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DATE OF MEETING

**02/10/2003**

The attached document(s), which was/were handed out in this meeting, is/are to be placed in the public domain as soon as possible. The minutes of the meeting will be issued in the near future. Following are administrative details regarding this meeting:

Docket Number(s)

**50-259**

Plant/Facility Name

**Browns Ferry Nuclear Plant, Unit 1**

TAC Number(s) (if available)

Reference Meeting Notice

**01/16/2003**

Purpose of Meeting  
(copy from meeting notice)

**To discuss the status of Browns Ferry Unit 1 Restart**

**Project**

NAME OF PERSON WHO ISSUED MEETING NOTICE

**Kahtan N. Jabbour**

TITLE

**Senior Project Manager**

OFFICE

**Office of Nuclear Reactor Regulation**

DIVISION

**Division of Licensing Project Management**

BRANCH

**Project Directorate II, Section 2**

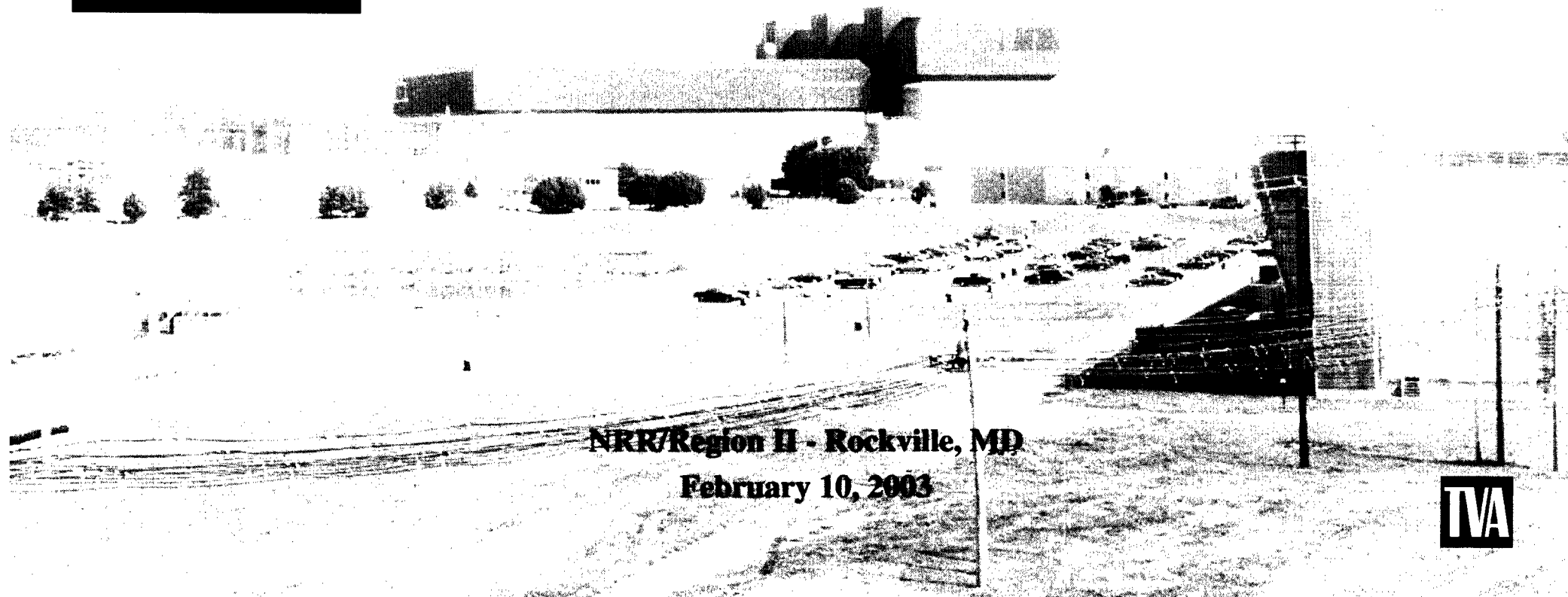
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# TENNESSEE VALLEY AUTHORITY BROWNS FERRY NUCLEAR PLANT UNIT 1 RESTART STATUS



NRR/Region II - Rockville, MD

February 10, 2003



**TENNESSEE VALLEY AUTHORITY  
BROWNS FERRY NUCLEAR PLANT  
UNIT 1 RESTART STATUS**

**NR/R/Region II - Rockville, MD  
February 10, 2003**



## Agenda

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- Introduction - John Scalice
- Background - Ashok Bhatnagar
- Unit 1 Restart Project Objectives - Jon Rupert
- Unit 1 Restart Organization - Jon Rupert
- Unit 1 Project Overview and Schedule - Jon Rupert
- Unit 1 Engineering Activities Status - Joe Valente
- Impact on Operating Units - Rick Drake
- Unit 1 Maintenance & Modifications Status - Rick Drake
- Regulatory Activities Status - Tim Abney
- Corrective Action Program/Self Assessments - Tim Abney
- Nuclear Assurance Oversight - Steve Tanner
- Summary and Conclusion - John Scalice



