George Bochhold I believe distributed copies of that letter at his staff meeting on about April 9th or 10th. That was the first time I had seen a copy of it and I think the first time a lot of people had seen a copy of it. I read it over and I guess a couple of things jumped out at me in terms of statements in there, and one was the statements about the diesel air quality. The other part that I was uneasy about was the part about the starts of the diesel. I remembered that there had been failures of the machine to start and this write-up said, you know, that the diesel had been started 18 or 19 times without any problems or failures, and I just remembered problems and failures. So those two things kind of stuck out at me.

So that's kind of where my suspicions about some bad information started. Now, we can either proceed on from there into the LER or keep going on the COA letter.

Q Let's go ahead and go on the COA letter.

A Okay. I had asked the engineers -- Oh, in addition I had been aware of some problems with high dewpoint and

moisture readings in the air, and one of the original things that people thought about when we had these diesel failures was that I think at another nuclear plant some diesel failures had been caused by moisture in the air systems, so that was something people had thought about. I think we were aware that there had been some high dewpoint readings taken. So I asked some of my engineers to look at that and I think I may have asked them to look at that even before I first got the copy of the COA response letter. Specifically I asked Paul Burwinkle and he had had one of his engineers, Tim Steel -- Paul Burwinkle is a HVAC -- runs the HVAC group and is very familiar with air and moisture content in the air associated with ventilation and refrigeration and are experts in dewpoints and that type of thing. They looked into that and Tim Steel had done a work order search and had written up a document and given it to Burwinkle who gave it to me. When I looked at that and compared what they had provided to me and what had been said in the COA response letter -- The COA response letter basically said, "We've looked at dewpoints and air quality and it's satisfactory." Okay? I interpreted "satisfactory" to mean A Okay, meeting requirements. Perhaps not exceptional, not meeting them by a wide margin, but meeting requirements.

We had responded to a generic letter that had been

issued by the NRC on diesel air quality some years before George Harriston had signed out that response and that response made statements about what were air quality for a diesel was. I believe it states that our diesel air dryers, air system, provides air at a dewpoint of 50 degrees Fahrenheit at system operating pressure, which is like 240 PSI. So that's what we stated to the NRC that was our acceptance criteria. What I had gotten back from Steel and Burwinkle was information that prior to June of 1989 the PM program was essentially non-existent on measuring the dewpoints in the diesel air systems. There weren't any values. And, so, like we had started these machines up in '86 and they had been operating under licensed conditions for '87. This is Unit I. '88. So they had several years of operation where, at least according to the input I had, there was non-existent information. You know, what the dewpoints were in that time frame was unknown and indeterminate. It might help me if I had that write-up. I'm just speaking from memory here.

MR. ROBINSON: (Handing document)

THE WITNESS: Did I give you -- Okay. This will be fine. Prior to June, 1989, the dewpoints had not been regularly taken. In '87 there had been only one value taken. In '88 --I'm sorry. No values were taken in '87 and only one value was taken in '88. So essentially a non-

existent data. The value in '88 was theoretically impossible. This particular kind of air dryer is not a desiccant type dryer. It's a refrigeration dryer. So the air is compressed in a compressor and then it is run over a cooling coil, a refrigerant coil, and essentially because of the freezing point of water at 32 degrees, it really can't dry the air drier than 32 degree type dewpoint. These values were less than 32. So the values themselves were suspect. Some of the values taken in '89 prior to June were also less than 32 so they were suspect. So it was only after like -- I indicate here June 28, '89, that any reliable data existed. So we had had several years of operation with an indeterminate condition.

Some of the data we had gotten from maintenance was hard to interpret that data. The requirement is on the dewpoint of the air at a particular system operating pressure, but when you actually take the measurements depending on the device you are using, you're taking it at a different pressure. When we looked in some of the work orders, we're saying, "Okay, the dewpoint is 45 degrees," or some number. You couldn't determine how they had translated from the conditions they'd measured it at to the system conditions and that requires going into a chart and doing some things, but there's no procedure that tells them how to do that and there's no records been maintained of

how they did that. So you start wondering, "Well, how did they do it, and was the procedure right?" Therefore, is this data right. So we started seeing that kind of problem in the data that we did have. The instrument they were using, they weren't using it properly in accordance with some of the vendor requirements. Specifically they were using a pressure regulator and the manual said, "Don't use a pressure regulator; it can affect the dewpoint readings. Use a needle valve." Okay. There were things like that in there.

So on 3/9 and also on 3/31 maintenance work orders took values that were as high as 80 degrees F. dewpoint. That had been explained by maintenance and management as being from faulty equipment. They were using one particular type of dewpoint instruments and Paul Burwinkle has a better knowledge of each of the types they were using than I do. But they were using one type and then they said, "Oh, that must be reading bad. Those are bad readings. They are due to faulty equipment," and they switched to a different kind. When they switched to a different kind, and eventually I think they used two or three different kinds, they again got bad values. Well, that's kind of the first point here where, you know, we explained to the NRC that these bad numbers, high numbers, were from faulty equipment, but right in the same time

frame we got good valid numbers that were high.
BY MR. ROBINSON:
Q These are in March of 1990 that you reading?
A Yes.
Q Is that correct?
A Yes. You know, the values on 3/31 were as high as 80 degrees and that is where it's explained as being faulty equipment, but on 4/6, you know, just a week after that, they took some more readings with valid equipment and got numbers high as 84 degrees, even higher. Another thing--
Q What would be an acceptable dewpoint reading?
A Well, definitely less than -- the minimum acceptance criteria would be 50 degrees Fahrenheit. I mean, in order to meet the response to the generic letter that Harriston signed out for the performance of our machine, 50 would be absolute minimum and good performance should be down in the 40's, you know. Another thing that the engineers found in their work order search is that the refrigerant dryers had been out of service for long periods of time. One was broke and under a work order for over a year. In fact, when you look at them, there was one that had a blue cover, a bright blue, and the other one had a different color. The one with the bright blue color, I believe, was a brand new refrigerant dryer, the whole unit had been replaced. When they were out of service and broke

and there were problems with the compressors and problems with the fans and the refrigerant units, we do not -- the engineers found that there was really no control to assure that the associated air compressor was out of service. So the dryer may have been out but we were still compressing air with that air compressor and therefore filling receivers and supplying air to the diesel system with the dryer inoperable and not operating. Obviously if the dryer is inoperable, the dewpoints will be high. With the wet air that we have in this part of the country, you can't compress it and have dry air if you haven't used the dryer.

