

**SECTION 6.0**  
**APPENDIX**

PRESENTATION ON THE  
TENNESSEE VALLEY AUTHORITY'S  
NUCLEAR POWER PROGRAM

TO: U.S. NUCLEAR REGULATORY COMMISSION  
BETHESDA, MARYLAND  
SEPTEMBER 6, 1985

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## INTRODUCTION

We appreciate this time with you today--I have not been to Washington to meet with you since early July, but I have had my hands full. With me today are: Bill Cottle, Herb Abercrombie, Jim Coffey, Lew Wallace, and Kermit Whitt: also Scott Schrum, of QTC, and Cy Crane, of Westec.

We had requested a meeting with you for late September, but you suggested today, and we are glad to be with you. After all, I have made recent decisions that have, I am sure, impacted the nuclear industry, and because of our decisions I am sure you have many questions. I hope from my presentation most of your questions will be answered. I want to make it clear that if there is any issue (technical or nontechnical) that you feel you need more detailed information on, I will be glad to have my managers and technical staff address these in separate meetings or whatever forum you consider appropriate.

What I want to do today is:

Give a brief history of "Where the program has been."

Identify for you "Where the Program is today." (Covering the generic issues of our program, a summary of major issues at Browns Ferry, Sequoyah, and Watts Bar Nuclear Plants, and Nuclear Safety Review Staff reports).

And, finally, "Where the Program is going."

I will be covering a lot of material today. For your convenience, I will stop periodically for questions.

I want to be very frank with you today--covering our plans for straightening out the problems, because I want you to know:

"That we have only one goal in mind and that is to turn our nuclear program into one that TVA, including in that definition the people who work for TVA, the people of the Tennessee Valley, NRC, and the industry can be proud of."

Let me assure you that I believe our company has the resources, confidence/ ambition, and dedication to do the above.

So with those introductory comments let me begin by discussing:

#### WHERE WE HAVE BEEN

For a period of time in the 60s and 70s we set out on an enthusiastic course to become a model, a yardstick, for the nuclear industry. We achieved this goal for a short period of time. But as all of you know, we are no longer there; however, we have the desire to return to the position of being an industry leader.

Why are we no longer the yardstick? I have determined that it was broken by two major weaknesses:

## Management (Shortcomings)

### Organizational Structure of the Nuclear Program

Let me talk about our management shortcomings (as I see them):

Management's Approach to Problems

Management's Lack of Interest in People

Management's Short-Term Emphasis

#### Management's approach to Problems

There is a management style that prevails in many large bureaucracies (not just Federal). This style has the idea that "large numbers of people are the solution to problems." We have used this style and it has led to a lack of responsibility/accountability and lack of productivity. Achievement of excellence becomes no longer a primary goal.

#### Management's Lack of Interest in People

We were not a people-oriented organization. We have been too busy building plants and attacking the "crisis of the day" (putting out brush fires) to listen to our people. My philosophy on people has been and remains, "If you can't manage people, you can't manage anything."

## Management's Short-Term Emphasis

Our management process did not place sufficient emphasis on long-term goals and detailed program objectives. Our managers were too occupied with daily operations and did not adequately prepare for the future (big picture)--(i.e., quick fixes to problems, incomplete documentation).

Now let me talk about the organizational structure of the program.

During the period of the 60s and 70s, we grew into two large and separate organizations: one dedicated to a massive building program and the other to the operation of those facilities once completed. What we did not do was look into the future and establish a strong corporate entity to set policy and direct the efforts of these two organizations toward a common goal.

What have I done about these problems?

I have established a philosophy (I know you will think here TVA goes-- setting another philosophy), but let me tell you:

I believe in my philosophy.

I plan to be here long enough to get it implemented and see the results and to be accountable for the results.

I know how to get it implemented.

My philosophy is very simple. It stresses people, productivity, on an equal basis with quality/excellence.

TVA's nuclear program must be dedicated to the safe and reliable production of nuclear power.

Excellence must be the "hallmark" of this program.

We will manage our most valued resource our people in a manner to encourage "excellence in performance." (I am going to make sure that the people in the TVA nuclear program know they are our most valued resource.)

This philosophy will be communicated until it is well understood by all, from the top to the bottom.

This will be done through the establishment of long and shortterm goals. My longterm goals are:

To have and be perceived as having a nuclear program that is second to none in the U.S.

To have a working environment built on trust and confidence at all levels of the organization (from plant laborer to Chairman of the Board).

My shortterm goals are:

Consolidate our nuclear resources under a tightly focused umbrella.

Acquire and/or train management talent to effectively manage our nuclear activities.

Develop a team of experienced and qualified key personnel to provide leadership and direction to our nuclear program.

Establish priorities so that we limit our activities to those that we have the capability to execute in an excellent manner.

Specific objectives are being developed to support these goals.

We have made organizational changes.

A corporate entity has been established with a single chain of command responsible for all nuclear activities. This has eliminated the dual organization structure that existed in the past and separated our engineering/construction activities from our operating activities. We now speak with one voice on nuclear matters. I know where the hooks are set, and I know that when anything goes astray, the hook will be jerked. The principle responsibility of this new corporate entity will be to establish policy with emphasis on longterm program objectives. We will be making additional changes. I have asked my staff to keep the NRC informed as we continue to make changes to the organization.

We have made management changes.

I am sending a clear signal to all of our managers that I mean business. We will be operating with a "no excuses management."

Management will clearly define responsibility/accountability with established goals and objectives. When I say goals and objectives, I mean more than just hardware--I mean people!

Management changes are being made to strengthen our current site organizations. Bill Cottle was asked to come down from Watts Bar to assist me in getting this program underway. Bill's background in nuclear, with NRC and operations experience, has and will continue to be of great help to me personally.

Jim Durall came from my former office to assist me in general management of the nuclear program and in particular its business and financial affairs.

Chuck Mason, Superintendent of Wolf Creek and Director of Nuclear Operations for Kansas Gas and Electric, will be returning to become my manager in charge of nuclear operations.

We are continuing recruiting efforts to attract other key managers for our program. The fact that Chuck Mason has agreed to join us will be a positive factor in how others will consider joining TVA.

