

1 BEFORE THE
 2 U. S. NUCLEAR REGULATORY COMMISSION
 3 In the Matter of:)
 4 INVESTIGATIVE INTERVIEW OF:)
 5 GEORGE BOCKHOLD)
 6 (CLOSED))

9 Plant Manager's Conference Room
 10 Administration Building
 11 Vogtle Electric Generating Plant
 12 Waynesboro, Georgia

14 Wednesday, March 14, 1990

16 The above-entitled matter convened for
 17 INVESTIGATIVE INTERVIEW pursuant to notice at 11:12 a.m.

24 9510110165 950926
 PDR FOIA
 KOH95-373 PDR

25 2-90-001

Release

EXHIBIT 26
 PAGE 1 OF 42 PAGE(S)

AI
78

1 APPEARANCES:

2

3

On behalf of the Nuclear Regulatory Commission:

4

5

LARRY L. ROBINSON, Investigator

6

CRAIG T. TATE, Investigator

7

Office of Investigations

8

U. S. Nuclear Regulatory Commission

9

Suite 2900, 101 Marietta Tower

10

Atlanta, Georgia 30303

11

-and-

12

PAUL KELLOGG, Chief, Operational Programs Section

13

Division of Reactor Safety

14

U.S. Nuclear Regulatory Commission

15

Suite 2900, 101 Marietta Tower

16

Atlanta, Georgia 30303

17

18

On behalf of the Witness:

19

20

ARTHUR DOMBY, Attorney

21

Troutman, Sanders, Lockerman & Ashmore

22

1400 Candler Building

23

Atlanta, Georgia 30303

24

25

P R O C E E D I N G S

1
2 MR. ROBINSON: It is now 11:13, Wednesday, March
3 14, 1990.

4 This is an interview of Mr. George Bockhold, Plant
5 Manager, Vogtle Electric Generating Station, Waynesboro,
6 Georgia.

7 THE WITNESS: My title is General Manager.

8 MR. ROBINSON: General Manager.

9 This interview is being conducted on site at
10 Vogtle Electric Generating Station.

11 Present at the interview are Mr. Bockhold; Mr. Art
12 Domby, who is representing Mr. Bockhold; NRC Investigators
13 Larry L. Robinson and Craig T. Tate and Region II NRC
14 Division of Reactor Safety representative, Paul J. Kellogg.

15 Mr. Bockhold, will you please rise and raise your
16 right hand?

17 Whereupon,


18 GEORGE BOCKHOLD

19 appeared as a witness herein, and having been first duly
20 sworn, was examined and testified as follows:

EXAMINATION

21 BY MR. ROBINSON:

22 Q Would you please, for the record, state your full
23 name, current job title and a brief description of your
24 experience in the nuclear industry?
25



1 A I am George Bockhold, Jr., General Manager,
2 Nuclear Plant. And you want now my resume?

3 Q Briefly.

4 A United States Naval Academy graduate, Class of
5 '66; Nuclear Power School for the Navy, five years
6 associated with nuclear submarine activities; Indian Point
7 Station, Con Edison of New York, licensed SRO at Indian
8 Point and five years at Indian Point in various jobs, left
9 as a training manager. Went with the General Physics
10 Corporation in Chattanooga, Tennessee, and we sold and
11 delivered training services and simulator services and
12 various services for utilities, spent five years with them
13 and left -- when I left, I was Vice President with that
14 corporation. Had two jobs since being with Georgia Power;
15 Manager of Training, putting the Hatch and Vogtle simulators
16 in operation; Plant Manager here, then the title changed to
17 General Manager here.

18 Q When did you first come with Georgia Power, what
19 year did you first come with Georgia Power?

20 A It was '81.

21 Q '81.

22 A And '83 was the year that I was here.

23 Q Thank you.

24 Back --

25 A Let me just make sure -- let me think for a second

B

1 and make sure that's right. (Pause.) Yeah, that's right.

2 Q Back in the fall of 1988 time frame, during Vogtle
3 Unit 1 refueling outage, what was your position at the plant
4 at that point?

5 A I was General Manager at the plant.

6 Q Was there a Plant Manager under you at that time?

7 A Yes, Mike Bellamy was the Plant Manager at that
8 time. Skip Kitchens worked for Mike as the Operations
9 Manager.

10 Q All right. At that time, there was a scheduled
11 and planned chemical cleaning of the RCS using hydrogen
12 peroxide and the decision was made to do the cleaning at
13 mid-loop after some research had been done. Were you
14 yourself involved directly in the planning and outage
15 meetings prior to the outage starting back in '88?

16 A I was involved with various outage meetings and of
17 course with the nine o'clock meetings.

18 Q Do you recall any discussion about the conduct of
19 this chemical cleaning with hydrogen peroxide in these
20 planning meetings?

21 A Yes, I was aware that we were going to add
22 hydrogen peroxide and the best place to add it was mid-loop.

23 Q At any point in time during the conduct of these
24 meetings, did there appear to be a conflict between any of
25 the plant technical specifications and this planned chemical

1 cleaning?

2 A I'm not sure about the time frame associated with
3 conflicts or with discussions of technical decisions. I
4 guess what I'm saying is daily there are discussions about
5 what is the best way to do things and what are the
6 regulations that apply to doing whatever it is that we are
7 doing and what is the Tech Specs that apply to whatever it
8 is that we are doing. That goes on daily, so I cannot say
9 if there was a conflict and wouldn't maybe use that term to
10 characterize a conflict, but -- and I don't remember
11 specific dates. You know, there was discussion about this, B
12 has been to PRB, et cetera, and I can't tell you when I
13 first was aware of those discussions in relationship to my
14 overall knowledge about them.