These diesels use a pneumatic air logic which has tiny little orifices in it down the size of, you know, tens of thousandths of an inch are the orifices in this air pneumatic logic system. So, any contamination of the air, any moisture in the system that could cause any corrosion products, even though those might've been created historically, you know, once built into the system can cause a problem with an air pneumatic logic system. Bad air is murder on an air pneumatic logic system. Diesel buildings, you know, are not air conditioned. So, the compressor suction of air is just the normal central Savannah area humid air. When you compress air, you develop water, and that needs to be periodically blown out of the air receivers and so forth, but under those

conditions, you're going to be saturated. The air will be saturated in your receiver and therefore would have a dewpoint of maybe like 90 or 100 degrees. Whatever the ambient temperature is would essentially be the dewpoint of the air in the receiver. When you expand the air and go out of the receiver into the control systems, you'll get a reduction in dewpoint, and Burwinkle had calculated that about a 30 degree Fahrenheit reduction in dewpoint would occur on expansion. So, if you started out -- If there were no air dryers in service, you would've started out as bad as maybe 100 degrees. You would've seen a 30 reduction by the time it got down to the control air pressure, and it would've been, you know, maybe at 70 degree F, but the point is that if the dryers aren't in service, you violate our responses of air quality in the generic letter, and we know that the dryers were out of service for prolonged periods of time, and we know we don't have a good historical history, you know, dating back. So, you know, with that information and what I read in the statement in there, I can't conclude that air quality is satisfactory.

Q Do you have any idea on what basis the drafter of the letter made that statement?

A The basis that I believe that was made on was I believe that there were initially concerns after the site

area emergency for air quality. I believe that, you know, the Cooper representative and some of the engineers, like Ken Burr who had come down from SONOPCO and maybe some of the system engineers, concluded that the air quality was satisfactory based on a current observation of the system. I understand that they opened one of the air receivers up and looked inside. I understand that they inspected one of the filters and looked at the filter, and I believe that from an input from the Cooper guy and those observations, that the conclusion was drawn that the air quality was satisfactory, and I view that as maybe being satisfactory currently or at the time of inspection. I don't think it was -- I do not believe that those statements were based on any historical review or review of work history and so forth, and I guess the other thing that I find hard to accept with the statement of satisfactory that at the time that that correspondence was signed out, I believe that two of the four diesels had work orders that had taken dewpoint measurements and had been in excess of the generic letter dewpoint. At the very time we're signing out the letter, I think that some more quarters that I reference in here show that the dewpoints exceeded the 50 degrees, you know, on two of four machines at the very time we're signing out the letter. So, you know -- but I think it was input from

Cooper and from some corporate engineers and some system engineers from what I call a limited inspection of the current conditions and not from a thorough review of history or maybe a thorough review of the conditions that actually existed when the letter was signed out, you know. They may have done those inspections the week before when the values were good, you know.

Q Cooper being the manufacturer of the diesel?

A The manufacturer of the diesel. You know, the thing that can happen with the high dewpoint is that -- I went out and looked at the machine, and we had some large louvers that bring outside air into the room, and the normal exhaust system for the diesel draws air out of the top of the building and exhausts it to the outside. Fresh air is drawn in through some very large louvers that are right at the end -- control end of the diesel on one unit and over by the all the air pneumatic logic tubing on the other machine, and when you go at night when the temperatures chill off or in the early morning, you're bringing some fairly cool air right in over some of this tubing and so forth, and if you have high humidity air in there, you know, you can chill one of these tubes down and end up with, you know, condensation, you know, in the tubes and so forth, and with dewpoints as high as some of these measured values were, you know, like as high as 84

degrees Fahrenheit, you know, you bring in some 50 or 60 degree night air, you know, like when this happened in the early spring, you know, and you can end up with condensation inside of these lines. So, you know, that was -- that was my basis for saying, you know, satisfactory is just not a right way to describe, you know, what we got here. So, I wrote a memo after I'd gotten the information from the engineer and the engineering supervisor. I wrote a memo to the general manager summarizing my concern about that statement. I attached the engineer's write-up and the data and the work orders and so forth from his work order search and gave that to the general manager, and I think I did that on about the next day after I got the COA response letter on the 10th of April, and the next day the general manager fairly immediately in the morning asked for a meeting with me and the engineers, and we went over pretty much what I've told you here. The general manager pushed that the air quality was good. Said, "Well, we've had the Cooper people look at it, and they said it's okay, and they don't have any problems with our air," and he -- Paul Burwinkle, in that meeting, talked about the -- what would happen with the dryers out of service and the 30 degree reductions on the dewpoint. He brought up the bad maintenance practices and the data. He brought up -- He had found those problems

about using the air regulator in the testing instead of the needle valve, and so several of the concerns that are listed here were brought up in there. I brought up the bad data. I think it was just that morning that we'd gotten some more high values on one of the other machines, and I said, "George, you know, we just -- There's a DC today that says we've got high dewpoints," and the meeting went on, you know, and he basically concluded -- he said, "Well, we've inspected the receivers, and we didn't find anything, and Cooper says that our air is okay, and we looked at the filter," and, you know, "So, I don't see any problem here," and, you know, I kind of said, "But, George. But, George," and the meeting went on, and it was over, and really nothing came out of it.

Q No correction to the response?

A No.

Q Do you know if there was an NRC representative at the inspection of those receivers when the Cooper guy came over?

A Yeah. I think Milt Hunt came down on one or more occasions and has come down more recently to look at the issue of air quality. I know he was there. I don't know -- I don't know if he was present for the inspections and so forth. You know, in terms of the inspections, I don't doubt that they found the filter clean. You know, I

don't doubt that they didn't find anything, you know, particularly in the air receiver. I'd be surprised if the air receiver was truly clean, you know, especially when we start looking at this in terms of 15 micron orifices, okay, in an air pneumatic logic system, and the other thing is an inspection of the receiver and of the filter doesn't measure dewpoint.