Three key managers at Browns Ferry have been replaced. We are taking advantage of our rescheduling at Bellefonte to utilize some of the key resources associated with that project for activities with a higher priority. We will be evaluating our managers' results in filling positions throughout our organization.

#### Browns Ferry Nuclear Plant Decision

In March 1985, because all three units were down, we decided not to restart. This was because we were not satisfied with the quality of our operations. That plant will remain down until we have fully reviewed and evaluated our operations to determine the root causes of our problems and take the necessary corrective actions to ensure compliance with regulations and excellence of operations in the future.

#### Sequoyah Nuclear Plant Shutdown

In August 1985, both units at Sequoyah Nuclear Plant were shut down from full power because we could not say with a high degree of confidence that the plant's equipment fully complies with environmental qualification requirements. We will ensure our environmental qualification program is in order before we restart any TVA nuclear unit.

### Top Management Meetings

In August 1985, I initiated separate monthly top management meetings to review the status of nuclear safety problems and related corrective actions. In this meeting top line managers meet face-to-face, with me, to discuss nuclear safety problems and related corrective actions. We will use this meeting as one tool to provide a continuing emphasis for "excellence" of operations.

### Employee Concern Program

During the summer of 1985, an employee concern program was put in place that encourages employees to bring their suggestions and concerns forward to TVA management without fear of reprisal. We will be closely monitoring this program to ensure its effectiveness.

Through these and other actions I have taken, I intend to communicate to TVA's management and employees that TVA's hallmark for nuclear activities is EXCELLENCE, and if we are going to stay in the nuclear business, we are going to have to do our business right the first time and in accordance with requirements.

Before I go further, I will pause to make sure you understand all the material I've covered.

Next I will discuss with you:

## WHERE THE COMPANY IS TODAY

I want to start this discussion by covering several generic issues (Employee Concerns, Appendix R, and Salary Structure) of our program, and since we have just finished discussing "people," I want to go right to:

### TVA EMPLOYEE CONCERNS PROGRAM

#### Problem

I am personally embarrassed to be here today discussing an "Employee Concerns Program," a program that would not be necessary if effective, people-oriented management had been the norm. Yes, TVA had written policy (and lots of it) stating that "Employees' opinions and views were valuable and would be heard without fear of recrimination." But the fact that I'm discussing it here today is clear indication that our implementation of that policy has not been effective.

#### What have I done?

First, since most of the identified concerns were Watts Bar-related, we hired a contractor to interview, through confidential arrangements, more than 4,000 TVA employees directly involved with the Watts Bar project to find out what unacceptable conditions or practices that they believe might exist relating to nuclear safety, industrial safety, or policy implementation.

We also made sure this contractor had provisions for accepting walk-in and call-in interviews from persons associated with other TVA nuclear facilities and offices.

The TVA Nuclear Safety Review Staff categorizes each documented concern as either:

Nuclear safety-related

Intimidation/harassment or employee misconduct

Or other

A "Milestone Committee" chaired by an NSRS member evaluates all nuclear safety-related concerns, further categorizes each into milestone categories, meaning that a resolution for that particular concern has to be reached prior to going beyond a particular milestone. Slide No. 1 shows a breakdown of those milestones. This milestone committee also makes a determination regarding applicability to other TVA nuclear facilities.

Detailed investigations of all concerns proceed from that point. Corrective actions required for resolution of each, as appropriate, are to be determined and carried out. Employee notification of findings and corrective action are part of the process.

To ensure open channels of communications for the expression of concerns by all other nuclear employees, we directed that formalized

# EMPLOYEE CONCERN PROGRAM

## NUCLEAR SAFETY CONCERN CATEGORIES

### WATTS BAR NUCLEAR PLANT

#### MILESTONE

#### DEFINITION

1	FUEL LOADING
2	INITIAL CRITICALITY
3	POWER OPERATION GREATER THAN 5%
4	POWER ASCENSION TESTS
5	PLANT OPERATION AT 100%
6	*

### OTHER PLANTS

Sequoyah Nuclear Plant

Browns Ferry Nuclear Plant

Bellefonte Nuclear Plant

\* No impact on safe operations up to 100% power, or associated with other assigned commitment dates.

internal programs be established at all TVA nuclear facilities, guaranteeing protection of employees who might want to express concerns related to nuclear and industrial safety or to policy implementation. This program consists of:

Management and employee training in the TVA policy of free expression of differing views and identification of safety issues.

Explaining the means of expressing views or concerns.

Publicize the programs through notices, newspaper articles, brochures, signs, etc.

Both of these programs (the contractor and our internal program) and the corrective actions taken will without doubt result in improved communications between supervisors and employees, as well as a safer workplace. I am committed to that. But the commitment does not stop there. I do not intend to limp along on a crutch interview process, nor do I expect a cookbook set of procedures within each organization to replace a process of a manager sitting down with an employee, face-to-face, having an open discussion and resolving a particular issue. I have and will continue to communicate to all of my managers that the re-establishment of employee confidence in management is a top priority. TVA managers from here on are going to be measured and held accountable for establishing and maintaining effective supervisor/employee relationships.

Let me summarize the present status of each of the two programs I've just discussed.

First, the Watts Bar contractor program (Slide No. 2).

Progress is slow. But we are committed to do the job right, and the results of the investigations and corrective actions are going to be meaningful.

Second, the internal program.

The formalized program is resulting in positive indication of employees "opening up." To date, some 140 concerns have been identified through the internal TVA program.

# EMPLOYEE CONCERN PROGRAM

## STATUS OF EMPLOYEE CONCERNS (9/3/85)

EMPLOYEES TO BE INTERVIEWED	4864
EMPLOYEES INTERVIEWED	4611
TOTAL CONCERNS IDENTIFIED	3105
CONCERNS NOT YET TRANSFERRED TO NSRS	688

	<u>NO. OF CONCERNS</u>	<u>INVESTIGATIONS CLOSED</u>	<u>EMPLOYEES NOTIFIED</u>
Nuclear Safety Related (Milestones 1 & 2)	594 (141)	30 (16)	16 (9)
Intimidation/Harrassment	60	0	0
All other	1753	98	56

## ENVIRONMENTAL QUALIFICATION

### What the problem is

Earlier this year we felt we were in relatively good shape regarding compliance with EQ requirements at Sequoyah Nuclear Plant (SQN). However, EQ program discrepancies led TVA management to the decision to perform an additional independent review of our EQ program. We hired Westec Services, Inc., to provide technical assistance during the review. The purpose of this review, conducted both at our Office of Engineering and plant sites, was to determine how well we had analyzed and documented that key components and safety systems would function in the harsh environment following an accident.

