

ORIGINAL

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

RETURN TO SECRETARIAT RECORDS

Title: Briefing on Status of Sequoyah Restart

Location: Washington, D. C.

Date: Wednesday, January 20, 1988

Pages: 1 - 59

Ann Riley & Associates

Court Reporters

1625 I Street, N.W., Suite 921

Washington, D.C. 20006

(202) 293-3950

1 UNITED STATES OF AMERICA

2 NUCLEAR REGULATORY COMMISSION

3 ***

4 PUBLIC MEETING

5 BRIEFING ON STATUS OF SEQUOYAH RESTART

6 ***

7
8 Nuclear Regulatory Commission

9 Room 1130

10 1717 H Street, Northwest

11 Washington, D.C.

12
13 Wednesday, January 20, 198814
15
16 The Commission met in open session, pursuant to
17 notice, at 10:05 a.m., the Honorable LANDO W. ZECH, Chairman of
18 the Commission, presiding.19
20 COMMISSIONERS PRESENT:

21 LANDO W. ZECH, JR., Chairman

22 THOMAS M. ROBERTS, Commissioner

23 FREDERICK M. BERNTHAL, Commissioner

24 KENNETH M. CARR, Commissioner

25 KENNETH C. ROGERS, Commissioner

1 STAFF AND PRESENTERS SEATED AT COMMISSION TABLE:

2 SAMUEL J. CHILK, Secretary

3 WILLIAM C. PARLER, General Counsel

4 DENNIS DAMBLY, Office of the Gen. Counsel

5 VICTOR STELLO, JR., Executive Director

6 for Operations

7 S. EBNETER

8 E. MCKENNA

9 S. RICHARDSON

10 B.D. LIAW

11 J. AXELRAD

12 S. RICHARDSON

13 G. ZECH

14 P. MCKEE

15 K. BARR

16 F. McCOY

17 R. PIERSON

18 B. HERMAN

19 A. MARINOS

20

21

22

23

24

25

P R O C E E D I N G S

1
2 CHAIRMAN ZECH: Good morning, ladies and gentlemen.

3 Both units at the Tennessee Valley Authority's
4 Sequoyah site were voluntarily shut down by the TVA
5 organization in August of 1985 because of questions about the
6 environmental qualification of electrical equipment.

7 Additional questions and numerous concerns were
8 subsequently raised about the overall adequacy of TVA's nuclear
9 program. Sequoyah has remained shut down since that time
10 pending resolution of these questions and completion of
11 necessary corrective actions.

12 The purpose of today's meeting is for the Office of
13 Special Projects to brief the Commission concerning the status
14 of Sequoyah Unit 2. The Office of Special Projects had
15 previously briefed us on this subject on July 23rd, 1987. I
16 understand that copies of a recent staff paper, and also the
17 slides to be used by the staff during the briefing today are
18 available on the table at the back of the room.

19 Do any of my fellow Commissioners have any opening
20 comments?

21 [No response.]

22 CHAIRMAN ZECH: If not, Mr. Stello, you may proceed.

23 MR. STELLO: Thank you, Mr. Chairman.

24 It has been a considerable, long and difficult road
25 to get to the point we are today with the Commission. The

1 bottom line of the briefing today of course deals just simply
2 with the Sequoyah unit, but we and TVA have come to resolve the
3 issues. There are no longer any questions on how to resolve
4 them. There is still quite a bit of work to be done, but we
5 believe that a schedule that points to a restart of Sequoyah on
6 February 23rd is achievable.

7 We are scheduled to look at all the remaining issues
8 so that we hopefully will be able to resolve them, with the
9 caveat that as you get closer and closer there are always
10 uncertainties that may change that date, but we think it
11 clearly is achievable. During the briefing you will hear which
12 of the issues that remain may in fact affect the schedule.

13 With the startup of the Sequoyah unit leaves the
14 question open as to how then we continue to deal with the
15 issue. I have with me today the Director of the Office of
16 Special Projects, Stu Ebnetter who, the Commission is aware, has
17 made considerable sacrifice to accept a reassignment now for in
18 excess of a year from our Region I Office. And what that
19 particular milestone achieved is a restart of Sequoyah and we
20 can look for how to start to move these projects back into the
21 usual operation of the agency, which is our regional offices
22 and NRR.

23 We have had at least a preliminary discussion for
24 that purpose. The scope of the plan is to, when we can get the
25 Sequoyah unit back on the line, we would look for moving the

1 Office of Special Projects within the NRR organization.
2 Following that particular move, we look to a transition then as
3 these reactors start up and we gain a confidence to move them
4 back into the routine organizational structure over a span
5 obviously of many months. As you are aware, the spacing of the
6 completion of these projects spans some considerable time.

7 But the most significant issue that we are faced with
8 of course is the restart of Sequoyah.

9 With that, I will ask Stu to brief you on the status.
10 We are not here to suggest that this is the last discussion
11 with the Commission, but rather to give you the status of where
12 we are and, as we now get close to the date, that the
13 Commission would schedule a subsequent meeting where the
14 Commission would hear from TVA management itself on why they
15 think it is okay, and hopefully that meeting would be scheduled
16 sometime toward the middle of February if the schedule remains
17 as it is today.

18 With that, then, let me ask Stu to give you a
19 briefing on where we are on the status, and to particularly pay
20 attention to those items for which we clearly had issues where
21 we did not yet have a solution identified which we now have,
22 and many of the issues in fact have been disposed of and I will
23 ask Stu to make sure that we identify those to the Commission
24 in the briefing.

25 So, Stu, I will ask you to introduce the other

1 members of your team that are here at the table, as well as in
2 the audience, and then get on with the briefing.

3 MR. EBNETER: Thank you.

4 CHAIRMAN ZECH: Stu, before you begin, let me just
5 emphasize also that this is strictly a briefing today. It is
6 not a restart decision. We would, as the Executive Director
7 for Operations has just pointed out, expect to have another
8 meeting at which time we would hear from TVA management as well
9 as the staff prior to any restart decision.

10 EDO has told us that they plan right now to have a
11 restart about the 23rd of February, or sometime shortly before
12 that then we would expect the staff and the TVA management to
13 come to the Commission and present their recommendations. So
14 today's briefing is a status report as to where we stand and,
15 with that, Mr. Ebnetter, you may begin.

16 MR. EBNETER: Thank you, sir.

17 [Slide.]

18 MR. EBNETER: Good morning, everyone.

19 We have had some significant changes in the
20 organization since we last met with you, so I would like to
21 introduce the staff, my staff.

22 Jane Axelrad is my Deputy. I replaced Ken Kepler,
23 who retired. Jane is my Deputy. Steve Richardson, to my
24 right, is the Project Director for TVA now. He replaced me in
25 that capacity. B.D. Liaw is our Assistant Director for

1 Technical Programs; and Eileen McKenna up at the far left is
2 our Senior Project Manager.

3 I have some other staff members in the audience. I
4 would like you to introduce yourselves. These are Tech Staff
5 people in the event you have some specific questions. We have
6 enough support to answer those. Ken.

7 MR. BARR: My name is Ken Barr. I am the Acting
8 Assistant Director for Inspections Programs.

9 MR. McCOY: My name is Frank McCoy. I am the NRC
10 Section Chief for Sequoyah.

11 MR. ZECH: Gary Zech, Assistant Director for Projects
12 here at Headquarters.

13 MR. PIERSON: Bob Pierson, Plant Systems Branch
14 Chief.

15 CHAIRMAN ZECH: Say that again, would you, please.
16 We didn't hear that very clearly.

17 MR. PIERSON: Bob Pierson, Plant Systems Branch
18 Chief.

19 CHAIRMAN ZECH: Thank you.

20 MR. HERMAN: Bob Herman, Engineering Branch Chief.

21 CHAIRMAN ZECH: Say that again, too, would you
22 please? Sorry.

23 MR. HERMAN: Bob Herman, Engineering Branch Chief.

24 CHAIRMAN ZECH: Thank you.

25 MR. MARINOS: Angelo Marinos. I am the Chief of the

1 Reactor Operations Branch.

2 CHAIRMAN ZECH: One more time.

3 MR. MARINOS: Angelo Marinis, Chief of the Reactor
4 Operations Branch.

5 MR. EBNETER: Thank you.

6 CHAIRMAN ZECH: All right. Thanks, very much.

7 MR. EBNETER: All right. Thank you.

8 I would like to make just a few comments. We have
9 had excellent support from the interfacing NRC offices. NRR
10 has been very supportive on the IDI inspection. Region II has
11 been excellent on providing support for general inspections of
12 the plant. Region I has supported us on independent NDE VAN
13 inspections and other inspections. And research, by the way, I
14 don't want to leave them out; they have supported us on the
15 NUREG 1150 issue. So we have had very good support in
16 resolving our issues.

17 [Slide.]

18 MR. EBNETER: What I would like to do first is give
19 you an overview of some perspective of the total recovery
20 aspects of the TVA program, and address each of the units.

21 The priority units of course were Sequoyah, with
22 Sequoyah 2 being the lead unit. As Vic mentioned, the startup
23 date is projected for February 23 of this year. That is an
24 achievable date in the event we have no serious tech spec
25 problems or other serious technical issues that arise in this

1 time frame.

2 Heatup should start this week. It is projected for
3 tomorrow, or Friday at the latest, again assuming no technical
4 issues.

5 Following that unit, Sequoyah Unit 1 would come up
6 about six months later, and that would be in the August-
7 September time frame. And the Browns Ferry Unit 2 then would
8 assume the next priority.

9 Brown Ferry Unit 2 was scheduled for the fall of
10 1988. I want to mention there is an awful lot of work going on
11 at Browns Ferry by TVA. Commissioner Bernthal asked last time
12 some questions in that area, but our focus today is on
13 Sequoyah, but there is a lot of work going on.