Q Right.

A Okay. And our commitment is one of dewpoint. The thing that can, you know, be a little bit misleading about just looking in the air receiver or in the filter is that humid air goes right through the filter. It goes down some sensing line. If it gets hit by cool air someplace else, maybe you'll have water, you know, down some other point, you know; not at the filter. You know, there are literally thousands of feet of three-eighths inch air control tubing, you know, on one of these big diesels. Look in the receiver. That's a good central point to look at. Look at the filter. You know, that's another point, but that does not vouch for every point in the system.

Q Did that response to confirmation of action letter also refer to the diesel generator starts?

A Yeah. Yeah.

Q And what was the statement there?

A It said in it that since -- it said since the event, being the site area emergency, that the diesel A and B had been started, and I think the number is like 18 or 19 times, and there has been no problems or failures. That's the statement that's in there. When I first read that, like I said, the comment about air kind of stuck out, and the statement about the start stuck out. The one on the starts, I knew there had been failures. Okay. But I didn't know how many starts there had been maybe since the failures without any problems or failures. Okay. So, that required some research. Paul Kochery had put together some information on starts mainly right after the site area emergency. Later, Tom Webb from NSAC put together some tabulations of starts from the review of control room logs, and so, I started looking at starts, and it wasn't until -- That required a bit of research. Okay. You have the shift supervisor log. You have a control log, and you have data sheets that are filled out for each start. So, there's three different source documents. So, I started researching that to confirm or disprove the statements that were in the COA letter, and it wasn't until April 30th that I had mulled over all the logs to get what I was comfortable with as an accurate list. An LER was being prepared because of the site area emergency, and that LER is due, you know, 30 days or so after the

event, and that LER made some statements about -- That LER was written by the NSAC people. I think Tom Webb, and it started out as a very big LER, like 16 pages or so, and it went to the PRB initially as a 16 pager. The PRB tabled it and said -- Skip Kitchens chaired the meeting and said, "We'd like the document about eight pages." So, they were sent back to re-write it at about eight pages. Tom Webb put some information in it about successful diesel starts, and what he wrote in there was merely a outgrowth of the statements that were contained in the confirmation of action letter. Statements had been made there; since the event, there's been 18 or 19 starts of the A and B machine without problems or failures. So, he started off just by, you know, taking, you know, that information and putting the same kind of words into the LER.

Q "He" being Webb?

A "He", Webb. Yeah. That was the same time that he started compiling some lists. He was looking at the control logs and was doing the same kind of thing that I eventually did; you know, look in the control logs and tabulating the starts. When I saw the draft of the LER that was making those statements, I was clearly aware from some of the early lists of diesel starts of these failures that had happened, and I -- As this LER was being prepared, you know, we were aware that there had been

failures, but until we had the whole list of all the starts, you know, you couldn't say that the information was wrong. That original information -- I'm going to digress a little bit. -- the original information contained in the confirmation of action letter was put together by Jimmy Paul Cash on a weekend, on a Sunday I think. He and George Bochhold worked on that, and they worked on that for a verbal presentation that George Bochhold made in the region. So, that's where the original data had come from, and Cash had put it together from -- I believe from control room logs.

Q How do you know that?

A I talked to Jimmy.

Q Okay.

A So, we started looking into that because we knew there were these failures mixed in, and it started becoming clear, I think, that there was kind of -- there were a couple of failures kind of right smack in the center of the starts, and so, you know, with the failure right in the center of all the starts, it was looking fairly unlikely that there was 18 successful starts after the failure that had been right about in the center, and I know -- I talked to Jimmy Paul about it, and Aufdenkamp talked to Jimmy Paul and asked him, "Well, how did you conclude this?" and eventually what it appeared that he

had done is he had counted all of the successful starts. He might've had a failure and two good starts and then a failure and then more successful starts, and I believe that what he did is he counted all the starts even though they were interspersed with failures. The wording, as it finally came out, says, "18 or 19 successful starts without problems or failures." Very strongly implies that those were successive starts without problems or failures.

Q And this is in the -- both in the verbal presentation and in the response the confirmation of action?

A Yeah. Yeah.

Q You said he got them from the logs. Do the logs enumerate whether there was a failure or a successful, or do the logs just say that the diesel generators test was done?

A No. The logs show results. You know, they indicate tripped on -- I'll get into later there are some mistakes in the logs and inconsistencies between the logs that I found. When I -- when I took all three, okay, and put them all together and made a master list, I found discrepancies, but what I think what happened with Cash is that -- is Cash counted every successful start, and that was how he came up with the numbers that he came up with, and the successful starts that he counted were

interspersed with failures and problems. I believe also, and later it came out when we had the good list, that Cash even counted some that failed as starts, as successful, even some starts where the diesel tripped. He must have, in error, counted as a successful start.

Q So, this is your analysis of what he probably did. He never said -- he never told you that he counted all the successful starts regardless of whether there were failures interspersed or not?

A No. I think he -- I think that eventually came out; that that was what he did.

Q That he told you that?

A He told me that, or he told Aufdenkamp that.

Q Okay.

A And that in the PRB meeting, eventually when we proposed the revision to it, I know there was a discussion that starts that actually -- where the diesel actually tripped had to have been counted to get the 18 number. Okay. I don't -- I'm not sure if Jimmy ever admitted that he made that mistake or not, but when you have the actual data, the only way you can get 18 is to count a start where it actually failed. Okay. Well, anyway, so those were these questions being raised about, you know, the accuracy of the information as we were preparing the LER. I was the -- I was the duty manager about the week that

the LER was being prepared for submittal.