A significant number of deficiencies, principally documentation, were identified during this review. The root cause for these problems appears to be the multiple organizations we had involved in the original analysis and documentation effort. From a management standpoint, this resulted in an undisciplined approach, and obviously did not produce an acceptable level of verification of equipment qualification.

### What I have done

Problems identified in this review involved our EQ program on the SQN units which were operating at 100% power and a shutdown of both units was ordered until we are satisfied that we are fully in compliance with

the regulations. Currently, we are reviewing the overall EQ program for SQN, BFN, and WBN facilities. In addition to the contractor, Westec, we have assembled a team of engineers and managers to tackle this problem. The status of this project is as follows.

The organization is in place today that has been tasked to resolve the EQ issue. A single manager (the SQN site director) has been assigned to direct the effort. The EQ organization consists of a data package group, site support group for each facility, and a service staff. The data package group is looking at all the EQ documentation packages and taking the necessary steps to ensure their adequacy; each site support group is providing field verification of equipment; and the service support group is providing the necessary support (administrative, personnel, etc.). Westec is being used as a consultant in this effort to assist with the technical overview as well as an independent review of the packages after we finish with them.

There are approximately 90 documentation packages for SQN that encompass over 1800 components that must be looked at. Some of the packages are for equipment which is common to BFN and WBN, and with verification of the environmental parameters for these facilities, should be acceptable for use. Field verification of equipment is now underway at SQN and will soon begin at BFN and WBN.

This effort is not limited to just the EQ documentation package verification, but encompasses all of the elements of the EQ program:

Definition of environmental areas

Verification of environmental parameters

Verification of EQ equipment list

Inclusion of EQ features into the facility equipment procurement, storage and maintenance programs

Administrative controls to ensure EQ program is maintained

Based on our progress to date, we believe that we can be finished with this process on SQN with fully auditable documentation packages by late October. We anticipate that this schedule can be improved and we will keep the NRC staff informed of our progress in this area.

The next generic issue that I want to discuss is:

#### APPENDIX R

##### Appendix R

Another area of generic concern is Appendix R. This is an issue that has been a long and difficult road for us to travel down.

While we originally led the industry in the identification of the need for a detailed plant-specific fire protection analysis, we deferred activity and did not stay abreast of industry and regulatory initiatives. By the early 80s the industry had passed us by.

We failed in our early attempts at Appendix R for reasons almost identical to those that marred our environmental qualification effort: (1) subdivided work assignments, (2) lack of the big picture, and (3) no single responsible manager.

Here is what we have done to address that problem.

An Appendix R team was formed at each site. Such a team approach cut across organizational lines and gave us an effective method of dealing with Appendix R. This approach accomplished two key things in relationship to what I have previously mentioned as being wrong with our power program.

It put a single person in charge of the Appendix R program at each facility.

It created, in effect, a single organization to deal with all aspects of the problem on a specific plant basis.

Appendix R has not been an easy effort. Both Watts Bar and Sequoyah have been inspected. In both cases, the NRC inspectors have made positive comments. They indicated that TVA, at last, was speaking with one voice. This is one of the best coordinated projects in TVA.

Next I want to give you a summary of where we are today on Appendix R.

Watts Bar

All work at Watts Bar unit 1 will be complete prior to licensing. (Work is 99 percent complete. One issue, Tcold indication for the

auxiliary control room, must be resolved prior to full power.)

### Sequoyah

We are proceeding with the implementation of Appendix R. Thirty-four milestones have been established and were submitted to you (NRC) this past December. Of the nine milestones that have "come due" to date, all the work has been completed. We are on schedule! Compensatory actions will remain in place until work is complete.

### Browns Ferry

The team at Browns Ferry is using what was learned at Sequoyah and Watts Bar to re-evaluate Browns Ferry's situation. We expect to make additional changes to our previous Appendix R plans for Browns Ferry.

We are holding discussions with your staff concerning our request for schedular relief, to give us the time necessary to complete the review work and proceed with a new implementation plan.

## TVA SALARY STRUCTURE

### Board Involvement

The TVA Board certainly has a recognized role in solving this issue.

### Interim Measures

There are some interim measures which can be implemented presently that will provide some resolution (i.e., management relocation bonus).

A removal of the salary ceiling will certainly aid in holding onto present managers and attracting those from the outside. It is not the total solution for turning the TVA nuclear program around.

#### BROWNS FERRY NUCLEAR PLANT - SUMMARY

I can remember the days when we were proud of our performance at Browns Ferry Nuclear Plant. In the late 70s and early 80s we had an operation that we took pride in. We had several long, continuous runs on our units during this time with corresponding short refueling outages. As a matter of fact, in 1980 the 3 units at Browns Ferry were all in the top 11 units in the nation for gross electrical generation. We also had six continuous unit runs over 100 days in duration during this time.

Then several major regulatory issues were finalized (i.e., torus program, EQ, Appendix R, TMI requirements), and we grossly underestimated the impact of these programs and the amount of work it would take to control and complete them. In short, we simply did not do a good job of managing TVA resources for Browns Ferry. Our poor management of resources has cascaded into a situation where we have multiple unit outages that last over one year, several major regulatory requirements have not been completed, and we have paid almost \$1 million in civil penalties.

What has been done

Unit Status

If you recall in March 1985 the status of the three units at Browns Ferry was:

Unit 2 - in refueling outage

Unit 3 - down for evaluation of reactor vessel water level incident

Unit 1 - resolution of containment leakage testing program deficiencies

Clearly the level of performance at Browns Ferry was not acceptable either to TVA or the NRC. The decision was made not to restart any unit until we were confident we could operate them safely and within regulatory requirements. We would not restart until we were "ready" and then focus only on one unit to ensure we could get it right before we would move to the next unit.