14 Then the other Browns Ferry units which are in layup
15 and defueled would come on in sequence. Browns Ferry 1 in the
16 summer of '89; Browns Ferry 3, summer of 1990. I want you to
17 recognize that within the next 6- to 8-month period there is a
18 tremendous amount of work if TVA can even come close to
19 achieving this schedule, and that the staff will also have to
20 parallel those efforts, and we do plan to sequence the staff
21 resources onto the Sequoyah 1 and then Browns Ferry.

22 The Watts Bar units are the third priority. There is
23 not an awful lot of effort going on, although TVA has assigned
24 a team to identify the scope of the problems that are existing
25 and that would have to be resolved before licensing of those

1 units.

2 The projected schedule for those are the fall of 1990
3 and Unit 2 in 1991.

4 The Bellefonte Units were not part of our shutdown
5 memorandum to TVA. Those units are B&W units. They are
6 scheduled for the mid-1990s, and that is the general status on
7 those.

8 Any questions on the general overview?

9 COMMISSIONER ROGERS: Yes. Is there any interaction
10 between the dates of these different units? In other words,
11 does the date of any of them depend on an earlier date of
12 something else happening? Or are they all independent
13 activities that go on on their own separate schedules?

14 MR. EBNETER: They are somewhat independent, but a
15 lot of the work that was done on the corporate review and some
16 of the programs done at Sequoyah are identical to some of the
17 things that are going on at Browns Ferry, but they are being
18 pursued as individual startups.

19 COMMISSIONER ROGERS: So a shift in any one of these
20 dates need not bump any of the other dates? Is that it?

21 MR. EBNETER: It could from the standpoint of TVA's
22 resources. They have to parcel those out under the budget
23 constraints.

24 COMMISSIONER BERNTHAL: Well, the question is, for
25 example I see that from the standpoint of TVA resources you

1 have Browns Ferry Unit 2 scheduled for the fall of this year,
2 which would appear to be at the same time, assuming the
3 Sequoyah Unit comes on line sometime here in late February or
4 early March. It would be about the same time frame. Are they
5 in shape to start up both at the same time, or less?

6 MR. EBNETER: It is possible. But there will be some
7 resource constraints; that's for sure. Now these are TVA
8 schedules that we are working with. These are the ones that
9 Mr. White has projected that he can meet.

10 CHAIRMAN ZECH: All right. Let's proceed.

11 [Slide.]

12 MR. EBNETER: This is our key issues' chart. We have
13 adopted the same format that we had in a previous presentation
14 to you. We have kept the same categories because those are the
15 ones that were defined in the performance plan submitted by TVA
16 and agreed upon by the staff.

17 There are significant differences on this chart. Let
18 me note first that we have categorized them into A, B, and C
19 categories. In our last presentation to you there five items
20 in the C category. Those items have now moved over into those
21 categories which reflect general agreement among the staff TVA.
22 There is still some uncertainty in those B categories, and I
23 will discuss those individually for you.

24 The ones that changed, though, design calculations
25 review moved from a C to a B. The cable installation, which

1 was a major controversy, moved from a C to an A. Fuse
2 replacements moved from C to A. Hydrogen analyzer operability
3 moved from C to A. And NUREG-1150, based on inputs from
4 Research, has now moved from C to A. Those are the changes in
5 the C categories.

6 There were two items that were in A categories that,
7 as a result of--one of them is a result of the IDI and moved to
8 a B category, and the other one in that area was the--I think
9 that was the electrical civil calcs. In tech specs we moved
10 from A to B.

11 I would like to discuss with you individually these B
12 category items, and I will take the B1 categories first, which
13 are the ones that TVA owes us some information on. If we go
14 down the list of those, the first one on there is the
15 electrical calculations. There is some uncertainty in there
16 because of unverified assumption in the design process. TVA
17 has stated to us they have the answer to that.

18 However, they have not officially submitted that for
19 the record. That has to be resolved before the staff can make
20 a conclusion.

21 COMMISSIONER BERNTHAL: Let me ask one question here
22 about the C category.

23 MR. EBNETER: Yes, sir.

24 COMMISSIONER BERNTHAL: About two weeks ago we had a
25 meeting here on so-called problem plants and Sequoyah was

1 listed as one of our problem plants, in which category we had
2 the descriptive phrase, something to the effect that "adequate
3 program for resolution of problems are not yet in place." Now
4 that is not an exact quote.

5 I took some issue with that characterization at the
6 time, and I see that in two weeks now they no longer apparently
7 have such problems where a resolution is not in place. Would
8 someone care to explain that?

9 MR. EBNETER: I can comment on it. We had an
10 objection to that particular letter that was sent out, also,
11 and TVA had some disagreement with that.

12 COMMISSIONER BERNTHAL: Okay.

13 MR. EBNETER: They have submitted program plans for
14 the resolution of corporate problems at Sequoyah and Browns
15 Ferry. Those are Volumes I, II, and III. They have not
16 submitted one on Watts Bar. Perhaps that is why it was
17 characterized that way, but the units in question do have
18 program plans.

19 We have approved the program and issued the SER for
20 the corporate plan, and we are issuing the SER with 39 of 46
21 issues addressed. That should go out this week for Sequoyah 2.

22 COMMISSIONER BERNTHAL: So in your judgment at least
23 that characterization with respect to Sequoyah was
24 inappropriate two weeks ago?

25 MR. EBNETER: Yes. But Vic is grabbing the mike.

1 MR. STELLO: Let me make clear that at the time that
2 comment was made, there were in fact issues which were not
3 resolved. We didn't have the plan. The cable issue was
4 specifically cited as an issue. We were not yet ready to move
5 out of the C category that was cited as an example.

6 Now having said that, I think that the language is
7 unfortunate. We will deal with that before we brief the
8 Commission. Perhaps a better way to characterize the plants
9 that we described last time is to simply say we are not
10 prepared to recommend to the Commission that the plant be
11 allowed to start up. Maybe that would simplify things a great
12 deal. That in essence is in fact the case. We just simply are
13 not prepared to recommend to the Commission that it allow the
14 plant to restart. Perhaps that is a clearer definition of what
15 it is.

16 CHAIRMAN ZECH: All right. Let's proceed.

17 MR. EBNETER: Fine.

18 The other areas that TVA has the lead on at this
19 point are tech specs. This is a major category. We will not
20 allow the plant to restart, or recommend to the Commission
21 restart unless the plant is in full compliance with the
22 technical specifications. These are ongoing concerns as we
23 move closer and closer to startup.

24 We now have two or three major issues that involve
25 tech specs that have to be resolved before they can move into

1 mode four. These are generally--I will just describe them--the
2 emergency diesel generator operability. Just last night we had
3 a concern raised on the ice condenser operability. And the
4 other one is the control room HVAC system. Those technical
5 issues have to be resolved, or a tech spec change accomplished
6 in order to meet startup requirements.

7 COMMISSIONER CARR: Why wouldn't there be an X in
8 both columns on that item, then? Don't we have to approve
9 them?

10 MR. EBNETER: We do, but right now the burden is up
11 to TVA to submit those. They have submitted the one on the
12 control room issue. However, their approach is to resolve it
13 technically, if possible, and we do have it in process for a
14 tech spec change.

15 COMMISSIONER CARR: But what you are telling me is
16 that X can only move to the right?

17 MR. EBNETER: Yes. That's true.

18 COMMISSIONER CARR: Okay.

19 MR. EBNETER: So that is our issue on those.

20 The hydrogen analyzer is required for mode two. That
21 is still under TVA court. They owe us a submittal on that.

22 Restart testing, we need additional surveillance
23 tests. TVA has a lot of work to do here, and we have a lot of
24 work, and your comment, Commissioner Carr, is probably
25 appropriate there, too, because we also have a role in the

1 restart test program.

2 There are 15 special tests that have to be done; 12
3 of them have been done so far; 125 surveillances, and about 80
4 of those have been done. So it is well on its way.

5 The operational readiness is in TVA's area. The same
6 comment. We have a lot to do in there, but at present it is in
7 their area. We are working in parallel with them.

8 Some items there--and I will discuss part of them a
9 little later--is the TVA operational readiness review. We've
10 identified a significant number of concerns, one in procedural
11 compliance and another in control room decorum.

12 We need to have a public meeting in that area for TVA
13 to address all the concerns that were identified by their
14 review and INPO's; and we need to finally close it out by our
15 own observations during the heatup phase. So restart and
16 operational readiness is a significant area for us.

17 One other item that is a C there for TVA is
18 exemptions, or a B prove, TVA's exemptions. That really we
19 have resolved. That was related to exemptions on GDC-55 and -
20 56 on containment isolation. We have resolved that, and we
21 have OGC approval and we have issued the exemptions in that
22 area.

23 In conjunction with that, we did send TVA a letter on
24 December 31st to address these and make sure they were aware of
25 what specific documentation we needed in these areas.

1 The NRC items in the Category B2, the IDI issue I
2 want to--I have a separate slide on that, so I will defer that.
3 It is one of the more important ones.

4 COMMISSIONER BERNTHAL: Stu, just one comment. I may
5 have been distracted and you may have mentioned it. The
6 leading issue--and Mr. Stello again mentioned it--for some time
7 here in the technical area, at least one of the leading issues,
8 appeared to be the silicon cabling. Is that under cable
9 installation, then?

10 MR. EBNETER: Yes.

11 COMMISSIONER BERNTHAL: So that we're all--

12 MR. EBNETER: I have a separate slide on that, sir.

13 COMMISSIONER BERNTHAL: Okay. And at what point did
14 you reach the conclusion that we were all in agreement on their
15 program, and that things were proceeding smoothly?

16 MR. EBNETER: About a week ago.

17 COMMISSIONER BERNTHAL: About a week ago? Okay.
18 Thank you.

19 MR. EBNETER: I have a separate slide on that and I
20 can elaborate some more on it.

21 The civil calcs in our area. Civil calcs has been a
22 major problem. TVA had serious problems in those. Many of
23 them were paperwork issues. Regeneration of the calcs are in
24 progress. Generally, as a result of that regeneration, they
25 did have to change and modify 200 pipe supports in order to

1 meet operability requirements; but civil calcs we feel will be
2 resolved before startup.