Q This is the original 16 pager or the 8 pager --

A No. This is the one that was going to be assigned out, and this was, you know, like about 4/18 or thereabout. So, because of that, I talked to Bill Shipman. He was the counterpart in SONOPCO. And I -- He called up, and he wanted some help on clarifying some things and getting some things done about the LER and about some statements in the LER, and we got around to talking about the accuracy of the start information, and I told him -- I said -- I said, "Bill, you know there have been start -- there have been failures." I said, "On this date and this time, there was -- the diesel failed to start, and on this date and this time, the diesel failed to start," and he didn't seem to be aware of that. Okay. And this is before the LER was submitted, and I said, you know, "We need to, you know, look at this data real carefully. You know, I know there's failures in there right in the middle of this, and I'm worried about, you know, this information." And there were an awful lot of telephone calls being placed that day. I know Aufdenkamp talked to Jack Stringfellow. He's the licensing guy in SONOPCO. And I was in Aufdenkamp's office at that time, and Aufdenkamp told Stringfellow about the failures, and Stringfellow goes, "Oh," and then he says, "You know what

I'm thinking," and John says, "Yeah. I know what you're thinking," you know, and says something about the accuracy of that other document, you know, referring to the COA that had already been submitted, you know, like, you know what that means about the other document. Okay. And he said, "Yeah." and then they discussed what was going on to get an accurate count and said, you know, we had Tom Webb, you know, going over the logs and trying to compare -- trying to prepare the master -- the master list and so forth.

Q In your conversation with Shipman about that, did the light go on with Shipman about the statement in the response to the confirmation to action letter?

A I didn't sense anything in my conversation with him. Okay?

Q Okay.

A But it was clear to me that Stringfellow realized that a misinformation had already been supplied. That was very clear.

Q Okay.

A And I made it clear to Shipman in my conversation with him that there had been failures and that this information in the LER, you know, was potentially in error and needed to be, you know, verified before submittal. Then another conversation -- Then Harriston got involved

and wanted -- That was what Shipman called me -- he wanted to talk to one of the operators, the PEO's that had gone to the diesel room.

Q Shipman did?

A Yeah. He says, "Al, help," you know, "I need help," you know, "Harriston wants to talk to the PEO that had gone to the diesel room because he wants to -- he doesn't like the way a particular segment of that section was worded. He wants to talk to him." I said, "Well, I can set that up for you." So, I went and set that up for him, and I -- and he -- We brought the operator up and had a conversation with this operator in Swartzwelder's office, and that had to do with --

Q You and the operator in Swartzwelder's office?

A Yeah. And a couple of op superintendents were in there with him. He was one of the operators that responded to the diesel room. He was one of the first responders to the failed diesel, and Harriston wanted to know what he did before he cleared all the enunciators, and he wanted to change the wording in the LER a little bit to say that he did a cursory review of things before he cleared the enunciators, and he wanted to verify -- he wanted to see if the operator was willing to say that. The operator did, and so, that went on. In the meantime, there was a phone call going on up in Aufdenkamp's office on the LER

and the start -- and how to word the start information. Okay. So, after I got done in Swartzwelder's office, I went up to Aufdenkamp's office, and concern was raised on that call about the start information.

Q Who was on the other end of that?

A In the room is Aufdenkamp and myself. Also on the phone is Bochhold, Bailey, I think Stringfellow, McCoy, and later, and I don't know how much later, Harriston. And in the course of that conversation, there's discussions about the accuracy of the diesel information, and at that point, the wording gets changed to say, "Since the compre --" something about, "Since the comprehensive test program." So, the wording in the LER ends up a little bit different than in the COA. COA says, "Since the event, there have been 18 or 19 starts," and the wording in the LER says, "After the event, a comprehensive test of the logic of the diesels was conducted. Since the comprehensive test program, there have been 18 or 19 starts on each engine." So, that was the way that wording came out, and again, more concern was expressed about that, and at that point, George Bochhold jumps in and says, "Yeah. That's right," you know. "I had this data reviewed," and really kind of took control at that point and convinced everybody that that was good information.

Q It seems like you told me earlier that during this conversation, you think McCoy kind of broke away and called Ken Brockman?

A Yeah. Yeah. I remember -- I remember hearing something in the background about that, and that's all I remember. It was not, you know, primary in the conversation. It was something I kind of heard in the background. Also during that conversation, Harriston came in, and I'm not sure exactly when, but he said something about, "So, there weren't any failures." Okay. And I heard McCoy say something to him and, again, in the background. I didn't catch, you know, on the phone what was being said. They weren't --

Q But still, even after the comprehensive test program, there were 18 successful starts in a row?

A Yeah. I'm going through. So, at that point, you know, the concern was raised on the phone. The failures were stated to Shipman, and they were stated to Stringfellow. Stringfellow realized that it meant the other information was false and then again stated in -- the concerns raised in this big conversation with the higher level executives, and then Bochhold, you know, assuring everybody that the data is good, and at that point, it's essentially sold, and, you know, that was on the 18th, and I guess that was -- it was the next day that

the letter was signed out by Harriston? The LER was signed out by Harriston the day -- I think the day -- the next day.

MR. ROBINSON: Excuse me just a minute. We're approaching a couple of minutes before midnight right here right now. I'll ask -- Let's go off the record for just a minute.

(Off the record.)

MR. ROBINSON: It is now 12:01 a.m., Friday, July 20th. We're back on the record.

BY MR. ROBINSON:

Q Go ahead and continue, Mr. Mosbaugh?

A So, the LER was signed out on the 19th, and it had the nomenclature, you know, with the 18 successful starts or 19 successful starts without problems or failures. In my mind, you know, there was -- in my mind, an adequate review of the starts had yet to be done, you know. We had questions about -- We had known failures. We didn't have an accurate tally. The verbiage had been changed. A new basis was introduced subsequent to the test program. In addition, the nomenclature said, "Without failures or problems," you know. The only thing that was brought up specifically was failures, the worst of your problems. Well, because of that, I was uncomfortable with it, and I -- on the 18th or 19th, I asked Gus

Williams' people for copies of the shift supervisor logs and the control logs which they keep and review daily. So, I got copies of the logs from them, and I went to Kenny Stokes and got copies of the diesel start data sheets, and I took those, and by April 30th, I had had a chance on the weekend to mull through all those and create a tabulation of all the starts. What I found was starts documented in the diesel start data sheets that were not documented in the main control room control logs, about three or so. I found starts that were documented in the main control room control log but not in the diesel start data sheets, about three or so. And I found more problems and more failures than I was originally aware of. I found lots of different kinds of problems, various alarms that had come in, relays that had come in, several failures of the machine, and most of those comments are detailed in the write-up here.

Q Right.