15 Q Okay, I guess I'll ask you specifically do you
16 recall any discussions about potential conflict between the
17 Tech Spec back in the October 1988 time frame?

18 A ^{No.}_^ I don't recall anything unique in that time frame B
19 in comparison to any other discussions we have about other
20 Tech Spec, other things -- nothing pops out as something
21 that is totally different than normal discussion.

22 Q With respect to that chemical cleaning.

23 A With respect to that chemical cleaning.

24 Q Who would have had the immediate responsibility to
25 resolve any potential conflict should there have been one

A

1 between a Tech Spec and a scheduled chemical cleaning?

2 A The licensed operator on shift first.

3 Q I mean in the pre-outage meetings, at that point
4 in time, who would have had that responsibility?

5 A I'm not sure that at pre-outage meetings, Tech
6 Spec conflicts would necessarily come up. They may, they
7 may not. You know, the operations representative, if a
8 conflict came up, would be the person that would typically
9 get involved or bring it to management. Or if I understood
10 there was a conflict or felt there was a conflict, I'd feel
11 it was my responsibility also to resolve that.

12 Q Okay. At the time of the actual injection of the
13 chemicals at mid-loop, were you in your capacity as General
14 Manager made aware of any operator concern about opening the
15 RMWST valves to inject those chemicals?

16 A I don't remember whether I was or was not made
17 aware of a concern at that time.

18 Q Okay. Were you -- do you recall if you were
19 consulted by either Bellamy or Kitchens or Walt Marsh
20 regarding whether or not those valves should be opened to
21 inject hydrogen peroxide into the system?

22 A I don't remember if I was or was not consulted.
23 Okay? I mean, I have an opinion about that Tech Spec and I
24 assume you'll get to that.

25 Q Yes, I will, but you don't recall --

RD

1 A I don't remember if I was or was not. I mean I
2 can't answer your question because I don't recall. I may
3 have been very well consulted, I'm consulted about a lot of
4 things on a daily basis, you know, and looking at this Tech
5 Spec, as I have looked at it because of your continued
6 investigation and because of the other correspondence, you
7 know, I believe what was done was correct.

8 Q Okay. Well as you say, we'll get into that, but
9 if I interpret the answer to the question correctly, you
10 don't recall -- it was not a memorable event if it happened
11 or you don't recall being consulted as to the
12 appropriateness of opening those valves.

13 A It was not a memorable event that I would then
14 recall.

15 Q Okay. At what point in time -- and try to
16 exercise your memory as best you can -- what point in time,
17 general time frame -- I'm not asking you to come up with a
18 specific date -- you can bound it by other memorable events
19 -- at what point in time did this -- did the issue that this
20 injection could possibly have been a reportable event, come
21 to your attention?

22 A The only thing that I can bound in time that was
23 specific was the fact that Skip had given me a memo. Okay?
24 I'd have to look at the date of that particular memo, you
25 know, -- this was September, 1989, addressed from Skip to

B

1 me. I remember receiving that memo and I gave that memo --
2 and I'm not sure if I gave it to Ken McCoy with a
3 handwritten note or just handed it to him, and asked him to
4 have corporate review this memo.

5 Q Okay, do you know what prompted Skip to write you
6 that memo? Do you recall asking him to give you that memo?

7 A No, I don't remember what prompted Skip to write
8 the memo, ~~or didn't write the memo.~~ B

9 Q Do you recall a Monday morning -- excuse me, a
10 morning meeting, not necessarily on a Monday, at which this
11 issue was raised by Mr. Aufdenkampe or Mr. Mosbaugh, that
12 this could have been a potentially reportable situation?

13 A I don't remember that.

14 Q Don't recall that?

15 A No.

16 Q Okay. So are you telling me that at the point in
17 time in September of 1989, when you received this memo from
18 Mr. Kitchens, is to the best of your recollection, the first
19 time this issue really came to your attention?

20 A No, I'm not telling you that. You see, I don't
21 remember the specific time frames. What's in my mind is a
22 collection of facts and information concerning this event
23 that I could have been involved in earlier. Okay? I
24 remember being involved at this time when Skip gave me this,
25 but if I was involved in it earlier, I probably would have

B

1 looked at the Tech Specs and done other things that are now
2 crystal clear in my mind, that are appropriate, associated
3 with this event. But to be able to pick out a date, you
4 know, I can't do that.

5 Q I'm not asking you to pick out a specific date.

6 A ~~You knew, I can't pick out an event, but~~ I could B
7 have been involved in this thing much earlier.

8 Q But you don't remember it.

9 A No, I don't remember it.

10 Q Okay. All right, let's look at the letter, if we
11 would please, Mr. Kitchens' letter to you. Did you question
12 Mr. Kitchens on this letter in any way or did you just
13 accept it at face value?

14 A I read the letter, I don't believe I questioned
15 Skip. I probably looked at the Tech Specs at that time and
16 determined my position.

17 Q Okay. Let's look at the third sentence of that
18 letter when he refers to the fact that this hydrogen
19 peroxide addition was a planned activity.

20 A Yes.

21 Q Shown on the schedule. That's correct, isn't it?

22 A Yes, it was a planned activity and I do remember
23 that in the planning meetings, it was planned to add
24 hydrogen peroxide for the outage, absolutely correct.

25 Q And do you personally have any idea why the B

1 decision was made to do it at mid-loop as opposed to loops
2 filled?

3 A I believe that the technical people, including
4 myself, believe that that's the best place to add hydrogen
5 peroxide for ALARA considerations. I believe that now and I
6 believed that then.

7 Q Could you elaborate on that, the ALARA
8 considerations, et cetera, could you elaborate on that for
9 the record please?