3 Heat code traceability, TVA has responded to us.
4 That was an issue where they had misapplied classifications of
5 pipe, of Class II piping, for example, to a Class I
6 application. We have the response. It is under review by the
7 staff. We don't see any major problems with that.

8 The employee concerns and allegations are in our
9 area. They are the two biggest pieces of work that we have to
10 contend with. We have in the employee concerns' area 317
11 reports to be reviewed. We have reviewed many of them; 56 of
12 them do have to be resolved before--56 of them have to be
13 resolved before startup. We think we are going to meet
14 schedules on those.

15 We have 178 allegations, and we are about 40 percent
16 finished on the allegations. I need to mention to you that
17 there is an interrelationship between the employee concerns and
18 the allegations. Some items that are employee concerns have
19 become allegations, so the resolution of one takes care of the
20 other. So even though the numbers indicate a significant
21 backlog, we feel we are confident that we can meet those.

22 COMMISSIONER BERNTHAL: Are these primarily technical
23 questions and concerns? Or are there other matters involved?

24 MR. EBNETER: The H&I is in there. Management
25 concerns. Technical issues. The cable issue came out of these

1 employee concerns. We have I think 60-some allegations from
2 Dallas Hicks on the electrical area. So there is a mixture of
3 them, but the bulk of them are technical issues.

4 COMMISSIONER BERNTHAL: But nothing there that could
5 be resolved, or has been resolved by the independent IG that
6 TVA now has?

7 MR. EBNETER: He has resolved some of these through
8 the H&I process. If you need something on that, we can discuss
9 this.

10 [Slide.]

11 MR. EBNETER: The IDI Chart, Integrated Design
12 Inspection. Just quickly, we performed July-September an
13 independent inspection led by NRC/NRR team leader. It was an
14 excellent job. Gene Embro did that work for us. It was
15 complemented by an as-built hardware inspection that was
16 conducted by Frank McCoy, who is in the audience here with us
17 on our staff.

18 We issued the restart issues' letter on October 9th.
19 The vu-graph there shows 64 restart issues. Actually, there
20 were only 61. There was a total of 64. Three of them came out
21 of the additional final report which was issued November 6th.

22 A major concern of that inspection was the civil
23 structural area. There is a significant--there is a very good
24 reason for that. The other areas at TVA, the mechanical,
25 nuclear, and electrical design areas had all been reviewed

1 extensively by TVA. They went back and redid the essential
2 calculations and in those design areas we are in fairly good
3 shape.

4 They did not do that for the civil area, and
5 therefore our team found significant problems in ability of
6 them to retrieve design input data, in ability to retrieve
7 calculations, and this became a major issue for us. We have
8 received from TVA a response. We are in the process of
9 evaluating it. We have received in the interim--we have done a
10 follow-up inspection in November coordinated with the TVA
11 staff. By the way, TVA has been very cooperative in this
12 effort, to their benefit of course, but they have been very
13 supportive.

14 We generally agree with TVA's conclusions, corrective
15 actions, and appraisals in this area. However, we still have a
16 lot of work to do. We have a follow-up inspection to do by the
17 team. That will be conducted the first week in February.

18 Generally, as I say, we feel we are in good shape on
19 that unless something develops on the on-site inspection; but
20 right now, we don't anticipate that. We have 25 of those items
21 that have to be resolved before heat-up which is this week, and
22 we will meet those.

23 We did issue a letter this week--or we will issue it
24 tomorrow--in TVA's response to the IDI report, the answer to
25 all the specific technical issues. However, in the cover

1 letter we identify four programmatic areas that we felt needed
2 addressing. One of them was design implication. Another one
3 was the operations interface. One was related to corrective
4 action, and the other one was related to the establishment of a
5 systems' integration type proof which TVA likes. The need for
6 more systems' orientation, by the way, appears in the
7 maintenance assessments that we've done; it appears in INPO
8 reports, and in our reports. TVA is looking at that area.

9 Now in relation to this, we have some other
10 interesting developments. Dr. Myers from the Congressional
11 Staff has submitted to us two different memorandums through the
12 Congressional Staff to our Congressional Affairs Office. One
13 of those is 18 pages of questions--approximately 143 questions
14 that Dr. Myers has submitted to us.

15 We are reviewing that. The staff has that. We are
16 reviewing all--many of those questions, by the way, take a
17 familiar sequence of has TVA done something? Has the NRC staff
18 looked at it? And has the NRC staff documented it? We are
19 preparing a matrix of these to cross-reference where we have
20 addressed the issues to satisfy ourselves that all the issues
21 have been resolved to our satisfaction. So that is in
22 progress.

23 The other one Dr. Myers submitted to us through
24 Congressional Affairs and is another memorandum related to a
25 specific inspection report on the design baseline verification

1 program. This was Inspection Report 87-31. He had specific
2 concerns on grammatical content, format--one of his statements
3 I believe was that the conclusions were not substantiated by
4 facts.

5 We are in the process of reviewing that and
6 identifying the areas where it needs clarification, any
7 corrections that need to be made, and we will issue a
8 supplemental report to that report.

9 COMMISSIONER BERNTHAL: I have a copy of at least one
10 of those memos here, the 18-page one that you referred to.
11 Sometimes I wonder if we shouldn't hire Mr. Myers; we might get
12 these things finished sooner. But the point I would make is
13 that some thought might be given to talking in further detail
14 with him about these and learning, if possible, which of these
15 he believes the information is at hand; that is, if there are
16 things there that he feels we do not have the information, or
17 there is something wrong, it would be nice if we could
18 highlight those perhaps in a conversation with him and cut
19 through those, because if there is a dispute and a disagreement
20 at the outset on any of these matters, it seems to me we ought
21 to know about that quickly.

22 MR. EBNETER: I agree with you, sir. We have met
23 with Dr. Myers in the past--

24 COMMISSIONER BERNTHAL: Good.

25 MR. EBNETER: --and we have had some telephone

1 conversations with him.

2 COMMISSIONER BERNTHAL: But you will try and
3 ascertain which of these he believes a problem exists, as
4 opposed to those which are simply inquiries for information?

5 MR. EBNETER: Some of them are just where did you
6 address that.

7 COMMISSIONER BERNTHAL: Or suggestions, for example.

8 MR. EBNETER: Yes, we will do that.

9 Are there any other questions on this particular
10 area?

11 COMMISSIONER ROGERS: Well, just in the
12 civil/structural area. Are the problems mostly related to
13 piping?

14 MR. EBNETER: No. Let me give you some examples.

15 COMMISSIONER ROGERS: What are they?

16 MR. EBNETER: The staff had a question on design for
17 shear of the building walls. TVA could not retrieve the
18 calculations during the inspection. Subsequent to the
19 inspection, they did find the calculations--245 of those
20 calculations. They had to regenerate about 8 of them. So we
21 did find them.

22 Another one had to do with the jay structure that is
23 out in the river. The fill for that is large aggregate. There
24 was a problem that they couldn't substantiate the coefficient
25 of friction, and thus guarantee stability of that structure.

1 They subsequently found a report from the Corps of Engineers,
2 which the Corps had done tests and they did have the
3 coefficient of friction available.

4 Now that does say something about the retrievability
5 of records, but these were in the early 1970 time frame and we
6 have had this consistent problem with retrievability of early
7 records from TVA.

8 Those are two examples. Would you like some more?
9 Rebar location is another one.

10 COMMISSIONER ROGERS: But no --

11 MR. EBNETER: We had a disagreement with them, and
12 that was a specification interpretation. Subsequently we
13 resolved that. Anchors, concrete anchors we had some problems
14 with, but those have been resolved.

15 COMMISSIONER ROGERS: But no problems once you got--
16 they could ultimately --

17 MR. EBNETER: I wouldn't say "no problems." They did
18 have to make some changes.

19 COMMISSIONER ROGERS: No outstanding problems as of
20 now.

21 MR. EBNETER: We have them resolved, and any
22 corrective actions will be in place. An example was on tank
23 dynamics. They did not do dynamic calculations. They did have
24 to go and beef up some supports on the tanks. So there were
25 some cases where they had to do some work.

1 COMMISSIONER ROGERS: Thank you.

2 MR. EBNETER: Anything else in this particular area?

3 CHAIRMAN ZECH: Let's proceed.

4 [Slide.]

5 MR. EBNETER: The cable installation. That arose
6 from an employee concern that questioned the adequacy of cable
7 pulling practices. TVA did some tests, voltage tests, and
8 there was a large controversy over the applicability of those
9 tests. They had some failures. Where we're at, the end result
10 was an order to substantiate that minimum insulation values
11 could withstand LOCA conditions at the plant.

12 TVA prepared specific specimens of reduced insulation
13 thickness, submitted them to the Wylie Laboratories for
14 independent review, aged them for 10 years, put them under LOCA
15 conditions with service, voltage, and current applied, ran the
16 tests, and all the specimens passed the tests under LOCA
17 conditions. Now on the insulation thickness we are down to 2
18 mils. This is from a standard insulation practice of 40 mils.
19 So TVA's position was these cables are extremely good; they can
20 pass LOCA conditions with minimum insulation thickness; and
21 they sent us a submittal.

22 The staff reviewed that. We had some contentions
23 with it. We discussed it with them on several occasions.
24 Subsequent review was of silicon rubber. By the way, their
25 tests also showed that silicon rubber is an excellent compound

1 for application in high-temperature radiation environments.
2 They had replaced some, by the way, with costly polyethylene.

3 What we decided was we agreed that generally the
4 insulation was adequate for service conditions and LOCA
5 conditions. However, the tests that they ran only aged the
6 cables to 10 years, and the life design of a plant is 40 years.
7 We told TVA they will have to qualify the cable to 5049
8 requirements for the life of the plant, and that that should be
9 done before the return to operation from the first refueling
10 outage, which is probably six to eight months from restart.
11 That is where we are at on the cable issue.