A And the ones that weren't in one log or the other are noted with asterisks or pound signs. When I started looking at that, you know, you just couldn't say that either statement that had been made was -- in the COA letter or the LER was accurate, and specifically I'm speaking of -- the diesel I'm speaking of specifically here has been and is the 1-B diesel generator. The 1-A

diesel generator's starting history had been better, and there had not been failures. And after I, you know, went over that and with all these problems that came out, I wrote another memo to the general manager after I had completed that, and that memo was dated April 30th. I stated that the information that we had provided to the NRC was incorrect. I attached to it the listing of the diesel starts and the problems very similar to the one that's here. He saw that. I talked to him about it, and he wrote a little note back on it and said he wanted this information validated, and he asked me to validate it with Jimmy Paul Cash. I had some trouble initially getting Jimmy to participate in that effort, and I gave him the tabulation. We never did go through the logs together or anything. Eventually he said, "Yeah. I thought it was correct," and so, I took it -- And I had double- checked mine.

Q He said that he thought it was correct as you presented it?

A As I presented it. Yeah. And I think also as part of the validation, I think I had asked Kenny Stokes or a diesel system engineer to work with Jimmy Paul in the validation process too. It wasn't just me. Okay. So, within a couple of days, I went back to the general manager and said that I had validated the information, and

at that time then, he said to prepare a revision to the LER, and -- prepare a revision to the LER, and I think I mentioned the confirmation of action letter also, and he said something about -- that we would revise the statements in the confirmation of the action letter in the letter that we were going to submit on May 15th, the so-called May 15th letter which was another letter coming out of the site area emergency. So, I had Aufdenkamp, Tom Webb prepare a revision to the LER based on what I think was a good list, and so, they prepared a revision, and that revision kept the wording essentially the same as it had been. I think it updated it to the new date that it was being prepared, and it said, "So, since the comprehensive test program, to" whatever the current date was, "There have been," you know, "X and Y starts without problems or failures," and those numbers were -- even though more time had elapsed, those numbers were less, you know, than had originally been in the LER. I think it was -- maybe 14 was the number of successful starts. That LER then revision went to the PRB, was PRB approved. George Fredricks had one comment on it, and I think that comment -- He had a comment about the accuracy of that counting information, and that was -- his comment was eventually resolved. Also in that PRB, we felt the need to define what the completion of the test program was, and so the

LER was written up, "Since the completion of the test program," and we defined the completion of the comprehensive test program as being the -- it was the -- the first under voltage test was the first test we counted after the completion of the comprehensive test program, and words like that were written into the LER, you know. It said, "Since the completion of the comprehensive test program, starting with the under voltage test on a particular date, there have been," and it was written, you know, to be fairly specific, and so, there was no vagueness in it. So, that was approved by the PRB.

Q What was George Fredricks' concern, and how was it resolved?

A There is a comment in the PRB minutes, and his comment was, "I think the number of starts should be X instead of Y based on something," and I forget how that was resolved, but I think he was -- he was in error on it, I think.

Q Did he think that the number of starts should be more or less?

A No. Less.

Q Less?

A Less.

Q Okay.

A But I believe that that was resolved, and I

believe that the LER, as revised on that date, you know, was a good revision and was never subsequently disputed. Okay.

Q And this was on what date again?

A That's what I'm -- Let's see if I can find it. I think about 5/8. Yeah. 5/8/90 is when the LER was PRB approved. So, I had, you know, written the memo to George nine days -- roughly nine days before. We'd validated the information. We'd revised the LER and gotten the LER PRB approved within nine days, roughly. So, that LER then was sent to SONOPCO, and it was in SONOPCO by May 15th, and I think I have given you some status of LER data sheets that show that.

Q Right.

A Nothing happened then on that LER in SONOPCO. They didn't submit it. It died. There was no action on it for three weeks, and I started asking questions. "When are they going to submit it?" and so forth. Well, let me go back. I think I missed one thing. We approved that LER on the 8th, and on the 9th -- I'm sorry -- on the 10th of May, we still had open the issue of correcting the confirmation of action letters. The letter that -- the May 15th letter was never revised to correct anything in the COA. It was sent in, okay, and it never addressed any mistakes in the confirmation of action letter. So, that

had been the original vehicle that George Bochhold had said would correct the COA letter.

Q So, there was a May 15th letter that was sent to the NRC that referred to the COA letter, but it didn't make any corrections regarding it?

A The May 15th letter, you know, was kind of a follow-up on the site area emergency, and that had been the initial vehicle the general manager said would be used to correct.

Q Right.

A Okay. It went in with no correction. The general manager and SONOPCO were the primary authors of that letter, and nothing was ever put it. So, since nothing had ever been done to address the COA letter and since we had successfully revised the LER by May 10th, I felt that something needed to be done to correct the COA letter. So, in that PRB meeting that I was acting as -- that I was the chairman of, we put an action item in the -- to the general manager to decide how now he wanted to revise the COA letter, okay, since it hadn't been accomplished by the means he had first indicated. Okay. That action item, you know, was then -- became part -- is in the PRB minutes and went to him as a action item tracking item.

Q That was when we had the secretary's comments?

A Yeah. I think that was where I was going to go to next on that. In meantime I've said, you know, not much was happening on the LER that was now in SONOPCO, and then George Bochhold's secretary comes down to Carolyn Tynan, the PRB secretary, one day and said something like, "Doesn't NSAC have anything better to do than assign the general manager action letters?" referring to the action item to correct the COA letter. I think by the 24th the general manager signed off the -- Yeah. -- he signed off the PRB action item letter and --

Q Without having made a correction?

A Yeah. Nothing had been corrected. He signed off the action item, and he had given -- I believe had given instructions to Aufdenkamp to have the cover letter of the LER revi -- worded such that -- And I believe he put a note on his action item that said, "Have the George Harriston cover letter say that this change applies to the COA letter as well," something like that.