10 A Sure. The reactor coolant system, when opened up
11 to air, will undergo what's called a crud burst, will
12 release the radiation accumulated on the fuel or other
13 surfaces, into the water. And if you don't perform this
14 chemical cleaning, you then have higher radiation levels
15 contained in the spent fuel pool, which actually ends up
16 back into the refueling water storage tank and other parts
17 of the plant after refueling, and if you basically create
18 this crud burst by hydrogen peroxide addition at the most
19 appropriate point, you concentrate this contaminant in a
20 specific area of the plant and you don't allow it to spread
21 out in the plant and you don't allow it to basically end up
22 in a waste stream that ends up in the river or end up as
23 exposure to the operators that are manipulating fuel.

24 Q And to your knowledge, did Chemistry or Outage
25 and Planning do any research outside Vogtle to determine

JB

1 that other plants did this and it was appropriate?

2 A Yes, there was discussions going on about other
3 plants, and how they did it and where they did it and a
4 combination of -- I think the people that recommended to me,
5 said that it was best to do it at mid-loop. Further, my own
6 professional opinion it's best to do it at mid-loop, vice
7 doing it with the RCS full.

8 Q Okay. In the letter, at the end of the first
9 paragraph, Mr. Kitchens attached a chronology. Do you have
10 that chronology?

11 A Yes, I have that chronology.

12 Q Okay. Did -- this is the shift supervisor log.
13 Did you happen to look at the actual shift supervisor log to
14 verify these chronologies or did you just accept them?

15 A I did not look at the shift supervisor log to
16 verify the chronology. I looked at the chronology -- the
17 chronology itself is, in my professional opinion, not the
18 key to understanding this memo and understanding the
19 position.

20 Q Okay. Did you look at the operator log, the Unit
21 1 operator log, in addition to a shift supervisor log with
22 respect to this particular event?

23 A I don't remember looking at the logs. There's a
24 log contained in this attachment, this whole package here,
25 but I don't remember looking at the logs or really thinking

1 that the logs were key to the memo. I might have looked at
2 the logs, you know, but I don't remember looking at the
3 logs, and I really don't think the time frames in logs in
4 relationship to the overall explanation is key to the issue.

5 Q Is the elevation of the water as reflected in this
6 log key to the issue?

7 A No, I don't think it's key to the issue.

8 Q So as far as you're concerned, you were in a loops
9 not filled configuration, mid-loop configuration.

10 A That's correct.

11 Q And there was no doubt in your mind you were in
12 that situation when --

13 A Well I don't think it's significant to the central
14 issue. The central issue is can you add hydrogen peroxide
15 at mid-loop.

16 Q The central issue is can you open the RMWST valves
17 at mid-loop.

18 A That may be your opinion, but my opinion is can
19 you add hydrogen peroxide at mid-loop.

20 Q Well that's what we're going to be asking you
21 today. We're talking also about the opening of the valves
22 in this memo because the memo itself refers specifically to
23 3.4.1.2

24 Okay, let's see -- he talks about, in paragraph 2,
25 in order to comply with Tech Spec 3.4.1.4.2, "I use a

B

1 clearance to ensure that certain RMWST valves were locked
2 closed." He refers to a surveillance procedure 14228-1. Do
3 you have any idea why he referred to that procedure as
4 opposed to the main operational procedure 12006, which
5 requires the valves to be locked closed?

6 A No.

7 Q You don't. Okay. Were you in a situation where
8 you would have normally been conducting surveillances on
9 those valves during that mode and that situation?

10 A Yes, by the Tech Specs.

11 Q I see. During refueling?

12 A The valves are verified closed and secured in
13 position by mechanical stops at least once per 31 days.

14 Q Right. So was it time to conduct the surveillance
15 on these valves?

16 A I don't know if it was or wasn't.

17 Q Okay. The clearance that was applied to those
18 valves and locked them into position was shall we say
19 enabled to be removed by a series of functional test
20 procedures in order to open and close the valves and inject
21 the hydrogen. Are you aware of that?

22 A I'm aware that the words here say that, you know,
23 we used administrative controls to go ahead and open those
24 valves.

25 Q Well it says right in the letter that they were

1 momentarily opened under functional test provisions,
2 correct?

3 A Yes, that's correct.

4 Q Okay.

5 A I don't have any other knowledge than what's
6 contained in that paragraph.

7 Q Okay. My question is, is there a need or
8 requirement to test those valves at that point in time or
9 are we just using a functional test procedure as an
10 administrative control to open the valves and inject
11 hydrogen peroxide?

12 A The context of this letter to me is we're using a
13 functional test provision to administratively control those
14 valves and add hydrogen peroxide.

15 Q All right. Is that a routine use of the
16 functional test provisions?

17 A ^{while obviously a unique application} We manipulate valves and controls under functional
18 test provisions routinely. B

19 Q All right. Then it says the action statement was
20 entered each time and these valves reclosed within four
21 minutes or less as documented in the log book. What, to
22 your knowledge, did Skip mean when he said the action
23 statement was entered each time the valves were opened?

24 A The action statement is the action statement in
25 this specification here, reactor makeup water storage tank

B

1 discharge valves not closed and secured in position,
 2 immediately close and secure in position RMWST discharge
 3 valves.

4 Q Okay, and in your opinion, since the spec itself,
 5 the LCO and the spec itself states that the RMWST valve
 6 shall be closed and secured in position -- in your opinion,
 7 does the voluntary opening of those valves violate that Tech
 8 Spec?

9 A It does not violate that Tech Spec. You can enter
 10 an action statement to manipulate valves and further the
 11 intent of this Tech Spec is to prevent a dilution accident.
 12 Okay, the intent of the Tech Spec associated with Section 6
 13 on ALARA ~~and LOR~~ is to basically reduce radiation exposure. B
 14 To comply with both of those, it is appropriate to go ahead
 15 and add hydrogen peroxide at mid-loop.

