

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Title: BRIEFING ON STATUS OF WATTS BAR
LICENSING - PUBLIC MEETING

Location: Rockville, Maryland

Date: Monday, September 11, 1995

Pages: 1 - 83

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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

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4 BRIEFING ON STATUS OF WATTS BAR LICENSING

5 ***

6 PUBLIC MEETING

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8
9 Nuclear Regulatory Commission
10 Commissioners Conference Room
11 One White Flint North
12 11555 Rockville Pike
13 Rockville, Maryland

14
15 Monday, September 11, 1995
16

17 The Commission met in open session, pursuant to
18 notice, at ^{1:30}~~1:00~~ p.m., Shirley A. Jackson, Chairman,
19 presiding.
20

21 COMMISSIONERS PRESENT:

22 SHIRLEY A. JACKSON, Chairman of the Commission
23 KENNETH C. ROGERS, Member of the Commission
24
25

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1 STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

2 CRAVEN CROWELL, CHAIRMAN, TVA BOARD

3 OLIVER KINGSLEY, PRESIDENT, TVA NUCLEAR

4 O.J. (IKE) ZERINGUE, SENIOR VICE PRESIDENT,

5 NUCLEAR OPERATIONS

6 MARK MEDFORD, VICE PRESIDENT, ENGINEERING AND

7 TECHNICAL SERVICES

8 JOHN SCALICE, SITE VICE PRESIDENT, WATTS BARR

9 RICHARD PURCELL, PLANT MANAGER, WATTS BARR

10 JAMES TAYLOR, EDO

11 STEWART EBNETER, REGION II ADMINISTRATOR

12 WILLIAM RUSSELL, DIRECTOR, NRR

13 JOHNS JAUDON, DEPUTY DIRECTOR DIVISION OF REACTOR

14 SAFETY, REGION II

15 FRED HEBDON, DIRECTOR, PROJECT DIRECTORATE II-3,

16 NRR

17 THOMAS FOLEY, QUALITY ASSURANCE AND MAINTENANCE

18 BRANCH, NRR

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P R O C E E D I N G S

1:30
[~~1:00~~ p.m.]

CHAIRMAN JACKSON: Good afternoon, ladies and gentlemen. The purpose of this afternoon's meeting is for the Tennessee Valley Authority (TVA), the applicant for an operating license for the Watts Barr Unit 1, and for the NRC staff to brief the Commission on the status of Watts Barr 1.

I would like to welcome the representatives of TVA who are present today. The Commission will hear first from TVA as the license applicant.

The Commission was last briefed on the status of Watts Barr by the NRC staff on July 12th of this year. I understand that the briefing today will cover the results of the second hot functional test which was completed on August 22nd of this year, the NRC's independent operational readiness assessment team inspection which was conducted during the second hot functional test, and what is left to be accomplished by both the applicant and the NRC prior to the director of the Office of Nuclear Reactor Regulation authorizing of fuel load and low power testing license.

The Commission is also interested in the results of the series of public meetings which the NRC held this week on the licensing last week and inspection of Watts Barr Unit 1.

The Commission will receive an additional briefing

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1 in the future on the readiness of Watts Barr Unit 1 for full
2 power operation when it considers authorizing issuance of
3 the full power license.

4 I understand that copies of the presentation
5 slides are available at the entrance to the meeting.

6 Commissioner Rogers, do you have any opening
7 comments you wish to make?

8 COMMISSIONER ROGERS: No.

9 CHAIRMAN JACKSON: If not, Mr. Crowell, you may
10 proceed.

11 MR. CROWELL: Chairman Jackson, Commissioner
12 Rogers, it is good to see both of you again. I want to
13 thank you for granting us this request to appear here and to
14 give you a status report on Watts Barr.

15 With me today are the other two directors of TVA,
16 Johnny Hayes and Bill Kennoy, and they are right behind me
17 here.

18 Oliver Kingsley, our chief nuclear officer, is
19 sitting to my right, and in just a few moments, he will
20 introduce the other TVA presenters, but I did want to
21 recognize Ken Harris who is the nuclear adviser to the board
22 of directors, and he is behind me, also.

23 Several months ago, we began a strategic planning
24 process at TVA called the integrated resource plan that we
25 called Energy Vision 20/20 because it was a look into the

1 future of what power needs the Tennessee Valley would need
2 and how the TVA would meet those needs.

3 It has been based on extensive public involvement,
4 unprecedented really, in TVA's history. We set up public
5 groups, public hearings. We got input from our wholesale
6 distributors. We got input from our large industrial
7 customers, and it serves as the best assessment that we have
8 of the power needs of the TVA into the 21st century. That
9 plan concludes that we need Watts Barr 1 and we need Brown's
10 Ferry 3 to meet the demands that we are going to be facing
11 as we go into the next century.

12 We believe that Watts Barr and Brown's Ferry will
13 be significant new sources of safe and reliable power for
14 our corporation.

15 As you know, we are the largest public power
16 company in America, and our needs are growing. Just this
17 year, we set a new record in the summer for peak capacity,
18 peak demand, on our system, and we continue to set peaks and
19 we continue to have the need for Watts Barr.

20 I do want to express my appreciation for the
21 tremendous efforts by your staff and, of course, our staff
22 to resolve the issues, the remaining issues to license Watts
23 Barr as an operating facility.

24 We certainly appreciate the important inspection
25 and oversight work that the NRC has provided, and we know

1 that both of you have been and will continue to work with
2 your staff, as we will with ours, to ensure completion of
3 final licensing actions that are awaiting us.

4 Watts Barr is an important addition to the TVA
5 power system for a number of reasons, and it will be a
6 contributor to the energy needs of the Nation.

7 I do want to assure you that this board is
8 committed to providing the resources to safely and
9 efficiently operate Watts Barr and, indeed, all of the
10 nuclear facilities that we now operate.

11 I am here today to not only renew my commitment to
12 the TVA organization, the TVA nuclear organization that will
13 provide the resources necessary for safe and efficient
14 operation, but to make that commitment to both of you.

15 So, with that, I would like to ask Oliver to go
16 forward here with the details of our presentation, and he
17 will introduce the other TVA presenters.

18 Thank you very much.

19 MR. KINGSLEY: Thank you, Craven.

20 Chairman Jackson and Commissioner Rogers, we are
21 very pleased to be here today to give you a status report on
22 Watts Barr.

23 Our purpose today is to provide a basis for our
24 confidence that the plan is ready to load fuel and operate.
25 Design and construction are essentially complete. We do

1 have a few remaining completion items.

2 We have proven programs and procedures, and they
3 are in place. We have regained employee confidence. We
4 have had significant independent inspection and oversight
5 which have validated this readiness.

6 May I have slide 1, please?

7 I would like to review the agenda. I will provide
8 a background and historical overview and my personal basis
9 supporting Watts Barr readiness.

10 Ike Zeringue, seated at the immediate left of
11 Craven here, is our senior vice president of Nuclear
12 Operations. He heads our Watts Barr completion team. He
13 will discuss design and construction completion and the
14 transition from construction to operations.

15 John Scalice, seated on my immediate right, is our
16 vice president of Site Operations. He currently has all
17 operational responsibility focussed on getting the plant
18 ready to operate. He will assume the site vice president
19 role once the plant is fully tested and completed, and he
20 will discuss the site operational readiness.

21 Rick Purcell, our plant manager, seated here, will
22 discuss the readiness of the plant operating staff.

23 Mark Medford, seated at the far end of the table,
24 is our vice president of Technical Support. He has direct
25 responsibility for licensing and QA oversight, and he will

1 provide answers as appropriate.

2 We also have members of our Technical Support
3 staff who will be ready to respond to any questions that you
4 might have.

5 May I have slide 2?

6 Watts Barr is a proven plant design. It is a
7 Westinghouse pressurized water reactor. It is a sister
8 plant to our Sequoyah Units 1 and 2. Close cycle cooling on
9 the steam is the secondary side, and the ultimate heat sink
10 is the Tennessee River.

11 Slide 3.

12 Major changes have been made in our nuclear
13 program in the last 10 years. As you know, design and
14 construction deficiencies were identified at our Watts Barr
15 facility in 1985. These deficiencies required comprehensive
16 assessment and corrective actions not only at Watts Barr,
17 but throughout our entire nuclear power program. As a
18 result, we have made major changes in how we do business.
19 Those changes have been discussed in detail with the full
20 NRC Commission and the NRC staff on numerous occasions.

21 In making these fundamental changes, it has taken
22 time to systematically implement and complete. Along the
23 way, we have developed management strength and talent
24 commensurate with this task.

25 Our Sequoyah Units 1 and 2 and Brown's Ferry Unit

1 2 have made significant improvements and are continuing to
2 improve.

3 We are here today to specifically talk to you
4 about moving forward and discussing Watts Barr, the solution
5 to the past problems that we have had and the readiness to
6 start up and operate this facility.

7 May I have slide 4?

8 Our corrective actions have been comprehensive.
9 In determining these corrective actions, it was essential
10 that we determine the root cause. The very root cause was a
11 management failure and management breakdown. We had
12 inadequate oversight and involvement. We had poor employee
13 communication and direction, and we had ineffective programs
14 and procedures.

15 After extensive assessment and documentation of
16 the necessary actions which were developed by a new
17 management team including myself, we put these programs in
18 place. They have been thoroughly reviewed, as I said
19 earlier, with the NRC staff.

20 More specifically, in the area of design and
21 construction and engineering, we reverified or corrected the
22 design on the plant. We modified many plant areas and
23 systems. We tested plant systems thoroughly and completely.

24 In the areas of management and employees, we
25 implemented an organization which establishes authority and

1 accountability. We defined and communicated expectations
2 for all employees and managers. We put programs in place to
3 regain employee trust through responsiveness and listening.

4 We have seen dramatic improvement in the overall
5 performance of our Watts Barr plant, and I am pleased to
6 report that the employee relations and attitudes at Watts
7 Barr have led this overall improvement.

8 Site-wide commitment to team work is apparent.
9 Our indicators of employee attitude closely monitored by
10 senior management are substantially improved. Our concerns
11 resolution program is excellent, in our view.

12 Slide 5, please.

13 Our transition to operations has been effective.
14 Watts Barr benefitted from Sequoyah and Brown's Ferry
15 recoveries. We have incorporated lessons learned from both
16 of these plants and their Watts Barr completion, start-up,
17 and operational readiness program. Our staff has gained
18 significant experience in performing these restarts on these
19 units.

20 We have also studied a number of other utilities,
21 specifically utilities which had problems in construction to
22 ensure that that didn't carry forward into operations. Two
23 fundamentals were validated in that. You have to have a
24 very strong operational-experienced staff in taking the
25 plant from the construction into operations. The importance

1 of a really complete plant was validated. Low backlogs
2 carried forward into operations. Whether it be in design,
3 maintenance, corrective actions, operator work-arounds, you
4 cannot live in the past. You have got to move towards the
5 future.

6 Other presentations will talk about that in
7 detail.

8 I would like to focus your attention now on our
9 Watts Barr completion and start-up organization. It is very
10 experienced. It is totally focussed on completion and
11 start-up of the plant.

12 I had mentioned earlier that we had gained
13 significant experience in our Sequoyah and Brown's Ferry
14 restarts and other plants. If you will look at the slide,
15 that highlights Brown's Ferry, Sequoyah, and other plant
16 experience.

17 Ike Zeringue, as an example, managed our Brown's
18 Ferry Unit 2 restart. John Scalice was our plant manager
19 during restart on Brown's Ferry Unit 2. John Rupert headed
20 our engineering and recovery efforts not only on Unit 2, but
21 did a significant amount of work on Brown's Ferry Unit 3.
22 Raoul Baron, seated behind me, had the same position at
23 Brown's Ferry.

24 John Scalice, who will ultimately head our site
25 organization, has a very experienced and qualified staff,

1 and he will talk about that in some detail later.

2 May I have slide 7?

3 We have a great deal of confidence that Watts Barr
4 is ready. It is based upon a number of factors. Plant
5 design, as I talked about earlier, has been reverified.
6 Significant construction modifications have been put in
7 place. Testing is essentially complete and thorough. We
8 have proven programs and procedures in place. We have a
9 very experienced staff who has been properly trained and is
10 deep in experience.

11 Slide 8.

12 We have regained employee confidence. We have got
13 a positive work environment and culture at the site, and a
14 major independent inspection on oversight. Our line
15 managers have been required to do detailed self-assessments
16 and certification that their functional area and departments
17 are ready programmatically, people, et cetera. We have had
18 extensive nuclear assurance oversight into this.

19 Last, but certainly not least, we have had
20 significant involvement by the executive management team
21 headed by myself in assessments in order to ensure that this
22 plant was properly finished and ready to operate.

23 Ike, I would like to turn it over to you now to
24 discuss our design and construction completion and
25 transition into operations.

1 MR. ZERINGUE: As Oliver said, I will provide an
2 overview of design and construction activities and discuss
3 our transition from construction to operations.

4 In a design and construction area, the nature and
5 extent of problems identified at Watts Barr in the mid-'80s
6 caused TVA to take a very conservative approach to
7 confirming the adequacy of the plant. As a result, the
8 extent and diversity of oversight scrutiny at Watts Barr has
9 been unprecedented.

10 Slide 1, please.

11 Examples include 13 detailed vertical slice
12 reviews by 5 different organizations covering 12 systems,
13 2,900 nuclear assurance audits and assessments, 400,000
14 quality control inspections by independent contractor
15 expending in excess of 800,000 man-hours, a 4-1/2 year
16 program, a special program to ensure completion, quality,
17 and adequacy, and an unprecedented level of NRC inspection.
18 By our estimates, the NRC has expended approximately 200,000
19 man-hours on Watts Barr since 1985.

20 In 1994 alone, the NRC expended more man-hours on
21 Watts Barr than a typical plant receives during the entire
22 licensing and construction period.

23 As a result, each significant attribute at Watts
24 Barr has been looked at from many angles many times. For
25 example, 28 specific corrective action programs have been

1 developed covering such areas as welding, design, equipment
2 qualification, and electrical cables.

3 As a result of these corrective actions, we have
4 reverified or corrected design, modified the plant, and
5 performed significant testing.

6 Slide 2, please.

7 In the design area, for example, TVA conducted a
8 design basis verification program which took in excess of 1
9 million man-hours to complete, and it resulted in a
10 reconstitution of the plant design basis. We redid or
11 reconfirmed in excess of 23,000 design calculations in the
12 mechanical, nuclear, electrical, and civil arenas.

13 In construction, we installed or modified 8,000
14 pipe hangers, 25,000 conduit supports, and 4,000 instrument
15 line supports. 1.3 million feet of new cable was installed,
16 and 25,000 splices.

17 To confirm the adequacy of our design and
18 modification activities, we performed 27,600 tests,
19 expending approximately 1.4 million man-hours. As you can
20 tell, the corrective actions have been significant.

21 In sum, the Watts Barr of 1995 is substantially
22 upgraded from the Watts Barr of 1985. Furthermore, major
23 reviews recently conducted confirm this conclusion.

