

COMMISSION BRIEFING SLIDES/EXHIBITS

BRIEFING ON BROWNS FERRY

UNIT 1 RESTART

JANUARY 10, 2007



Browns Ferry Unit 1 Restart

January 10, 2007
**Luis Reyes, Executive
Director for Operations**

Agenda

- **Licensing Status**
- **Inspection Status**
- **Summary**

Licensing Status

- **License Renewal**
- **License Amendments, Relief Requests, Exemptions**
- **Special Programs**
- **Power Uprate**

License Renewal

- **Application submitted on January 6, 2004**
- **ACRS approval letter of March 23, 2006**
- **Licenses renewed for all 3 units on May 4, 2006**
- **Over 9,000 staff hours for Unit 1 reviews (16,000 staff hours for Units 2 & 3)**

License Amendments, Relief Requests, Exemptions

- **21 amendments submitted for restart**
- **17 completed, remainder are on schedule**
- **12 relief requests and 3 exemptions completed**
- **About 13,000 staff hours**

Special Programs

- **Review of generic letters and bulletins**
- **Three Mile Island action items (NUREG-0737)**
- **Fire protection**
- **About 8,000 staff hours**

Unit 1 Power Uprate

- **Unit 1 uprate to 105% for restart**
- **Draft safety evaluation to ACRS on December 1, 2006**
- **ACRS subcommittee meets on January 16, 2007**
- **ACRS full committee meets on February 1, 2007**

Extended Power Uprate Issues For The 3 Units

- **Steam Dryer Integrity**
- **Large Transient Testing**
- **Containment Accident
Pressure**
- **Fuel Methodology**

Regulatory Oversight

- **IMC 2509 addresses Unit 1**
 - **Requirements for inspections**
 - **Key features used from IMC 0350**
 - **Transition to ROP**
- **Reactor Oversight Process (ROP)**
 - **4 of the 7 cornerstones already in use**

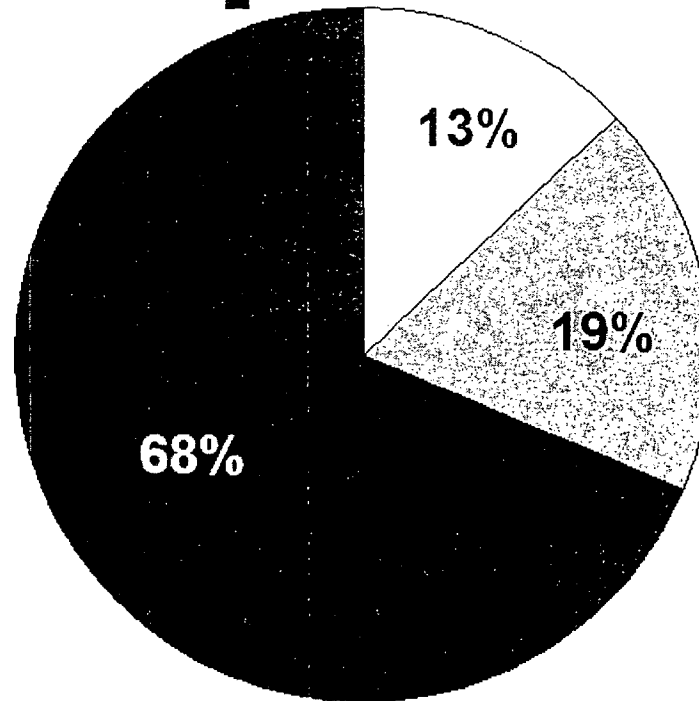
Inspection Status

- **Staff Support**
- **Areas of Inspection**
- **Remaining Inspections**
 - **System Preoperability Checklist**
 - **Operational Readiness Assessment Team**
 - **Restart and Power Ascension Testing Inspections**

