



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

September 2, 2011

EA-11-018

Mr. R. M. Krich  
Vice President, Nuclear Licensing  
Tennessee Valley Authority  
1101 Market Street, LP 3R-C  
Chattanooga, TN 37402-2801

SUBJECT: PUBLIC MEETING SUMMARY FOR BROWNS FERRY NUCLEAR PLANT,  
DOCKET NO. 50-259

Dear Mr. Krich:

This refers to the public meeting conducted on August 30, 2011, in Atlanta, GA. The purpose of this meeting was to allow Browns Ferry Nuclear Plant Unit 1 and representatives of Tennessee Valley Authority (TVA) to meet with U. S. Nuclear Regulatory Commission (NRC) staff to discuss the NRC's plans for implementing supplemental inspections in accordance with Inspection Procedure 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or One Red Input," at the Browns Ferry Nuclear Plant.

A list of attendees and a copy of the presentation handouts are enclosed.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this meeting, please contact me at (404) 997-4662.

Sincerely,

*/RA/*

Eugene F. Guthrie, Chief  
Special Project, Browns Ferry  
Division of Reactor Projects

Docket No.: 50-259  
License No.: DRP-33

Enclosure: As stated

cc w/encl: (See page 2)

September 2, 2011

EA-11-018

Mr. Rod Krich  
Vice President Nuclear Licensing  
Tennessee Valley Authority  
3R Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

SUBJECT: PUBLIC MEETING SUMMARY FOR BROWNS FERRY NUCLEAR PLANT,  
DOCKET NO. 50-259

Dear Mr. Krich:

This refers to the public meeting conducted on August 30, 2011, in Atlanta, GA. The purpose of this meeting was to allow Browns Ferry Nuclear Plant Unit 1 and representatives of Tennessee Valley Authority (TVA) to meet with U. S. Nuclear Regulatory Commission (NRC) staff to discuss the NRC's plans for implementing supplemental inspections in accordance with Inspection Procedure 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or One Red Input," at the Browns Ferry Nuclear Plant.

A list of attendees and a copy of the presentation handouts are enclosed.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this meeting, please contact me at (404) 997-4662.

Sincerely,  
**/RA/**  
Eugene F. Guthrie, Chief  
Special Project, Browns Ferry  
Division of Reactor Projects

Docket No.: 50-259  
License No.: DRP-33

Enclosure: As stated

cc w/encl: (See page 2)

X PUBLICLY AVAILABLE       NON-PUBLICLY AVAILABLE       SENSITIVE      X NON-SENSITIVE  
ADAMS:  Yes      ACCESSION NUMBER: ML112450385      X SUNSI REVIEW COMPLETE

OFFICE	RII:DRP	RII:DRP							
SIGNATURE	CRK /RA/	EFG /RA/							
NAME	CKontz	EGuthrie							
DATE	09/02/2011	09/02/2011							
E-MAIL COPY?	YES    NO	YES    NO	YES    NO	YES    NO	YES    NO	YES    NO	YES    NO	YES    NO	YES    NO

cc w/encl:  
K. J. Polson  
Site Vice President  
Browns Ferry Nuclear Plant  
Tennessee Valley Authority  
Electronic Mail Distribution

C.J. Gannon  
General Manager  
Browns Ferry Nuclear Plant  
Tennessee Valley Authority  
Electronic Mail Distribution

J. E. Emens  
Manager, Licensing  
Browns Ferry Nuclear Plant  
Tennessee Valley Authority  
Electronic Mail Distribution

T. C. Matthews  
Manager, Corporate Nuclear Licensing - BFN  
Tennessee Valley Authority  
Electronic Mail Distribution

E. J. Vigluicci  
Assistant General Counsel  
Tennessee Valley Authority  
Electronic Mail Distribution

Chairman  
Limestone County Commission  
310 West Washington Street  
Athens, AL 35611

Donald E. Williamson  
State Health Officer  
Alabama Dept. of Public Health  
RSA Tower - Administration  
Suite 1552  
P.O. Box 30317  
Montgomery, AL 36130-3017