Q That's how he handled the action --

A That was how he was going to handle the action letter. Okay. So now, Aufdenkamp doesn't normally write the cover letters. The corporate -- SONOPCO normally writes the cover letters to LER submittals since they're actually signed by Harriston. A cover letter got drafted that these are the revisions that -- it's the cover letter

before, the one before these. I think I sent it to you with a draft revision of the LER, but basically all that one said is, you know, "We're submitting this revised LER, and this also applies to correspondence ELV," you know, dated and so forth. It had a very brief reference to the other letter. Okay. And that was the cover letter that was going to go on the LER. The LER wasn't going anywhere. About the first week in June, I started asking questions about it, and we heard back from Bailey that Harriston planned to sign it on Friday, and that Friday was the 8th of June which was the same day that the ITT was going to make the presentation to the commissioners on the site area emergency, and that was the day Bailey said that Harriston planned to sign the LER. It'd been up there since the 15th of May. He didn't sign it on that day, and so, I continued asking questions about, you know, when any action was going to be taken on it. By that time, I had filed my complaint with the Department of Labor, and Georgia Power was aware of that complaint. They started asking questions about some of the protected activity that was described in there. They had asked to me with me. They wanted to know what these memos that were referred to were. I had told them that they were the memos to George Bochhold about correcting the false statements. You know, I started --

Q When you said "they" wanted to meet with you, who do you refer to by "they"?

A "They" was -- George Bochhold wanted to meet with me, and he had brought -- he had asked one of the residents to come. That was on June 19th. In that meeting, I think I made a comment like, "Why haven't we submitted the LER revision yet?" and on June 21st, I understand at the direction of George Harriston -- Well, I think sometime a little bit -- sometime around then, maybe not the 21st, but a complete revision of the LER was requested, and I understand that request came from Harriston; that he wanted a complete re-write of the LER; that he wanted it updated to today's date. Okay. And so, Tom Webb then began an effort on completely re-writing the LER. I need to make sure I go back --

Q Did he give any reason why he wanted it completely re-written?

A No. No. And that was strange because the original plan, according to Tom Webb, was not to do a total updating of the LER and all the corrective actions until six months later. The original plan was to write the original draft, and then at the six month point was when we were going to do a total re-write. Tom Webb told me that he didn't understand why he was being asked to do a total re-write now. That had not been the original

plan.

Q And were there any instructions as to what was to be said in the --

A No. Just to re-write everything, you know, update it to today's date.

Q Okay.

A Update all the corrective actions and so forth to today's date. Let me get back onto this. The next -- Let me make sure I've got my sequence right here. The other thing that was ordered was a QA audit of diesel starts, and again, that came from Harriston, and so, George Fredricks was asked to do a QA audit of the diesel starts, and that might've happened before the complete re-write. I may have -- I don't have my order real clear here. Complete revision. Okay. I think the QA audit was asked for first. Okay. And George Fredricks had -- he was told to do this right away. He had a guy stay late into the night, or I think he came in the wee hours of the morning, stayed in the vault, did the reviews of everything. When they were done with that QA review, I talked to their inspector. I asked him if there had been any information different than what my information that I had compiled had been, and that information is the same informa -- I had fed my information back to Kenny Stokes, a system engineer, and the QA auditor was comparing source

information against Kenny Stokes' information which was the same as my information, and asked him if any errors or changes had been found in the audit, and he indicated that one unaccounted for diesel start had been found. One new start had been found, but that start was found like in the time period mid-May, you know. All of the LER and the COA was, you know, only up through about the middle of April. Okay. So, essentially every piece of information that we had based the original LER re-write on -- the first LER re-write on was confirmed accurate by the QA audit. Then it was after that information was confirmed accurate that the total re-write was ordered. Okay. So, after QA validated the accuracy of the information -- the total re-write was ordered after that. Then in a time frame here, the total re-write was completed by Tom Webb, and that -- So, that was a new revision on top of a revision that they already had. That was sent to SONOPCO on June 21st.

Q Are you referring to a chronology there --

A Yeah.

Q -- that I don't have a copy of?

A Yeah. This chronology is prepared for my purposes for my DOL case.

Q Would it be helpful for any future investigation of these allegations for me to have a copy of that

chronology, or is there --

A It might. I'd want to talk to Mike about the interrelationship with the DOL filing and so forth.

Q Okay.

A As far as the dates of the technical events, revisions of LER submittals and all that, you know, I'd be more than happy to give that to you, but interspersed in amongst this are things that relate to my DOL filing.

Q Okay.

A Okay. And that's why it was prepared. Okay?

Q Consider it.

A I'll consider that, and if I can extract -- If we don't have a problem with it, I'll be glad to give it to you.

Q Appreciate it.

A And if not, I could strip the other things out and give you the piece you need.

Q Okay. Go ahead. Continue.

A As I indicated before, by that time, because of my DOL filing, I was saying, "When are you going to submit the LER?" and, you know, effectively putting some pressure on that through that conversation to submit it, and so, I think they got it -- they got started on submitting it at that point, and I guess at that point we start getting into the issue of the cover letters.

Q To your knowledge, has the revision to the LER final re-write been submitted?

A I believe that the cover letter and the LER revision were signed out by Harriston on the 29th of June.

Q The 29th of June. Okay.

MR. TATE: Let me ask before we go on.

MR. ROBINSON: Sure.

MR. TATE: Who was the QA --

THE WITNESS: Inspector?

MR. TATE: -- the QA inspector who did the audit?

THE WITNESS: I can't remember his name. George Fredricks can -- I could show you where he sits, and George Fredricks, I'm sure, could tell you his name.

MR. TATE: It's not clear to me. What was the data that he confirmed? You said that he confirmed the data with the exception of one start.

THE WITNESS: The funny thing about that QA audit is that -- There is an audit report issued by George Fredricks on that audit, on that special audit. What seemed a little funny to me is, out of that audit, I heard and I felt there was a lot of criticism being aimed at the diesel system engineer for not having up-to-date summary logs, and that criticism was -- that was being tossed about as a root cause, and I thought that was real inappropriate. You know, he's -- Operations does the

diesel starts. They record the starts in the logs and so forth, and then they send the data sheets to Kenny Stokes, and then once Kenny Stokes gets the information, he tabulates in summary form, and operations was many weeks behind in submitting these forms. Their logs had been inaccurate. They didn't document all the starts and so forth, and out of this QA audit though came the focus of fault, you know, on the system engineer, and that was -- And a statement is made in that audit that that was a cause of the misinformation. That is alluded to in some respects in one of those drafts of those cover letters.