16 Q Can you voluntarily enter immediate action
 17 statements?

18 A Yes, you can.

19 Q Okay, where do you get that idea?

20 A Where do I get that idea?

21 Q The idea that you can voluntarily enter immediate
 22 action statements.

23 A ^{FIRST} You read the context of the ^{TECH} specification, ~~okay,~~ B
 24 and you comply with the overall context of the Tech Specs,
 25 ^{THEN IF APPROPRIATE} ~~and~~ you can enter action statements in the Tech Specs. B

SECOND,

THIRD,¹⁷

B

1 ^ Immediately is not a defined term in our Tech Specs. ^ There
2 is no prohibition in our Tech Specs -- typically there are
3 prohibitions in Tech Specs about not doing things. There is
4 no prohibition in Tech Specs about thou shall not enter an
5 action statement. In fact, action statements are there so
6 that you can make the appropriate manipulations in the plant
7 to comply with the intent of the specifications and the
8 design intent of the plant, ^{FINALLY} and you want to basically follow
9 ALARA considerations.

B

10 Q Well it seems to me that the intent of this
11 particular specification is to keep those valves closed so
12 that unborated water doesn't get into the system. I mean,
13 isn't that the intent of that Tech Spec?

14 A The intent of this Tech Spec is not to have a
15 dilution accident. Okay? Addition of chemicals into the
16 RCS is something that is desirable, in this case very
17 desirable and, you know, I don't believe the NRC ever
18 intended us not to do that when it is a highly desirable
19 thing for us to do as far as ALARA goes and as far as
20 compliance with Section 6 of the Tech Specs goes. So I
21 don't understand why you're coming to the other conclusion
22 when it is a desirable thing to do, ^A Adding chemicals is not
23 a dilution accident.

B

24 Q I'm not coming to any conclusion at all.

25 A Adding chemicals is something that is desirable

R

1 and administrative controls associated with the dilution
2 accident analysis contained in chapter 15 is an appropriate
3 way to prevent that accident from happening.

4 Q To your knowledge at the time back in October of
5 '88 when those valves were opened, was anyone from NRC
6 consulted as to whether or not it would be appropriate to do
7 that?

8 A The NRC is present usually in our nine o'clock
9 meetings. The residents are present in our nine o'clock
10 meetings and specifically if there are any issues about
11 that, if they have any concerns, we ask them to get with us
12 and they have a number of times in the past. You know, I
13 assume they were aware of this and they were well aware of
14 the schedule and the addition of hydrogen peroxide as a
15 thing associated with the outage.

16 Q That's all well and good. I'll restate my
17 question to you. Do you have any knowledge that the NRC was
18 contacted regarding opening those valves prior to opening
19 them?

20 A No, I don't have any knowledge that they were or
21 they weren't.

22 Q Thank you. Down in paragraph 3 of Mr. Kitchens'
23 letter, starting in the middle of the third line, Mr.
24 Kitchens is telling you that management provided concurrence
25 regarding the appropriateness of entering the action

1 statement and gave a Tech Spec interpretation that allowed
2 momentary entry into this action statement. Do you know who
3 in management Mr. Kitchens was referring to that provided
4 concurrence to this action?

5 A No, I'm not sure if it was Skip Kitchens or Walt
6 Marsh or somebody else, Bill Burmeister.

7 Q So you're saying that Skip may have been referring
8 to himself when he says management provided concurrence?

9 A I might have been the person that also was
10 knowledgeable at that time.

11 Q Do you recall providing concurrence to that
12 action?

13 A As I say, I don't recall whether I did or didn't.

14 Q Okay. And do you recall anyone at that time
15 giving Mr. Kitchens a Tech Spec interpretation that allowed
16 momentary entry into the action statement?

17 A I'm not sure of your question. Operations goes
18 ahead and provides Tech Spec interpretations. Are you
19 meaning somebody other than Operations? You know, licensed
20 operators are the people that interpret Tech Specs.

21 Q On this letter he's referring to management.
22 Management provided concurrence and gave a Tech Spec
23 interpretation.

24 A I don't know who gave the Tech Spec
25 interpretation, you know, and whether it was written or

1 whether it was not written -- I don't know whether it was or
2 wasn't.

3 Q Do you know if it was given at all?

4 A No, I don't know whether it was given at all. All
5 I can do is read this letter here.

6 Q All right. In the next sentence in the
7 parentheses, he talks about accepted practice at another
8 nuclear plant. Are you aware of which other plant he was
9 talking about in that letter?

10 A I believe that I remember Skip later saying that
11 San Onofre was the plant.

12 Q Okay. Again, are you aware of where he got his
13 verbal guidance that immediate action must be taken within
14 five minutes?

15 A Where he got his guidance?

16 Q Yeah, he's indicating to you that verbal guidance
17 was given that immediate action must be taken within five
18 minutes.

19 A You know, he was saying to his people verbal
20 guidance -- he gave verbal guidance or someone else in his
21 organization gave verbal guidance to the operators that
22 immediate action must be taken within five minutes. That's
23 what that says -- isn't that what -- is that your question?

24 Q That's your interpretation -- either he gave the
25 verbal guidance or one of his people gave the verbal

1 guidance.

2 A That's correct.

3 Q Okay.

4 A That's my interpretation of that sentence.

5 Q All right. It appears that he's indicating that
6 he consulted with the NSAC manager.

7 A That's what I would interpret from the next --

8 Q Okay, and as a result of that consultation a Tech
9 Spec change request was initiated. Do you have any feel for
10 when that Tech Spec change was initiated? Was it initiated
11 pretty close to right at the time of the Unit 1 refueling or
12 months later -- do you have a feel for that?