James L. McNees, CHP  
Director  
Office of Radiation Control  
Alabama Dept. of Public Health  
P. O. Box 303017  
Montgomery, AL 36130-3017

Letter to R. M. Krich from Eugene F. Guthrie dated September 2, 2011

SUBJECT: PUBLIC MEETING SUMMARY FOR BROWNS FERRY NUCLEAR PLANT,  
DOCKET NO. 50-259

Distribution w/encl:

C. Evans, RII

L. Douglas, RII

OE Mail

RIDSNRRDIRS

PUBLIC

RidsNrrPMBrownsFerry Resource



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

Browns Ferry Public Meeting  
Atlanta, GA  
August 30, 2011

**Name (Print)**

**Title and Organization**

Blake Farmer \_\_\_\_\_

Nashville Public Radio \_\_\_\_\_

Thomas Saporito \_\_\_\_\_

Saprodani-Associates \_\_\_\_\_

Glenn Carroll \_\_\_\_\_

Nuclear Watch South \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**NRC ATTENDEES**

V. McCree, Regional Administrator, Region II  
L. Wert, Deputy Regional Administrator, Region II  
R. Croteau, Director, Division of Reactor Projects (DRP), Region II  
W. Jones, Deputy Director, DRP, Region II  
E. Guthrie, Chief, Special Project, Browns Ferry, DRP, RII  
C. Kontz, Senior Project Engineer, Special Project, Browns Ferry, DRP, RII  
T. Ross, Senior Resident Inspector, Browns Ferry, DRP, RII  
R. Orlikowski, Project Engineer, Reactor Project Branch 1, DRP, RIII  
M. Keefe, Human Factors Specialist, NRR, HQ  
L. Lake, Senior Reactor Inspector, DRS, RII



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

Browns Ferry Public Meeting  
Atlanta, GA  
August 30, 2011

<u>Name (Print)</u>	<u>Title and Organization</u>
Preston Swafford	CNO TVA.
Don Jensen	Senior VP -TVA
RM Kinch	VP-Nuclear Licensing, TVA
Keith Polson	Site Vice President (BFN)
Tim Cleary	VP - NEW BUSINESS INITIATIVES -TVA
Tom Matthews	Corp. Licensing Manager (Browns Ferry) -TVA
Ray Golden	SR MGR NUCLEAR COMMUNICATIONS -TVA
Sam Sohn	Reporter Chattanooga Free Press
Dorian Canger	General Mgr Canger & Elsea
Gerald J Doyle	ASST SITE VP-TECHNICAL BFN
JAMES EMENS	SITE LICENSING MGR BFN
NATHAN FREY	QUALITY CONTROL - ENERGY & PROCESS

# ***Browns Ferry Nuclear 95003 Implementation***

## ***Public Meeting***

---

**Nuclear Regulatory Commission - Region II**

**Atlanta, Ga**

**August 30, 2011**





# Agenda

- Introduction
- Overview of 95003 inspection
- TVA Comments
- Conduct of 95003 inspection
- NRC Closing Remarks
- NRC available to address public questions



## ***Finding of Red Risk Significance***

### **Background**

- **Residual heat removal (RHR) system flow control valve failed October 23, 2010**
  - operators found that the valve would not pass flow when the subsystem was attempted to be placed in service
  - the flow control portion of the valve, called the disc, was found stuck in the seat of the valve
  - the disc had become separated from the stem and could no longer be controlled by the valve motor operator
- **The residual heat removal system is primarily used for low pressure coolant injection during accident conditions and cooling while the reactor is shutdown**



## ***Finding of Red Significance***

### **Basis for Red Significance**

- **TVA's fire mitigation strategy resulted in a significant increase in the core damage frequency**
  - **This strategy limits the availability of alternative sources of reactor coolant inventory makeup**
- **Both Loops were unavailable based on accident scenarios**
  - **Two residual heat removal system loops are normally available.**
- **Automatic valve function was lost**
  - **Including the ability of plant operators to manually use this loop of the subsystem**