12 Are there any questions in that area?

13 COMMISSIONER BERNTHAL: I assume that that sort of
14 life-of-the-plant qualification is done for all other cable
15 types?

16 MR. EBNETER: Yes.

17 COMMISSIONER BERNTHAL: How did it happen that this
18 type slipped by?

19 MR. EBNETER: Well, they originally qualified them
20 for 40 years. You have to remember that with the reduced
21 insulation thickness is what they're qualifying to, not the 40
22 mils.

23 Anything else in that particular area?

24 [No response.]

25 CHAIRMAN ZECH: Let's proceed.

1 [Slide.]

2 MR. EBNETER: Operational Readiness I wanted to
3 discuss with you because that is the area where we're moving.
4 The TVA operations are moving toward that. TVA has done
5 operational assessments, and the NRC is doing concurrent
6 assessments.

7 Just briefly, TVA has had INPO come in. They have
8 been there twice looking at plant conditions, staff training,
9 simulator operations in the control room. Mr. White appointed
10 the nine-man operational readiness review team who spent from
11 August through January making observations of the plant. Both
12 of those teams have issued reports. Both of them have some
13 negative comments.

14 Admiral White's team had 7 positive features and 13
15 negatives. For example: "The number of procedural,
16 compliance, and quality problems observed has the potential to
17 lead to future operational problems." This is an issue with
18 regard to procedure compliance. The NRC has noted this in the
19 past. We have talked with TVA. We do notice a good trend
20 downward where there is better procedure compliance, and this
21 has come about by supervision in the plant, training sessions,
22 and just better overall plant features.

23 By the way, Steve Smith was recently appointed as the
24 plant manager, and we have noted significant improvement in the
25 total operations since that time. But that was one. There are

1 13 of these. Many are related to concerns about reactivity
2 control, control room decorum; they expect a little more
3 discipline in the control room.

4 Contrary to that, the INPO findings said they thought
5 the control room discipline looked pretty good. They had four
6 positives and four negatives.

7 We are reviewing all of these aspects, and we have
8 taken our own staff views and incorporated them. We plan to
9 have TVA meet with us in a public meeting in early to mid-
10 February when we get closer and closer to the restart date, and
11 have a public meeting on the operational readiness. At that
12 point, we will have TVA publicly address all the negative
13 comments in the operational readiness reviews, which we will be
14 doing concurrently.

15 Physical plant, I should probably mention to you the
16 plant looks very good. By the way, Admiral White extends his
17 invitation to any of the Commissioners who would like to come
18 visit him. The plant looks very clean. The lighting is much
19 improved. The plant floors, everything is very nice. Probably
20 a better indicator of progress, though, is the plant now has
21 only 5 percent of the total square footage that is contaminated
22 and not accessible to the radiological concerns. So they have
23 cleaned it up from a dirt standpoint, and a radiological
24 standpoint. We think that is a good indicator of good progress
25 in that area.

1 They did have one problem in lineups. They moved
2 into some plant lineups. They ran into configuration control
3 problems. They stopped the lineup on their own initiative,
4 which was good, resolved the issue, and then continued on. We
5 are in there now.

6 Our assessments, we have been looking at the total
7 plant operations for the control room regularly. I have been
8 there a number of times. We generally feel the staff looks
9 good. We have done--we did not do full requal test exams
10 because of the NRC position; however, we have done reviews,
11 interviews with the control room operators. We have done
12 reviews of TVA's program, and we have also done extensive
13 reviews of emergency operating procedures to be sure the TVA
14 staff is familiar with those.

15 Trends, just to give you some indication: TVA does
16 use a set of indicators. They subscribe to the INPO
17 indicators, performance indicators. I just received a set
18 yesterday of certain indicators. Example CAQRs, Conditions
19 Adverse to Quality. They are coming down. The maintenance
20 backlog, Commissioner Carr, is coming down.

21 There are a couple of reasons. They are putting a
22 lot of attention on it. The backlog is reduced. Another
23 reason is they have sorted out non-critical maintenance items
24 such as bookcases, shelves, which were in the maintenance
25 backlogs, pulling them out, segregating them, and getting them

1 out of the critical safety-related maintenance area. So that
2 indicator is down.

3 I mentioned to you the radiological control and the
4 reduction in contaminated areas.

5 Preventive maintenance. In the maintenance program
6 they have shifted to preventive/predictive programs through a
7 lot of emphasis. All the preventive maintenance programs that
8 are planned have been accomplished. They have not missed dates
9 on PMs. So those are just some trending indicators I thought
10 you might be interested in that we are looking at, the TDA is
11 looking at, that all are positive in nature and show that there
12 is good attention by management.

13 Are there any questions in the operational readiness
14 area?

15 CHAIRMAN ZECH: I think you can proceed.

16 [Slide.]

17 MR. EBNETER: Just some general observations, and
18 these sort of summarize what I've been telling you.

19 Engineering/construction concerns, we see rapid
20 closure on those to NRC's satisfaction.

21 The shift of course is moving over to operations. We
22 are shifting in that direction and TVA is shifting in that
23 direction. We see increased confidence in the TVA program.
24 The maintenance program I mentioned. These indicators give us
25 a little more confidence.

1 Their programs are maturing. They have been in place
2 now for a year- to a year-and-a-half. The bugs are being
3 worked out, and we do feel much more comfortable with the
4 programs.

5 TVA management improvements: They have a performance
6 appraisal system that is now in place, which was not in place
7 before. They have had extensive management training. There
8 are some very important management changes. Mr. White brought
9 in a new assistant manager to himself, who has operational
10 experience, and he put in as the plant manager Steve Smith who
11 has extensive experience.

12 COMMISSIONER ROBERTS: These are TVA employees?

13 MR. EBNETER: They are TVA employees, sir.

14 And there are other changes, but those are the two
15 significant ones that are operations' oriented. I can't over-
16 emphasize the comments we get, particularly on Steve Smith.

17 CHAIRMAN ZECH: Is there considerable progress--is
18 that what you're telling us--regarding putting in place a
19 permanent TVA organization with permanent TVA employees?

20 MR. EBNETER: These are significant movements in that
21 area. There are still some contract employees, however. Some
22 of the site directors--Browns Ferry and Watts Bar are both
23 contract employees.

24 CHAIRMAN ZECH: Are there efforts being made to bring
25 in permanent employees?

1 MR. EBNETER: Yes, there are. I don't know what
2 progress has been made at Browns Ferry and Watts Bar, though.

3 CHAIRMAN ZECH: How about at Sequoyah?

4 MR. EBNETER: At Sequoyah, yes. At Sequoyah I
5 believe the entire station staff now is permanent employees.
6 The site director, they put in a new deputy site director who
7 was a contract employee but who is now a TVA employee. So to
8 my knowledge, all of the site staff are TVA employees.

9 CHAIRMAN ZECH: All right. Thank you.

10 MR. EBNETER: Nuclear ethics: We think this has to
11 be upgraded. We see this in various ways. The way we looked
12 at it, we took a list of indicators or attributes that Dr.
13 Murley uses in evaluating whether a plant is a good plant or a
14 bad plant. One of those in the attributes was nuclear ethics.

15

16 When we discussed those--an inquisitive attitude,
17 safety ethic, what-if attitudes--the staff felt there has been
18 a very great improvement from a year ago. However, we would
19 like to see additional improvements in that area, and we think
20 they are coming, but it is definitely an area that Mr. White
21 and his management staff will have to continue to work on to
22 upgrade that attitude and that culture that exists.

23 I would like to mention, in relation to that safety
24 attitude, the safety oversight groups, we did receive via--
25 originally from a newspaper man, and subsequently from TVA, a

1 concern by the American Nuclear Insurers, the insurers of TVA's
2 plants. They do their own inspections, and they attended one
3 of the TVA plant operations review committees on safety
4 oversight. They were not impressed with that safety committee.

5 We have that under review. We are looking at it. We
6 had some similar concerns a few months ago on the 5059 reviews
7 that we are looking at in conjunction with that, but that will
8 probably appear as a press item. We want you to understand
9 that we are looking at it, and we are aware of it, and we will
10 investigate it.

11 COMMISSIONER BERNTHAL: What is the perceived
12 problem?

13 MR. EBNETER: Well, they didn't think the PORC was
14 very effective in challenging the safety issues. They didn't
15 think the design engineers were well versed in making their
16 presentations. Those were typical of their comments, which
17 would indicate that you're not getting a good safety oversight
18 at that level. I just wanted to bring that up to let you know
19 that. That just came up yesterday, by the way.

20 CHAIRMAN ZECH: Well, we would like to hear more
21 about that when you have a chance to look at it.

22 MR. EBNETER: The one area we do--another area we
23 think needs some strengthening is the interface, organizational
24 interfaces. In one in particular, we do think they need a
25 better system orientation, and we do think the

1 design/engineering interface to the operations staff definitely
2 needs to be strengthened. This is particularly true when you
3 make design changes and the effect of the design change is not
4 incorporated into operating procedures. That we think needs
5 additional work.

6 Are there any questions?

7 COMMISSIONER BERNTHAL: It seems to me that was a
8 fundamental organizational difficulty that we heard about,
9 however long this has been going on now, two or three years ago
10 and it still is not straightened out?

11 MR. EBNETER: It is significantly improved. The
12 matrix organization should assure that it is improved, because
13 now we have a central design organization in Knoxville and we
14 have a dedicated design organization on site.

15 Steve Smith in particular is working hard to make
16 sure this works. It is part of the old cultural difficulty
17 where operations doesn't always get the same attention. In
18 architect/engineering firms, the engineers are the kings. But
19 we have seen a lot of improvement in that area, but it still
20 needs more. That is our point. It still needs some work.