13 A Well this memo is dated September 15, 1989. I
14 know I don't have knowledge of specific time frames.

15 Q Of when that Tech Spec change was initiated?

16 A That's correct.

17 Q Okay.

18 A Or when Skip talked to the various people about
19 it. Initiation is -- if Skip did this, I assume Skip was
20 talking or directed one of his people to do this.

21 Q All right. I note in the last sentence in that
22 third paragraph, he refers to an outage critique comment.
23 Are you aware of which outage critique comment he's
24 referring to?

25 A The way I would read this -- and I have no

R

1 personal knowledge of the comment, but the way I read the
2 sentence is that after the outage -- or during the outage, a
3 critique comment was initiated to track this Tech Spec.

4 Q So that would be kind of a tracking mechanism?

5 A Yes, we go ahead and develop daily outage critique
6 comments and we track them such that we make improvements in
7 our handling of outages.

8 Q Okay. And then in the next paragraph he talks
9 about the fact that he was informed -- and I'll ask him this
10 question of course, but I want to ask you if you have any
11 knowledge of it -- of a concern by a Technical Support staff
12 member. Do you know who that Technical Support staff member
13 was?

14 A I don't remember who that member was.

15 Q In your recent discussions with Mr. Kitchens about
16 this event, did he indicate to you who that Technical
17 Support staff member was?

18 A I still don't remember who that Technical Support
19 staff member was or is.

20 Q Okay. Okay, I see in the first paragraph on the
21 next page that apparently Mr. Kitchens is expressing the
22 same philosophy regarding entering the action statements
23 that you just gave to me. Did you agree with his opinion
24 that no violation of Tech Specs occurred?

25 A I did then and do now.

1 Q Okay. He says here in the first paragraph on the
2 second page that the basis for the Tech Spec was not
3 violated. Let's talk about the basis for that particular
4 Tech Spec. I think you stated earlier that the basis is to
5 not have an inadvertent dilution criticality accident. Is
6 that good paraphrasing?

7 A Yes, that's good paraphrasing.

8 Q Okay. And the opening of those valves -- are we
9 in agreement that the opening of those valves could
10 potentially start a dilution criticality accident if
11 uncontrolled?

12 A ^{NO, I DO NOT AGREE}
^ Those valves are controlled administratively. RB
13 Controlling them administratively with people there for a
14 short period of time is a lower probability of inadvertent
15 opening of those valves than at other times when somebody
16 might just get in that area and be removing a clearance and
17 might make a mistake and get on the wrong valves.

18 Q I understand the probabilities.

19 A So I'm not agreeing with your statement, okay?
20 You asked me a line of question and I gave you the logic why
21 I did not agree with what you said.

22 Q Oh, so you're saying that the opening of those
23 valves could not cause a potential --

24 A No, I didn't say that.

25 Q Well my question was, could the opening of those

R

1 valves start a potential --

2 A An uncontrolled opening of those valves could, if
3 left open, cause a dilution accident.

4 Q So you're agreeing with my statement.

5 A I made a statement on what I agreed with. Okay?
6 I did not agree with the way you phrased it.

7 Q Okay, fine. His last statement in the first
8 paragraph on page 2, I'll quote it, "Since I would prefer
9 not to have to enter action statements to perform routine
10 plant operations, I continue to support the LDCR for a Tech
11 Spec change." My question to you is why worry about a Tech
12 Spec change if you've got this administratively controlled?

13 A A combination of reasons. One, Skip's reason is
14 a valid reason, you prefer to not have any issues, you
15 prefer to make things very clear. Okay? In manipulations,
16 and if there are anybody that has a doubt, you should
17 probably clarify the language and we are slowly working
18 through and clarifying the language in our Tech Specs to try
19 to eliminate doubt.

20 Q So things were not real clear back in October of
21 '88?

22 A No, they were real clear. I don't agree with that
23 characterization that things in October of '88 were not
24 clear.

25 Q With respect to the opening of those valves and

1 the addition of the chemicals, that --

2 A No, they were real clear. It appears that Skip
3 and line management and maybe even me was real -- yes, we
4 wanted those valves open.

5 Q Well then I guess I'll repeat my question. If it
6 was real clear then, why worry about a Tech Spec change to
7 make it clear?

8 A It was clear that management direction was -- you
9 know, that we wanted to add those chemicals, it was on the
10 schedule and we believed that was correct. There were other
11 people that might have had a different interpretation of
12 that. And we prefer to clarify and not have issues remain.
13 You know, this memo was written what, a year later, from the
14 event? ^{THIS} ~~your~~ letter, ^{INDICATES} somebody was second-guessing this B
15 particular situation. Skip wrote the memo, so it was not
16 clear to somebody, so we went ahead and -- as I say, our
17 policy is to try to clarify these items in the Tech Specs
18 and other places when we find issues and problems.

19 Q Okay.

20 A We do many, many licensing change items, most of
21 it does not require NRC approval, most of it is done on a
22 5059. We clarify the FSAR continuously.

23 Q Okay. It just appeared that it cost 50,000 bucks
24 to get the Westinghouse review and go through the motions of
25 getting the Tech Spec change, my only feeling is that if

B

1 everything was in such good shape and well controlled back
2 in October of 1988, then I just can't understand why you
3 were spending the money for dilution analysis.

4 MR. DOMBY: I think that question has been
5 answered.

6 BY MR. ROBINSON:

7 Q Well his paragraph talks about loops not filled
8 and I think we're in agreement that we were in a situation
9 back in 1988 that the loops were not filled, is that
10 correct?