Hard Look at the Integrated Schedule

I have directed that we take a hard look at the integrated schedule at Browns Ferry. It was over five years ago we met with the NRC staff on our "integrated work schedule" and initiated the integrated schedule concept. We were on the "cutting edge" of the nuclear industry at that time. However, since that time, our job in carrying out the "nuts and bolts" of making the integrated schedule concept work has certainly been deficient.

Let me assure you:

"That schedule slippage will not be tolerated in the future. We will be submitting a revised integrated schedule to you hopefully by the end of this month. We will meet the commitments in this schedule."

### Design Control Concerns

Due to both TVA and NRC concerns relating to the design control process, more specifically in the area of seismic supports, we have undertaken two initiatives. We are establishing an independent TVA survey team to address the overall issue of design controls with particular emphasis in the seismic area. In addition, I have requested, and Zack Pate has agreed to, a special INPO evaluation in the area of design controls utilizing the new INPO corporate evaluation criteria. This review will focus on Browns Ferry and will include special emphasis on the seismic area.

### The Regulatory Performance Improvement Plan

In February 1984 we submitted our Browns Ferry regulatory Performance Improvement Program to NRC. The goal of the Regulatory Performance Improvement Plan was to turn Browns Ferry around. The Regulatory Performance Improvement Plan has helped us to identify people, program, and equipment weaknesses at Browns Ferry, but it has not resulted in the level of improvement which we expected and indeed we consider essential. We have completed all of the "short-term" action items. We have a few "long-term" items left (i.e., consolidation and development of integrated plant procedure upgrade effort, and assignment of management priority to as-constructed task force for resolution of open and incomplete ECNs, workplans, and as-constructed drawings). These remaining items will be completed in the very near future and, following NRC concurrence, the Regulatory Performance Improvement Plan will be closed. The focus on further improvements at Browns Ferry will continue through our operational readiness review, the industry overview which I am chairing, and our monthly top management meetings on nuclear issues.

### Employee Involvement Program

In April 1985 an Employee Involvement Program was initiated at Browns Ferry. The site director met with all employees on site. All employees then were broken down into working groups of about six employees. The working groups were encouraged to identify concerns or suggest ways the quality of plant activities could be improved, as well as recommend solutions to problems. Each concern or idea was documented on a tracking form and processed by management. As of September 1, 1985, a total of 368 concerns/suggestions had been identified. A proposed disposition has been established for 223 of these and 148 have been closed out with the originating employee.

Only 4 concerns related to Browns Ferry have been reported to QTC, so we believe employee confidence in Browns Ferry management is improving. We certainly feel this is a step forward in improving employee/management relations at Browns Ferry.

### Operational Readiness Review

In preparation for returning the units to service, our task was to come up with a process which would give us the knowledge and assurance that we were ready. With assistance from EG&G, a program termed "Operational Readiness Review" was developed to ensure that the weaknesses identified in the RPIP had been responsibly addressed (and are continuing to be focused on). This review consists of Browns Ferry personnel identifying activities necessary for readiness and evaluating readiness. This is a rigorous process that involves everyone from the site director down.

The objective of this review is:

"To assure ourselves that every issue which could affect unit startups and continued operation has been evaluated and that everything necessary for meeting regulatory compliance, safe startup, and continued operation is in place."

We consider this operational readiness program to be one of two key elements in our preparations to return a unit to service. We will be working closely with NRC during this Operational Readiness Review. When the site director comes to me and indicates that he is ready to proceed, we will move into the second element of my plan. In this second element, I will chair an industry overview which I intend to be very much similar to a Naval reactors precritical examination. This overview will involve both industry and INPO management. The bottom line is that we will not proceed to start up unit 2 at Browns Ferry until I and the TVA Board are personally convinced that we are prepared in all aspects to return a unit to service in a controlled and deliberate manner.

After the "Operational Readiness Review" and the Industry/Management Overviews are completed, I will provide you with a copy of a "Quality Package" on unit 2 (that has been coordinated with NRC) that documents the basis upon which the unit is ready to be put back into operation.

Next I want Jim Coffey, Site Director at Browns Ferry, to discuss additional details of the "Operational Readiness Review Program" at Browns Ferry.

Jim Coffey speaking: (This is the entire text of Mr. Coffey's prepared material. Due to time constraints, an abbreviated version was actually delivered.)

Slide No. 3

Operational Readiness--The objective of the presentation is to describe to you the method we used to assure ourselves that every issue that could affect unit startup and continued operation had been evaluated and that all the pieces necessary for meeting regulatory compliance and safe startup and continued operation are in place. Also we have completed this process of evaluation for unit 3, but everything was not complete when we recently decided to start unit 2 first.

I would like to give you a little background perspective as to why we embarked on the operational readiness process. If you will recall in March of this year our unit 2 reactor was in a refueling outage; the unit 3 reactor water level incident had just occurred; unit 1 had some valve problems related to Appendix J testing; and we had requests for environmental qualification justifications for continued operation for a large number of items on units 1 and 3 pending. Our Regulatory Performance Improvement Program (RPIP) was over 1 year old and had not turned us around.

SOMETHING WAS MISSING

TVA management decided not to restart any reactor until we were assured we could operate them safely and within regulatory requirements. We would not restart until we were "ready" and then only focus on one reactor to assure we could get it right before we would move to two reactors--and ultimately three.

# OPERATIONAL READINESS

Our task was to come up with a process which would give us the knowledge and assurance that employee attitudes were correct, procedures were followed, conservative actions were taken, to know we were ready--and nothing had fallen through the crack.

A broad base of discussion ensued, even some thoughts from Dr. Grace, among others.

We ultimately evaluated a process from the firm EG&G called "Operational Readiness." It started May 13, 1985, and we adopted this process and scoped out a plan for incorporating this methodology at BFN.

The plan consisted of Browns Ferry personnel identifying activities necessary for readiness, not EG&G. They only taught us the process--so what is "Operational Readiness?"

Slide No. 4

Simply said--Operational Readiness means the right people in the right place at the right time, working with the right hardware, according to the right procedures, and the right management controls.

Or in other words, an orderly method of tabulating all items (hardware, personnel, procedures, and paperwork) that must be accomplished (or at least considered) prior to performing a specific act. In this case, the act is starting up a nuclear unit. The tabulations for a work group are reviewed (and in-putted) at lowest work group levels, by peer groups, and by management.