24 Slide 3, please.

25 A special engineering and field assessment was

1 conducted in 1994 and 1995. A detailed reasonable assurance
2 assessment was prepared in 1995. An integrated design
3 inspection was conducted in 1995. The recently completed
4 hot functional test and NRC operational readiness inspection
5 sums the net total of those activities.

6 We know and understand the past problems at Watts
7 Barr. They have been corrected. Watts Barr is now a
8 quality plant.

9 Next, I will discuss the transition from
10 construction to operations.

11 COMMISSIONER ROGERS: Before you move into that,
12 Mr. Zeringue, have you put any changes in the design in
13 place of any significant magnitude? Obviously, very minor
14 things are not of much consequence here, but any changes in
15 the design that are, in fact, not in place in any other
16 operating Westinghouse plants?

17 MR. ZERINGUE: I am not aware that we put any
18 designs of that nature in.

19 Most of the design work that we went through was
20 done to confirm the design basis and ensure that the plant,
21 the physical plant itself, met the design.

22 COMMISSIONER ROGERS: But you have used the term
23 several times, "design changes," here, and I wanted to
24 follow through on that to understand just how extensive
25 those changes are. What was a typical major design change

1 or the most extensive design change that you may have put in
2 place?

3 MR. ZERINGUE: Commissioner Rogers, I would say
4 that a more appropriate term should have been correcting the
5 design, correcting the deficiencies that we identified as we
6 did our design basis verification program.

7 CHAIRMAN JACKSON: While you are on the subject of
8 design, you have made use of some as-is CAQs.

9 MR. ZERINGUE: That is correct.

10 CHAIRMAN JACKSON: How are your design margins in
11 key areas affected by your use of that? How have you
12 verified that there hasn't been some erosion in that regard?

13 MR. ZERINGUE: I will ask Walt Elliott, our
14 engineering manager, to address that.

15 Walt?

16 MR. ELLIOTT: I am Walt Elliott.

17 We have had a special program for accept as is or
18 use as is, as a matter of fact, where we went in and
19 reviewed previous issues that were accepted as is to ensure
20 that margins were identified and maintained, and we have
21 accomplished that.

22 In addition to that, through the execution of the
23 caps and special programs, we have ensured that we have
24 maintained the design margins in all of those commodities
25 that we went through there, and as a part of the design

1 baseline effort, we put in an upgraded design change control
2 program that will ensure that we maintain the margins as we
3 go along in design.

4 MR. ZERINGUE: Next, I will discuss the transition
5 from construction to operations.

6 Based on my experience at both Palo Verde and
7 Brown's Ferry 2, there are four critical elements to a
8 successful transition. First is ensuring that the plant is
9 completed in a quality manner, and I have discussed that.

10 Second is assuring that the operational programs,
11 processes, and procedures are adequate. John Scalice and
12 Rick Purcell will discuss that later.

13 Next is assuring the capabilities of the people
14 supporting site operation, their training, experience, and
15 level of performance. Rick will discuss that.

16 The final element which I will discuss further is
17 the effective management of the transition from construction
18 to operations.

19 Slide 5, please.

20 It is crucial to get to into an operational mode
21 early and develop the operating team. Prioritization and
22 sequencing of plant completion activities must be controlled
23 by the operation's organization using operating programs and
24 processes. We initiated this transition early.

25 Slide 6, please.

1 First, we brought experienced, operationally
2 oriented individuals to Watts Barr to finish the
3 construction completion activities, individuals who clearly
4 understood the responsibilities and accountabilities
5 inherent to an operating plant. They assumed responsibility
6 for engineering and materials, construction, and plant
7 coordination completion.

8 Second, we established a consistent set of
9 operationally based work priorities. The first priority is
10 maintaining our operations' own systems and areas. The
11 second is testing. The third is turnover of systems to
12 operations. The fourth is turnover of areas to operations.
13 Now, what this does is it allows us to move into operations
14 without changing our top priorities, the effective
15 maintenance of plant-owned systems and areas.

16 The third activity was to begin managing the
17 construction completion activities in a manner essentially
18 identical to an extended fueling outage. This allowed us to
19 test our inter- and intra-departmental communications and
20 coordination skills.

21 Next, we began using the operational programs and
22 processes.

23 Slide 7, please.

24 COMMISSIONER ROGERS: Just before you leave that,
25 could you just say a word or two about how a system turnover

1 actually occurs from construction to operations? How is
2 that transition effected in some way that the construction
3 people are no longer involved or to whatever extent they are
4 no longer involved and the operations people become more and
5 more involved and take over? How is that transition
6 effected?

7 MR. ZERINGUE: It is a staged process where we
8 will transfer it from construction to start-up to the
9 operating organization.

10 We utilized at Watts Barr, as we did at Brown's
11 Ferry, a process we called a SPOC process. Within that is
12 an engineering piece we call SPAE. As part of this transfer
13 process, the engineering organization in their piece
14 confirms that all design activities associated with that
15 system have been completed, and a design configuration is
16 known and established.

17 Essentially, that is the design piece. That also
18 validates that all the construction activities have been
19 completed. Engineering is on the back end of our
20 construction closure.

21 The other piece of that, the SPOC piece, is
22 essentially conducted through the plant organization and
23 through our test organization. We verify that all the
24 testing required for the system has been complete. We
25 verify that all of the procedures required for maintenance

1 and operation of that system have been complete. The
2 corrective maintenance items have been complete. The
3 preventive maintenance items have been complete, and a
4 configuration of the system is known and established.

5 So the process is very detailed and very
6 laborious, and it steps from the construction through the
7 start-up into the plant.

8 As I said, our next step was to begin using
9 operational programs and processes to operate the facility,
10 to run the site.

11 Slide 7 is up.

12 For example, our plan of the day meeting is
13 conducted in the plant conference room. It is run by the
14 plant operations manager, and it is conducted in a format
15 identical to what we will use during operation.

16 We have, of course, added construction completion
17 activities, but these will simply be deleted as we move into
18 operation.

19 As with an operating plant, work activities are
20 controlled by our operating department. They must approve a
21 work release on all systems, even those that are not
22 technically owned by the operations organization.

23 Prioritization and scheduling of work is conducted
24 by a permanent scheduling organization utilizing our
25 operational processes. We are well into our 12-week rolling

1 schedule process which is structured around our technical
2 specification surveillance requirements. We will have
3 completed an entire 12-week work prioritization and
4 surveillance cycle prior to fuel-up.

5 Our objective in using these operating processes
6 early was three-fold. It was to, first, clearly demonstrate
7 that the operations organization is now in charge of the
8 facility. Second, it was to eliminate the need for change
9 as we move into operations. Third, it was to gain
10 experience with our processes, evaluate our ability to
11 effectively implement these processes and test again our
12 coordination and communication skills. These objectives
13 have been met.

14 In conclusion, I want to confirm that past design
15 and construction problems at Watts Barr have been thoroughly
16 evaluated, resolved, and their resolution has been
17 reconfirmed. Watts Barr is a quality plant that can and
18 will be safely and reliably operated.

19 The transition from construction to operations is
20 on track. We are functioning as an operating team using
21 operational processes. I recently completed hot functional
22 test, and it confirms this assessment.

23 I will turn the presentation over to John.

24 MR. SCALICE: Thank you, Ike.

25 Chairman Jackson, Commissioner Rogers, as the vice

1 president of Site Operations, I am responsible for
2 operational readiness. After licensing, I will be
3 responsible for the safe and reliable operation of the
4 plant. Watts Barr is my site, and I accept that testimony.

5 Before talking about the site's operational
6 readiness program, I would like to say that Oliver
7 Kingsley's confidence in the Watts Barr management team is
8 fully justified.

9 May I have slide 1, please?

10 I was directly involved in the selection of my
11 staff, and I know the background of my staff managers. The
12 team is strong. My direct reports and their managers have
13 proven themselves both inside and outside of TVA, and they
14 do have what it takes to safely operate a nuclear
15 powerplant, and I am confident in their judgment and
16 abilities.

17 With that in mind, I would like to discuss
18 operational readiness.

19 Slide 2, please.

20 Apart from the condition of the plant equipment,
21 there are three critical factors that impact site
22 operational readiness: the people, procedures, and the
23 programs.

24 Our first and strongest asset is our people. The
25 Watts Barr management team is organized to support plant

1 operations. Our managers communicate clear expectations.
2 They promote team work, and they focus on performance. This
3 is their plant. They know it, and they are proud of it.

4 Slide 3, please.

5 As you will note, during the last three years,
6 more than 20 managers with significant nuclear experience
7 have come to Watts Barr from Brown's Ferry and Sequoyah.
8 Others have joined us from outside of TVA. The strength of
9 our team, however, does not rest solely with our senior
10 managers, and following this presentation, Rick Purcell will
11 discuss the training and qualifications of other plant
12 personnel.

13 Apart from the team's experience and
14 organizational strength, the people do have the right
15 operational focus. There is a consistent reinforcement of
16 operational expectations, and that is led to a
17 self-critical, safety conscious, and questioning attitude.
18 I see that every day.

19 The other major elements impacting operational
20 readiness are the programs and the procedures that are
21 implemented. Quite simply, our programs and resulting
22 implementing procedures are complete and ready to support
23 operation. This conclusion is based on the results of our
24 operational readiness program, or ORP.

25 Slide 4, please.

1 The purpose of the operational readiness program
2 was to ensure operational prerequisites were met; that the
3 systems are in a state of readiness; and that nuclear safety
4 is ensured when Watts Barr begins operations.

5 In accordance with the operational readiness
6 program, TVA evaluated the personnel, the procedures, and
7 the programs for each site organization. This was done to
8 verify that there was adequacy for fuel load in the
9 subsequent start-up and to ensure compliance with the
10 regulatory requirements and our TVA commitments.

11 The ORP combined all of the department readiness
12 efforts into a single site-wide program. It provided
13 uniform standards and evaluations and expectations for
14 documenting the readiness evaluations. It utilized
15 self-assessment plans.

16 The plans were based on performance objectives and
17 criteria from INPO and NRC inspection guidance. We
18 conducted assessments on over 98 site programs. For
19 example, the maintenance program was assessed, the security
20 program was assessed, and the training program was assessed.

21 Self-assessment teams included members from other
22 organizations, from other sites, and from other utilities to
23 ensure objectivity. Lessons learned at the other TVA sites
24 were incorporated into the program.

25 As an example, the lessons learned effort entailed

1 over 1,400 issues that were fully documented and evaluated.
2 These oversight activities were critical and they were
3 thorough. They focussed on the implementation of the
4 operational readiness program, as well as overall
5 operational readiness, and they determined that it was
6 effective and comprehensive.

7 We are unaware of any other plant in the Nation
8 that has conducted self-assessment with this detailed
9 nature. Our people are proud of that, and they are proud of
10 the self-critical nature of the assessments that they
11 performed.

12 Because of the ORP, I feel confident that our
13 programs are in good shape and they are ready to support
14 operations.

15 Slide 5, please.

16 In addition to the confirmation of the operational
17 readiness program provided by the ORP, we also demonstrated
18 our readiness through the successful completion of the
19 second hot functional test. Our first hot functional test
20 was conducted in June of 1994. We had the opportunity to
21 run the plant that designed conditions. We learned a lot
22 about the plant, and we learned a lot about the operating
23 team that were running the equipment.

24 These lessons that we learned were applied to our
25 second hot functional test. The purpose of the second hot

1 functional test was to resolve equipment issues from our
2 first hot functional test, and they have heard about some
3 difficulties we had with our RHR pumps and our auxiliary
4 feedwater turbines.

5 The testing also allowed the Watts Barr team to
6 conduct an operational dress rehearsal. Operations was now
7 fully responsible for controlling the plant. Major systems
8 were turned over to the plant staff, and a significant
9 number of areas were also released under their control.

10 The staff utilized permanent operating
11 instructions. They utilized procedures, and they were able
12 to exercise the technical specifications.

13 During the testing, my staff experienced and
14 handled events while they were conducting tests and also
15 while they were coordinating significant instruction and
16 completion activities. Their success under these conditions
17 indicate and confirms the operational readiness of the plant
18 and the plant staff.

19 We conducted observations and assessments during
20 the actual testing. Over 348 documented observations were
21 conducted in addition to extensive line management
22 oversight. These observations support the conclusion that
23 the people, the programs, and the procedures are ready to
24 effectively support an operational unit. In fact, the NRC
25 operational readiness assessment team also supported that

1 conclusion.

2 We did experience some difficulties during the hot
3 functional testing, particularly in the area of equipment.
4 One of the areas was of some leakage that we experienced on
5 check valves. The reactor coolant system experienced seven
6 check valve leakages during the testing. Those valves were
7 disassembled and have subsequently been replaced or
8 repaired.

9 While we were doing this testing, we saw some
10 marginal problems on an additional 12 valves. Those valves
11 are also under repair.

12 Slide 6, please.

13 Final assurance of our operational readiness will
14 be provided by the Watts Barr fuel load certification plan.
15 In it, TVA will declare that the design, construction,
16 testing, and preparation for fuel load have been completed
17 in accordance with the final safety analysis report and all
18 of our licensing requirements.

19 There are four major components of that plan: the
20 licensing basis which includes the applicable regulatory
21 requirements, physical plant completion, operational
22 readiness program, and independent quality verifications.

23 Each department manager will certify that the
24 ingredients necessary to support the request for an
25 operating license are in place and are ready. They will

1 also certify that the applicable regulatory requirements
2 have been implemented. On that basis, these department
3 certifications, TVA will then provide NRC with a fuel load
4 certification letter. We expect to do that in approximately
5 three weeks prior to fuel-up.

6 I would like to end my presentation with a brief
7 discussion of three programs which are very important to the
8 successful operation of Watts Barr: the quality assurance,
9 employee concerns, and emergency preparedness programs.

10 Slide 7, please.

11 The Watts Barr quality assurance program is
12 essentially the same as that used at Brown's Ferry during
13 its initial start-up. At Watts Barr, we have continually
14 stressed that quality assurance involves not just those
15 assigned to the nuclear assurance organization, but quality
16 is everybody's job. There is a strong emphasis on the
17 quality of initial work, and the results have been obvious
18 and supported by positive trend data drawn from every
19 performance indicator. We intend to carry those trends into
20 operations.

21 The nuclear assurance organization is strong. It
22 consists of experienced people who have the necessary back
23 bone to stand up to line managers where necessary. They
24 have repeatedly demonstrated their ability to identify
25 problems and support plant operation. They have performed

1 extensive reviews for me personally and have accurately
2 identified areas that needed improvement, enabling me to
3 undertake the necessary corrective actions.

4 Nuclear assurance personnel have been valuable to
5 me and to my management team. Their trend information and
6 problem identification efforts help my line organizations
7 focus on real problems. I know that the working
8 relationships between nuclear assurance and the line
9 organizations is healthy and professional, and it will
10 continue during operations.

11 Slide 8, please.

12 Next, I would like to say a few words about our
13 concerns resolution program. At Watts Barr, we have created
14 an atmosphere where employees are strongly encouraged to
15 raise any concern either directly to management or through
16 any number of communication channels. We have implemented
17 policies designed to open the avenues of communications
18 between the managers and the employees and to regain the
19 trust of the employees.