BY MR. ROBINSON:

Q In the final draft?

A In the final draft. Yeah. Though it's stated in a fairly general fashion about inaccuracies in the logs and so forth.

MR. TATE: Did the findings of that audit -- were they in agreement with your count? As you say, the findings of the audit with respect to the number of good valid starts, did that coincide with your findings?

THE WITNESS: Yes. The informa -- the start information that I have here, the start information that was used to prepare the first revision to the LER, was found absolutely correct.

MR. TATE: That's all that I have.

MR. ROBINSON: Okay.

THE WITNESS: You know, so I think, as I said, we're, you know, about to the point of the cover letters. I don't have my chronology up-to-date at that point. So, I'll have to rely on your cover letters, Larry.

BY MR. ROBINSON:

Q I have these numbered in order from first to last, from top to bottom.

A Okay.

Q Now, some of the comments on there are my comments.

A Yeah. The one original revision draft of the cover letter that's not here, you know, is the one that's just about a sentence, and it's -- I think -- like I said, I think you have it, but it says that, "This is a revision to the LER that corrects information and also applies to this other letter."

Q Yes. I remember that. I have it.

A Real brief. Real brief. It's a three sentence, you know, type cover letter. Okay. When -- After I had mentioned to Bochhold in front of the NRC resident, "Why haven't you submitted this yet? It's been six weeks or so," you know, the action to submit this speeded up quite a bit.

Q The NRC resident was John Rogge?

A John Rogge was the one in that meeting. Yeah. And so, I heard that they were -- they were, you know, preparing some cover letters to submit it, and, you know, at this point I was no longer in the PRB and getting this stuff as part of a routine meeting or package, but Tom Webb had some of these, and I had talked to him and seen a cover letter that he had recently gotten telecopied from SONOPCO, and I looked at that, and I said, "Well, this is interesting," and he said, "Yeah. And I got all these others too," you know, and he said, you know, how they had sent him, you know, cover letter after cover letter on this, and I said, "Well," you know, "Can I have copies of all those?" and so, he gave me copies of them, and then there were several revisions that he got telecopied after that, and so, basically through him I collected all these different revisions to the cover letter, and, you know, basically these revisions, you know, one by one give a different explanation for why the errors were made, and they changed their mind, and they say, "No. It was an error because of this," and, you know, we can -- I don't know if you want to go over these --

Q Well, one question I do have --

A -- individually, but, you know, they speak for themselves pretty much.

Q I've noticed and I have analyzed the iterations

of the cover letters. One question I have is, I noticed that on a number of the drafts the initials MJS appear. I assume that stands for Stringfellow?

A Yeah. That's right.

Q Whose initials are HWM? That s on the final draft, but it's also on a couple before the final. Does that ring a bell, those initials?

A The BGH is Harriston the third.

Q Right. HWM would be the -- probably the drafter of the letter.

A Harry Majors.

Q Harry Majors?

A Yeah.

Q Would he be -- would it be logical for him to be drafting letters like that, like with Stringfellow? I'm assuming that the MJS initials are Stringfellow's initials early in the game.

A Normally Stringfellow would work on this stuff, but Majors, you know, might work in that area.

Q Okay. Is that significant at all that Stringfellow and Majors did these drafts, if they did, in fact?

A No. You know, the drafts would normally be done by Bailey or people in Bailey's group. Stringfellow and, I think, Majors, I think, are both in Bailey's group.

Q Okay.

A And normally we've dealt -- I'm more familiar with Stringfellow doing this than Majors, but Majors may have gotten some new work or whatever, but no. There's nothing I see too unusual there.

Q So, you just got copies of those various drafts. Who did you say you got them from?

A Tom Webb.

Q So, you're not aware of any input that may have been given to Stringfellow or Majors --

A Well, yeah. Yeah.

Q Okay. Go ahead.

A I know that as these were submitted, NSAC people and Aufdenkamp fed information back to Bailey, Stringfellow, Majors that there was false information in here. Okay. I know that, you know, as they got these -- I know John and I said, "Well, that isn't true," you know, you know, "Here's bad information in these," and I know John had probably numerous conversations back with SONOPCO trying to get it to be correct.

Q Well, probably at the very least we better go over the issue of valid starts versus --

A Yeah.

Q -- non-valid starts as it relates to those drafts.

A Well, the, you know -- the LER -- the LER, as it was finally submitted -- And did I give that to you? I think I did. The final LER changed the entire accounting basis for the diesel generator starts. This is what? The original?

Q That's the final.

A Oh, this is the final?

Q Yes. You didn't have that. I got that from --

A Okay.

Q -- from the resident, Ron.

A Anyway, the final LER changes the entire accounting basis for the diesel starts to valid starts and valid failures. The original LER, the verbal presentation, the COA response, and the original LER all state everything in terms of starts. Each start is a start. Each failure is a failure. Okay. When you go to valid starts, valid starts are totally different. Valid starts are an evaluated start, and there's a special NRC guidance on what tests can be counted as valid tests and failures can be counted as valid failures. You have to understand the way the test was set up, the way the test was conducted, and how the machine responded, and what was measured to determine if a layman's start or a layman's test is a valid test or a valid start. There's just no way to compare the two without information specific to

each and every test and each and every start and failure. So, it becomes totally impossible to interrelate the two without specific technical knowledge of each and every start. We do -- in the nuclear industry, we do report our diesel starts and failures for surveillance purposes in terms of valid starts and failures, and the tech specs are based on valid starts and failures, and so, there's nothing wrong with going to valid starts and failures, but when you change the LER to that, you disconnect it from what you've written before.

Q The cover letter is also --

A Let me --

Q Okay.

A One way to reconnect it and interrelate it would be to -- If you want to state this LER in terms of valid starts and failures, you say, "Well, what if I stated the previous COA letter and the previous LER in terms of valid starts and failures?" and I attempted to do that, and I think that's -- I think I did that in the revised -- in the latest write-up.

Q That line break off where you started adding your revised --

A If the original LER had been stated in valid tests and failures, it would've been worded like, "Subsequent to this test program, the diesel generator 1-A

and 1-B have had six valid starts without problems or failures," as opposed to the other number had been like 18.