# **What do we mean by Operational Readiness?**

- **Right People**
- **Right Place**
- **Right Time**
- **Working with the right hardware  
according to right procedures  
and management controls**

Now let me go through several overheads and describe the "Operational Readiness" review process.

The basic model is an analytical tree, where we have inputs and outputs and condition gates.

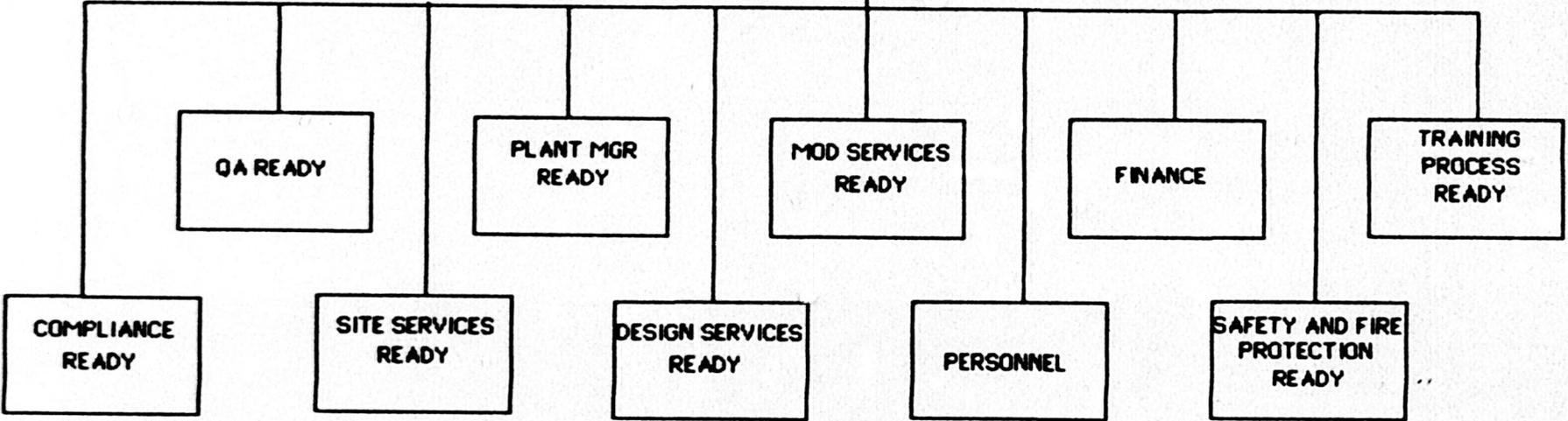
As I said earlier, we must have the right people in the right place at the right time, working with the right hardware, according to the right procedures, and the right management controls. So the basic model or "tree" must have inputs of personnel, hardware, and procedures. Each of these inputs must have someone assigned to achieve the input activity and a timeframe to accomplish it by. The gates are either "and" gates or "or" gates. Such that the output is achieved for "and" gates when each input is complete. The output is the desired objective. For our case, Operational Readiness, for say unit 3 or unit 2.

Now in building a "tree" for Browns Ferry, we utilized the basic organizational structure with functional responsibility covering all areas needed to achieve our objective of unit operational readiness. As you can see from Slide No. 5, there were 12 basic areas in our first tier of the trees. There were ultimately 58 organizational tiers and each tier dealt with people, procedures, and hardware in their area. Some 3,600 activities at last count.

**SITE DIRECTOR  
OPERATIONALLY  
READY**

- UNIT 3 AND RELATED COMMON ITEMS
- KNOWN PROBLEMS- PEOPLE/  
PROCEDURES /HARDWARE  
EVALUATE SAFETY SIGNIFICANCE  
& OPERATIONAL READINESS
- EVALUATE ALL ITEMS FROM THE  
PERSPECTIVE OF TODAY'S FOCUS ON  
CORRECT ATTITUDE/PROCEDURAL  
DISCIPLINE/MANAGEMENT CONTROLS

**STAFF ASSISTANT  
TO SITE DIRECTOR  
AND RPIP**



First you see diamonds which mean a determination was made and that area needed no additional evaluation and did not affect readiness. Second, in the oval you see conditions established at the top management level communicated to all site management and supervision as to its expectations for startup.

#### Go Over Conditions

The way this information was communicated and trees structured was through working sessions with the people. It began with top management building the top levels of the trees with input from peer organizations who had organizational support from subordinate and supervisory positions. This process of team participation was one of the ways we enhanced our thoroughness of reviews.

To give you the degree of management involvement, in addition to the 12 who developed the top trees, 42 managers were involved in the next level and 120 supervisors in the next level covering every area onsite.

Each level was given training and participated in the tree building process. Ultimately, most site employees were involved with the issues in the trees in one way or another.

#### Slides No. 6 and 7

As we were building the trees we stated one condition was to ensure we covered all known issues. These overheads give you a listing of sources we asked each organizational in their trees for evaluation or area of special interest one or more organizations was to include.

- UNIT 3 AND RERLATED COMMON ITEMS
- EVALUATE ALL ITEMS FROM THE PROSPECTIVE OF TODAYS FOCUS ON CORRECT ATTITUDE/PROCEDURAL DISCIPLINE/MANAGEMENT CONTROLS

TRANSMIT STATEMENT OF OPERATIONAL READINESS FROM COMPLIANCE

OUTSTANDING COMMITMENTS MET

- REVIEW COMMITMENT LIST
- REVIEW OPEN NRC ITEMS (TRACK)
- REVIEW LICENSING COMMITMENTS
- REVIEW SAFETY ISSUES LIST
- RESOLVE DOA SPECIAL ISSUES
- RESOLVE NSRB ISSUES
- NSRS CONCERNS

OBTAIN REQUIRED TECH SPECS FROM NRC-VERIFY IMPLEMENTATION

PROCEDURE REVIEW

- LER LERD PROCEDURES
- COMPLIANCE SECTION INSTRUCTION
- COMPLIANCE COGNIZANT PROCEDURES
- NQAM SOURCE PROCEDURES
- ASSESS CONSOLIDATION OF REPORTING PROCEDURES