20 CHAIRMAN JACKSON: How have you achieved
21 improvements in that area from the past? What is different
22 today?

23 MR. SCALICE: I think what is different today is
24 we continue to communicate with the employees to go out and
25 touch them by speaking to them, providing them with avenues

1 of supervisors listening to the employees, providing them
2 with a good employees concerns program, and encouraging them
3 through meetings and other forms of communications to report
4 anything to us. The other thing is we have demonstrated
5 that we are willing to fix their concerns.

6 CHAIRMAN JACKSON: You have this bar graph showing
7 a number of issues, 36. Are there any outstanding safety
8 concerns, whether they originate at TVA or former TVA
9 employees or members of the public in the locale, and if
10 there are, what is the status of those issues?

11 MR. SCALICE: Mr. Medford?

12 MR. CROWELL: Mark, do you want to take that?

13 MR. MEDFORD: There are a handful of open employee
14 concerns. It is very small in number. I don't remember the
15 exact number, but those will be handled in the way all other
16 issues will be, and that is it is our intent that they be
17 closed prior to fuel load. Any that are not closed prior to
18 fuel load will be subjected to the same kinds of reviews as
19 other items.

20 CHAIRMAN JACKSON: Which is?

21 MR. MEDFORD: We look at the impact on the overall
22 operation of the unit. For example, if we have an area like
23 painting which can be carried over and there is a reason to
24 carry it over, we do that. If it has any significant
25 technical impact on the plant itself, it will be done prior

1 to fuel loading.

2 CHAIRMAN JACKSON: Okay.

3 MR. SCALICE: We also know that there are efforts
4 of work by indications that we have been provided by our
5 Office of Inspector General. They conducted a survey that
6 indicates that 99 percent of the contractors and the TVA
7 employees are willing to come forth and express any safety
8 concerns at Watts Barr.

9 I feel strongly that the people must have an
10 absolutely clear path to bring issues forward. Our program
11 is designed to do that.

12 Finally, I would like to say a few words about the
13 Watts Barr emergency preparedness program.

14 Slide 9, please.

15 CHAIRMAN JACKSON: Let me back you up for a
16 second.

17 MR. SCALICE: Yes.

18 CHAIRMAN JACKSON: It is obviously very important
19 that particularly people who work in the plant and raise
20 issues, that their concerns are dealt with, that the safety
21 significance of them is evaluated, and appropriate action is
22 taken.

23 How do you handle concerns that don't originate
24 within TVA?

25 MR. SCALICE: That do not originate within TVA? I

1 am not sure I fully understand that.

2 MR. MEDFORD: Let me respond to that as well.

3 First, Chairman Jackson, let me make sure I understand the
4 question. Are you addressing contractor issues?

5 CHAIRMAN JACKSON: Contractor issues and members
6 of the public issues.

7 MR. MEDFORD: Let me talk about contractor issues
8 first. For our contractors, the major contractors, we
9 require that they have their own program, independent of
10 line management, which handles employee concerns, their
11 employee concerns in the same way that we handle ours.
12 Further, the TVA concerns resolution program is available to
13 all contractors as well.

14 For the small contractors, which are not large
15 enough to have an independent program, they are encouraged
16 to use the TVA concerns resolution program.

17 In terms of dealing with the general members of
18 the public, we use our corporate communications
19 organization, our media relations in community outreach, to
20 deal with them, to communicate with them, to let them know
21 what is happening at the plant.

22 As an example, we over the course of the last year
23 have sent out about three newsletters to the surrounding
24 populous advising them of what is happening with Watts Barr.
25 It is our plan to continue that into the future.

1 MR. SCALICE: The emergency preparedness program
2 has been demonstrated successful as a result of several
3 annual exercises and NRC inspection devoted specifically to
4 its review.

5 The last two exercises is a full-scale
6 participation exercise conducted in October of 1993 and a
7 partial participation exercise conducted in October of 1994,
8 a demonstrated effectiveness of TVA's on-site and off-site
9 emergency plans and our ability to adequately respond to
10 various accident scenarios.

11 The plan and the implementing procedures are in
12 place. They are complete. They have been reviewed and
13 approved by the NRC staff. As part of this effort, Watts
14 Barr was the first PWR to submit emergency action levels
15 under the NUMARC, now NEI guidance.

16 We continue to maintain a successful working
17 relationship with the State of Tennessee and the local
18 counties and community.

19 The latest SALP report was issued in August of
20 1994, and the NRC noted that the emergency plan was
21 excellent.

22 In May of 1995, a special NRC inspection was
23 conducted to assess the readiness of Watts Barr emergency
24 preparedness plan prior to fuel load. They concluded that
25 the program continued to indicate a strong training base,

1 and walk-through evaluations were indicative of a
2 well-developed emergency plan implementing program.

3 Again, we don't intend to become complacent.
4 Since the October 1993 exercise, we have conducted 37
5 separate drills with participation from all levels of our
6 plant site, and the purpose of that was to continue to
7 maintain the proficiency of the emergency planning team.

8 Chairman Jackson, Commissioner Rogers, my site is
9 operationally ready. We recognize and accept the
10 significant responsibility that accompanies Watts Barr's
11 entry into the ranks of the operating nuclear plants. I
12 want to reaffirm to you that we take that responsibility
13 very seriously.

14 This concludes my presentation. I would like now
15 to turn the presentation over to Rick Purcell.

16 MR. PURCELL: Thank you, John.

17 Chairman Jackson, Commissioner Rogers, as plant
18 manager, I am responsible and accountable for the operations
19 and maintenance of Watts Barr. I understand the magnitude
20 of this responsibility. I am prepared for it, and I accept
21 it.

22 As I go through my presentation, I will touch upon
23 what we have done to prepare the entire plant organization
24 to accept this responsibility.

25 Slide 1, please.

1 I would like to begin with my management team
2 which consists of my eight direct reports who manage the
3 departments in the plant organization.

4 Collectively, we have an average of 20 years of
5 nuclear experience, 8 years of operating experience, and 5
6 years of management experience at Watts Barr. Each of my
7 direct reports brings the experience and expertise necessary
8 to manage a safe and reliable nuclear plant.

9 CHAIRMAN JACKSON: How many of them have worked on
10 PWRs versus BWRs?

11 MR. PURCELL: Essentially, all of them have worked
12 at PWRs. I am the only exception. I come from a BWR.

13 The managers of my team have been working together
14 at Watts Barr for several years in their current or related
15 capacities. During this time, we have demonstrated not only
16 our individual strengths, but also the strengths of the
17 entire team by the successes of the Watts Barr site.

18 Additionally, in May of this year, we added a
19 senior adviser to my management team. He has 33 years of
20 nuclear experience and was a former operations manager for
21 11 years at McGuire which is a Westinghouse ice condenser
22 plant similar in design to Watts Barr. He has also held a
23 senior reactor operator's license for 13 years. He will be
24 with us to provide us the benefit of his experience as we
25 progress through our power ascension test program.

1 I would like to talk about the entire plant
2 organization. The plant organization as a whole is a
3 well-trained and experienced organization. Our system
4 engineers and reactor engineers have an average of 17 years
5 of nuclear experience. Many of them have worked at
6 Sequoyah, our sister plant, and have gained directly
7 transferrable operating experience.

8 CHAIRMAN JACKSON: You talked about the experience
9 of the craft. I am interested in things that go all the way
10 down through the organization.

11 How many of them have had the opportunity to work
12 somewhere else as opposed to having spent, say, the last 10
13 to 20 years at the Watts Barr?

14 MR. PURCELL: For example, in our RADCON
15 organization, we hired our technicians in as new hires to
16 TVA with an average of 12 years of operating experience.
17 These are technicians that have come in from other nuclear
18 plants.

19 Our chemistry department, the same way. They have
20 come in, hired into Watts Barr, hired into TVA with 7 years
21 average of nuclear experience. They come from a broad range
22 of nuclear plants. They have not been at Watts Barr for the
23 last 10 years.

24 CHAIRMAN JACKSON: And on the operational side,
25 beyond those you have already mentioned?

1 MR. PURCELL: On the operations side, and I will
2 be getting to that in a moment, as an example, we have one
3 of our shift operations supervisors. An SRO has recently
4 joined us from the Trojan plant.

5 Additionally, three of our assistant shift
6 operations supervisors were licensed and came from the
7 Trojan plant and have joined us.

8 Six of our field operators or auxiliary unit
9 operators were also employed and worked at the Trojan
10 nuclear plant. One of our auxiliary operators, we recruited
11 from Calvert Cliffs. So we have brought in operations
12 experience from the outside. Our operations manager, Mr.
13 Rick Mende who was here today, came from Turkey Point. So
14 we do have quite a bit of broad operating experience within
15 Watts Barr from other plants in the industry.

16 MR. SCALICE: Chairman Jackson, we also routinely
17 exchange personnel in the maintenance area between Sequoyah
18 and Brown's Ferry and Watts Barr, and many of our mechanics
19 have supported their outages as well as they have come to
20 help us.

21 CHAIRMAN JACKSON: Good. I was going to ask you
22 about maintenance next.

23 MR. PURCELL: Speaking of maintenance --

24 MR. KINGSLEY: We have brought a lot of talent in
25 the maintenance area from the outside, also.

1 MR. PURCELL: In our maintenance department, the
2 craft personnel coming into the plant are journeyman
3 level-qualified and then have additional training and
4 qualifications through our INPO-accredited training
5 programs.

6 Slide 2, please.

7 Our INPO-accredited training programs have all had
8 their second renewal in the last eight months which assures
9 us that the training provided to our personnel is
10 comprehensive and of high quality. The operational
11 readiness program assures us that all of our personnel have
12 completed the training and qualification requirements to
13 load fuel and begin power operations.

14 Continuing training and requalification is
15 scheduled and ongoing to ensure our people maintain the
16 skills and knowledge level to operate and maintain Watts
17 Barr in a quality manner.

18 I recognize that training and qualification only
19 provides an opportunity for good performance and that there
20 are other ingredients that are necessary, such as good
21 procedures, proper work coordination, adequate supervision,
22 and individual qualities such as a questioning attitude.

23 The bottom line is that the quality of the work
24 performed in the field is what ensures a safe reliable
25 plant.

1 Last year, I started to routinely accompany our
2 field operators on their rounds in the field to directly
3 observe their performance. This gave me the opportunity to
4 observe their performance, but it also gave me the
5 opportunity to directly communicate my expectations and
6 values to them on a one-on-one basis.

7 I found that they welcomed this management
8 involvement. They are proud of their jobs, and they are
9 eager to show it. I found a similar response from our
10 maintenance personnel when observing them in their field
11 responsibilities. This positive attitude of our employees
12 is a strong indicator of the good relationship we have
13 between employees and management and that we have been able
14 to develop over the last two years.

15 I have since formalized this program with my
16 direct reports to have them routinely observe field work in
17 progress. It provides them the direct feedback they need,
18 so that they can observe the tasks that we ask our people to
19 do and see how we could help them improve.

20 It also fosters a closer employee/management
21 relationship. We see this type of management involvement as
22 a key contributor to the success we have had to date, and we
23 recognize that the plant is entering a new phase of plant
24 operation that is going to make this form of management
25 interaction even more important. We intend to continue this

1 management involvement with our people and extend it to
2 functions that we have not been able to fully exercise, such
3 as radiological controls and our power ascension test
4 activities.

5 I would like to talk in a little bit more detail
6 on our operational staff. We may have covered some of this
7 in your questions.

8 Slide 3, please.

9 This slide shows the operations experience and an
10 overview of our operations department personnel. We have
11 recognized the importance of our operators in maintaining
12 and operating a safe reliable plant. For that reason, we
13 have infused experienced operators from other licensed
14 facilities.

15 I went through the examples that we had of the
16 operators that we brought in from Trojan. We also have, as
17 I mentioned, Calvert Cliffs and also Calloway.

18 Slide 4, please.

19 As shown on this slide, our crew staffing exceeds
20 the technical specification requirements. All of our
21 on-shift licensed operators have recently taken and
22 completed an NRC-administered initial examination, even
23 though many of our operators have held a license for Watts
24 Barr since 1985.

25 Our shift technical advisers are licensed SROs in

1 addition to being degreed engineers.

2 As we have done with my management staff, we have
3 retained former SROs with recent on-shift experience at
4 plants similar to Watts Barr to stand watch along with our
5 crews, our operating crews. This gives them the opportunity
6 to advise our shift operating supervisors and observe their
7 performance.

8 The rotation of these on-shift advisers is such
9 that they have an opportunity to observe all of our
10 operating crews, evaluate their strengths and their
11 weaknesses. These on-shift advisers have a direct line of
12 communications to the operations manager, and he provides
13 them feedback on their performance that is used to
14 strengthen the crews and improve the performance of our
15 personnel.

16 In the area of our operating procedures, our
17 procedures have been upgraded to address human factors
18 criteria and have been validated in the field on the
19 simulator and during test evolution such as our second hot
20 functional test.

21 Our operations management has established and
22 communicated our expectations of our operator performance by
23 emphasizing conservative operations, procedural compliance,
24 professional conduct, and personal accountability.

25 In the past two years that have included several

1 opportunities of integrated plant performance, we have seen
2 a continuously improving performance towards these
3 expectations.

4 The result of our staffing, training, procedure
5 verifications, our management involvement, and the high
6 management expectations is an operations organization that
7 has performed well during our second hot functional test.
8 We have complete confidence in the ability of our operators
9 to safely and conservatively operate this plant.

10 Slide 5, please.

11 I would like to talk about the plant itself. We
12 have been watching Watts Barr transition from a construction
13 site to an operating plant in the last several years. We
14 are proud of Watts Barr. We recognize it has taken a
15 tremendous effort to complete the plant and to complete the
16 backlog of work activities, and we do not intend to let it
17 regress. Therefore, we have established aggressive goals
18 for our backlogs.

19 Slide 6, please.

20 For example, in the area of corrective
21 maintenance, we have established a goal of less than 200
22 open corrective maintenance work orders outstanding. We are
23 presently at 170. For the last several months, we have been
24 able to keep that backlog down below our goal and still
25 support the testing and plant completion activities that

1 were ongoing at the same time.

2 Total work orders, we have a goal of 750. Mr.
3 Scalice has challenged me to move that down to 700. I have
4 accepted that. We are presently at 905. If I look back at
5 our past performance in January of this year, we were at
6 1,420. In March of this year, we were at 1,203. In May of
7 this year, we were 1,095. We have been able to bring this
8 backlog down of work orders that are not corrective
9 maintenance activities and still support the testing
10 activities of the system and the completion work to complete
11 the plant.

12 CHAIRMAN JACKSON: When will that get to 750?

13 MR. PURCELL: Prior to fuel load.

14 Preventative maintenance activities, we have a
15 goal to have greater than 90 percent of our preventative
16 maintenance activities completed as scheduled. We are
17 currently averaging approximately 100 percent on time.

18 On our design drawing updates, the primary
19 drawings that our operators use for their operations
20 activities, we have a goal of having the updates done within
21 48 hours of a change to that drawing. We currently have 228
22 drawings that exceed that. Those drawings are associated
23 with the completion activities of the design outstanding.
24 Those will be completed prior to fuel load.