21 CHAIRMAN ZECH: One of the concerns that I had, and
22 others had too I believe, was the general lack of coordination
23 between the senior groups. For example, in the corporate
24 organization, for example the designers not really following
25 through with the engineers, the engineers not really following

1 through with those who would do the actual work, and those on
2 the other hand--not much of a feedback system.

3 Have you had a chance to see if there have been
4 improvements in the corporate coordinating structure?

5 MR. EBNETER: We believe there has. Much of it is
6 related to the on-site design groups and maintenance groups
7 participating.

8 CHAIRMAN ZECH: In other words, are the designers
9 when they approve a change now getting a feedback as to whether
10 or not that change was made, and whether or not it was made in
11 accordance with the original design?

12 MR. EBNETER: Yes. That is part of the configuration
13 control system, to make sure that when a design is done, that
14 configuration is approved, the prints are redlined, the changes
15 made, and they get fed back to the original designer.

16 CHAIRMAN ZECH: And there is a system of keeping
17 track of exactly what happened and who approved it?

18 MR. EBNETER: Yes.

19 CHAIRMAN ZECH: In other words, accountability as
20 well as responsibility?

21 MR. EBNETER: Yes. That has all been improved with
22 the engineering change-notice system; plus, a very large
23 oversight engineering organization dedicated to overseeing the
24 design/engineering group.

25 MR. LIAW: Stu?

1 MR. EBNETER: Yes, sir.

2 MR. LIAW: Could I add something to it?

3 MR. EBNETER: Yes, sir.

4 MR. LIAW: I view the issue as also expressing some
5 concern in that area. One of the significant changes in terms
6 of operational interfaces is for those site technical groups to
7 administratively report to headquarter technical divisions.
8 Functionally they are reporting to the site director, but
9 administratively they are reporting to the headquarters. So
10 that headquarters engineering group really are having the so-
11 called "technical ownership" of the print, but in our view have
12 improved the interfaces tremendously over what happened in the
13 past like those pointed out, for example, Mr. Michelson and Mr.
14 Ebersole from the ACRS.

15 CHAIRMAN ZECH: All right. Fine.

16 At the next meeting, will you convey to the TVA
17 management that I think it would be appropriate for the
18 Commission to hear from them what they have done to improve the
19 coordination between their corporate divisions and departments.
20 This is a very important issue, as far as I am concerned. It
21 does indeed amount to configuration control, record keeping,
22 and all the rest, but even more so it is a matter of the
23 organization itself working together as a team--and I think
24 that was the concern that some of us had a couple of years ago.
25 It wasn't working as well as it should.

1 And you are telling us now that there are
2 improvements, as far as you can see, and I would like to hear
3 what the TVA people have done in that regard, and frankly get
4 some kind of a commitment to ensure that what improvements may
5 have been made will continue.

6 MR. EBNETER: Yes, sir. We will do that.

7 CHAIRMAN ZECH: Thank you.

8 MR. EBNETER: Barry, I think we had one more slide.

9 [Slide.]

10 MR. EBNETER: This is our summary of conclusions and
11 recommendations.

12 We do think the February 23rd date is achievable. In
13 the absence of any other problems, we would recommend that we
14 come back with TVA to brief you and give you our
15 recommendations for a restart decision, and we definitely
16 could hear from TVA at that point also.

17 That is all I have, unless you have some specific
18 questions in relation to technical issues or what the staff was
19 doing.

20 CHAIRMAN ZECH: All right. Thank you, very much.

21 Let me ask my fellow Commissioners if they have
22 questions.

23 Commissioner Roberts?

24 COMMISSIONER ROBERTS: No.

25 CHAIRMAN ZECH: Commissioner Bernthal?

1 COMMISSIONER BERNTHAL: Let me just ask a general
2 question here, and I am going to read from, I guess this was a
3 Staff Requirements' Memorandum sent to the staff in the wake of
4 the meeting that we had last summer wherein--well, I will
5 paraphrase this a bit--the staff was asked to address at the
6 next meeting we had, which I guess is this one, the trends at
7 TVA in several operational areas.

8 Among those were: maintenance item backlog, which we
9 touched on but I think I would like to hear a little bit more,
10 if you can give it to us, in the way of numbers and details.
11 That was one point.

12 The age of corrective action documents. In other
13 words, how quickly are they responding to work requests and
14 whatnot for maintenance and other items.

15 And finally, a program for maintaining equipment
16 during the prolonged outage for the idle plants. That was a
17 third issue which the Commission asked to be brought up-to-date
18 on at this briefing.

19 Are you prepared to respond to those points?

20 MR. EBNETER: I can give you I think some figures on
21 maintenance, CAQRs. I can give you some general trends and the
22 like, on those. And on the layup programs, yes. Let me take
23 the easy one first, the layup programs.

24 That is preservation of equipment. Bellefonte has an
25 extensive layup program. We have reviewed the program and

1 inspected it, and we have significant problems with them
2 keeping up with the program. We have an inspection report on
3 that, and TVA is addressing the issue.

4 At Browns Ferry, Units 1 and 3 will be in dry layup
5 in general. Those programs are in place. We have inspected
6 those. There are some small problems, but we generally feel
7 that that program is adequate.

8 At Watts Bar, dry layup in most cases; steam
9 generators are in wet layup. We had some problems with that
10 layup system, also, which they are addressing. That is the
11 general status.

12 We are interested, in particular, the
13 microbiological-induced corrosion, the MIC problem. They have
14 it at all the sites, by the way, at TVA because they are using
15 river water. At Sequoyah they had to replace some spool pieces
16 because of that on the ERCW system.

17 We are continuing to look at those layup programs,
18 and we are experiencing some problems with them. The
19 Bellefonte one probably has the biggest problems, and it should
20 be resolved because they are going to be in layup for all this
21 time. But we are looking at them. I can't give you any more
22 specific details at this time.

23 We have one resident inspector who does all the layup
24 inspections for us, and he is from Bellefonte. So he has a
25 consistent viewpoint and uniformity of inspection across the

1 whole system. It does need some work.

2 COMMISSIONER BERNTHAL: Okay. Well while we are
3 focusing on restarting Sequoyah, I don't need to stress too
4 much the importance that these plants that have been shut down--
5 --and Browns Ferry has been shut down for a long time now, too--
6 that they not be allowed to deteriorate or we may have some
7 unpleasant surprises when we think they are ready to restart.

8 Let's see. There were a couple of others here.

9 MR. EBNETER: The maintenance program.

10 COMMISSIONER BERNTHAL: Maintenance, for example.

11 MR. EBNETER: I just briefly mentioned maintenance.
12 We have done several team inspections of the maintenance
13 program. TVA has revised their approach. They now have a
14 corporate office that sets policy, directives, and guidelines
15 for all of the stations so there is a uniformity-of-maintenance
16 approach.

17 The station itself now has attempted to improve it by
18 several ways. One, they have increased the number of
19 supervisors in the maintenance area to reduce the span of
20 control. They have attempted to put--and have been successful
21 at it, by the way--the supervisors are instructed to do their
22 supervision in the field, not in the office. So they actually
23 go out and watch the maintenance evolutions with their staff,
24 and that has helped to reduce the procedural problems.

25 The procedures, the maintenance procedures have been

1 going through a maintenance instruction enhancement program,
2 which is a very extensive program where the maintenance
3 procedures are all reviewed, revised, and upgraded, and
4 particularly surveillance instructions. This has been a very
5 good program that has resulted in better procedural controls.

6 The backlog, as I mentioned, has come down. I
7 believe the figure I have is 700 outstanding work orders. Now
8 this is a significant reduction, I believe, and I am going to
9 quote--I think it was around 1200 or 1400 about 6 or 8 months
10 ago. So the trending is down.

11 I mentioned the shift to the predictive maintenance
12 and preventive maintenance programs to catch problems before
13 they occur, which we think is good and we think is working.
14 The indicators on that one--and I saw those yesterday--those
15 indicators are that no preventive maintenance backlog exists.
16 They are covering those as they come up.

17 Now one of INPO's findings was that the maintenance
18 request process is somewhat cumbersome because of the control
19 room interface. TVA will have to address this aspect to try
20 and enhance that.

21 As far as their staff goes, TVA-Sequoyah is
22 accredited in all ten areas by INPO, and that includes all the
23 maintenance technicians, and electrical, INC, and mechanical.

24 COMMISSIONER BERNTHAL: Do we know how many of that
25 700, which by the way still seems like a big number to me, I

1 would hope that it is substantially reduced before restart, but
2 how many of those have been identified as needing resolution
3 prior to restart? Do you have any idea?

4 MR. EBNETER: I don't know the exact figure, but they
5 are under constant review--

6 COMMISSIONER BERNTHAL: I'm sure they are.

7 MR. EBNETER: As I said, they had a very cumbersome
8 program where all the grounds maintenance, requests for light
9 bulbs, shelving, and all that was included in these backlogs.
10 They are making a determined effort to try and get non-
11 significant maintenance activities out of the backlog so that
12 it looks--so that it is truly representative of the plant
13 condition.

14 COMMISSIONER BERNTHAL: Okay. And finally, the last
15 item here I guess was how long their corrective action
16 documents tend to sit there before action is taken.

17 MR. EBNETER: I can't give you any exact numbers, but
18 I can tell you they had two backlogs of corrective actions.
19 One of them was related--let me say it this way. As part of
20 the restructuring of the corporation and the programs, they
21 instituted a new corrective conditions adverse to quality
22 report system, which is the one in place today. That was
23 instituted last February.

24 That program, there is a backlog but it resulted from
25 the initial implementation of the program and, the way I view

1 it, the line supervisors not wanting to make the call if
2 something truly was significant. So they generated a large
3 backlog, and they have been trying to work that off.

4 There is still backlog. I don't know what it is, but
5 I can tell you this: The last charts I looked at, the rate of
6 generation was less than the rate of resolution. So the trend
7 is coming down.