IMPLEMENT TECH SPEC INTERPETATION COMMITTEE

- DOCUMENT CONTROL INTERFACE ESTABLISHED
- INCORPORATE EXISTING INTERPRETATIONS
- CONDUCT MEETINGS
- DESCRIBE LONG TERM TECH SPEC PLANS

PERSONNEL

- STAFFING ADEQUATE AND ASSIGNMENT DOCUMENTED
- ASSESS PERSONNEL ATTITUDES
- ASSESS TRAINING DEFICIENCIES OF SUPPORT
- ESTABLISH EMPLOYEE COMMUNICATIONS MEETINGS
- PROCEDURAL DISCIPLINE ADEQUATE AND CHANGE METHOD UNDERSTOOD
- ENSURE UNIFORM APPLICATION OF PROCEDURES
- RESOLVE EMPLOYEE INVOLVEMENT ISSUES

**SPECIAL SIGNIFICANT  
ISSUES REVIEWED IN BUILDING TREES**

**COMMITMENT TRACKING ITEMS  
(INCLUDES ENFORCEMENT CONFERENCE ISSUES)**

- RPIP ITEMS  
(CONTRACTOR REPORTS)
- NSRB CONCERNS
- NSRS CONCERNS
- DQA AUDIT FINDINGS
- DEVIATION REPORTS
- CORRECTIVE ACTION REPORTS
- TEMPORARY ALTERATIONS
- INPO FINDINGS
- NCRs
- SPECIAL INPO ASSIST VISIT ITEMS  
(PLANNING AND SCHEDULING)
- BACKLOG WORK TEAM ISSUES  
(SYSTEM WALKDOWNS)
- HPCI
- CABLE TRAY

The thoroughness of the trees in reviewing and dispositioning all issues was of paramount importance. We also entered the schedule, responsibility, assignment, and status of the readiness activities into our plant's planning and scheduling system for tracking. Activities regarding significant resource were scheduled on the startup schedule.

These review sessions included a team made up of the site director (plant manager or site services manager except for their area of responsibility), Division of Quality Assurance top management representative, Sequoyah Nuclear Plant or central office manager for the area being reviewed. We also had our consultants' management analysis corporation and EG&G in selected reviews. This was a rather formal process whereby they made presentations and were questioned on the thoroughness of their trees and the completeness of their reviews and judgements of risk. Many were sent back to follow up further on certain issues and follow-up meetings held. The final follow-up meeting was held on August 19, 1985, on unit 3 issues. These reviews were documented and available for inspection.

What is the status of the unit 3 review? We had completed the top level review of every tree. Everything was not considered ready. The following gives you a summary of some of the more important issues dealt with in assessing unit 3's readiness.

HPCI

Hangers

Environmental Qualifications

Configuration Documents

Instructions/Procedures

Materials

Attitudes/Conservative Action and Doing Things Right

People Experience

Since we have diverted to unit 2, the unit 3 readiness trees will be utilized in the development of unit 2 readiness trees (target 9/10/85).

#### SEQUOYAH NUCLEAR PLANT - SUMMARY

As Chairman Dean pointed out in his July 18 letter to Mr. Dircks, "Exemplary Performance at Sequoyah Nuclear Plant" is the number one priority of TVA's nuclear program.

Sequoyah Nuclear Plant (SQN) has been the flagship of TVA's nuclear program with long, continuous runs on both units. However, because of the lack of management of the environmental qualification program, we

felt it necessary to shut both units down until we are convinced we are in compliance with environmental qualification regulatory requirements.

As we discussed earlier, our problems with environmental qualification have been identified. We have a team in place to take aggressive corrective action and management responsibilities are clearly defined and understood. I have the upmost confidence in their ability to resolve this issue.

#### What is being done at Sequoyah?

Prior to restart of the first unit, we will focus on those areas identified as weaknesses, i.e., emergency preparedness, quality assurance, regulatory improvement, management involvement, and operating experience. A readiness review of these areas will be conducted prior to restart.

I would like to ask Herb Abercrombie, Site Director of Sequoyah, to discuss initiatives already underway.

#### H. L. Abercrombie speaking

##### Quality Assurance

The Sequoyah Nuclear Plant electrical maintenance supervisor accepted the position of plant quality assurance supervisor. Quarterly meetings are conducted between the site director and the Director of Quality Assurance to review trends and address specific problems.

Procedures are in place to escalate to the site director and Director of Quality Assurance major issues or untimely corrective action. Additionally, the Director of Quality Assurance must escalate items to Mr. Parris that have exceeded corrective action times agreed to by the site director.

#### Emergency Preparedness

A Radiological Emergency Plan Coordinator was assigned to the site organization during April 1984. Duties include improving training of site personnel, scheduling and coordination of drills and exercises, and ensuring commitments are met.

The health physics support organization has been relocated from Muscle Shoals to Chattanooga. This group includes the dose assessment personnel assigned to the emergency organization. This relocation has improved immediate response capabilities and improved communications. Recent drills and exercises have shown measurable improvements in performance of both site and central emergency organization performance.

#### Regulatory Improvement

The site director has issued directives regarding improvement of performance. Included are requirements for supervisors to spend additional time in the workplace. Supervisors are also required to trend performance indicators. Recently I issued a policy requiring myself and the plant manager to interview personnel responsible for violations. The employee's supervisor is included in this interview.

## H. G. Parris Speaking

Sequoyah's performance has been in my estimation above average, but that is not acceptable. My goal is excellence of operations. We will continue to use information gained from INPO, NRC SALP evaluation, and other nuclear industry input to boost our program toward excellence.

### WATTS BAR NUCLEAR PLANT - SUMMARY

#### Employee Concerns

I have already stressed to you how I feel about employee concerns and what I am doing about that program. On Watts Bar specifically, our critical path for licensing will be defined by how long it takes to resolve employee concerns.

#### Technical Issues

We currently are attempting to resolve approximately 10 relatively minor technical items with the NRC staff. None of the items should have significant effect on operation of the plant. NRC has issued to us a draft of the Watts Bar operating license which contains 19 conditions. We expect to have action on only nine of those conditions remaining after the license is issued, which will result in the cleanest license we have received on any of our plants. We feel good about our efforts in this area.

### Site Director

It is our present intention that once my staff is in place in Chattanooga and we have completed our evaluation of the various organizational units that Bill Cottle will return to Watts Bar as the site director.