25 The same for our temporary alterations or our

1 temporary modifications, we have set a goal for ourselves at
2 fuel load to have less than 10 outstanding. We currently
3 have 22. Those are also being worked on and are scheduled
4 to be completed with the completion of our design
5 activities. We currently project to have four outstanding
6 at the time of fuel load.

7 We believe these aggressive goals and the efforts
8 to keep these backlogs low enable us to enter plant
9 operation without the burden of high backlogs to impede our
10 performance.

11 CHAIRMAN JACKSON: Should you be held to these?

12 MR. PURCELL: I am held to these.

13 CHAIRMAN JACKSON: I am talking about on this side
14 of the table.

15 MR. PURCELL: It is hard to hold to an absolute
16 number, but the intent here is to keep these numbers down,
17 so they do not impede your performance. We believe we can
18 do it. We believe there will be times when we may peak up,
19 but as we have done in the past, we have been able to
20 quickly turn those peaks around. We maintain these as a
21 priority for the plant.

22 CHAIRMAN JACKSON: These are safety-graded. Any
23 of these work orders that you have, you have them
24 safety-graded, so that those you will have done.

25 MR. PURCELL: That is correct.

1 In fact, in addition to the goals of our backlogs,
2 we evaluate each individual work order for its impact on our
3 technical specifications. If that is the case, we do enter
4 the action statement of the LCO, and it does get a very high
5 priority.

6 So they are looked at. Each work order is looked
7 at individually, but in addition to that, we have a
8 collective aggregate goal to make sure that we do not build
9 up a backlog of lower priority work.

10 MR. KINGSLEY: All programmatic items will be
11 closed prior to fuel load, also. It will strictly be a
12 working backlog, but there won't be anything left open on
13 that plant when we come in here and ask for license to load
14 fuel and operate that plant.

15 CHAIRMAN JACKSON: So that is for all the CAPs and
16 SPs?

17 MR. KINGSLEY: That is exactly right.

18 CHAIRMAN JACKSON: All 28.

19 MR. KINGSLEY: All 28 of them.

20 CHAIRMAN JACKSON: Including things having to do
21 with radiation monitors, conduit and cable frays?

22 MR. KINGSLEY: Absolutely, absolutely.
23 100-percent finished.

24 CHAIRMAN JACKSON: And that is a goal we can hold
25 you to?

1 MR. KINGSLEY: You can hold us to that.

2 We have detailed monthly reports. These are
3 looked into in detail. It is one of these lessons learned.
4 What we implemented on Brown's Ferry and what we are going
5 to do here is we are not going to have these large backlogs
6 out there.

7 CHAIRMAN JACKSON: Mr. Russell is in the room.

8 MR. KINGSLEY: Right over here. He is following
9 us very closely.

10 MR. PURCELL: Referring back to slide 5, we have
11 reinforced to our people, our standards for material
12 condition of the plant and general housekeeping.

13 We recognize that in addition to equipment
14 performance, improving equipment performance, and ensuring
15 personal safety to find a clean plant is a motivator. It
16 instills a sense of pride in our people, and it directly
17 influences the way they work a job and the way they leave
18 it.

19 Our plant personnel, especially our maintenance
20 personnel, have been actively involved with our materials
21 department and our engineering department during the
22 critical spares project to ensure we have adequate inventory
23 and reorder points for the parts we will need to maintain
24 the plant.

25 In summary, the plant is in good running order

1 with a minimal backlog. We are satisfied we have what we
2 need to maintain the equipment in good running order, and we
3 are committed to doing so.

4 Slide 7.

5 I would like to talk briefly on our hot functional
6 test 2 performance.

7 Our second hot functional test was in many ways
8 like a final exam for the plant organization. It gave us
9 the opportunity to validate what our operational readiness
10 program has told us, to demonstrate the performance of our
11 programs and our procedures under operating conditions, and
12 to confirm the abilities of our operators to operate the
13 plant in accordance with our expectations.

14 The results demonstrated that our operations
15 personnel can operate the plant in a disciplined,
16 well-controlled, and conservative manner. Our personnel
17 understand and comply with the expectations of verbatim
18 procedure compliance.

19 Our licensed on-shift personnel can operate the
20 plant and maintain proper compliance with our technical
21 specifications.

22 Our system engineers are actively involved in
23 plant evolutions and support the operations organization.

24 Our chemistry personnel anticipate plant
25 evolutions to ensure that our primary and secondary

1 chemistry parameters are maintained within specifications,
2 and they also demonstrated that they exercise conservative
3 judgment to promote optimum steam generator health.

4 Our maintenance personnel respond to our
5 operators' needs and plant priorities in a timely manner,
6 and our RADCON organization is successfully transitioning to
7 an operating configuration.

8 Our second hot functional test also showed us
9 where there are areas for improvement. We had assessment
10 teams working around the clock observing our test activities
11 and our operations activities. The results of these
12 assessments have been fed back to the line organizations so
13 that the necessary improvements to our programs and
14 procedures can be made.

15 Slide 8, please.

16 Our power ascension test program which begins with
17 initial core loading was one of the 98 programs that was
18 evaluated by our operational readiness program.
19 Additionally, we brought in teams from South Texas Project
20 and Comanche Peak, and having incorporated the
21 recommendations they have made to improve our program.

22 The results are the program is fully developed.
23 All of our procedures to support the power ascension testing
24 have been written and approved and are ready to go. We have
25 a detailed schedule integrating all of our test activities.

1 Our tech support engineers are test director-qualified and
2 in place to support conduct of test, and we will continue to
3 perform our assessment activities during our power ascension
4 test program just as we have done with our operational
5 readiness program.

6 Slide 9, please.

7 In summary, I am confident we have an experienced,
8 well-trained, and dedicated staff. Our people, programs,
9 and procedures are ready to load fuel, perform power
10 ascension testing, and enter commercial operation.

11 I would now like to turn the presentation back
12 over to Oliver Kingsley.

13 MR. KINGSLEY: Could I have the concluding slide,
14 please?

15 Chairman Jackson, Commissioner Rogers, this
16 completes our formal report. I have a great deal of
17 personal confidence that we can safely operate this
18 facility. This confidence is based upon a number of
19 factors.

20 With that extensive review and testing I discussed
21 earlier, we have a very deep and experienced staff which has
22 my personal confidence, which I personally reviewed.

23 We have proper programs, procedures, and processes
24 in place. These have been proven in operations.

25 We have got the right operational attitude, and I

1 might add that this has improved markedly in the last year.

2 With the completion of the remaining items that we
3 discussed earlier, Watts Barr will certainly be ready to
4 operate, to load fuel, conduct a very thorough low-power
5 test program, and to safely operate for the benefit of the
6 Tennessee Valley.

7 We fully understand the responsibility placed upon
8 us. We fully accept this, and we are committed at every
9 level in this organization to safety operate this plant.

10 Thank you very much.

11 We would now like to open it to general questions
12 that you might have.

13 CHAIRMAN JACKSON: Yes. I have a couple of
14 questions for you.

15 Today, we have been focussed on Watts Barr.

16 MR. KINGSLEY: Correct.

17 CHAIRMAN JACKSON: But you operate other nuclear
18 facilities, and I note that in the course of your
19 presentation, you have indicated that a number of people
20 have been moved from your other operating facilities to
21 Watts Barr, and that is, in fact, giving you some of the
22 strength of particularly your management team.

23 MR. KINGSLEY: Right.

24 CHAIRMAN JACKSON: So a concern that the
25 Commission would have has to do with impact of the operation

1 of Watts Barr on this continued safe operations of the other
2 units in your system.

3 I also note that Brown's Ferry 2 is essentially on
4 the same timeline as Watts Barr. So, in effect, you have
5 two units that are starting up at the same time.

6 What insight or assurances can you give us that
7 there isn't a nomad effect?

8 MR. KINGSLEY: Let me tell you there is
9 unequivocally no impact on the operation of Units 1 and 2 or
10 Brown's Ferry Unit 2.

11 We are starting up Brown's Ferry Unit 3.

12 We have brought in a great deal of talent over the
13 years. We have a quality site vice president. We have
14 quality plant managers.

15 At our Brown's Ferry Units 2 and 3, we have
16 organized very specifically. We have a dedicated restart
17 team, dedicated in the area of engineering and modifications
18 because we not only wanted to ensure that Unit 3 was
19 restarted properly, but it didn't affect Unit 2. So we have
20 kept that separate.

21 We have a very high-quality assistant plant
22 manager who has participated in the Unit 2 effort there to
23 help us do some assessments. He is now back at the plant.
24 So we feel very comfortable about that. We have a very deep
25 team there at that plant.

1 On our Sequoyah plant, we also have a very deep
2 team. We have a quality site vice president who is doing an
3 outstanding job bringing that plant back. We have brought
4 in people from outside into that plant from Trojan, from
5 Rancho Seco, to strengthen that overall staff because we did
6 have some problem sometime ago with the Sequoyah plant, but
7 we are making a marked improvement there.

8 We are totally focussed from a quality assurance
9 standpoint on overview in this. We demand that our nuclear
10 assurance oversight function be very self-critical. They
11 have a direct line to me personally to point out any
12 problems. We openly discuss this in our site meetings.

13 So I feel extremely good about what we have in
14 place, and we are not going to let this happen. We are
15 going to demonstrate to you that we can not only start up
16 Watts Barr 1, but we can start up Brown's Ferry 3 and do a
17 quality job within the same year.

18 CHAIRMAN JACKSON: So the short answer is that you
19 have, in a sense, backfilled to the same quality level. Is
20 that what you are trying to tell us?

21 MR. KINGSLEY: To the same quality level or even
22 better in some areas.

23 CHAIRMAN JACKSON: I see.

24 I have a question for Mr. Crowell. I recognize
25 that the Commission's regulations regarding decommissioning

1 funding assurance permit the TVA to provide a statement of
2 intent that funds will be obtained, but I want to ask you a
3 sensitive question.

4 In light of concerns with the TVA's financial
5 situation that were raised in the recent GAO report, has the
6 TVA given more explicit consideration to that obligation?

7 I know there is a letter on file here in terms of
8 an amount, but I am speaking of how TVA would assure the
9 availability of those funds either on a long or shorter term
10 if there is a premature decommissioning.

11 MR. CROWELL: Yes. There were a number of areas
12 of significant disagreement between TVA and the GAO on that
13 report.

14 The report made no recommendations and came to no
15 conclusions. It simply listed a group of options that they
16 thought should be considered. The options ranged all the
17 way from not doing anything, just letting things continue as
18 they are, to having a 10-percent rate increase to generate
19 more revenue.

20 There is nothing that I have seen in the two years
21 I have been there that would suggest in any way that TVA is
22 not financially sound. It will continue to be financially
23 sound, and indeed, we are making the right decisions to make
24 TVA even more competitive in the 21st century and to be a
25 very viable and very competitive electric generating

1 utility.

2 So there is nothing I see from a financial
3 standpoint way out into the years of the next century that
4 would preclude us from not only operating a first-class,
5 first-rate nuclear program, but to continue to operate a
6 hydro and fossil system, second to none in the Nation.

7 So the GAO report raised some issues that we
8 obviously disagreed with, and we have stated those to the
9 Comptroller General. So there is nothing there. I can
10 assure this Commission, I know of nothing that is going to
11 interfere with our ability to operate TVA in a very
12 successful manner.

13 CHAIRMAN JACKSON: Do you have a financing or
14 funding plan, vis-a-vis decommissioning?

15 MR. CROWELL: Yes. We set aside funds for that,
16 and we planned for that in our financial plan.

17 CHAIRMAN JACKSON: Commissioner Rogers?

18 COMMISSIONER ROGERS: No, I really have no
19 additional questions right now. Thank you.

20 CHAIRMAN JACKSON: I thank you for the time being.
21 You can stand down.

22 We will hear from the NRC.

23 MR. CROWELL: Thank you very much.

24 CHAIRMAN JACKSON: Good afternoon, gentlemen. We
25 can move right along.

1 Mr. Taylor, I assume you will be introducing the
2 staff's presentation. So you can give us the NRC staff side
3 of the story.

4 MR. TAYLOR: Good afternoon. With me at the table
5 are Bill Russell, Stu Ebnetter, Johns Jaudon, Fred Hebdon,
6 and Tom Foley.

7 I would note my agreement with TVA's comment on
8 the unprecedented NRC inspection resources that have been
9 dedicated to Watts Barr since work was stopped in 1985 and
10 during the extensive reconstruction work that has ensued
11 since then.

12 The staff previously updated the Commission on its
13 work in July, July 12th, and what we will do today is build
14 on that briefing and update what was provided them with
15 further information.

16 Johns Jaudon will start the presentation of the
17 staff's effort. Johns has been an SES dedicated to this
18 site for an extensive period of time.

19 Johns?

20 MR. JAUDON: Chairman Jackson, Commissioner
21 Rogers, TVA started their testing for hot functional 2 on
22 July 24th. They finished August 22nd. While they started
23 about 10 days late, they completed the actual testing
24 sequence slightly ahead of their schedule of 30 days.

25 TVA successfully met all of their major testing

1 objectives. Of the two most significant items tested were
2 the auxiliary feedwater system which performed very well and
3 the residual heat removal pumps which were started several
4 times and operated well without any of the kind of instance
5 we noted during hot functional 1.

6 Other items that were tested also generally
7 performed well. For example, pressurizer level control was
8 very good. That has been a little bit erratic in the first
9 hot functional.

10 They already mentioned the seven check valves
11 which were found by surveillance tests, which is normally
12 conducted every time you increase plant temperature. You
13 change modes to go up. They test some of the check valves
14 to make sure they are holding.

15 We have looked at the program they have for
16 training the maintenance people and for attacking this, and
17 we think it is thorough and complete, so that every time
18 they go up, they won't find seven check valves that are
19 leaking or any check valves leaking.

20 The next slide, please.

21 In the construction side of their work, they have
22 successfully implemented 22 of 28 of the corrective action
23 plans and special programs.

24 Successfully implemented means that they are
25 essentially complete, and there are only minor punch list

1 items left which bear tracking and we are watching.

2 CHAIRMAN JACKSON: Let me ask you a question
3 relative to that. I note that there are a number of areas
4 which I mentioned with the TVA presenters, RAD monitors,
5 conduit and cable trays, condition adverse to quality
6 reports, et cetera.

7 For the record today, would you give your
8 assessment of the status of any of the issues in the
9 programs and also the safety significance of any of these?

10 MR. JAUDON: Yes, certainly.

11 The six outstanding corrective action special
12 programs are the vender information program. We are
13 inspecting that later this month. I believe it will
14 probably be considered successfully implemented.

15 Electric issues and cable issues are two more of
16 the programs. We have been inspecting those by subcategory,
17 and those inspections are ongoing. Our present findings are
18 that they are being successfully implemented. They just
19 haven't finished with them or gotten down to the punch list
20 point.

21 The radiation monitoring will be successfully
22 completed. That may be in early October. That is probably
23 the last system they will turn over.

24 CHAIRMAN JACKSON: Is that your schedule or their
25 schedule?

1 MR. JAUDON: That is their schedule for
2 completion, and we are not going to decide that it is done
3 successfully until they say it is done. We are certainly
4 watching them. Inspections are ongoing this week.