8 Now they had a very large backlog of adverse
9 corrective action reports from all the old previous systems, a
10 huge backlog. That has dropped significantly, and I can get
11 you some figures. By the way, I am submitting these indicators
12 that they gave to us, to your tech assistants. Pat Klein has
13 specifically requested these, and I have the memo and they
14 should be down there probably in a day or two, if you want the
15 specific numbers. I am afraid to quote them.

16 COMMISSIONER BERNTHAL: I would like to see them, if
17 you can get them to us.

18 MR. EBNETER: I will make sure all of your tech
19 assistants get those.

20 COMMISSIONER BERNTHAL: Let me ask one or more so
21 here, and then let my colleagues toss a few out.

22 One of the questions which I gather has come up is
23 that of a technical specification change needed to increase
24 control room ventilation in-flow. I don't know how thoroughly
25 that's been reviewed, yet as a technical issue it strikes me as

1 the problem being that there is too much leakage I gather out
2 of the control room area. That sounds like something that has
3 the potential to affect the restart.

4 Could you give us an update on that, and let us know
5 how you view it as of this point?

6 MR. EBNETER: Well let me put it this way, the issue
7 was known last June that there was a problem with this. TVA
8 just recently felt they could resolve it technically. They
9 were not able to resolve it technically. They submitted a tech
10 spec change request in parallel, which we are processing under
11 exigent conditions, not emergency conditions.

12 Over the weekend they went out and did some
13 additional testing and identified leakage areas, and plugged
14 those areas up. They have done some additional testing, and
15 they are very close to meeting the tech spec requirement, but
16 they're not there yet.

17 COMMISSIONER BERNTHAL: What is close? Ten percent?
18 Twenty percent?

19 MR. EBNETER: Probably ten.

20 MR. RICHARDSON: They actually met the tech spec
21 requirement on train A. There are two trains of ventilation,
22 and train A met it, and on train B they were doing the tests
23 and ran into problems and stopped. So they are in the middle
24 of trying to resolve those issues right now.

25 MR. EBNETER: There was some talk about issuing a

1 waiver of compliance and we absolutely refused. They knew the
2 problem existed six or seven months ago. They had plenty of
3 time to address the issue. There is no reason for the staff to
4 issue any waivers of the tech spec requirements, and that is
5 where we are today.

6 If they don't get it technically resolved, the tech
7 spec change process will probably take it to around January 30,
8 but they feel confident that they are going to demonstrate it
9 via test, and our residents are following that.

10 COMMISSIONER BERNTHAL: Okay.

11 MR. EBNETER: But we are requiring very rigid tech
12 spec requirements and we are not deviating from any of those.

13 COMMISSIONER BERNTHAL: Why don't we go on here and
14 maybe come back if there is time.

15 CHAIRMAN ZECH: Commissioner Carr.

16 COMMISSIONER CARR: No, thank you.

17 CHAIRMAN ZECH: Commissioner Rogers.

18 COMMISSIONER ROGERS: Just on the NUREG-1150
19 question. The status I understand in your report is that the
20 preliminary Sequoyah core melt results indicate that Sequoyah
21 is not an outlier. I am just a little concerned about the word
22 "preliminary." What is the status of those results? And can
23 you pin that down and document it in such a way that the whole
24 thing can be put to rest without any question?

25 MR. STELLO: Well, I am not sure yet how long it is

1 going to take us to redo 1150, and I am not prepared to--

2 COMMISSIONER ROGERS: I wasn't talking about redoing
3 it.

4 MR. STELLO: Part of redoing 1150 includes redoing
5 Sequoyah, so we would almost have to take it out of the 1150
6 process. What was done is, if you recall, the first time this
7 issue came up there were a number of issues that were
8 identified where we knew that we were being very pessimistic in
9 the analysis but needed more information to change it.

10 They have gone back and gotten that additional
11 information that was identified to the Commission at the
12 earlier briefing and, based on that information, revised the
13 calculations which now show it is not an outlier. I think that
14 much documentation we probably could do fairly quickly with a
15 short memorandum.

16 COMMISSIONER ROGERS: That is really what I am
17 talking about, I think.

18 MR. STELLO: We could do that in a matter of days.
19 We will do it.

20 COMMISSIONER ROGERS: You know, just pin it down and
21 clarify what that really means.

22 MR. STELLO: We will document the changes that were
23 made that caused that conclusion. We will do that.

24 COMMISSIONER ROGERS: Right. That is really what I'm
25 talking about.

1 I think that is the only question I had that hasn't
2 already been raised.

3 CHAIRMAN ZECH: Could you elaborate just a little bit
4 on the harassment and intimidation area, and give the
5 Commission some kind of a sense of how this stands? You
6 alluded to it briefly. I would like to hear just a little bit
7 more about the status of that, and it has been a concern in the
8 past. How does it stand now? And how do you feel about that?

9 MR. EBNETER: We have done a lot of work in that
10 area, and Steve Richardson conducted an inspection of the IG's
11 office in Knoxville, so I will let Steve address where we are
12 at on that.

13 MR. RICHARDSON: We conducted a team inspection last
14 August. We had members from the Office of Investigations and
15 Office of Enforcement, and Special Projects. We spent a week
16 both in the Inspector General's Office in Knoxville, and also
17 at the corporate offices and the Sequoyah site.

18 We reviewed their procedures for dealing with
19 harassment and intimidation cases within the IG's office. We
20 looked at all of the Sequoyah cases that they have. They
21 number 13. We went through each case. In all cases we agreed
22 with the TVA conclusion and the Inspector General's overview of
23 those cases.

24 We then went and talked to the Employee Concerns Site
25 Representatives at Sequoyah to see how they handled those cases

1 and were satisfied. So from a programmatic standpoint and from
2 the specific Sequoyah cases that were available at that point,
3 we are happy. We are continuing to monitor that. Our
4 residents are consistently looking for indicators of problems
5 in that area.

6 In specifically have asked the Employee Concerns
7 people on site to go back to the areas in the plant staff where
8 that was a problem and continually monitor that and see that
9 the issue has been corrected.

10 CHAIRMAN ZECH: All right. Thank you.

11 In the past there was indication, or at least the
12 perception, that TVA corporate management wasn't too effective
13 in identifying and resolving problems, or in communicating with
14 each other, as I have alluded to a few moments ago.

15 You have indicated there has been improvement in that
16 area. Could you talk just a little bit more about what
17 corporate management seems to have done to improve their
18 effectiveness at overseeing specifically the Sequoyah activity?

19 MR. EBNETER: Well, I have attended some of Mr.
20 White's staff meetings, and I can tell you that they are no-
21 nonsense meetings and get to the point very quickly. They have
22 extensive management development programs and team building
23 exercises that are being conducted by the training staff.

24 One of the most effective of these is tabletop
25 discussions, roundtable discussions with the managers that

1 identify problems' interfaces. So I think those are very
2 effective.

3 The frequency of staff meetings is very high.
4 Admiral White has them regularly, and all the managers attend.
5 They come in from the other sites.

6 CHAIRMAN ZECH: Communications have improved, you are
7 saying.

8 MR. EBNETER: Yes.

9 CHAIRMAN ZECH: Is it a significant improvement over
10 the procedures that were used in the past?

11 MR. EBNETER: I believe so, yes.

12 Those are the major things. At the sites, at
13 Sequoyah specifically, a few months ago they established what
14 they call a "war room."

15 CHAIRMAN ZECH: A what?

16 MR. EBNETER: A "war room," w-a-r. It is really a
17 gathering of all the managers every morning to go over
18 significant issues. It is very effective, and even more
19 effective now under Steve Smith. There are no excuses for
20 problems. If somebody--he wants to know who the ownership is,
21 who has it, what's being done, and if there's any doubt at all,
22 he sends them directly out of the war room and says, resolve
23 it, and come back and tell me where we're at.

24 But it brings all the managers together:
25 engineering, design, QA, the control room shift engineer

1 attends these. So it is a big communications session on
2 problems that are existing, and the priorities of these
3 problems. It has been very effective in closing these
4 technical issues that we've been talking about.

5 CHAIRMAN ZECH: In the past there have been concerns
6 expressed regarding the design basis for Sequoyah and TVA's
7 compliance with commitments in the Final Safety Analysis
8 Report.

9 First of all, are you satisfied that Sequoyah Unit 2
10 as presently configured is in compliance with the design
11 requirements?

12 MR. EBNETER: Yes, I am. Generally speaking, the--
13 and let me tell you why.

14 CHAIRMAN ZECH: Good.

15 MR. EBNETER: TVA has done extensive work not only
16 with the design baseline program, which helped re-establish
17 design baseline, but alternate calculations, EQ programs, the
18 Appendix R, all of these design programs together have brought
19 together a tremendous amount of documentation and objective
20 evidence of meeting these. So TVA has done a lot.

21 But let me tell you from our Staff's view, we have
22 spent an awful lot of resources down there. The IDI, 15 people
23 approximately for 7 months, and then the follow-up inspections
24 that we have done. TVA has put a whole team on their
25 supporting that. We have done EQ inspections on every binder

1 that they have developed to satisfy ourselves that they were
2 meeting the design requirements.

3 We have four full-time residents who are full-time
4 looking at the plant configuration and questioning LERS,
5 deviation from plant site conditions. We have one full-time
6 inspector there just following the pre-op test program in which
7 TVA did a complete matrix of all the test requirements for the
8 plant, including surveillance instructions, pre-op Reg Guide 1-
9 68, the total scope of tests to verify the plant.

10 We have diverse views on the plant. We have used
11 contractors from many different companies and disciplines. We
12 have gotten their reactions. We have done independent
13 inspections at that plant with the NDE van, and we have done
14 electrical tracing, UTM piping.

15 That doesn't mean that every time we do an inspection
16 we aren't going to find something, because we will probably
17 continue to find isolated noncompliances, but at this point in
18 time I think the work that TVA has done in our oversight--and I
19 didn't mention the oversight by the engineering and insurance
20 organization at TVA which has been substantial.