### Quality Package

We will also be providing you with a "Quality Package" before Watts Bar unit 1 is licensed. The purpose of this package will be to describe the broad range of project design and construction quality activities which will enable TVA to affirm the quality of the design and construction of the safety-related and ASME code-related aspects of Watts Bar Nuclear Plant unit 1 and its associated facilities.

The following items were on the meeting agenda, but time did not permit Mr. Parris to discuss them.

Hartford Steam Boiler

NSRS Reports

NRC Order EA 85-49

### CONCLUSION

### Schedules

I did not come here today with a precise schedule for when we will have units back on line at Browns Ferry and Sequoyah and a fuel load license date for Watts Bar unit 1. However, we do have target schedules established as goals in this process.

Slide No. 8

Sequoyah

Obviously, the scope of the outstanding issues is much narrower on Sequoyah and as previously discussed, the resolution of EQ is the critical path. We currently believe we can have unit 2 ready to start up by the end of October. Unit 1 is in the process of refueling and is anticipated to be ready to restart by mid-November.

Browns Ferry

Browns Ferry unit 2, contingent upon satisfactory resolution of the specific EQ problems and the remaining Appendix R issues, we are projecting a return to service date of the first quarter of 1986. As these two issues become more clearly focused, we will continue to refine the start up schedule. You will be kept fully informed as the schedule is finalized.

Watts Bar

Employee Concern Program and the necessity to address these concerns as discussed earlier in this meeting, I do not anticipate requesting a fuel load license for Watts Bar unit 1 before January 1986.

We will keep you informed as these schedules are firmed up.

Goals

Now that I have given you the best target schedule I can, I want to restate my long-term goals, because I want these units brought back in accordance with the goals and my philosophy. Again, my goals are:

**TARGET SCHEDULE DATES FOR TVA NUCLEAR PLANTS**

**SEQUOYAH**

**TARGET SCHEDULE DATE**

Unit 2

Start up late October 1985

Unit 1

Start up November 1985

**BROWNS FERRY**

Unit 2

Start up first quarter: 1986

**WATTS BAR**

Unit 1

Request fuel load license -

January 1986

"To have and be perceived as having a nuclear program that is second to none in the U.S.

"To have a working environment built on trust and confidence at all levels of the organization (from plant laborer to Chairman of the Board)."

Again, I believe our company has the resources, confidence/ambition and dedication to meet these goals.

PROPOSED PLAN FOR THE CREATION, STRUCTURE, AUTHORITY AND FUNCTION  
OF THE OFFICE OF INSPECTOR GENERAL,  
TENNESSEE VALLEY AUTHORITY

This is a plan to establish an Office of Inspector General, headed by TVA's Inspector General and charged with fully and currently reporting to the TVA Board of Directors and Congress on the overall efficiency, effectiveness, and economy of all TVA programs and operations; on TVA efforts to prevent and detect waste, fraud, and abuse; and on investigations of employee concerns.

I. Office of the Inspector General

- A. Not later than December 1, 1985, there shall be created within TVA an Office of Inspector General.
- B. The Office of Inspector General will be an independent organization separate from all existing offices and reporting directly to the TVA Board. (See attached organization chart.)
- C. The Office shall have a separate, independent budget from that of other TVA organizations.

## II. Inspector General

- A. The Inspector General shall be the head of the Office of Inspector General and shall be appointed for a term of not less than three years.
- B. Like TVA's other principal office managers, the Inspector General shall be a grade M-12.
- C. The Inspector General shall be under the general supervision of the TVA Board and shall not report to nor be under the supervision of any other TVA officer.

## III. Functions

The Inspector General shall:

- A. Conduct inquiries and make determinations relating to all TVA programs and operations.
- B. Provide leadership and coordination and recommend policies for activities designed to prevent and detect fraud, waste, and abuse.

- C. Keep the TVA Board and Congress fully and currently informed about problems and deficiencies in TVA programs and operations and on progress on corrective action.
- D. Report to the Board on investigations of employee concerns.
- E. Maintain relations with Federal and other law enforcement agencies, the General Accounting Office, and other agency Inspector Generals. In furtherance of the Board's existing policy, the Inspector General shall report to the appropriate law enforcement agency any information developed which the Inspector General concludes may evidence a violation of law.
- F. Operate a telephone hot line and other means to receive allegations and information from all sources.
- G. See that employees who raise issues with the Inspector General are kept informed of the consideration given their issues, of the Inspector General's conclusions on them, and any corrective action taken by TVA.

#### IV. Authority

The Board will invest the Inspector General and the Inspector General's designees with the following authority:

- A. To have access to all TVA records, reports, materials, facilities, assets, and meetings.
- B. To make any investigation, inspection, or report deemed necessary or desirable by the Inspector General.
- C. To have direct prompt access to the TVA Board.
- D. To request information as may be necessary from other Federal agencies and to seek information from other sources through all means available to TVA.
- E. To contract for experts under personal services contracts.

V. Reports

- A. Semiannually (and immediately where there exist particularly serious or flagrant problems, abuses, deficiencies, or nuclear safety issues), the Inspector General reports to the TVA Board on significant problems or deficiencies disclosed by the activities of the Office of Inspector General; recommended corrective actions; financial, nuclear safety and other audits and reviews completed; and other related matters as the Inspector General determines.
- B. The Board will transmit each report of the Inspector General to Congress, together with any comments the Board deems appropriate.

## VI. Source Confidentiality

- A. The Board intends for the Inspector General to be able to receive in confidence allegations about any aspect of TVA.
- B. Promptly upon the establishment of the Office of the Inspector General, the Inspector General shall determine and announce the precise terms and conditions upon which source confidentiality shall be extended.
- C. Information from any anonymous or undisclosed confidential source will not be considered as evidence for any purpose in a TVA determination on the conduct or performance of any individual employee.

## VII. Similarity to Other Agency Inspector Generals

To the maximum extent possible in carrying out the Board's intent in establishing the Office, the Inspector General carries out duties and exercises authority such as that provided under the Inspector General Act of 1978, 5 U.S.C. Appendix 3, as amended.