5 Cable tray supports and conduit supports, those
6 are also ongoing. We are inspecting those as they occur.
7 There is just a lot of work left to finish on that. They
8 think they will finish this month. We will finish after
9 they finish.

10 They have been successful in resolving literally
11 thousands of items that are identified on these by
12 walk-downs.

13 The remaining construction work has to do with
14 system final turnover and clearing open items and room and
15 area turnovers. That is proceeding fairly well. We have a
16 list of some 300 rooms we are looking at as they turn them
17 over and so on in most all of the systems.

18 The other big thing that we have done in
19 construction is the construction inspection reconstitution
20 program. We have completed all the inspection work and
21 reviews that are associated with that, and we are now
22 preparing a NUREG which is really at staff review at this
23 point.

24 That documents that we have relooked at every line
25 item and every inspection procedure for construction and

1 decided when and how it was completed. Approximately 70
2 percent of them were completed by work, inspections we
3 conducted after 1985. The other 30 percent are items that
4 have not been reworked, not been touched since, and we are
5 relying on pre-'86 inspections plus what else we can do
6 independently to evaluate them.

7 The last time I talked to you, I mentioned, for
8 instance, the special art of concrete structures and so on,
9 which came out to be satisfactory.

10 That is the status of construction in the test
11 program. I would add the rest of preoperational testing is
12 essentially done except for some work on radiation monitors.

13 Tom?

14 MR. FOLEY: Good afternoon, Chairman Jackson and
15 Commissioner Rogers. I am Tom Foley. I led a team of 10
16 inspectors to Watts Barr for an operational readiness
17 inspection, and during that time, we observed simulated
18 operational environment during hot functional testing. We
19 assessed the readiness of operation and saw six different
20 areas, management, operations, maintenance, surveillance,
21 quality assurance, safety assessment and quality
22 verification, and radiological controls.

23 During this time, we noted that the operation of
24 the facility seemed to be quite typical of other operating
25 reactors. We noted that the performance was demonstrated as

1 safe operation of the facility.

2 Any questions?

3 We noted also that during the operation, we saw
4 that operators were challenged by some unexpected events,
5 and they operated and responded quite well. The operators
6 there weren't inundated, but they had a lot of extra
7 construction deficiencies on the control boards, quite
8 untypical of a normal operating reactor, and this
9 additionally challenged the operators, and in spite of this,
10 they operated well. They responded well to the alarms and
11 the annunciators and followed their procedures. We didn't
12 see anything that would likely prohibit the safe operation
13 of the facility.

14 COMMISSIONER ROGERS: Let me just ask you a
15 question about radiological controls. How do you make that
16 kind of an assessment?

17 Of course, you are not dealing with any actual
18 radioactivity at that point. What kinds of checks do you
19 make on the ability to detect in a proper way or measure any
20 radioactivity in the system?

21 MR. FOLEY: One thing we did was we looked at
22 their programs to see that they had all the programs in
23 place. If they followed these programs, they would assure
24 compliance with 10 CFR Part 20.

25 The second thing we looked at was training. We

1 saw the TVA, the applicant, do mock-up training of
2 pretending that there was radioactivity there, doing
3 surveys. We witnessed them doing various types of surveys.
4 We saw them dress out in PC-protective clothing, and we saw
5 that they did calculations in determining radioactive
6 airborne concentrations and the like.

7 Based upon that, although we didn't see full
8 implementation of radiologic controls in all areas, we did
9 see it in some areas. They do have a license currently, I
10 believe, to possess small quantities of isotopes for their
11 instrumentation, and while we were there, they did some work
12 on these areas, some of these CAMs. Continuous airborne
13 monitors, they call them. They would isolate them. They
14 were properly roped off and barricaded, and when they went
15 in to work on them, they followed their procedures, filling
16 out a radiological work request and the like.

17 MR. EBNETER: May I comment on that?

18 COMMISSIONER ROGERS: Yes.

19 MR. EBNETER: We haven't determined that the
20 radiological controls are fully acceptable yet.

21 As you heard TVA's presentation, the radiation
22 monitoring system is not complete. We have not passed
23 judgment on that. The system still has some design issues
24 that need to be resolved, some installation issues that have
25 to be done, and then the system has to be tested and the

1 procedures reviewed by our staff. So that is still an open
2 item from our standpoint.

3 COMMISSIONER ROGERS: All right.

4 MR. FOLEY: Any further questions?

5 [No response.]

6 MR. HEBDON: We are continuing the licensing
7 review associated with Watts Barr. In the near future, we
8 will be issuing safety evaluation report Supplement 16 which
9 will complete the review of the final safety analysis report
10 through Amendment 89. We have just recently received
11 Amendment 90 to the FASR, and we are in the process of
12 reviewing that now.

13 We expect to issue another supplement to the
14 safety evaluation report in early October, and that will
15 include the quality assessment report that we have discussed
16 a couple of times where we are looking at the overall
17 assessment of the quality of construction and the
18 effectiveness of the quality assurance program at Watts
19 Barr. We expect to issue that in early October.

20 We would expect at least one more amendment to the
21 FASR to be submitted by TVA to address some additional
22 issues, and then we will issue at least one additional
23 supplement to the safety evaluation report. That would
24 normally be issued concurrently with the decision on the
25 lower-power operating license.

1 There are still some issues that we are continuing
2 to work on in the licensing area. Three of them I have
3 noted on this particular slide. One is the fire protection
4 program. We conducted a fire protection inspection, and we
5 identified a number of areas where we needed additional
6 information from TVA and some things that we needed to
7 clarify and some areas where we needed some additional
8 analysis, and we are continuing to work on those.

9 The team that did that inspection is scheduled to
10 return to Watts Barr next week and do another phase of that
11 inspection, and hopefully, at that point we will be able to
12 address and resolve these issues. That will ultimately lead
13 to the completion of a safety evaluation report on the fire
14 protection program for Watts Barr.

15 The technical specifications are nearing
16 completion. There are still a few open items that are left
17 to be resolved on the order of about a half-a-dozen, and we
18 are continuing to resolve those issues as they come up, and
19 we address them and make sure that the technical
20 specifications are complete and ready.

21 CHAIRMAN JACKSON: Let me ask a question. Will
22 TVA be applying for tech spec or rule changes in areas where
23 exemptions have been granted?

24 MR. HEBDON: There are some exemptions that are
25 currently envisioned to be in the license. There would be

1 four exemptions that would be included. Two of them are
2 more generic in nature associated with the airlock doors and
3 also associated with criticality monitors which was an
4 exemption in the materials license that they had originally
5 that would then be converted over to be part of the
6 operating license for the plant.

7 There are also two exemptions, one associated with
8 the control of badges that allows TVA to implement a new
9 hand geometry technology as part of their security program,
10 and there is also an exemption that would allow them to
11 implement the vehicle bomb rule, 7355, in February of 1996
12 which would be consistent with the operating plans.

13 So those are the exemptions we would currently
14 envision would be in the license.

15 CHAIRMAN JACKSON: Why do you have exemptions in
16 the license as opposed to just changes over the tech specs,
17 or do they require rule changes?

18 MR. RUSSELL: These would require rule changes.
19 There have been rulemaking activities under way to revise
20 Appendix J and Part 70, such that we would not need to issue
21 these exemptions in the future, but the staff has not
22 completed work on those two cases to rulemaking activities,
23 and these are consistent with exemptions we have issued on
24 other plants at the time of initial licensing.

25 CHAIRMAN JACKSON: So, other than that, there are

1 no others?

2 MR. RUSSELL: There are no plans for any relief as
3 it relates to the technical specifications. This plant will
4 be licensed with the Westinghouse standard technical
5 specification of the improved tech spec program. This will
6 be the lead plant under that program, and we are in the
7 final proof and review where the staff has issued the tech
8 specs to TVA, and they are undergoing their final review and
9 certification. We are in the last stages of resolving some
10 minor items with the tech specs to ensure that they can be
11 certified consistent with completion of the design.

12 The last item on here is also an issue that is
13 related to the new standard tech specs. In the past, the
14 staff has issued a pressure temperature limit in the tech
15 specs each time showing acceptable operating regimes of
16 pressure and temperature. This is based upon surveillance
17 specimens and withdrawal of capsules and the methodologies
18 to be used.

19 We have reached agreement that that is one that
20 can be done generically in the future without necessitating
21 a tech spec amendment each time, and what we are doing is we
22 are reviewing and improving the methodology by which those
23 curves would be developed. This is a last open item that we
24 have not completed. This is one where we can either go back
25 to the previous approach and issue a specific curve that

1 would support, say, 10 years of operation or to approve a
2 methodology. It is just that this work generically is not
3 totally complete, but it is currently an open item based
4 upon the approach we are taking with the BWRs in this case
5 with Westinghouse BWR.

6 Unless there are questions on licensing, or, Stu,
7 if you have any comments, I would like to give you my
8 perspective on some items.

9 MR. EBNETER: I would just like to make a few
10 comments. Since the last time we briefed the Commission,
11 there has been a significant amount of progress made at
12 Watts Barr.

13 As TVA commented, I don't have the numbers on it,
14 but I believe we have inspected Watts Barr more than any
15 other plant. Comanche Peak may come close, but I think this
16 one is the most inspected plant.

17 So a lot has been done, but I want to assure you
18 and reinforced Bill's comments that our intent is not to
19 license Watts Barr or recommend it for licensing until
20 construction and test programs are complete.

21 On the front end, we had put a great deal of work
22 in this, but there is still a lot to be done yet. There are
23 significant backlogs that have to be worked on. There are
24 still some systems in room areas to be turned over. So
25 there is still a lot of work to be done.

1 TVA painted a rosy picture, and they should. They
2 have done a lot of work, also, but we as an agency still
3 have a lot to do, and there are some weaknesses that were
4 revealed in the HFT-2 that have to be continually worked on.
5 The staff will be looking for those to be corrected.

6 I think there is a need for the applicant to
7 continue to improve at this point and not relax as we move
8 into the operational area.

9 A new challenge is coming there, and I just want
10 to assure you that the NRC staff, both licensing and
11 inspection, have done an outstanding job up to this point,
12 and we plan to continue to inspect right up until the plant
13 is finished.

14 CHAIRMAN JACKSON: Thank you.

15 MR. RUSSELL: I would like to give some personal
16 views and identify some issues that in my mind create some
17 uncertainty as it relates to schedule.

18 We have reached agreement with the applicant on
19 the work that needs to be completed. The requirements are
20 well specified in a manner similar to the conduct of hot
21 functional testing number 2 where we reached agreement on
22 what was to be demonstrated prior to going into hot
23 functional testing, all the way down to the level of the
24 individual procedures to be used and steps within procedures
25 which would be actually performed and those which would be

1 simulated.

2 We are going to complete that same process as it
3 relates to completion of design, and I do not expect to
4 issue a license that would have any open items or license
5 conditions; that it would be, in fact, a clean license.

6 There is quite a bit yet to be done. The company
7 when we met with them earlier indicated that their estimated
8 schedule was in the last October through middle of November
9 time frame to complete this work. The staff does not really
10 have a schedule. The schedule will be what the schedule
11 turns out to be once the work is completed.

12 There are some areas that create some uncertainty
13 in the schedule, and I thought I would highlight those. The
14 first is completing the physical work associated with the
15 conduit and supporting systems. This is not the electrical
16 wiring itself, but the physical support of the conduit.

17 Completing of the walk-downs on the cable trays to
18 identify extent of condition and what may need to be
19 corrected, one item was identified where vertical separation
20 was not maintained. So they may have to put some additional
21 fray covers on to provide separation.

22 There are some areas where they may propose to
23 disposition as is. That is, the physical supporting system
24 for some of the conduits may not have sufficient flexibility
25 to handle relative displacement motion under seismic events.

1 Those will need to be looked at on a case-by-case basis to
2 ensure that there is sufficient flexibility on either side
3 of the supporting location. These will also have to be
4 looked at by the staff.

5 So once the engineering review is completed and a
6 decision is made to either accept as is or to rework it,
7 each of those items will have to be relooked at also by our
8 staff.

9 COMMISSIONER ROGERS: When did that appear? It
10 seems like in a rather late stage of the process.

11 MR. RUSSELL: Let me comment that the quality of
12 the walk-downs that they did in identifying the conditions
13 that did not conform, there were discrepancies, and this
14 ranges all the way from specifying a particular type of
15 screw, a hex head screw for supporting and using a slotted
16 head screw to the case that I mentioned where there was not
17 sufficient flexibility at the bridge between structures,
18 where you may have relative motion between them.

19 There are some 32,000 of those that were
20 identified. They have corrected over 11,000. They have
21 identified some 3,300 additional that need to be worked
22 where they physically have to do the work to do the
23 correction.

24 Some 5,000 were evaluated by engineering, and
25 disposition is acceptable as is. That is, there was still

1 sufficient margin to meet the requirements for loading and
2 capability. There are about 12,000 to go in engineering.

3 Each of these individually may be quite small, but
4 the magnitude of the process of completing them all is going
5 to take some review effort, and one of the things we have
6 learned is that the job is not done until the paperwork is
7 done and the inspections have been completed, and as TVA
8 says, it is in the vault, which means that the necessary
9 reviews have also been signed off. Those types of
10 activities may, in fact, be controlling path. That is, it
11 may be more time consuming to complete the documentation
12 than it is to do the physical work in the plant, and of
13 course, our activity comes after they have said it is
14 completed and put it in the vault. Then it is available for
15 us to go in and inspect and confirm.

16 Also, you raised questions earlier about
17 corrective action programs and the effectiveness of
18 corrective action programs. We have an inspection planned
19 starting the week of the 18th, running the 18th through
20 about the 25th, longer if necessary, to look at the
21 corrective action program, both as it relates to
22 construction deficiencies and how they have been handled, as
23 well as operations deficiencies, and while this has been a
24 continuous process and we have seen improvement in the
25 quality of packages on completion work, this is intended to

1 be an overview to go in and actually pull the thread again
2 on these areas as it relates to the adequacy of the
3 corrective action programs.

4 In addition to the check valves, I will mention
5 one other valve that is potentially a concern that may
6 require a retest. This design has two head vents, to be
7 able to vent the head area that came out after the TMI-2
8 accident. We require that those be capable of being opened
9 and closed in a severe environment.

10 In this case, one of the valves operated
11 satisfactorily. They have used a control valve that is open
12 and closed and controls to intermediate positions. They
13 believe that they have a problem with the controller, but
14 the valve demonstrated a difference between the actual
15 position as compared to the demand position.

16 We want to make sure that this is not indicative
17 of any kind of a binding problem in the valve because, if it
18 would be binding at normal operating temperature and
19 pressure, that may be indicative that it would not function
20 post-accident. So that is a technical issue.

21 COMMISSIONER ROGERS: Is there a positive position
22 indicator on that valve, so that the operator really knows
23 where it is, so that we don't have another TMI situation?

24 MR. RUSSELL: The ones you are thinking of about
25 from TMI are the ones on top of the pressurizer and the

1 PORVs.

2 COMMISSIONER ROGERS: I know it is a different
3 valve.

4 MR. RUSSELL: You have to have a positive
5 indication on those.

6 These have both valve position indications. It
7 indicates position, and it is not just demand. I would have
8 to determine whether we have acoustic monitoring or
9 temperature monitoring. I don't know the answer to that.