## ***Finding of Red Significance***

### **Sequence of Events to Process the Red Finding:**

- **NRC issued an apparent violation on Feb 9, 2011**
  - **Failure of the residual heat removal system to meet the Technical Specification operating requirements**
  
- **Regulatory Conference was held with Tennessee Valley Authority (TVA) on April 4, 2011**
  - **Discuss the apparent violation and risk significance of the issue**
  
- **NRC issued a Final Significance Determination letter to TVA on May 9, 2011**
  - **Red finding and Notice of Violation was substantiated**



## ***Finding of Red Significance***

### **Sequence of Events Continued:**

- **TVA submitted an appeal on June 8, 2011, to the Red finding**
  - **Concerned that the performance deficiency had changed since the Regulatory Conference discussions**
- **Region II established an independent panel June 22, 2011 to review TVA's concerns**
  - **TVA was informed they did not meet criteria for an appeal**
- **NRC issued the follow-up to the independent review panel on August 16, 2011**
  - **TVA was informed that the NRC's final determination on the RED finding was substantiated**



# Performance Assessment for Browns Ferry during last year

	Q2 2010	Q3 2010	Q4 2010	Q1 2011	Q2 2011
Unit 1	Degraded Cornerstone		Multiple Repetitive/ Degraded Cornerstone		
Finding	Yellow Violation of 10 CFR 50 Appendix R III.G.1 & III.G.2		Low Pressure Coolant Injection Valve Failure		
Unit 2	Degraded Cornerstone			Licensee Response	
Finding	Yellow Violation of 10 CFR 50 Appendix R III.G.1 & III.G.2				
Unit 3	Degraded Cornerstone			Licensee Response	
Finding	Yellow Violation of 10 CFR 50 Appendix R III.G.1 & III.G.2				



## **95003 Overview**

### **What happens next?**

- **Red significance will warrant further NRC inspection**
  - **Supplemental Inspection**
    - **Inspection Procedure 95003, Supplemental Inspection For Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs Or One Red Input**



## **95003 Inspection Overview**

- **A comprehensive, diagnostic supplemental inspection**
- **Review of programs and processes not inspected as part of the baseline inspection program**
- **Focus of inspection effort will encompass equipment reliability**





## ***95003 Overview of Inspection***

- **Inspection Results will evaluate corrective actions taken**
- **Determine acceptability or need for additional action**
- **Assessment of safety culture**
  - **Validation of TVA's root cause evaluation**
  - **Validation of TVA's third party safety culture assessment**