21 I believe that the FSAR commitments are essentially
22 being met.

23 CHAIRMAN ZECH: All right. Thank you.

24 Lastly, could you talk just a little bit more about
25 the procedures for readiness and the restart procedures? In

1 other words, do you have in mind whole points?

2 MR. EBNETER: Yes.

3 CHAIRMAN ZECH: Have you gotten into that yet, Stu?
4 Or have others on our staff thought about some kind of a
5 procedure for--

6 MR. EBNETER: I have one on my desk.

7 CHAIRMAN ZECH: --assuring that the restart will be
8 done progressively with careful monitoring?

9 MR. EBNETER: Yes.

10 CHAIRMAN ZECH: Can you tell me a little bit about
11 that?

12 MR. EBNETER: Yes. We have a startup profile, and if
13 you are interested I could send this to you, the tech
14 assistance which would give you a profile--

15 CHAIRMAN ZECH: I think we would all be interested in
16 seeing that.

17 MR. EBNETER: Fine. We have a plan for the Office of
18 Special Projects where we are planning to do augmented
19 inspections around the clock, doing the startup for a period
20 following that. That plan is on my desk.

21 CHAIRMAN ZECH: Will the regions and the residents be
22 involved in that?

23 MR. EBNETER: Absolutely. My resident staff will be
24 the lead inspectors, but we will draw on other regions and our
25 own staff at headquarters, and maybe some NRR staff to support

1 that, because we will need additional people.

2 CHAIRMAN ZECH: Good. Right.

3 MR. EBNETER: We may need Vic's help in getting these
4 resources, but it is for a short time period, six or eight
5 weeks.

6 CHAIRMAN ZECH: I am sure you will get what you need.

7 MR. EBNETER: We do have the plan. I am working on
8 it. We will get it out this week, and I will send you a copy.
9 We are talking about five hold points for TVA.

10 The first hold point is entering mode four, which is
11 the heatup.

12 The second hold point would be mode two.

13 Then mode one.

14 We have a hold point at 30 percent power, another
15 hold point at 70 percent power--or 75 percent power. We have
16 worked with TVA on this, and we fully plan to work with them on
17 that.

18 They cannot move out of a hold point until Mr. White
19 is fully satisfied from his staff, and that I have that same
20 assurance from my staff. We will have a full-time--I plan to
21 have an SES manager on site doing the startup for the augmented
22 shift coverage, and he will be my contact and will bring all
23 this together to advise me if it's acceptable to move out of
24 that hold point. That is generally how we plan to do that.

25 CHAIRMAN ZECH: All right. Thank you very much.

1 Any other questions, my fellow Commissioners?

2 Commissioner Bernthal.

3 COMMISSIONER BERNTHAL: I have one or two other short
4 ones here, I hope. I have been told that there may be a
5 problem with the emergency diesels, something to do with
6 voltage droops and difficulty starting. Could you update us
7 quickly on that?

8 MR. EBNETER: Just quickly, you characterized it very
9 well. The diesels have to come up to speed in a certain time.
10 Then you start loading sequences, and every time you put a load
11 on the voltage droops. The diesel then has to recover. It
12 will not overshoot by a significant amount, and it is this area
13 of recovery and overshoot where they are not able to meet the
14 tech spec requirement.

15 TVA is doing additional analysis and tests. The
16 staff and Mr. Marinos is here, if you need more information.
17 The tech staff is going down there tonight or tomorrow morning
18 to review the TVA actions on this. Now if they don't meet the
19 tech spec, they cannot go into mode four, and I am not sure
20 what sort of resolution they would have to do. But there is a
21 potential for that to delay the heatup.

22 COMMISSIONER BERNTHAL: When did this problem
23 surface? Very recently?

24 MR. EBNETER: Angelo, this week was it?

25 MR. MARINOS: Yes. Last Thursday I had a phone

1 conference with TVA when they brought me up to date about their
2 potential problem with the emergency diesel generators.

3 COMMISSIONER BERNTHAL: Was there a comment here?

4 CHAIRMAN ZECH: I think our reporter got that all
5 right?

6 [The reporter nods in the affirmative.]

7 CHAIRMAN ZECH: Thank you.

8 MR. EBNETER: Go ahead, sir.

9 COMMISSIONER BERNTHAL: Okay. Unless there is more
10 on that--I did want to ask a general question which is not
11 specific to TVA with respect to this cabling problem.

12 We understand that TVA now has the difficulty
13 apparently fairly well in hand. Do you have a sense yet of the
14 generic nature of the issue?

15 MR. STELLO: I have had one briefing and one meeting
16 with representatives both from the Office of Special Projects
17 and NRR, and the sense of that meeting that I have is that this
18 is not a significant safety issue.

19 COMMISSIONER BERNTHAL: Because there aren't that
20 many?

21 MR. STELLO: Well, no, because the results of the
22 testing that we have thus far clearly say the cable is, even if
23 it is in fact subjected to substantial thinning--and you
24 remember the test results went from 40 mils to 2 mils--we still
25 don't see a safety problem. So our perception of the

1 significance of the issue is not very great at the moment.

2 COMMISSIONER BERNTHAL: Is diminished based on these
3 tests that TVA has done?

4 MR. STELLO: Yes, sir; that's correct.

5 COMMISSIONER BERNTHAL: Okay.

6 I only have one last question, I guess. We have
7 heard about a lot of things today, some of them potentially
8 more serious I guess before the end of next month than others.

9 If you had to focus, Stu, on one or two issues that
10 you are most concerned about at this point, what would those
11 be?

12 MR. EBNETER: Well, the one I mentioned. I think
13 there has to be additional improvements in the nuclear effort
14 within TVA. This is that cultural change. Substantially, they
15 have made improvements but definitely there have to be more.
16 That was the major one.

17 COMMISSIONER BERNTHAL: That is a management issue.
18 What about hardware issues?

19 MR. EBNETER: Hardware issues, I don't know of any
20 that I really have particular concerns about.

21 MR. STELLO: Maybe the glib answer is the one that
22 will delay the schedule.

23 COMMISSIONER BERNTHAL: Any show-stoppers; that sort
24 of thing.

25 MR. STELLO: And we're not sure we can predict which

1 one that might be.

2 MR. EBNETER: I guess our biggest concern was in pipe
3 supports and the cables before. The pipe supports, they
4 modified about 200 to meet operability requirements. By the
5 way, we didn't impose any requirements on TVA that we have not
6 imposed on out of their operating manuals. But those two
7 issues we feel are pretty well resolved.

8 COMMISSIONER BERNTHAL: Okay. Thank you very much.
9 It was a good briefing. I appreciate it.

10 COMMISSIONER CARR: Can I say something?

11 CHAIRMAN ZECH: Yes, please.

12 COMMISSIONER CARR: I also want to compliment you on
13 the thoroughness of the briefing and the paper that came up.
14 Is it a fair characterization to say we probably know more
15 about Sequoyah than we do any other plant right now?

16 MR. EBNETER: That's pretty close.

17 MR. STELLO: Significantly more.

18 [Laughter.]

19 CHAIRMAN ZECH: Well, let me also thank you, Mr.
20 Stello, Mr. Ebnetter, and your team here, for not only a fine
21 presentation today but for what your continuing actions on
22 Sequoyah and the TVA organization.

23 You have indicated substantial progress both in
24 resolution of complex technical issues, and in completion of
25 management and other concerns that will be needed to be

1 resolved prior to restart.

2 The next time I believe it would be helpful to all of
3 us if you would emphasize in some more detail perhaps your
4 operational readiness procedure that you intend to use, and
5 also discuss a bit of the operators themselves, elaborate more
6 on the training and the status as you perceive their
7 capability, not just the operators themselves but supporting
8 plant staff, maintenance people, and so forth.

9 In other words, if you will address the people side
10 as you see them moving into operations. Frankly, I look at
11 this in a sense almost like a new construction plant because I
12 am continually impressed with the need to shift mentality,
13 shift emphasis from construction to operations. Here you have
14 been in a long layup period, and it seems to me there should be
15 a focus and an emphasis on the operational side of it as you
16 move through this transition period.

17 So next time I would hope that you, and also the TVA
18 organization, could discuss their efforts to emphasize and
19 change thinking from repairs and design review and engineering
20 review and all that, to an operational mode and hopefully give
21 us the confidence that that shift to operations and emphasis on
22 operations is embedded in the organization.

23 With that, let me thank you again for an excellent
24 presentation. We look forward to hearing from you and from the
25 TVA organization in the next few weeks, or whenever you feel

1 and they feel that they are prepared to recommend restart for
2 Sequoyah 2.

3 If there are no further questions or comments, we
4 stand adjourned.

5 [Whereupon, at 11:17 a.m., the meeting was
6 adjourned.]

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

REPORTER'S CERTIFICATE

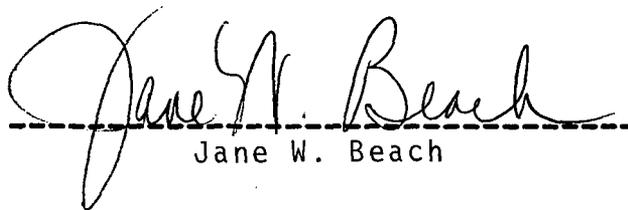
This is to certify that the attached events of a meeting of the U.S. Nuclear Regulatory Commission entitled:

TITLE OF MEETING: Briefing on Status of Sequoyah Restart

PLACE OF MEETING: Washington, D.C.

DATE OF MEETING: Wednesday, January 20, 1988

were held as herein appears, and that this is the original transcript thereof for the file of the Commission taken stenographically by me, 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 events.