10 COMMISSIONER ROGERS: But there is a position
11 indicator as well?

12 MR. RUSSELL: That is correct.

13 There are some operational procedures yet to be
14 completed. While the emergency operating procedures have
15 been through and reviewed, there are still some alarm
16 response procedures to be completed.

17 One is a surveillance test procedure which is
18 related to the leakage of the check valves. We require that
19 reactor coolant pressure boundary leakage be not greater
20 than 1 gallon per minute unidentified or 10 gallons per
21 minute identified. That surveillance procedure has to be
22 satisfactorily completed. That is one that would be
23 controlled by technical specifications were we do issue a
24 license. They would have to demonstrate that they can meet
25 that specification or they would have to shut down or return

1 back to a cold condition, such that they could go back in
2 and rework the valves.

3 I think it is prudent on their part to not only
4 work the seven valves which demonstrates a higher leakage,
5 but also look at other valves.

6 There is quite a bit of work for the staff to do.
7 The reasons for the scheduled dates for issuing safety
8 evaluation report supplements is to complete that work which
9 we can complete. We will have a number of open items in
10 those reports that would be wrapped up. So this is intended
11 to get some of the stuff off of our plate and document areas
12 that we found satisfactory evaluations and indicate what is
13 the status of remaining open items.

14 Supplement 16 that is going out and 17, these are
15 to close areas that are able to be closed as compared to
16 those which are still open.

17 In the fire protection area, I will identify one
18 issue that could be a longer-term issue. I have had reports
19 from the team that was on site inspecting that there are
20 questions regarding the testing configuration as it relates
21 to electrical penetration seals.

22 They are quite satisfied with the quality of the
23 seal installation in the field, but there are differences
24 principally associated with the number of conductors that
25 pass through the seal and whether the testing that was done

1 was sufficient to demonstrate qualification of that
2 configuration.

3 There are other facilities that have done some
4 testing. We have specifically recommended they contact the
5 Washington Public Power Supply based upon some testing and
6 rework that was done on similar seals at WNP-2, but that is
7 an open item, and if they are not able to demonstrate or
8 locate an adequate test record for this particular sealant
9 material and configuration, they may have to perform some
10 testing to demonstrate that the in situ seals are adequately
11 qualified.

12 I have indicated that given the history with the
13 fire issues and penetration seals, this is an issue that I
14 want to have resolved and do not see this as one that would
15 be deferred to subsequent testing.

16 The other items, even though there are some open
17 items in fire protection, we believe can be resolved within
18 a relatively short period of time on some issues associated
19 with non-safety circuits and electrical isolation of those
20 in the event of a fire and how we are confident either that
21 they can be isolated or the operator action can be taken to
22 remove those loads and also physically completing work on
23 any diesel fire pump.

24 So there is quite a bit of work to be done. We
25 have identified what that work is. As it related to the

1 question you asked earlier, Dr. Jackson, on open items in
2 the backlogs, we agreed at the last management meeting to
3 start the review now of the open item list that they have
4 and to request TVA to identify any item which they would
5 propose to remain open at the time of fuel loading, so that
6 we can go through those and reach agreement as far in
7 advance as we can. So that, there are issues that we feel
8 must be completed. We are not identifying those late in the
9 process.

10 The list is quite large now, but rather gradually,
11 it is worked off and it is a smaller list. We are going to
12 start those meetings now and start with some on-site
13 reviews, particularly starting with the NRC open item list
14 from inspections and prior enforcement actions.

15 So there is quite a bit to be done, but I believe
16 that we have reached agreement on what needs to be
17 accomplished, and it is now a matter of doing that work and
18 confirming that the work has been satisfactorily
19 implemented.

20 CHAIRMAN JACKSON: I have a couple of questions
21 for you. What chance do we have that non-safety-related
22 cables will perform as expected in light of problems and
23 corrective actions with safety-related cables? Is there a
24 systematic program to evaluate them, and if not, how do we
25 gain assurance?

1 MR. RUSSELL: As it relates to the
2 non-safety-related cables, we have treated those differently
3 from safety-related cabling. We have essentially required
4 that the safety-related cabling be replaced where there was
5 question regarding its qualification for its lifetime
6 capability to perform.

7 For the non-safety-related cables, many of these
8 have been energized at various times during hot functional
9 testing. Some have been in service essentially
10 continuously; for example, cabling to air compressors or air
11 systems that are being used.

12 We have not seen failures associated with those
13 circuits. With the maintenance rule which goes into effect
14 in July and the requirements of that rule which expanded the
15 scope of NRC regulatory requirements to non-safety systems,
16 we would be following up on failures which occur where those
17 failures could initiate a plant transient. So, to the
18 extent there is a failure which does occur in a non-safety
19 cabling that causes a transient, that is within the scope of
20 the maintenance rule, whether it has caused or could cause a
21 transient.

22 We require under the terms of that rule that the
23 causes of failure is to be evaluated and corrective actions
24 taken for those failures. So, to the extent there is a
25 cabling problem that results in a failure, that particular

1 problem would have to be addressed, as well as extent of
2 condition, under the maintenance rule.

3 So we have not seen failures to date. Most of the
4 deficiencies would be in the nature of longer-term,
5 lifetime-type issues. So we don't see this as a safety
6 problem.

7 It could be a concern as it relates to a long-term
8 reliability, some of the balance of plant equipment, and we
9 will be requesting TVA also to address that issue.

10 CHAIRMAN JACKSON: Let me ask another. How do we
11 satisfy ourselves that our margins and key systems, if they
12 relate to key systems, are satisfied with the use of as is
13 CAQs?

14 MR. RUSSELL: When a review is done to accept
15 something as is, it generally means that a more
16 sophisticated engineering analysis has to be performed to
17 demonstrate that NRC requirements are met.

18 If we take the example of piping supports, you
19 could either reanalyze the piping and demonstrate that the
20 existing support system is adequate to carry the loads for
21 the piping system. That is a very expensive and detailed
22 analysis, or you can add an additional support to make the
23 piping system stay within the original analysis.

24 Either method is acceptable to the staff. That
25 is, either modifying the design to make it consistent with

1 the analysis of record or reanalyzing it and showing based
2 upon that reanalysis that the actual configuration is
3 sufficient to meet NRC requirements.

4 There is no change in our requirements under
5 either method. They must demonstrate through analysis that
6 the as-built plant meets NRC requirements. In some cases,
7 they use an enveloping approach. It may end up in some
8 additional conservatism, but it may be more economic from
9 the standpoint of a bounding analysis as compared to a
10 case-specific analysis.

11 CHAIRMAN JACKSON: I am also interested in the
12 satisfactory resolution of any possible safety allegations,
13 given the history. So I was wondering if you could give me
14 a mini assessment of any outstanding issues or allegations.

15 MR. RUSSELL: We met with the staff to review the
16 internal status of all of the NRC allegations that are open
17 at this point in time. There are a number of those that are
18 in the inspection process that are technical allegations
19 that we intend to review and close those items for the
20 allegations that we have today.

21 We also looked into issues that are open under
22 investigation where there are allegations of wrongdoing to
23 make a determination as to whether any of those open
24 investigations would raise issues which would be a question
25 related to licensing. We met internally on that, and as of

1 today, there are no issues in the investigation area that
2 would be a bar to going forward.

3 CHAIRMAN JACKSON: Have you taken a look at the
4 TVA employees concerns program?

5 MR. RUSSELL: We have been briefed by the TVA
6 Inspector General on their audit of the employees concern
7 program, and we were briefed by the TVA on the status of
8 their investigations.

9 Based upon the report that I received from our
10 Office of Investigations, the results are very consistent.
11 That is, the status of cases and the basis for conclusions,
12 we did not share any of our results with the TVA. Rather,
13 we had TVA brief us on the status. After TVA completed,
14 they were excused, and then we had a separate meeting
15 internally to review the status of cases with OI.

16 I would also mention that we have a process for
17 handling allegations. If there is a receipt of a late-filed
18 allegation, the process starts that we first presume that
19 the allegation is correct, and then we evaluate the safety
20 significance to make a determination as to whether it would
21 have an impact on licensing.

22 We also looked to see whether it is similar to
23 other allegations that we have had of that type and whether
24 they have been inspected.

25 In this case, we have the entire inspection file

1 available electronically. That turned out to be necessary
2 because of the coordination of inspection activities and the
3 reconfirmation of the construction inspection program. So
4 that, we will be prepared to address and turn around
5 relatively quickly allegations we receive to determine if
6 they are new, and if they are new and potentially
7 significant, how we would address those.

8 CHAIRMAN JACKSON: My last question is: Do you
9 have any views in terms of the adequacy of nuclear staffing
10 at Watts Barr and of any potential adverse impact in terms
11 of any migration of personnel from other TVA plants and/or
12 with respect to this parallel movement of Brown's Ferry 3
13 and Watts Barr in terms of time to start-up?

14 MR. RUSSELL: The timing is one that I have been
15 concerned about for some time, and as a result, we have
16 developed separate resources for the NRC to be able to
17 monitor both. So this is not an issue of us being unable to
18 adequately oversee, and there are plants for periods of time
19 of round-the-clock observation.

20 We have a very detailed plan for both Brown's
21 Ferry 3 and for Watts Barr, should they occur together. So,
22 in that context, I am ont concerned.

23 It is also true that the activities have been
24 conducted pretty much independently, and through time, we
25 have observed the start-up organization activities of

1 Brown's Ferry and the performance of completion of physical
2 work. We have not had some of the same problems at Brown's
3 Ferry that we have had at Watts Barr. So they have
4 generally had a better track record.

5 It is conceivable that Brown's Ferry could be
6 operating sooner than Watts Barr, just based upon the
7 physical amount of work to be completed and the necessary
8 reviews and sign-offs because of the prior history of
9 construction quality problems at Watts Barr.

10 CHAIRMAN JACKSON: Commissioner Rogers, do you
11 have any questions?

12 COMMISSIONER ROGERS: I think you have answered
13 it, but just to make sure, our staffing resources for
14 looking at all of this work that it has to be finished
15 before Watts Barr gets ready to restart, is there any
16 limitation on the schedule as a result of our limited staff
17 availability?

18 MR. RUSSELL: No, there are not.

19 We have identified what resources are needed. We
20 have resources available, qualified inspectors from
21 headquarters, and we can borrow resources from other
22 regions.

23 MR. TAYLOR: We will supplement it.

24 MR. RUSSELL: We will supplement as necessary.

25 We have been reducing our reliance on contractor

1 resources because of other fiscal constraints, but this is
2 not impacting our ability to oversee both of those
3 operations.

4 COMMISSIONER ROGERS: I have nothing else.

5 CHAIRMAN JACKSON: I would like to thank the
6 representatives of TVA and the NRC staff for an informative
7 briefing.

8 The information we have heard today gives us a
9 perspective on the progress at Watts Barr 1, and it will be
10 useful to the Commission in our future consideration of
11 Watts Barr.

12 I would just like to say, as TVA is nearing
13 completion of the construction phase of Watts Barr 1 and
14 preparing for and hoping to get an operational license, I
15 want to emphasize to TVA the importance of something you
16 mentioned, and that is this transition from construction to
17 operations. Even though it has been a long time in coming
18 and because it has been so long, there is nothing to hurt
19 you in taking a conservative approach in assessing your
20 operational readiness. You have done a lot, but it sounds
21 to me like there is still much work to be done, fully
22 documented and closed out, before fuel load and low-power
23 testing.

24 So I request the staff to continue its close
25 monitoring of the completion and the documentation of the

1 completion of the work.

2 It is also important that we know and have
3 confidence, and others, that the TVA concerns resolution
4 program works and that the NRC allegation management program
5 works and that all late-filed allegations are properly
6 treated according to the program we have set up to handle
7 them, and it sounds as if that is the way we have been
8 proceeding.

9 So the Commission will continue to follow the
10 process of the completion of the open issues and look
11 forward to a future briefing.

12 Commissioner Rogers, do you have any closing
13 comments?

14 COMMISSIONER ROGERS: No. Thank you very much.

15 CHAIRMAN JACKSON: If not, we stand adjourned.

16 I will be here if anybody would like to talk with
17 me personally.

18 Thanks.

19 [Whereupon, at 3:25 p.m., the meeting was
20 concluded.]

21

22

23

24

25

CERTIFICATE

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

TITLE OF MEETING: BRIEFING ON STATUS OF WATTS BAR
LICENSING - PUBLIC MEETING

PLACE OF MEETING: Rockville, Maryland

DATE OF MEETING: Monday, September 11, 1995

was held as herein appears, is a true and accurate record of the meeting, and that this is the original transcript thereof taken stenographically by me, thereafter reduced to typewriting by me or under the direction of the court reporting company

Transcriber: Jennie Malloy

Reporter: Mark Mahoney

TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT
UNIT 1
NUCLEAR REGULATORY COMMISSION
BRIEFING
SEPTEMBER 11, 1995



COMMISSION BRIEFING AGENDA

INTRODUCTION	C. CROWELL
BACKGROUND AND HISTORICAL OVERVIEW	O.D. KINGSLEY
DESIGN AND CONSTRUCTION COMPLETION AND TRANSITION TO OPERATIONS	O.J. ZERINGUE
SITE OPERATIONAL READINESS	J.A. SCALICE
PLANT READINESS AND OPERATING STAFF	R.T. PURCELL
CONCLUSION	O.D. KINGSLEY

WATTS BAR IS A PROVEN DESIGN

LOCATION	50 MILES NE OF CHATTANOOGA
NSSS	WESTINGHOUSE PWR, 4 LOOPS 3425 Mwt (INCLUDES PUMP HEAT) 1212 (GROSS)/1160 (NET) Mwe
CONTAINMENT	ICE CONDENSER
COOLING SOURCE	2 NATURAL DRAFT COOLING TOWERS AND RIVER
SISTER PLANT	SEQUOYAH UNITS 1 & 2

MAJOR CHANGES HAVE BEEN MADE IN TVA NUCLEAR PROGRAM

- DESIGN AND CONSTRUCTION DEFICIENCIES IDENTIFIED
- PERFORMED COMPREHENSIVE ASSESSMENT—REQUIRED MAJOR CHANGES
- TOOK TIME TO SYSTEMATICALLY COMPLETE CHANGES
- DEVELOPED MANAGEMENT STRENGTH COMMENSURATE WITH TASK
- HERE TO TALK ABOUT MOVING FORWARD
 - PAST PROBLEMS SOLVED
 - READY TO OPERATE