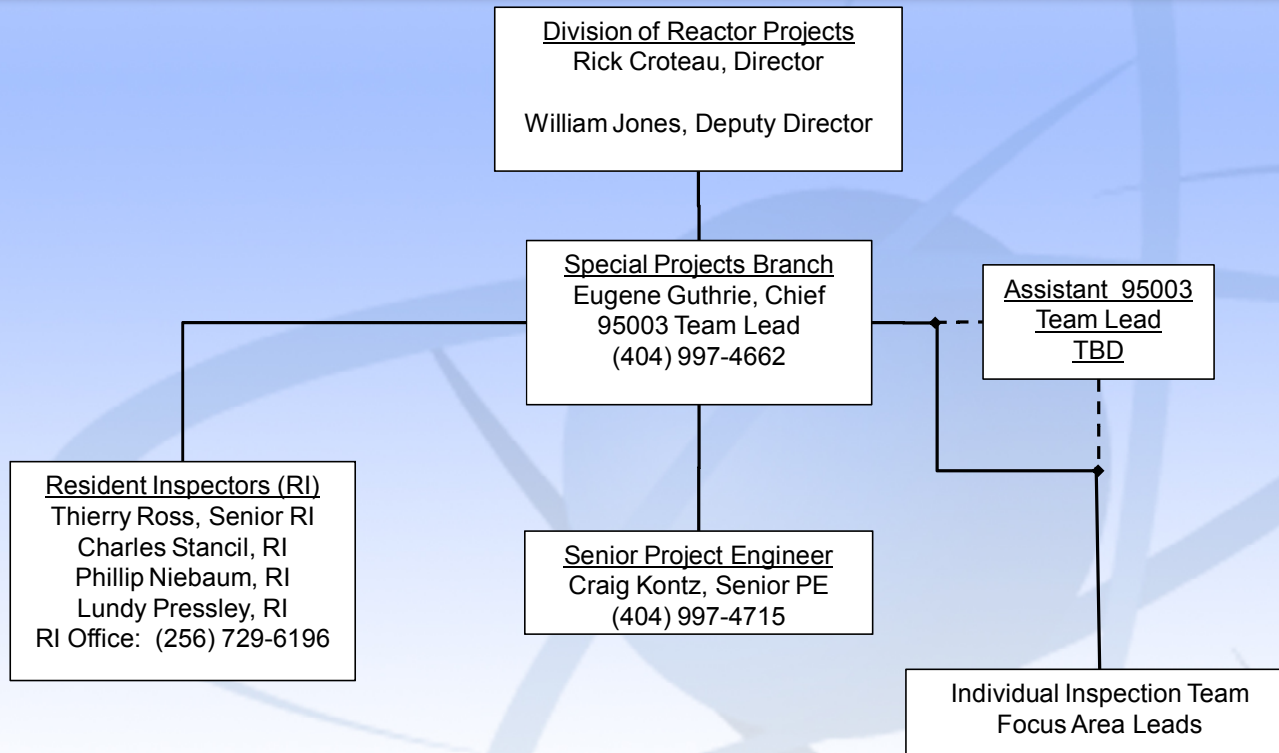


## ***95003 Overview of Inspection***

- **The inspection will be conducted in three parts:**
  - **Part 1 and Part 2 will be performed without the licensee's formal statement of readiness**
  - **Part 3 will be performed after TVA has formally informed the NRC that they are ready for the inspection**
  - **Safety Culture assessment will be performed in parallel with the inspection efforts.**



# Region II Reorganization



# ***TVA Comments***

## **95003 Implementation**



## **95003 Overview of Inspection**

- **Part 1 Inspection**
  - **On-site inspection September 12 through September 23**
  - **Four Team Members**
    - **Team Lead – Robert Orlikowski, RIII**
    - **Team members – Head Quarters and RII**
  - **Focus on testing programs, including valve testing**
    - **in-service testing programs (IST), the motor operated valve (MOV) testing program, and the corrective action program (CAP)**
    - **broader extent of condition aspects of testing programs used to comply with technical specifications and other regulatory requirements**



## **95003 Overview of Inspection**

- **Part 2 Inspection**
  - **Inspection activities October through December**
  - **Five Member Team**
  - **Focus on the Maintenance Program**
    - **Based on historical issues with equipment reliability**
  - **All phases of maintenance on selected safety-related equipment will be inspected and assessed**



## **95003 Overview of Inspection**

- **Part 3 - Formal Part of 95003 Inspection**
  - **Overall Inspection Focus - Equipment Reliability**
  - **Strategic Area Focus – Reactor Safety**
  - **Program Review Focus Areas**
    - **Maintenance**
    - **Operations**
    - **Engineering**
    - **Corrective Action**
    - **Management Oversight/Decision Making**
  - **Team Structure**



## ***95003 Overview of Inspection***

- **Safety Culture Assessment**
  - **Review and assessment of the licensee's third-party, independent assessment of Nuclear Safety Culture**
  - **Graded assessment of the licensee's safety culture based on the results of the evaluation**





## ***Open to the Public***

- **NRC places a high priority on keeping the public and stakeholders informed of its activities.**
- **At [www.nrc.gov](http://www.nrc.gov), you can:**
  - **Find public meeting dates and transcripts;**
  - **Read NRC testimony, speeches, press releases, and policy decisions; and**
  - **Access the agency's Electronic Reading Room to find NRC publications and documents.**



## ***Contacting the NRC***

- **Report an emergency**
  - (301) 816-5100 (call collect)
- **Report a safety concern**
  - (800) 695-7403
  - Allegation@nrc.gov
- **General information or questions**
  - [www.nrc.gov](http://www.nrc.gov)
  - Select “What We Do” for Public Affairs