## Background

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- All three BFN Units are essentially identical GE BWR4, Mark I Containment reactors
- Designed and constructed by TVA
- Units 1, 2, and 3 licensed in 1973, 1974, and 1976 respectively
- All three BFN units voluntarily shutdown by TVA in March 1985, because of regulatory and management issues
  - TVA committed to obtain NRC approval prior to restart of any BFN unit
  - TVA submitted the Nuclear Performance Plan, Volume 3, in August 1986. It outlined the steps needed to recover the BFN units and was specifically directed to Unit 2



## Background

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- TVA executed Unit 2 restart plan, obtained NRC approval, and restarted Unit 2 on May 24, 1991
- TVA proposed regulatory framework for restart of Units 1 and 3 in July 1991, outlining improvements to the Unit 2 restart plan
- NRC approved the regulatory framework proposed by TVA in April 1992
- TVA executed the Unit 3 restart plan, obtained NRC approval, and restarted Unit 3 on November 19, 1995
- TVA Board of Directors decided on May 16, 2002, to restart Unit 1 after detailed study and favorable Supplemental Environmental Impact Statement



# Unit 1 Restart Project Objectives

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- Unit Fidelity
  - Return Unit 1 to service operationally the same as Units 2 and 3
  - Utilize current design criteria
  - Utilize existing TVA procedures, programs and processes
- Project Integration
  - Extensive integrated planning and scheduling which incorporated lessons learned from Units 2 and 3
  - Touch each component, system, and plant area only once
- Return Unit 1 in condition to operate safely, efficiently, and reliably



## Unit 1 Restart Organization

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- Dedicated resources for Unit 1 restart
- TVA management team with experience on restart of Units 2 and 3
- Bechtel is primary engineering contractor, Stone and Webster is primary maintenance and modifications contractor
- Unit 1 team closely integrated with operating units' team
- Organizational structure and strong team in place for restart effort





# Unit 1 Project Overview and Schedule

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- Work Scope Required for Unit 1 Restart
  - Nuclear Performance Plan Special Programs
  - Engineering analyses
  - Extensive design changes consistent with Units 2/3 restart
  - Design changes implemented since Units 2/3 restart
  - Future design changes in 5-year BFN Project Plan
  - Corrective/Preventive maintenance
  - Regulatory issues
  - Licensing actions
  - Inservice inspections
  - Restart testing





# Unit 1 Engineering Activities Status

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- Program Activities
  - Design Criteria Documents - complete
  - Safe Shutdown Analysis - complete
  - Operation Mode Calculations - complete
  - Generic Letter 89-10 Calculations - complete
  - EQ Basis Calculations - complete
  - Analytical Limits Calculations - complete
  - Drywell Related Baseline Calculations - complete
  - Reactor Building Baseline Calculations - in progress
  - License Renewal Activities - in progress



## Unit 1 Engineering Activities Status

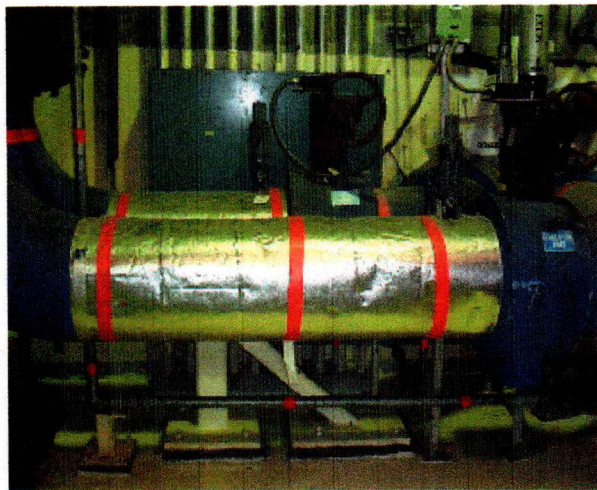
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- Design Change Packages
  - Approximately 360 design change packages required for restart
  - 60 design changes issued
  - All design changes for the drywell are issued
  - Currently, 70 design changes in progress and on schedule for Reactor Building, Control Bay and Turbine Building, and yard
- Challenges
  - Modifications interface
  - Material supplier interactions