CORRECTIVE ACTIONS HAVE BEEN COMPREHENSIVE

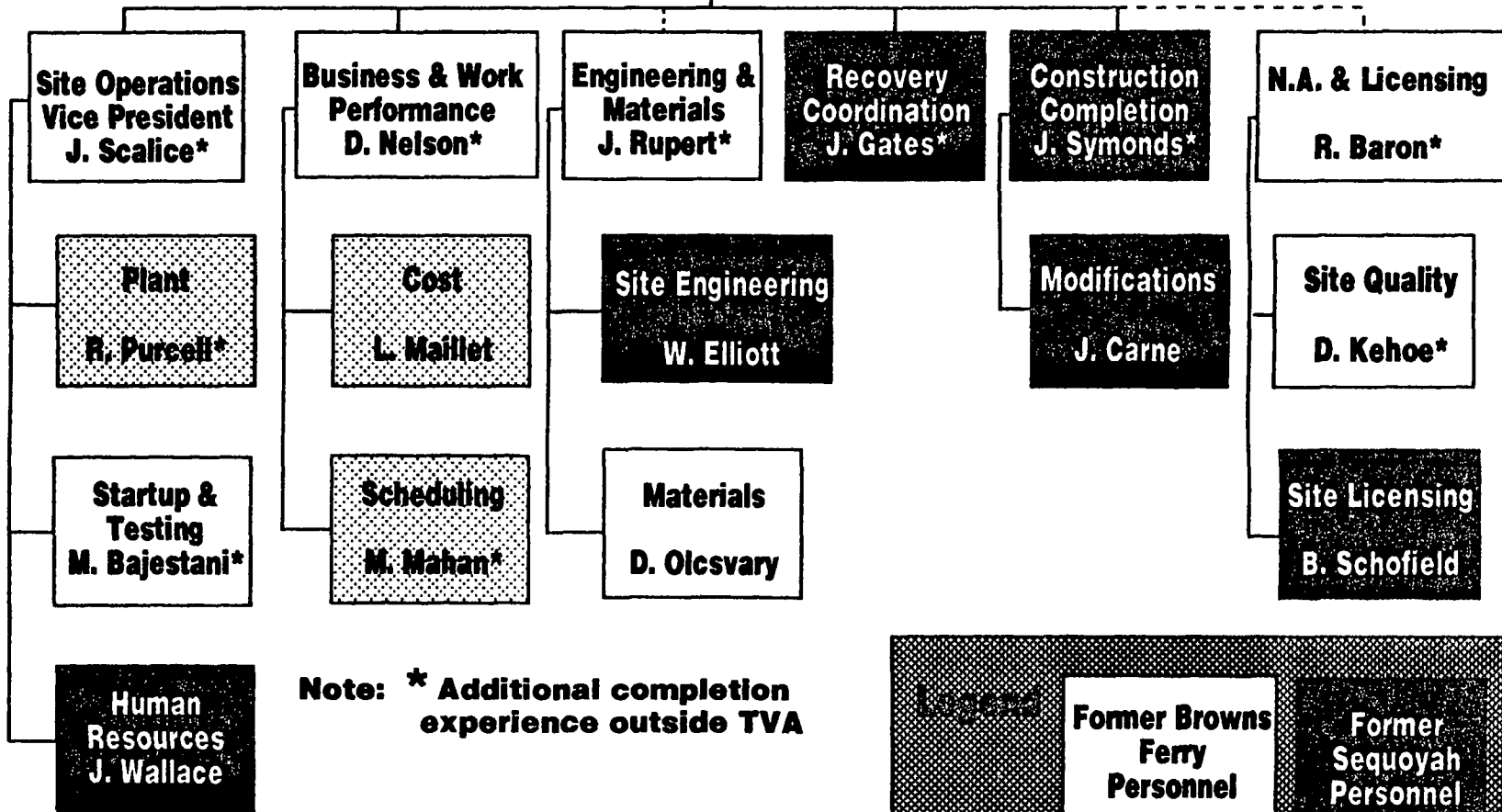
- DESIGN AND CONSTRUCTION
 - ENGINEERING VERIFICATION
 - CONSTRUCTION MODIFICATIONS
 - TESTING
- MANAGEMENT AND EMPLOYEES
 - ORGANIZATION
 - EXPECTATIONS
 - EMPLOYEE TRUST

TRANSITION TO OPERATIONS HAS BEEN EFFECTIVE

- LESSONS LEARNED FROM TVA RESTARTS
 - SEQUOYAH UNITS 1 & 2
 - BROWNS FERRY UNIT 2
- PRIMARY LESSONS LEARNED FROM OTHER UTILITIES
 - IMPORTANCE OF STRONG TRANSITION AND OPERATIONS STAFFS
 - IMPORTANCE OF LOW BACKLOGS

**WATTS BAR
COMPLETION AND
STARTUP ORGANIZATION
IS EXPERIENCED**

**Sr. Vice President
Nuclear Operations
O.J. Zeringue***



CONFIDENCE IN WATTS BAR READINESS

- **PLANT DESIGN VERIFIED—MODIFICATIONS AND TESTING COMPLETE**
- **PROGRAMS, PROCEDURES AND PROCESSES HAVE BEEN TESTED AT TVA'S OPERATING PLANTS**
- **COMPLETION/STARTUP AND OPERATING TEAMS ARE SECOND TO NONE IN EXPERIENCE AND TRAINING**

CONFIDENCE IN WATTS BAR READINESS (CONTINUED)

- **REGAINED EMPLOYEE CONFIDENCE**
- **POSITIVE WORK ENVIRONMENT AND CULTURE**
- **EXTENSIVE AND DIVERSE OVERSIGHT SCRUTINY AT WATTS BAR**
- **LINE AND NUCLEAR ASSURANCE MANAGERS' ASSESSMENT AND CERTIFICATION PROCESS**
- **PERSONAL ASSESSMENTS OF RESPONSIBLE EXECUTIVES**

DESIGN AND CONSTRUCTION HAVE RECEIVED UNPRECEDENTED OVERSIGHT

- **13 VERTICAL SLICE REVIEWS**
- **2,900 NUCLEAR ASSURANCE AUDITS**
- **400,000 QC INSPECTIONS BY INDEPENDENT
CONTRACTOR**
- **PAC/AQ - 4-1/2 YEAR PROGRAM**
- **UNPRECEDENTED LEVEL OF NRC INSPECTION**

WATTS BAR DESIGN VERIFICATION, MODIFICATIONS, AND TESTING HAVE BEEN COMPREHENSIVE

- **DESIGN BASIS VERIFICATION PROGRAM**
- **APPROXIMATELY 23,000 CALCULATIONS REVISED OR REDONE**
- **SUPPORTS: 8,000 PIPE, 25,000 CONDUIT, AND 4,000 INSTRUMENT LINE**
- **REPLACED 1.3 MILLION FEET OF CABLE**
- **INSTALLED 100,000 FEET OF CONDUIT**
- **CONDUCTED OVER 27,600 TESTS (1.4 MILLION HOURS)**

DESIGN AND CONSTRUCTION ADEQUACY HAS BEEN CONFIRMED

- **1994 - INDEPENDENT ENGINEERING AND FIELD
TO
1995 ASSESSMENT**
- **1995 REASONABLE ASSURANCE ASSESSMENT
REPORT**
- **1995 INTEGRATED DESIGN INSPECTION**
- **1995 HOT FUNCTIONAL TEST 2 AND NRC ORAT
INSPECTION**

SUCCESSFUL TRANSITION FROM CONSTRUCTION TO OPERATIONS IS BASED ON FOUR CRITICAL ELEMENTS

- **QUALITY PLANT COMPLETION**
- **PROGRAMS, PROCEDURES, PROCESSES**
- **PEOPLE**
- **TRANSITION MANAGEMENT**

EFFECTIVE TRANSITION MANAGEMENT DEPENDS ON . . .

- **REACHING AN OPERATIONAL MODE EARLY**
- **DEVELOPING THE OPERATING TEAM**

TRANSITION WAS INITIATED EARLY

- **EXPERIENCED, OPERATIONALLY-ORIENTED MANAGERS**
- **CONSISTENT SET OF OPERATIONAL WORK PRIORITIES**
 - **OPERATIONS-OWNED SYSTEM/AREA**
 - **TEST**
 - **SYSTEM TURNOVER**
 - **AREA TURNOVER**
- **COMPLETION MANAGED AS AN OPERATIONAL OUTAGE**

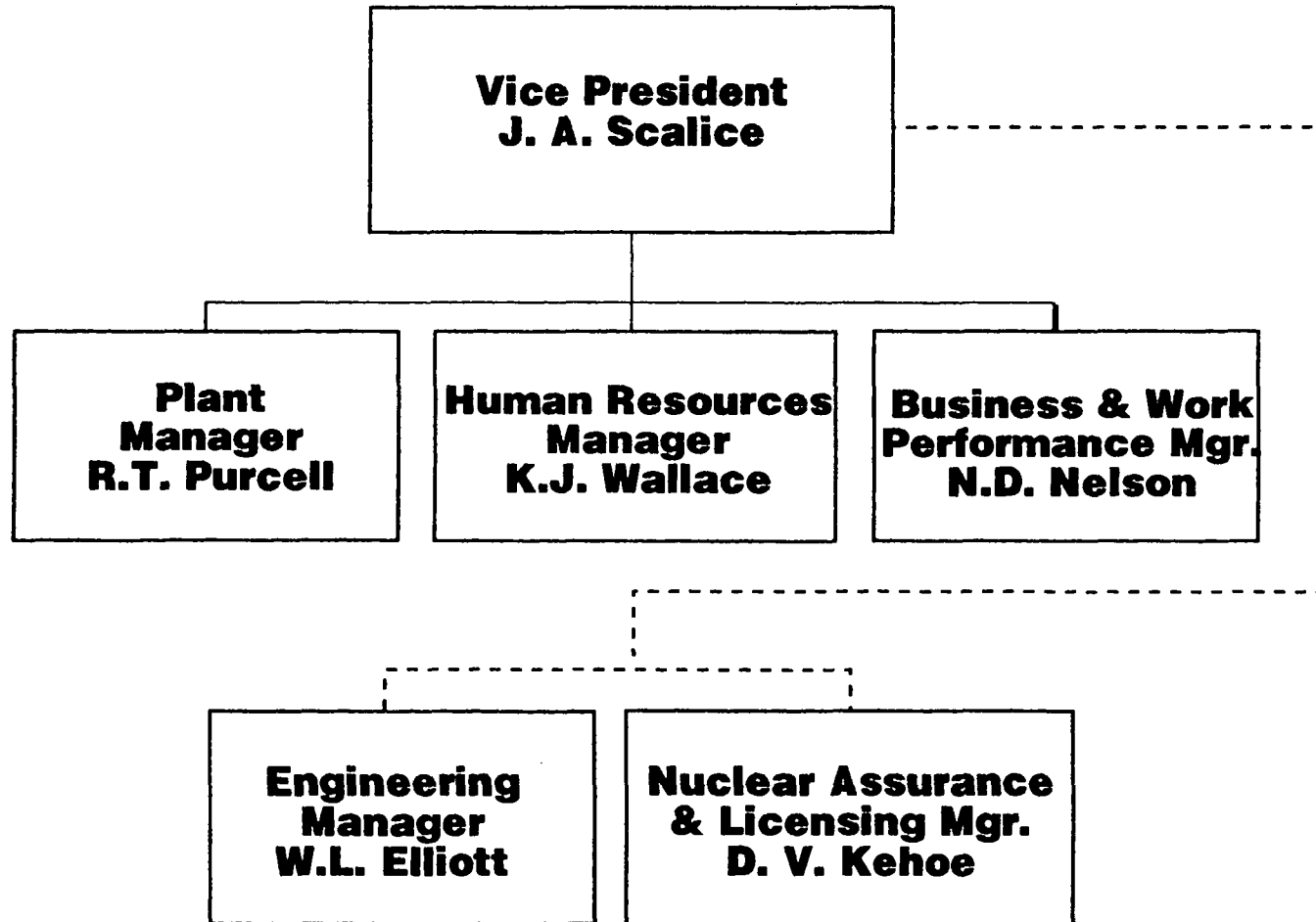
THE SITE IS BEING RUN USING OPERATIONAL PROCESSES AND PROGRAMS

- **PLAN-OF-THE-DAY MEETING**
- **OPERATIONS CONTROLS WORK ACTIVITIES**
- **PRIORITIZATION/SCHEDULING**
- **OBJECTIVES:**
 - **DEMONSTRATE THAT OPERATIONS IS IN CHARGE**
 - **ELIMINATE NEED FOR MOVE INTO OPERATION**
 - **GAIN EXPERIENCE AS A TEAM**

CONCLUSION

- **WATTS BAR NUCLEAR IS A QUALITY PLANT THAT CAN AND WILL BE SAFELY AND RELIABLY OPERATED**
- **WATTS BAR NUCLEAR TRANSITION FROM CONSTRUCTION TO OPERATIONS IS WELL-PLANNED AND ON TRACK**

Watts Bar Operating Organization



CRITICAL FACTORS ARE READY FOR OPERATIONS

- **PEOPLE**
- **PROCEDURES**
- **PROGRAMS**

KEY WATTS BAR MANAGERS HAVE SEQUOYAH/BROWNS FERRY EXPERIENCE

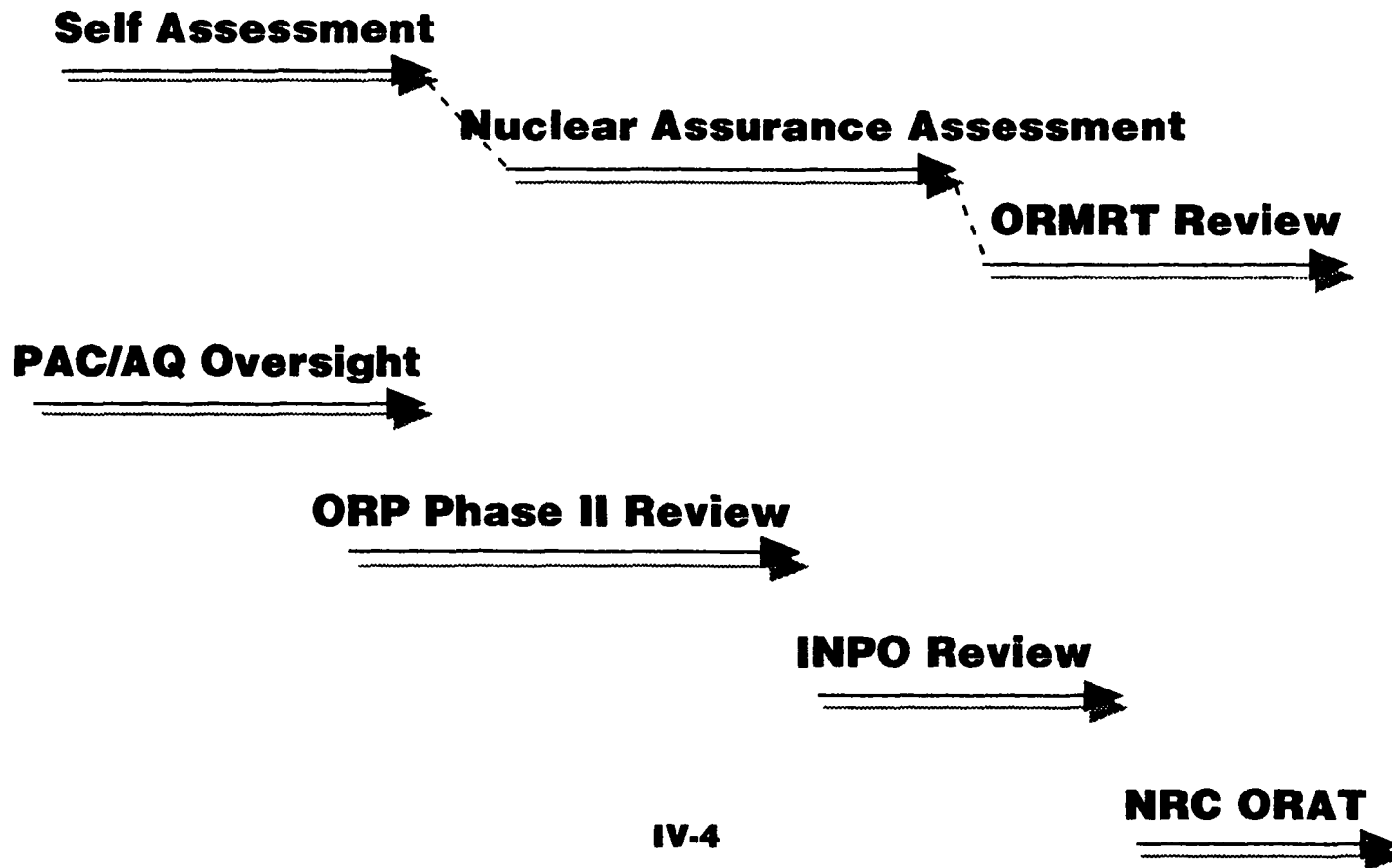
8 SENIOR PERMANENT MANAGERS

2 SENIOR TRANSITION MANAGERS

11 OTHER KEY PERSONNEL

TOTAL: 21

Watts Bar Operational Readiness Program Program Assessment Plan



HOT FUNCTIONAL TESTS DEMONSTRATE READINESS

- **HOT FUNCTIONAL TEST #1**
 - **COMPLETED JUNE 1994**
 - **LESSONS LEARNED APPLIED**
- **HOT FUNCTIONAL TEST #2**
 - **COMPLETED AUGUST 1995**
 - **RESOLVED EQUIPMENT ISSUES**
 - **OPERATIONAL DRESS REHEARSAL**
 - **CONFIRMS OPERATIONAL READINESS**