## ***NRC Representatives***

- **Victor McCree, RII, Regional Administrator**
- **Len Wert, Deputy Regional Administrator for Operations**
- **Rick Croteau, Division Director, Division of Reactor Projects**
- **Eugene Guthrie, Branch Chief, Special Project, Browns Ferry**
- **Thierry Ross, Senior Resident Inspector**
- **Craig Kontz, Senior Project Engineer, Special Project, Browns Ferry**



## **Reference Sources**

- **Reactor Oversight Process**  
<http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/index.html>
- **Public Electronic Reading Room**  
<http://www.nrc.gov/reading-rm.html>
- **Public Document Room**  
1-800-397-4209 (Toll Free)



---

**TENNESSEE VALLEY AUTHORITY  
BROWNS FERRY NUCLEAR PLANT, UNIT 1**

**Meeting with NRC**

**Preparation for NRC**

**Inspection Procedure 95003 Inspection**

**Atlanta, Georgia**

**August 30, 2011**



# Agenda

---

- Introduction Preston Swafford
- Response Overview Keith Polson
- Inspection Preparation Tim Cleary
- Summary Preston Swafford



## Introduction

---

- An undetected failure of valve 1-FCV-74-66 to open resulted in a finding with “Red” safety significance. The NRC therefore moved Browns Ferry, Unit 1, into Column 4 of the Action Matrix, which requires NRC inspections per Inspection Procedure (IP) 95003.
- TVA has created an Inspection Response Team to prepare for the 95003 inspection activities.
- Using the best available internal and industry expertise, we will take all actions necessary to meet or exceed IP 95003 inspection criteria, to return Browns Ferry, Unit 1, to Column 1, “Licensee Response,” of the Action Matrix.



## Response Overview

---

- We recognize that, while improvements in equipment reliability are being made, the pace of these improvements needs to be accelerated.
- TVA has extensive preparations for these inspections in progress. Our root cause analysis team is identifying the underlying causes and contributors for this event.
  - We are continuing to look at the implementation of the Inservice Testing Program and the Motor-Operated Valve Program from the time of Generic Letter 89-10.
- We recognize the need to include an evaluation of actions being taken to resolve Substantive Cross-Cutting Issues in “thorough evaluations of identified problems” and “appropriate and timely corrective actions,” to identify any further enhancements.
- Comprehensive corrective actions are being developed, and form the basis of the Integrated Improvement Plan.







# Inspection Preparation

---

## Attributes

- Corporate Driven – dedicated leadership provided to project
- Site Engagement – key leaders and staff assigned to project full time
- Strong Licensing Component – coordinated site and corporate regulatory interface
- External Support – external resources and expertise utilized on all aspects of project
- Oversight – NSRB, QA, MRM, and Review Boards being utilized
- Communication Support – project support from site and corporate
- Project Scope – broader than minimum requirements of Inspection Procedure 95003



## Inspection Preparation *(continued)*

---

### Focus Areas

- Comprehensive Root Cause Analysis for why valve 1-FCV-74-66 Failure was not detected\*
- Identification, Assessment, and Correcting Performance Deficiencies Review\*
- Performance Around Reactor Safety for Mitigating Systems\*
- Third Party Independent Safety Culture Assessment\*
- Historical Document Review (at least five years back)
- Collective evaluation and causal analysis for underlying issues
- Implement corrective actions resulting from causal analysis

\* Inspection Procedure 95003 Attributes



## Inspection Preparation *(continued)*

---

### **Safety Culture Assessment**

- Third Party Independent Safety Culture Assessment
  - IP 95003 attributes will be addressed.
- Conducted by SYNERGY
  - SYNERGY has conducted the last two safety culture surveys for the TVA nuclear operating fleet (2006 and 2009).
  - In addition to the standard safety culture surveys, SYNERGY will perform a more in-depth assessment of the safety culture at Browns Ferry.
- Safety Culture Assessment Schedule
  - Survey to begin September 19 and continue for approximately two weeks.
  - The Assessment activities will be completed by about mid-December.
  - Final Assessment Report is expected to be available by the end of January 2012.