11 A I don't know that for -- I haven't done the
12 research from here or looked at the logs to determine that
13 to be a fact or not to be a fact. What I've determined is
14 in my mind that is not germane to the Tech Spec issue. When
15 I talked to you about the logs and everything, I haven't
16 determined whether that's true or not true. But that is not
17 central to my opinion of what was done and what should have
18 been done.

19 Q Is the mid-loop condition loops not filled? When
20 you are at mid-loop, are you at loops not filled?

21 A The mid-loop condition with voiding air, nitrogen
22 is a loops not filled condition.

23 MR. ROBINSON: Any other questions regarding
24 Kitchens' letter to Mr. Bockhold before I get into the
25 position statement?

2

1 (No response.)

2 BY MR. ROBINSON:

3 Q Okay, I think you mentioned earlier in the
4 interview that as a result of Kitchens' letter you forwarded
5 it to Ken McCoy and asked for a corporate position on
6 voluntary entry into immediate action statements.

7 A No, I gave the letter, as written, to Ken McCoy
8 with either a note on it or just handed it to him and said
9 would you have corporate licensing look at this to determine
10 if there are any issues that we should address.

11 Q Okay. And I'll now -- I think you have a copy in
12 front of you, October 2, 1989 letter from McCoy to you.
13 That's his response to your request?

14 A That's correct.

15 Q Okay. And I've talked to corporate about this.
16 Are you aware that this position paper was used with the PRB
17 to make -- as part of their criteria to make a reportability
18 decision on the issue?

19 A I'm not aware of the amount of review or what the
20 PRB members did or did not do with this particular letter.

21 Q Okay.

22 A I'm aware that the PRB did not recommend to me
23 that this be reportable. I'm also aware that it was a
24 unanimous vote in the PRB. I was not made aware of any
25 disagreements in the PRB.

B

1 Q Not made aware of any disagreements at all?

2 A I'm made aware of every disagreement in the PRB.
3 If there is a non-unanimous vote, I'm made aware of that.
4 If any member of the PRB doesn't vote for a particular item,
5 I'm made aware of that.

6 Q So you're not immediately aware of potential
7 disagreements in the discussion prior to the vote, if the
8 vote is a unanimous vote?

9 A That's correct. I'm made aware of minority
10 opinions that are potentially controversial and I'm not
11 aware of any minority opinion that was in the minutes of the
12 PRB at this time, although that is -- that hasn't been a
13 hard and fast rule in the past.

14 Q Do you remember at what point in time Mike Bellamy
15 left and I believe Mr. Kitchens started reporting directly
16 to you? Was that in the same time frame? About when was
17 that?

18 A Mike Bellamy left I want to say in March of '89,
19 thereabouts, could have been April, you know. It was kind
20 of that time frame.

21 Q And was his position as such replaced or was it
22 just eliminated?

23 A The title he had was Plant Manager, okay? The
24 equivalent title, same job responsibilities, actually
25 slightly more job responsibilities maybe -- I guess at that

1 point it was probably the same job responsibilities, same
2 number of people reporting -- the title was basically
3 changed to Assistant General Manager-Operations.

4 Q And that would be Mr. Kitchens?

5 A That's correct.

6 Q In the position statement regarding voluntary
7 entry into limiting conditions for operation requiring
8 immediate action, under the background section, paragraph 2
9 and right in the middle of the paragraph, it states "The
10 Westinghouse owners' group has taken the position that the
11 word 'immediately' should be replaced with 'within 15
12 minutes', in order to relieve the ambiguity."

13 Are you aware of the context in which the Westinghouse
14 owners' group is talking about that definition of the word
15 "immediately"? Do you think they're talking about it in the
16 context of an immediate action statement?

17 A That's the way I read this.

18 Q That's to the best of your knowledge the context
19 in which that group was talking about the definition of
20 immediately?

21 A I was not a member -- did not attend any of those
22 meetings, you know, I would have to poll the members to
23 understand their context and I'm sure each of them would
24 have a slightly different context, you know, but that's the
25 way basically I would read this statement.

2

1 Q I notice in the first paragraph under
2 "Discussions", the fourth line down -- excuse me, the fifth
3 line down, talks about "In general, action statements
4 establish time limits for implementing remedial measures
5 which an LCO is not met. This allowable outage time (AOT)
6 defines a limiting time duration for which a system or
7 component may be out of service for corrective maintenance."

8 Is it possible that the Westinghouse owners' group
9 was referring to this allowable outage time when they were
10 talking about "immediate"?

11 A I don't know what the Westinghouse owners' group
12 was referring to. As I say, I was not a member of that.

13 Q Referring back to the Tech Spec itself, 3.4.1.2
14 which I believe --

15 A Right.

16 Q On page two of the position statement in the first
17 paragraph, right about in the middle, it makes the comment
18 that even though no AOT is provided in the action statement
19 of the example of the Tech Spec that they were using, a
20 window has been provided by the footnote. They weren't
21 referring to that specific 3.4.1.4.2 in that example, they
22 were talking about Tech Specs in general where windows for
23 action are provided by the footnote. There is no such
24 window for action in Tech Spec 3.4.1.4.2 regarding the
25 valves, is that correct?

7

1 A I would say there is implications of a window if
2 you consider that, you know, it talks about dilution here.
3 Okay, the reactor coolant system and RHR pumps may be
4 De energized for up to -- provided no operation is permitted
5 that would cause ^{DILUTION} ~~release~~ into the reactor coolant system. B
6 There's no specific window provided for the valves, but you
7 know, reading the whole context of this, there are windows
8 and there are items associated with dilution and you've got
9 to take the action statements in relationship to the context
10 of the Tech Specs.

11 Q It appears that the windows refer pretty
12 specifically to the RHR trains and the RHR pumps as opposed
13 to the valves themselves.