Q Right.

A And if you were to use that kind of wording for the COA letter, I believe you would've been only able to say one or two valid starts or failures since the event. I thought I had that in here as well.

Q That's the extent of your updated write-up that I know.

A I think one or two is correct with the COA letter, but the point is it's a change of basis, and it makes it real hard to interrelate, and, indeed, if you think that is the appropriate basis and if the numbers one or two are correct for the COA letter, I don't feel it would be real comforting and persuasive in the confirmation of action letter to say the machines had one valid start since the event; therefore it -- trust me, it's reliable.

Q Right.

A I'm sure I've got that somewhere, Larry. I can't find it.

Q Well, it's getting a little late. We're probably overlooking things right now.

A Maybe I've got a write-up even later -- even more

recent than that one. Okay. You know, just to be a little more explanatory on the valid starts, in general, like in this listing of starts here --

Q And this listing of starts --

A The first valid --

Q -- you're referring to the listing in your original write-up regarding the confirmation of action?

A Right. These are the starts on the 1-B diesel generator.

Q Okay.

A All of these -- these are all invalid tests. The first valid test -- The original failure that caused the, you know --

Q Site area emergency?

A Yeah. That was the A machine, not the B, but that was a valid failure. Okay. But the first valid test in all this is the first surveillance test. Okay. So, like here for the B machine, this surveillance test might start number 24 on 3/28, diesel surveillance test. That would've been a valid test, and this test here on 4/5 is a surveillance test and would've been a valid test, but of all those tests, you know, up to -- And that's the dotted line where the COA response was issued. Those are the only two valid tests on that machine, and we could look at the list from the A machine, and I think maybe, you know

-- That's like one or two. I think the A machine may only be one valid test. So, you know, that helps compare, you know -- There were 29 actual starts, you know, up to the 9th of April, but only two valid tests.

Q I understand. Any final remarks regarding the cover letters or the LER itself?

A You know, the only thing, from my viewpoint, the revision, you know, was put in limbo and wasn't being submitted. There is no time frame that you're required to submit a revision. LER's do not have a -- LER revisions do not have a due date on it, but I think there certainly is a timeliness requirement in correcting inaccurate information provided to the NRC' that a licensee is obligated to timely correct, you know, any inaccurate information provided. This was being corrected via the LER process and a cover letter of the LER which does not have a time date on it. Okay. And it certainly was not submitted timely in terms of correcting the inaccurate information.

Q So, theoretically the revision to the LER was not prompted because Georgia Power felt they needed to correct the information in the LER. A revision to an LER is a normal thing that happens that shows current corrective action, etcetera?

A Yeah. There's nothing wrong with update revising

an LER, you know, six months later, nine months later. Revisions to LER's -- there is no time clock to submitting revisions to LER's, but when you choose that as the vehicle for correcting inaccurate information provided to the NRC, you know, I feel like you impose the time limits requirement of submitting corrections to inaccurate information, and, you know, the fact that LER revisions don't have a time clock becomes immaterial. Your obligation is to promptly correct inaccurate information.

Q Plus the fact that an LER revision is not a document that would cause any undue attention or scrutiny by --

A An LER revision is submitted to -- is submitted to AEOD who is looking at the trending of industry events; not looking at issues of accuracy of information particularly. You know, the Georgia Power has yet to correct the verbal inaccuracies, corrected the inaccurate -- or is attempting to provide correction to the inaccuracies and the confirmation of action letters via a cover letter to the LER which is kind of a back door method of doing that, and I guess the other thing that I find is that, you know, I believe that the time frame that the LER revision was submitted in and the cover letter was submitted in was very much so dictated and determined by my prodding personally and my statements and criticisms

personally. I don't know on what time frame it would've ever occurred, you know, without that.

Q I understand. I understand. I appreciate your elaboration and amplification, and I know it's taken a long time, and I just want to ask you before we quit the, you know -- You've given this testimony freely and voluntarily, is that correct?

A Yes.

Q No promises or threats have been made to you --

A No.

Q -- to give this testimony?

MR. ROBINSON: Mr. Tate, do you have any final questions before we --

MR. TATE: One last question if we could jump back. When you were talking about advising Shipman that there had been failures, and you said that Harriston got involved, and Harriston wanted to talk to the PEO?

THE WITNESS: Yeah.

MR. TATE: Do you recall the name of that PEO he spoke with?

THE WITNESS: There are three PEO's that responded to the diesel. I think we got one of them that was on shift at the time he called. No, I don't. If you wanted that information, I'm sure Swartzwelder could tell you. Somewhere I have written from the critique of the

site area emergency the three PEO's that responded provided a personal statement, and they signed it, and it was one of those three that provided a personal statement, but I'm having trouble -- I can maybe try to get you that information, or I'm sure Swartzwelder would remember the name.

MR. TATE: That's all I have.

MR. ROBINSON: All right.

BY MR. ROBINSON:

Q The one final thing I have is, you know, you were -- regarding the revisions, the final series of revisions to the cover letter of the LER, you indicated that -- And I guess it was you and maybe Aufdenkamp that were on the phone to SONOPCO giving them input regarding the falsity or the impropriety of the various drafts that they were coming out with. Do you remember the specifics -- if you were to look at the various drafts, would you be able to remember the specifics of the falsity?

A I think it was more -- it was more Aufdenkamp having, I believe, provided them information about what was wrong with the write-up and him telling me, you know, something like, "Yeah. They made two false statements in that one." Okay. But I don't think I was on the telephone conversations between him and who he was dealing with in SONOPCO on it.

Q Would you remember -- if I were to show you the six drafts, would you remember which draft he made the statement about, "Yeah. There were two false statements in that one," or does that kind of run together now?

A At this time of night, it's running together.

MR. ROBINSON: Okay. You know, obviously if there are any things that we need clarified when we conduct further investigation of this, we'll feel free to re-contact you, and you feel the same way as far as contacting us for amplifying information.

I want to thank you very much for your patience and contribution.

It's now 12:59 a.m., Friday, July 20th, and this interview is terminated.

(Whereupon, the interview was terminated at 12:59 a.m., Friday, July 20, 1990.)