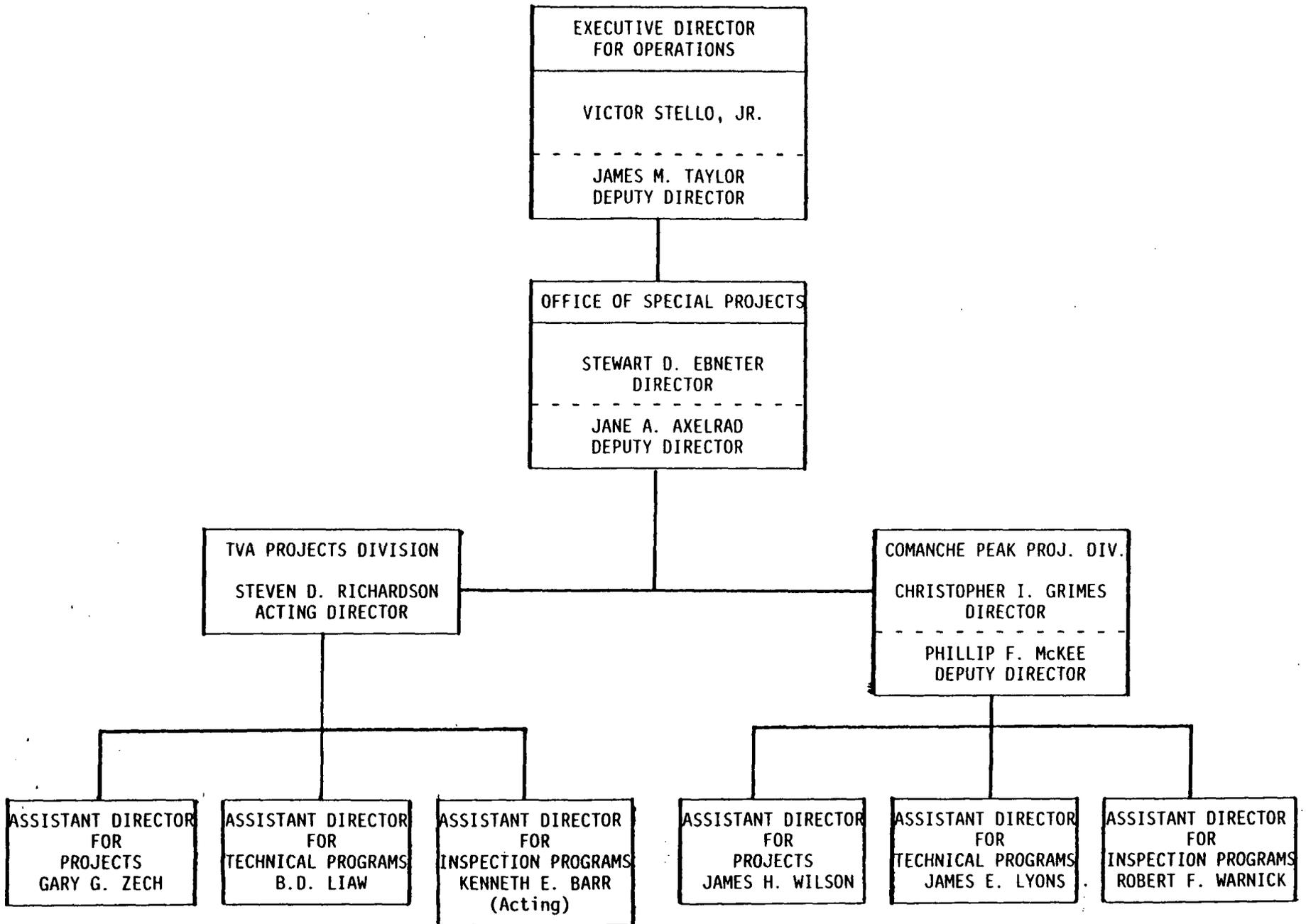
Jane W. Beach

Ann Riley & Associates, Ltd.

COMMISSION BRIEFING
OFFICE OF SPECIAL PROJECTS
JANUARY 20, 1988

STATUS OF SEQUOYAH RESTART

Stewart D. Ebnetter, Director
Office of Special Projects



TVA RECOVERY SCHEDULE

(TVA PROJECTIONS)

<u>PLANT</u>		<u>ESTIMATED RESTART DATE</u>
SEQUOYAH	UNIT 2	FEBRUARY 23, 1988
SEQUOYAH	UNIT 1	SIX MONTHS AFTER SQN 2
BROWNS FERRY	UNIT 2	FALL 1988
BROWNS FERRY	UNIT 1	SUMMER 1989
BROWNS FERRY	UNIT 3	SUMMER 1990
WATTS BAR	UNIT 1	FALL 1990
WATTS BAR	UNIT 2	1991
BELLEFONTE	UNITS 1 AND 2	EARLY TO MID 1990'S

<u>Issue</u>	<u>A</u>	<u>Category</u>		
		<u>B1</u>	<u>B2</u>	<u>C</u>
Corporate Plan	X			
Sequoyah Site Management	X			
Quality Assurance	X			
Integrated Design Inspection			X	
Design Baseline Verification Program	X			
Design Calculations Review				
Civil			X	
Electrical		X		
Alternately Analyzed Piping/Supports	X			
Heat Code Traceability			X	
Cable Installation	X			
Fuse Replacements	X			
Ampacity	X			
Fire Protection	X			
Environmental Qualification	X			
Welding	X			
Technical Specifications		X		
NUREG-1150	X			
Hydrogen Analyzer Operability		X		
Procurement Concerns	X			
Maintenance	X			
Exemptions		X		
Post Modification Testing	X			
Restart Test Program		X		
Surveillance Instructions	X			
Detailed Control Room Design Review	X			
Operational Readiness		X		
Employee Concerns			X	
Allegations			X	

Category A - NRC and TVA are in agreement regarding how the issue is being handled and NRC's review schedule is consistent with the licensee's schedule for resolution of the issue.

Category B - Issue has potential to impact restart schedule.

Category B1 - NRC and TVA are in agreement regarding how the issue is being handled and potential slippage of restart could exist based on licensee activity.

Category B2 - NRC and TVA are in agreement regarding how the issue is being handled and potential slippage of restart could exist based on NRC staff activity.

Category C - Questions still exist regarding how the issue will be resolved.

INTEGRATED DESIGN INSPECTION (IDI)

° INTEGRATED DESIGN INSPECTION

- DESIGN INSPECTION - JULY-SEPTEMBER 1987
- AS BUILT INSPECTION - AUGUST 1987

° RESTART ITEMS

- IDI FINDINGS LETTER - OCTOBER 9, 1987

64 RESTART ISSUES

- IDI REPORT - NOVEMBER 6, 1987

ADDITIONAL RESTART ITEMS

- MAJOR CONCERN - CIVIL/STRUCTURAL AREA

° TVA CORRECTIVE ACTIONS (CA)

- TVA PURSUED CA IN PARALLEL WITH NRC EFFORTS
- TVA SUBMITTAL WITH MISSING DATA OR ADDITIONAL INFORMATION
- TVA RESPONSE TO REPORT - DATED OCTOBER 29 AND DECEMBER 29, 1987

° NRC FOLLOW-UP

- REVIEW TVA SUBMITTALS
- FOLLOW-UP INSPECTION - TVA DESIGN OFFICE - NOVEMBER 1987
- NEXT FOLLOW-UP INSPECTION - FEBRUARY 1988

CABLE INSTALLATION

° ORIGINAL ISSUE

- CABLE INSTALLATION PRACTICES WERE IDENTIFIED BY AN EMPLOYEE CONCERN.
- JAMMING
- PULL-BYS
- VERTICAL DROPS

° CABLE TEST PROGRAMS

- ORIGINAL PROGRAM 4/16 FAILURES
- REVISED PROGRAM (REDUCED VOLTAGE) 6/75 FAILURES

° CABLE REPLACEMENT

- APPROXIMATELY ONE THIRD OF THE SILICONE RUBBER INSULATED SINGLE CONDUCTOR CABLES INSIDE CONTAINMENT

° CURRENT POSITIONS

- TVA BELIEVES REMAINING CABLE ACCEPTABLE
- NRC STAFF AGREES WITH EXCEPTION THAT FULL QUALIFICATION REQUIRED IN FUTURE

OPERATIONAL READINESS

◦ TVA

- OPERATIONAL ASSESSMENTS

- * INPO
- * OPERATIONAL READINESS REVIEW TEAM
- * SPECIAL QA MONITORING FOR RESTART
- * MANAGEMENT REVIEWS

- ENHANCEMENTS

- * OPERATIONS FOCUS
- * STAFF CHANGES
- * TEAM BUILDING

- PHYSICAL PLANT

- * VALVE LINEUPS
- * OPERABILITY
- * CLEAN-UP

◦ NRC

- ASSESSMENTS

- * OPERATIONAL PROGRAMS INSPECTIONS
- * BACK SHIFT INSPECTIONS
- * CORRECTIVE ACTIONS

- AUGMENTED STAFF

- * INCREASED STAFF-SHIFT COVERAGE
- * DIVERSE STAFF

OBSERVATIONS

- ° ENGINEERING/CONSTRUCTION CONCERNS - APPROACHING CLOSURE
- ° FOCUS OF SQN RECOVERY SHIFTING TO OPERATIONS
- ° INCREASED CONFIDENCE IN TVA PROGRAMS
- ° TVA MANAGEMENT IMPROVEMENTS
- ° NUCLEAR ETHIC - SIGNIFICANTLY UPGRADED BUT NEEDS FURTHER IMPROVEMENT
- ° ADDITIONAL STRENGTHENING OF ORGANIZATIONAL INTERFACES

CONCLUSIONS

- ° BASED ON STATUS OF REMAINING ISSUES, THE STAFF IS PREPARED TO COME BACK TO THE COMMISSION FOR A FINAL BRIEFING PRIOR TO THE RESTART OF SQN 2
- ° TVA'S SCHEDULE FOR RESTART (FEBRUARY 23, 1988) APPEARS REASONABLE AND ACHIEVABLE
- ° STAFF RECOMMENDS THAT THE COMMISSION RECEIVE THE FULL BRIEFING FROM TVA ON RESTART READINESS