STATEMENT OF

CHARLES H. DEAN, JR., CHAIRMAN

TENNESSEE VALLEY AUTHORITY

In the 52-year history of TVA, no one has ever seriously cast a shadow on the honesty or integrity of a TVA Board member or TVA executive. On the other hand, there has been considerable public unrest as power rates have continued to rise over the years, and certain nuclear operations problems have been highly publicized. There has also been employee unrest due at least in part to a large number of layoffs as major construction programs were stopped.

Even though the TVA management has never been involved in a major scandal, its judgment is often questioned, which is certainly in the American tradition. Most recently, in Congressional hearings, the Board was condemned for not getting enough good information from the rank and file employees, who are the backbone of the agency.

The contract with Quality Technology Corporation at our Watts Bar Nuclear Plant was a very visible effort to open lines of communication and give our employees someone to talk to about real or perceived problems in our nuclear program. The overwhelming response to the QTC program is a clear indication that we need to develop more permanent systems for receiving and investigating employee concerns. It appears

that the formation of an Office of Inspector General within the agency, which would report to the Board and to the Congress, would offer such a permanent vehicle.

In spite of our employee communication problems it should be emphasized that there has been no responsible criticism of our Office of Audit and Evaluation. It is a model that all federal agencies could follow to their great advantage. The same can be said for those who handle TVA's corporate books. They are carefully audited by the watchful eye of Coopers and Lybrand, and are always in good order.

In summary, our problems are more with people than with numbers. In order to serve the public interest, we apparently need a group within TVA that can process certain types of information and report it directly to the Board and to Congress. It is apparent that members of Congress have the same feeling. Mr. Filippo has introduced H.R. 3464 in the House of Representatives, and 14 other congressmen from the TVA area have signed this bill. A companion bill has been introduced in the Senate, S. 1755, by Senators Denton and Cochran, both from Valley states. In the meantime, Senators Sasser and Gore, and others, have recommended that the TVA Board take steps to create an Inspector General which will report to the Board and the Congress. I concur with that recommendation and the proposed plan presented to the Board by the General Manager this morning. It has also been recommended that the Board retain an expert in nuclear matters for consultation. I favor this recommendation, and would like for the General Manager to prepare a list of candidates for this position.

C. H. Dean, Jr. Chairman

STATEMENT OF RICHARD M. FREEMAN

AT BOARD MEETING

OCTOBER 18, 1985

My views on the Inspector General for a business-type organization, such as TVA, are well known. I will not repeat them here. In the present context, the proposals apparently are made as a response to TVA's current nuclear problems. Unfortunately, an inspector general's office cannot help TVA address those problems. I cannot vote for the creation of the office.

I appreciate that many of TVA's friends in Congress, and specifically Senators Sasser and Gore, urge the board to establish the position in order better to deal with TVA's nuclear problems. In deference to TVA's friends in the Congress I will not vote against creating the proposed Inspector General's Office. Thus, I must abstain.

I do pledge to my colleagues and TVA's friends in Congress that I will cooperate fully in trying to make the new office work for the good of the agency, our employees, our ratepayers, the Nation's taxpayers and the Tennessee Valley constituents we serve.

I do favor the suggestion that TVA have, for a period of two years, a nuclear consultant with the kind of credentials needed to help us deal with our nuclear problems.

REMARKS BY JOHN B. WATERS, DIRECTOR  
TENNESSEE VALLEY AUTHORITY  
TVA BOARD MEETING  
OCTOBER 18, 1985 KNOXVILLE, TENNESSEE

Today, with the proposals before us to establish TVA's first Inspector General and an independent nuclear consultant, we have a real opportunity to help restore public confidence and reaffirm our commitment to building and operating the safest and most efficient power system in America.

The advice and suggestions of members of the Valley Congressional Delegation and public obviously have been instrumental in the Board's consideration of these proposals. We all hope that the appointment of an Inspector General will enable TVA to become even more efficient and will enhance this agency's ability to save money as we continue to operate the power system for the benefit of the ratepayer.

A highly qualified Inspector General who occupies a position of independence, power, and prestige within this organization should help to promote the efficiency and increase the effectiveness of all TVA activities. The Inspector General will not be encumbered with administering programs, but will be free to follow the facts of any investigation wherever they lead and to report directly to this Board and to the Congress.

If the Inspector General performs in such a manner, the resulting efficiencies will complement TVA's continuing success in keeping electric rates among the lowest in the nation and assuring an abundant supply of electric power for residential and industrial customers.

I also believe that the appointment of a Nuclear Consultant as an adviser to the Board represents a positive step. A nationally recognized expert in the field from outside TVA should be able to provide valuable independent evaluations of our problems and our progress toward reaching solutions.

Beyond the practical, operational advantages in authorizing these appointments--and I think there are many--there's another extremely important reason for taking such action. One of the lessons I recall most vividly from law school is that the public must always have the perception that justice is being done. It is not enough to have justice prevail. People must also perceive that justice is being done--or, in the case of a public agency, that the public trust is being upheld.

I fully believe that TVA cannot effectively carry out its mission unless it has the confidence of the people and the Congress of the United States. Today's actions represent necessary steps toward rebuilding that confidence, but the appointments of an Inspector General and a Nuclear Consultant will not automatically solve all our problems.

In cooperating with and receiving the recommendations of the persons who will occupy these posts, all of us associated with TVA must continue to be straightforward with the public and each other, admit any mistakes that are found, and make our plans for improvement clear.

It doesn't make any difference what is in the job description of the Inspector General if we don't back up those words with our own support. Our commitment must match the reality of our own performance.

As long as I am a member of this Board, I pledge that whoever is selected as Inspector General will have my full support in gaining the necessary budget, the necessary staffing, the necessary independence, and the necessary access to make a positive difference in this agency.

I call on my colleagues to join in assuring such support throughout the Inspector General's term and in working to remove any barriers that would hamper the work of that office. We can and should provide all reasonable resources for the Inspector General to conduct the most thorough and independent investigations possible into any aspect of this agency that requires such attention.

And we should be tough taskmasters as well, demanding action and results, and placing those demands on ourselves as well as others. It is how we carry out our own duties as Board members and what we require of others that will make a difference in TVA and how it operates in the future. And, today, we are telling TVA and the people of the region that our requirements will be high.