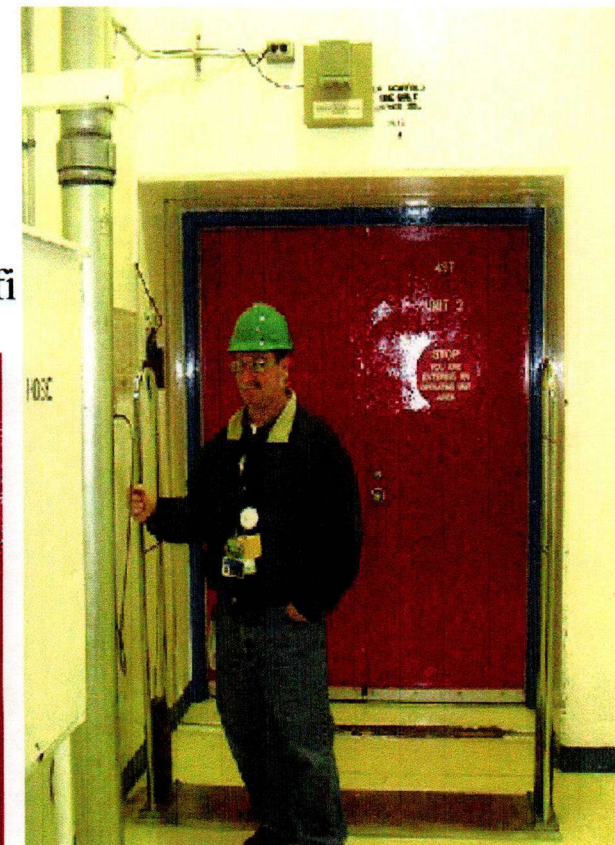


## Impact on Operating Units

- Access Control
  - Physical access accommodations
  - Personnel Identification
  - Training
  - Unit color codes
  - Unit 1 equipment required for Unit 2/3 operation identification



Rick Drake





## Impact on Operating Units

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- Work Control Reviews
  - Experienced Work Control Personnel in Unit 1
  - Work schedules evaluated by operating units' personnel



## Unit 1 Maintenance & Modifications Status

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- Completed Activities
  - Drywell piping removal
  - Drywell cable determinations
  - Drywell decontamination
- Near-Term Planned Work
  - Asbestos abatement
  - Extraction steam piping removal
  - Condenser retube preparation
  - Modifications inside drywell
- Challenges
  - Human performance
  - Industrial safety
  - Constructability of designs



## Regulatory Activities Status

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- Proposed Regulatory Framework for Unit 1 Restart Submitted December 13, 2002
- Licensing Actions
  - Relief Requests PD-1 and PD-2 submitted October 25, 2002
  - ISI Program update submitted November 8, 2002
  - Detailed Schedules being developed for 18 license amendments





# Corrective Action Program/Self Assessments

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- Corrective Action Program Being Used to Monitor and Improve Quality
  - Management Review Committee Subcommittee reviews all Unit 1 Problem Evaluation Reports (PERs)
  - Extensive efforts to encourage contractors to write PERs
  - Analysis of PER data to identify trends requiring further action
- Self Assessments Completed
  - Drywell Disassembly
  - Drywell Structural Steel Design
  - Asbestos Abatement
  - Contractor Control



# Corrective Action Program/Self Assessments

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- Self Assessments Planned FY 03
  - Mechanical Baseline Calculations
  - Reactor Water Cleanup Design Change Notice
  - Auxiliary Power System Analysis
  - Appendix R Analysis
  - Engineering Training
  - Unit Barrier Separations
  - Work Plan/Work Order
  - Drywell Steel Modification Implementation
  - Materials Process
  - Drawing Improvement Program
  - Corrective Action Program
  - Work Control
  - Rad Chem Activities
  - Integrated Data base (ITEL)
- Findings from PERs and Self Assessments

# Nuclear Assurance Oversight

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- Nuclear Assurance Staffing
  - Quality Control, Quality Programs, and Quality Assessments
  - Inspections, Source Surveillances, Assessments, and Evaluation and Analysis
  - Experienced Nuclear Assurance staff
- Assessments
  - Routine Observations
    - ◆ Drywell preparatory work
    - ◆ Program and support activities
  - Formal Planned/Scheduled
    - ◆ Engineering Walkdown Program (Completed)
    - ◆ Vertical Slice of RHR System Design (In-progress)
    - ◆ Engineering, Maintenance & Modifications, Support, and Operations
- Conclusions
  - No significant issues identified to date
  - Demonstrated ability to self-identify and resolve problems in Corrective Action Program



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## Summary and Conclusion