14 A Well the window is provided, you know -- it says
15 "No operation that would cause dilution of the reactor
16 coolant system." So the pump may be de-energized for up to
17 one hour and it's talking about a dilution window.

18 Q Right.

19 A You know, it's not talking about specifically a --
20

21 Q Yeah, it seems to say --

22 A You know, it's in context, it's in context of a
23 dilution window.

24 Q That's the first sentence in the LCO regarding the
25 RHR trains, that's where the double asterisk appears, at the

1 end of that sentence, that's where the double asterisk --
2 the next system which refers to the RMWST valves "shall
3 remain closed and secured in position." There doesn't
4 appear to be a window for opening or manipulating those
5 valves in that Tech Spec, that I can see.

6 MR. DOMBY: Is there a question?

7 THE WITNESS: I'm not sure what the question is.

8 BY MR. ROBINSON:

9 Q Well I guess the question is, is that the position
10 statement refers to the fact that voluntary entry into
11 action statements are usually highlighted by a window in the
12 footnotes, and I'm just pointing out the fact that 3.4.1.2
13 does not appear to me to have a window for the manipulation
14 of those valves. It has a footnote regarding the RHR trains
15 but no --

16 A You know, to me, the footnote, the double starred
17 footnote, is associated with dilution. Okay? And basically
18 to me what it's saying is if you don't have flow and if you
19 had a dilution path to the RCS via these valves or any other
20 possible path, you potentially won't know it until it's
21 maybe too late because you have diluted the RCS or a slug or
22 diluted water comes in when you maybe start an RHR pump, so
23 the context of this is associated with dilution and with
24 that concern, not specifically associated with RHR pumps.
25 That's the way I read it.

1 Q Okay. Toward the end of that paragraph, it talks
2 about a Tech Spec 3.9.7 that refers to crane loads in excess
3 of 2300 pounds. I'll show you a copy of that -- you don't
4 have a copy of that Tech Spec, do you?

5 A I've all the Tech Specs with me.

6 Q Okay. Well I've got a copy of it. You can look
7 it up yourself or use my copy.

8 A Okay, that's fine.

9 Q Is there any -- would you voluntarily enter that
10 action statement? Is it okay to --

11 A No, I would not voluntarily enter that action
12 statement. If found in that action statement, I would
13 comply with the statement of putting the crane in a safe
14 position.

15 Q So it's not generally true that it's acceptable to
16 voluntarily enter an action statement?

17 MR. DOMBY: I think he already testified that it
18 was.

19 MR. ROBINSON: I think he understands the
20 question.

21 BY MR. ROBINSON:

22 Q It's not generally true that it's permissible to
23 voluntarily enter an action statement?

24 A It is generally true to read and interpret the
25 intent of the Tech Specs and take the correct operator

1 manipulations. You've got to take it in context and, you
2 know, I can go to other immediate action statements in here
3 and discuss those in context, where other manipulations are
4 first appropriate before you take the immediate action as
5 indicated by the Tech Spec.

6 Q So voluntary entry into action statements is Tech
7 Spec-unique, you look at each individual Tech Spec --

8 A And you interpret it.

9 Q -- and interpret it.

10 A That's right.

11 Q Okay. The corporate final conclusion and
12 recommendation, the last sentence in the position statement,
13 "Because of the potential for placing the plant in
14 unanalyzed condition, voluntary entry into an LCO, which
15 expressly prohibits a given condition and requires immediate
16 corrective action should that condition exist, should not be
17 made."

18 Have you adopted that corporate policy here at
19 Vogtle?

20 A Yes.

21 Q You have?

22 A Yes. It's termed "should", it's a recommendation.

23 Q I see.

24 A And we were never in an ~~unanalyzed~~ ^{UNSAFE} condition in
25 this particular case, in my opinion. And I could

B

B

UNSAFE

B

1 demonstrate why we were never in an ~~unanalyzed~~ condition if
2 you'd like me to.

3 Q Sure, go ahead.

4 A Okay. I'm not sure how to --

5 MR. ROBINSON: You can erase that.

6 (The witness approaches the blackboard.)

7 THE WITNESS: When you look at the reactor
8 pressure vessel -- if a person owns a swimming pool or an
9 engineer can easily say there is a minimum of 10,000 gallons
10 of water in the vessel. Okay? That's a minimum. After the
11 fact, the Westinghouse analysis says about 25,000 gallons.

12 The typical concentration of boric acid when you
13 get to this particular mode may be 800 PPM. The
14 specifications that apply to the boric acid concentration
15 are associated with shutdown margin and with a design basis
16 report that we have on each refuel load. The design basis
17 report typically has a 100 PPM extra boron as a conservative^{ISM}
18 in the report, plus the operators typically maintain a
19 higher boron concentration than contained in the report,
20 again for conservatism, roughly 100, maybe more, depending
21 and typically they have to borate up to put the new fuel in.

22 You want to go ahead and add chemicals at mid-
23 loop, so you know you've got 10,000 gallons of water, you
24 know it's at 800 PPM and you know you've got roughly 200
25 extra PPM of boron contained in the water. Okay, you say

B

R

1 gee, I'm going to use the design method in the plant to add
2 chemicals and I'm going to use that flow path and a
3 knowledgeable engineer would say the maximum you could
4 typically get is about five gallons a minute through that
5 flow path. The FSAR assumes 3.5 is the maximum. So let's
6 use five, let's use a number.

7 And what I'm doing here is -- and we said enter it for
8 five minutes. Okay, so five times five minutes is 25
9 gallons. Okay, plus 0 PPM because that's pure water and
10 hydrogen peroxide.