## Inspection Preparation *(continued)*

---

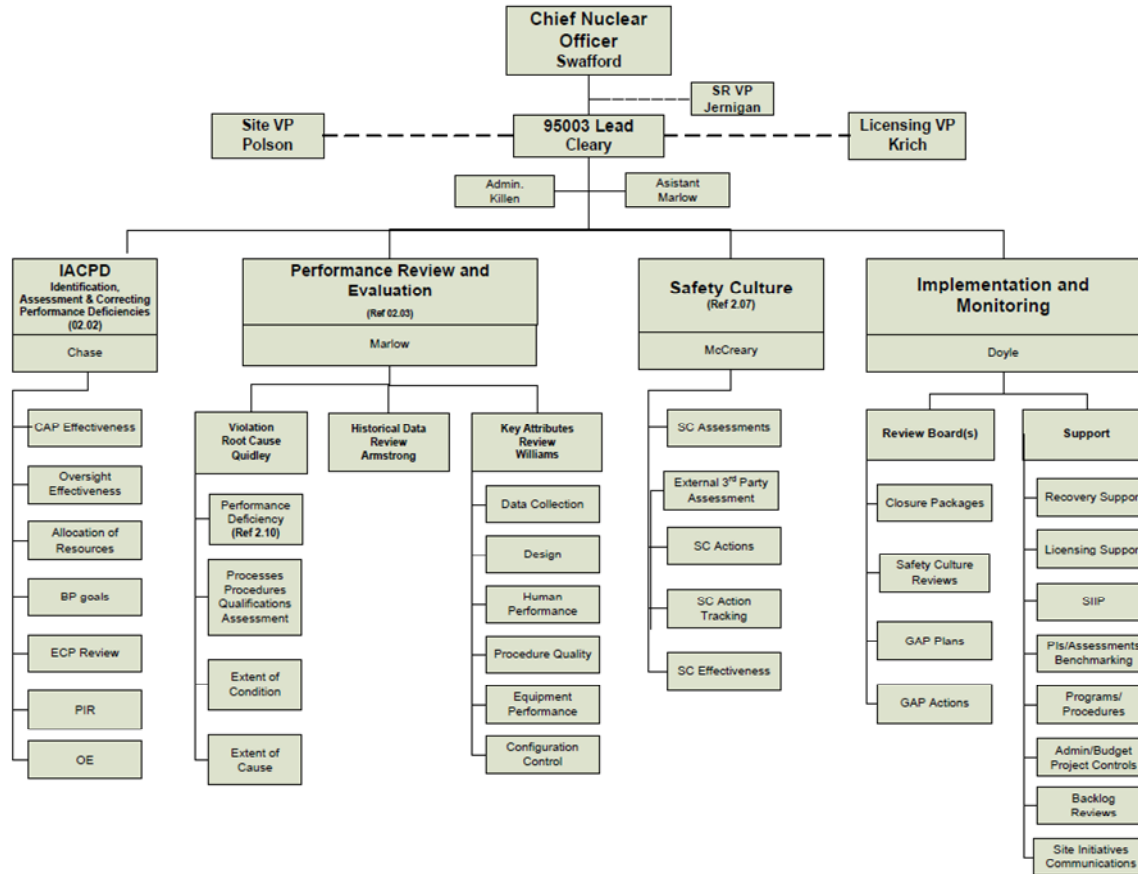
### Resources and Schedule

- Personnel
  - Core TVA Team – 15 to 20 employees
  - Contract Support – 20 to 80 individuals during the various phases of the project
  
- Schedule Duration
  - Data Gather and Analysis – Now through November 2011
  - Topical Areas - Analysis and Actions – November through the NRC inspection
  - Corrective Action Implementation – January 2012 through completion of required actions



# Inspection Preparation *(continued)*

## Response Team





## Summary

---

- TVA understands the actions required for effective preparations for the 95003 inspection.
- TVA is applying the appropriate resources to this effort to ensure that Browns Ferry will be ready for the inspection.
- We are using this opportunity to look beyond the issues associated with the NRC finding and accelerate overall improvement at the Browns Ferry plant.