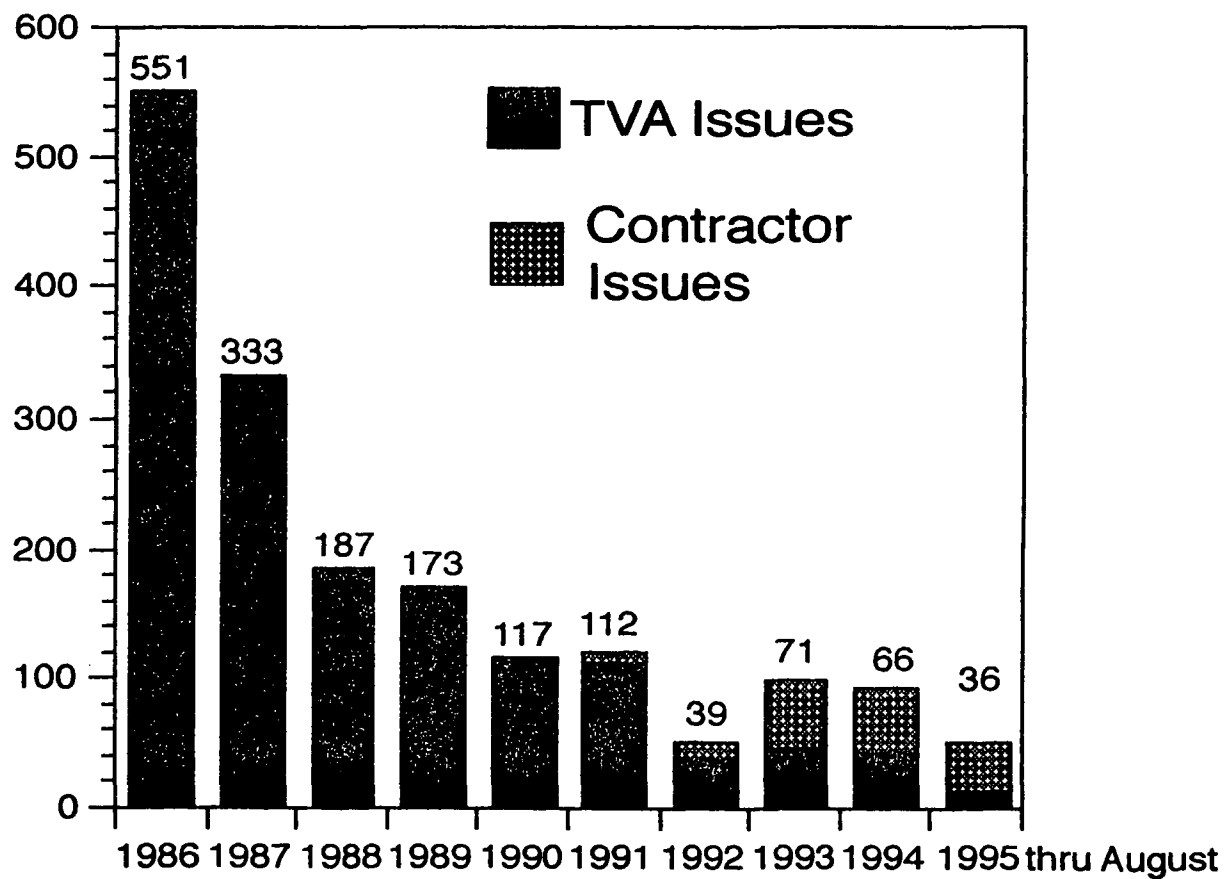
FUEL LOAD CERTIFICATION PLAN IS FINAL ASSURANCE

- **FOUR MAJOR COMPONENTS**
 - **LICENSING BASIS**
 - **PHYSICAL PLANT COMPLETION**
 - **OPERATIONAL READINESS PROGRAM**
 - **INDEPENDENT QUALITY VERIFICATIONS**

QUALITY PROGRAM IS STRONG

- **ESSENTIALLY THE SAME AS BROWNS FERRY'S RESTART PROGRAM**
 - **PROCEDURES IN PLACE**
 - **EXPERIENCED PERSONNEL**
- **STRONG EMPHASIS ON QUALITY OF INITIAL WORK**
- **STRONG NUCLEAR ASSURANCE ORGANIZATION**
 - **WORKING RELATIONSHIP WITH LINE ORGANIZATION**

**WATTS BAR
EMPLOYEE CONCERNS PROGRAMS
TVA AND CONTRACTOR ISSUES TREND**



EMERGENCY PREPAREDNESS PROGRAM IS PROVEN

- **DEMONSTRATED SUCCESSFUL DURING ANNUAL EXERCISES**
- **EMERGENCY PLAN AND IMPLEMENTING PROCEDURES APPROVED BY NRC**
- **WATTS BAR FIRST PWR TO SUBMIT EMERGENCY ACTION LEVELS UNDER NUMARC GUIDANCE**
- **1994 SALP NOTED WATTS BAR EMERGENCY PREPAREDNESS "EXCELLENT"**

PLANT ORGANIZATION IS STRONG

- **MANAGERS HAVE BROAD EXPERIENCE AND ARE WORKING WELL AS A TEAM**
 - **AUGMENTED WITH SENIOR ADVISOR THROUGH POWER ASCENSION**
- **CRAFT HAS STRONG EXPERIENCE AND IS FULLY TRAINED/QUALIFIED**
- **TRAINING PROGRAMS IN PLACE AND INPO ACCREDITED**
- **HEALTHY EMPLOYEE/MANAGEMENT RELATIONSHIP**

TRAINING PROGRAM IS INPO ACCREDITED

NONLICENSED OPERATOR

REACTOR OPERATOR

SENIOR REACTOR OPERATOR

SHIFT SUPERVISOR

SHIFT TECHNICAL ADVISOR

**INSTRUMENT & CONTROL
TECHNICIAN**

**ENGINEERING SUPPORT
PERSONNEL**

**ELECTRICAL MAINTENANCE
PERSONNEL**

**MECHANICAL MAINTENANCE
PERSONNEL**

**MECHANICAL MAINTENANCE
SUPERVISOR**

CHEMISTRY TECHNICIAN

**RADIOLOGICAL PROTECTION
TECHNICIAN**

OPERATIONS EXPERIENCE IS STRONG

TOTAL YEARS HOT PLANT EXPERIENCE 159

TOTAL YEARS HOT LICENSE EXPERIENCE 78

**WE'VE RECENTLY RECRUITED EXPERIENCED OPERATORS
FROM SIMILAR NUCLEAR PLANTS**

WATTS BAR SHIFT STAFFING EXCEEDS REQUIREMENTS

	Tech Spec Shift <u>Required</u>	Unit 1 Planned <u>Shift</u>
- Shift Operations Supervisor (SRO)	1	1
- Shift Support Supervisor (Current or Previous SRO)	--	1
- Assistant SOS (SRO)	1	2
- Shift Technical Advisor (SRO)	1	1
- Reactor Operator (RO)	2	3
- Auxiliary Operator (Non-Lic)	2	10**
- Rad Protection Technician	1	3
- Chemistry Technician	1	2
- On-Shift Advisor* (Previously licensed SRO with significant related operations experience)	0	1

* Temporary position through power ascension testing

**Includes Appendix R requirements

PLANT EQUIPMENT IS WELL MAINTAINED

- **BACKLOGS**
 - **ESTABLISHED MANAGEMENT OBJECTIVES/GOALS FOR MAINTAINING LOW BACKLOGS**
 - **CURRENT BACKLOGS ARE LOW**
- **HOUSEKEEPING**
 - **REINFORCED BY MANAGEMENT TOURS, OPERATOR TOURS**
- **SPARE PARTS INVENTORY**
 - **CRITICAL SPARE PROGRAM**
 - **SUFFICIENT INVENTORY TO MAINTAIN THE PLANT**

BACKLOGS ARE LOW

BACKLOG	GOAL	ANTICIPATED BACKLOG/ PERFORMANCE	CURRENT BACKLOG/ PERFORMANCE
CORRECTIVE MAINTENANCE WORK ORDERS	<200	<200	170
TOTAL WORK ORDERS	<750	<750	905
PM PERFORMANCE (% COMPLETE)	>98%	>98%	100%
DRAWING UPDATES CATEGORY 1	0>48 HRS	0>48 HRS	228*
TEMPORARY ALTERATIONS	<10	4	22*

***WITH SYSTEM COMPLETION**

HFT 2 PERFORMANCE DEMONSTRATED READINESS

- **CONDUCT OF OPERATIONS WELL CONTROLLED AND CONSERVATIVE**
- **DEMONSTRATED PROPER PROCEDURE COMPLIANCE AND USE OF TECHNICAL SPECIFICATIONS**
- **SYSTEMS ENGINEERS INVOLVED IN PLANT EVOLUTIONS**
- **CHEMISTRY CONTROLLED WELL WITHIN SPECIFICATIONS DURING HEATUPS AND COOLDOWNS**
- **TIMELY MAINTENANCE SUPPORT OF OPERATIONS AND PLANT PRIORITIES**
- **SUCCESSFULLY TRANSITIONING TO RADIOLOGICAL CONTROL PROGRAMS**

POWER ASCENSION TEST PROGRAM IS READY

- **ASSESSED BY ORP AND OUTSIDE NUCLEAR UTILITIES**
- **PROGRAM IS FULLY DEVELOPED**
- **PROCEDURES ARE READY**
- **DETAILED SCHEDULE INTEGRATES TEST ACTIVITIES**
- **TEST DIRECTORS ARE QUALIFIED**
- **WE WILL CONTINUE PERFORMANCE ASSESSMENT
SIMILAR TO ORP**

CONCLUSION

- **EXPERIENCED, WELL TRAINED, AND DEDICATED PLANT STAFF AND EMPLOYEES**
- **REQUIRED PROGRAMS/PROCEDURES IN PLACE**
- **HFT DEMONSTRATED WE CAN RUN WATTS BAR SAFELY AND RELIABLY**
- **PLANT PERSONNEL, PROGRAMS, AND PROCEDURES ARE READY TO SUPPORT FUEL LOAD, STARTUP TESTING, AND COMMERCIAL OPERATION**

CONCLUSION

- **PERSONALLY CONFIDENT PLANT WILL OPERATE SAFELY**
- **WHEN THE COMPLETION LIST ITEMS ARE ADDRESSED WATTS BAR UNIT 1 WILL BE READY TO:**
 - **LOAD FUEL**
 - **CONDUCT LOW POWER TESTING**
 - **ULTIMATELY LEADING TO FULL POWER OPERATIONS**
- **UNDERSTAND AND ACCEPT RESPONSIBILITY**

WATTS BAR UNIT 1
SEPTEMBER 11, 1995

JAMES M. TAYLOR
WILLIAM T. RUSSELL
STEWART D. EBNETER
JOHNS P. JAUDON
FREDERICK J. HEBDON
THOMAS FOLEY

HOT FUNCTIONAL TESTING - PHASE 2

- **TVA SUCCESSFULLY MET ALL MAJOR TEST OBJECTIVES**
 - **THE AUXILIARY FEEDWATER SYSTEM PERFORMED WELL**
 - **THE RESIDUAL HEAT REMOVAL PUMPS WERE STARTED SEVERAL TIMES WITHOUT INCIDENT**
- **SEVEN CHECK VALVES EXHIBITED BACK LEAKAGE AND WILL BE REWORKED AND RETESTED.**

CONSTRUCTION STATUS

- **CORRECTIVE ACTION PLANS AND SPECIAL PROGRAMS**
 - **22 OF 28 SUCCESSFULLY IMPLEMENTED**
 - **THE REMAINING 6 ARE NEARING COMPLETION**
- **CONSTRUCTION INSPECTION RECONSTITUTION**
 - **ALL INSPECTION WORK COMPLETED**
 - **DRAFT NUREG IN STAFF REVIEW.**

OPERATIONAL READINESS ASSESSMENT TEAM INSPECTION

- **OBSERVED SIMULATED OPERATIONAL ENVIRONMENT
DURING HFT 2**
- **ASSESSED READINESS OF MANAGEMENT, OPERATIONS,
MAINTENANCE, SURVEILANCE, SAFETY ASSESSMENT AND
QUALITY VERIFICATION, AND RADIOLOGICAL CONTROLS**
- **OVERALL PERFORMANCE WAS TYPICAL OF OPERATING
REACTORS**
- **OBSERVED PERFORMANCE DEMONSTRATED SAFE OPERATION**

LICENSING REVIEW

- **SSER 16 WILL BE ISSUED SOON, COMPLETING THE FSAR REVIEW THROUGH AMENDMENT 89**
- **FSAR AMENDMENT 90 WAS SUBMITTED ON AUGUST 31, 1995**
- **SSER 17 WILL BE ISSUED IN EARLY-OCTOBER 1995, INCLUDING THE QUALITY ASSESSMENT REPORT**
- **FSAR AMENDMENT 91 TO BE SUBMITTED**
- **SSER 18 WILL BE ISSUED CONCURRENTLY WITH THE LOW-POWER OPERATING LICENSE**

REMAINING LICENSING ISSUES

- **FIRE PROTECTION PROGRAM**
- **TECHNICAL SPECIFICATIONS**
- **PRESSURE-TEMPERATURE LIMIT REPORT**