11 Now that has to equal the final amount of solution
12 and that's 10,025 gallons, times X PPM of boric acid. Okay?
13 I think when you go through the math, you'll see that this
14 number here decreases by the maximum of five PPM ~~and the~~
15 ~~lower the concentration gets~~ -- so let's just argue that X
16 is approximately 795 PPM. Okay? Without doing the math --
17 it's going to be closer to 800 than that.

18 You have just analyzed that, you know, it's
19 perfectly safe to add the hydrogen peroxide because it
20 doesn't change the margin, it can't get you into a dilution
21 accident.

22 Q Do you have any idea that a rough analysis like
23 that took place?

24 A I did that rough analysis.

25 Q Prior to the opening of the valves?

B
D

BD

1 A I did that rough analysis when we were talking
2 about going into -- before the outage started.

3 Q I see. And you recall that very specifically?

4 A Yes, I recall that very specifically.

5 Q How convenient.

6 A Well that's part of my job. *I typically do such* ^B
calculations all the time and do so. _B

7 Q I see -- I see. It's just that you didn't seem to
8 recall any other issues in the --

9 A I don't recall time frames, okay? I recall the
10 facts about how the plant operates and I recall those very
11 vividly.

12 Q Well you recall that I wasn't asking you to recall
13 specific time frames, I was asking you to recall issues and
14 discussions about whether --

15 A Yes, and those relate to what people said. And an
16 engineer -- or at least this engineer carries around in his
17 head a model of how the plant works and I apply the reading
18 of all this stuff to my model.

19 Q To whom did you impart your analysis prior to --

20 A I don't have to impart my analysis to anybody, you
21 know, I analyzed it and believed that it was appropriate to
22 do this.

23 Q Okay. So you don't recall telling Mr. Kitchens
24 that, you know, I've analyzed this and this is okay to do
25 this, that type of thing?

1 A Well you know, if I had thought that it wasn't
2 okay to do this, I would have not let the plant do it. I'm
3 responsible for Mr. Kitchens and everybody here.

4 Q I understand that -- I understand that.

5 MR. ROBINSON: Mr. Tate, do you have any questions
6 at this time? Mr. Kellogg?

7 (No response.)

8 BY MR. ROBINSON:

9 Q Mr. Bockhold, are there any additional comments
10 that you want to make that you feel are pertinent to this
11 issue that we haven't discussed, that you want to make?

12 MR. DOMBY: You want to take two minutes?

13 THE WITNESS: Why don't we take a couple of
14 minutes.

15 MR. DOMBY: Sure.

16 MR. ROBINSON: It's 12:17, we're off the record.

17 (A short recess was taken.)

18 MR. ROBINSON: It's 12:21, we're back on the
19 record. I'll ask you if you have any closing comments that
20 you want to make.

21 THE WITNESS: I' like to ask you all a question.
22 Have you determined that it is or is not allowable to enter
23 an immediate action statement -- or let me rephrase it, is
24 it allowable on a case-by-case basis to enter an immediate
25 action statement?

B

1 MR. ROBINSON: The purpose of this interview is to
2 obtain facts from you, Mr. Bockhold. I'm not making
3 determinations, I'm just trying to obtain facts. So no
4 determinations one way or another have been made with
5 respect to your question in my mind, I'm just obtaining
6 facts.

7 THE WITNESS: In the past, we have entered
8 immediate action statements associated with rod control and
9 with digital rod position indication and we went ahead and
10 opened the reactor trip breakers too quickly. With
11 consultation with our residents, we allowed a longer period
12 of time to go ahead and check some other indication, and so
13 an immediate action statement was interpreted as a longer
14 period of time, entry into it was allowable.

15 You know, you originally asked me if we had
16 consulted with the NRC on the entering of immediate action
17 statements and I talked about our residents and their --

18 MR. ROBINSON: Before we go any further --

19 THE WITNESS: -- attendance at my nine o'clock
20 meetings.

21 MR. ROBINSON: Before we go any further, my
22 question to you was that I asked you if you consulted with
23 the NRC regarding the entry into an immediate action
24 statement with respect to that chemical addition, not a
25 general question.

RB

1 THE WITNESS: Let me continue with my question.

2 MR. ROBINSON: You can continue with your
3 statement. I'm not going to be here to answer questions,
4 Mr. Bockhold.

5 THE WITNESS: The statement then is that if the
6 NRC feels that entry into an immediate action statement is
7 not appropriate, that we can't do it in context, we need to
8 know that now. We need not to continue on with the
9 potentials for entry into immediate action statements based
10 upon what we consider reasonable interpretations when the
11 NRC feels there's a different position.

12 MR. ROBINSON: Well I will try to get an
13 interpretation of that for you from NRC, Mr. Bockhold.

14 THE WITNESS: Thank you.

15 MR. ROBINSON: You're welcome. Any other comment?

16 THE WITNESS: I don't have any other comments.

17 MR. ROBINSON: All right. If there's no other
18 comments, did you give your testimony here freely and
19 voluntarily today?

20 THE WITNESS: Yes.

21 MR. ROBINSON: Were there any threats or promises
22 made to you for your testimony?

23 THE WITNESS: No threats or promises made.

24 MR. ROBINSON: Thank you. It's now 12:25 and this
25 interview is concluded.

B

1 (Whereupon, the interview was concluded at
2 12:25 p.m.)

3 *A. Bockhoff 4/23/90*
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

AB

C E R T I F I C A T E

This is to certify that the attached proceedings before the
U. S. Nuclear Regulatory Commission in the matter of:

Name: Investigative interview of GEORGE LOCKHOLD, JR.

Docket Number:

Place: Vogtle Nuclear Generating Plant, Waynesboro, GA

Date: March 14, 1990

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

William L. Warren

WILLIAM L. WARREN

Official Reporter

Ann Riley & Associates

7