Performance Assessment

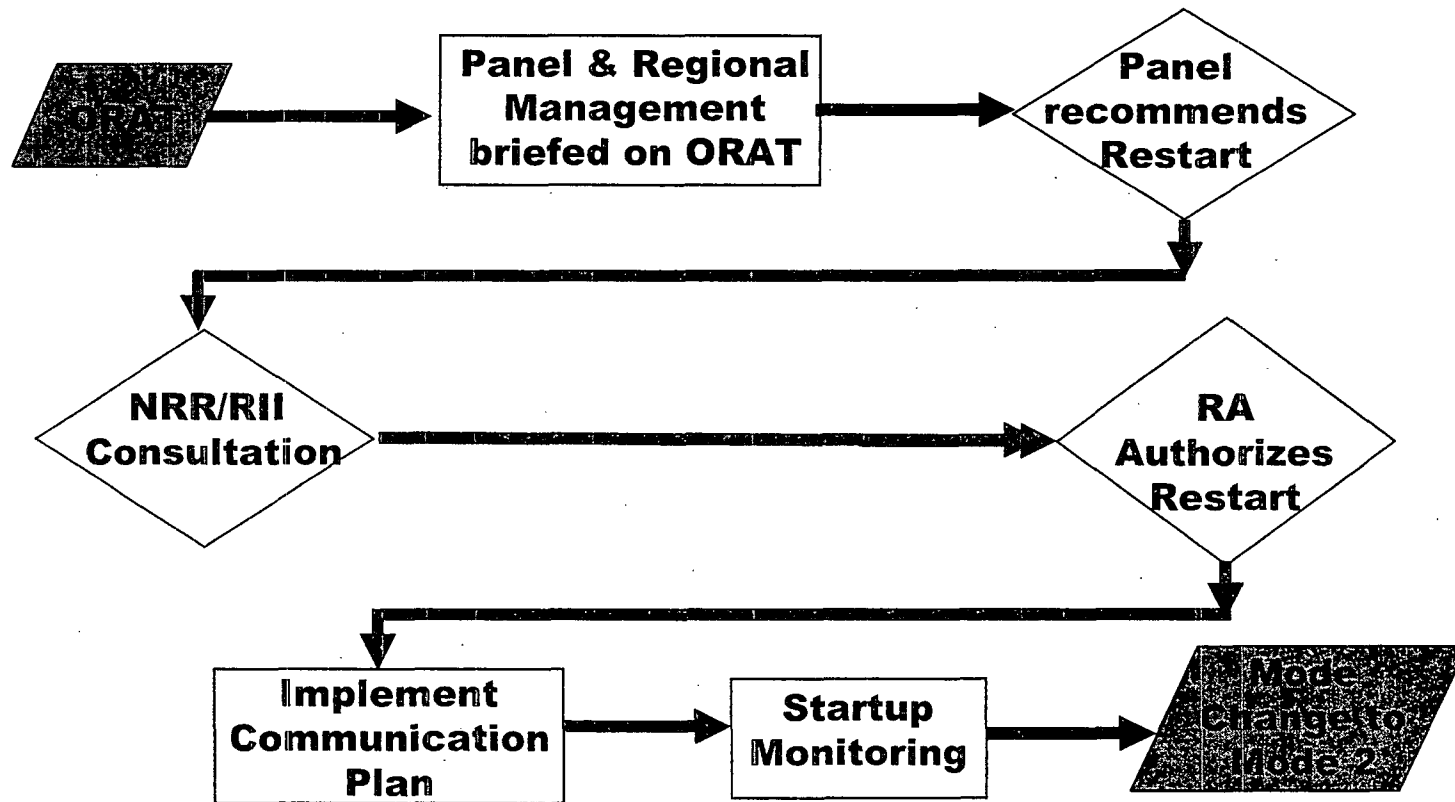
- **NRC to TVA letter dated 8/15/06 discussed plant performance**
- **Unit 1 Enforcement History**
- **Unit 1 Allegations**

Restart Inspection Status



- Open Items with scheduled inspections
- ▨ Open Items with field inspection complete
- Closed Items

IMC 2509 Restart Process



Summary

- **Unit 1 preparations continue to be performed in a safe manner**
- **ORAT inspection will provide insight into status of readiness**
- **Request authority for Unit 1 restart in accordance with IMC 2509**

Acronyms

- **ACRS- Advisory Committee on Reactor Safeguards**
- **IMC- Inspection Manual Chapter**
- **EPU- Extended Power Uprate**
- **NRR- Office of Nuclear Reactor Regulation**

Acronyms

- **ORAT- Operational Readiness Assessment Team**
- **RA- Regional Administrator**
- **SPOC- System Pre-Operability Checklist**



TENNESSEE VALLEY AUTHORITY BROWNS FERRY NUCLEAR PLANT

UNIT 1 RESTART

**NRC Commission Briefing
January 10, 2007**

Agenda



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- Introduction Karl Singer
 - Unit 1 Recovery Overview Ashok Bhatnagar
 - Recovery Process Masoud Bajestani
 - Operational Readiness Brian O'Grady
 - Conclusion Karl Singer

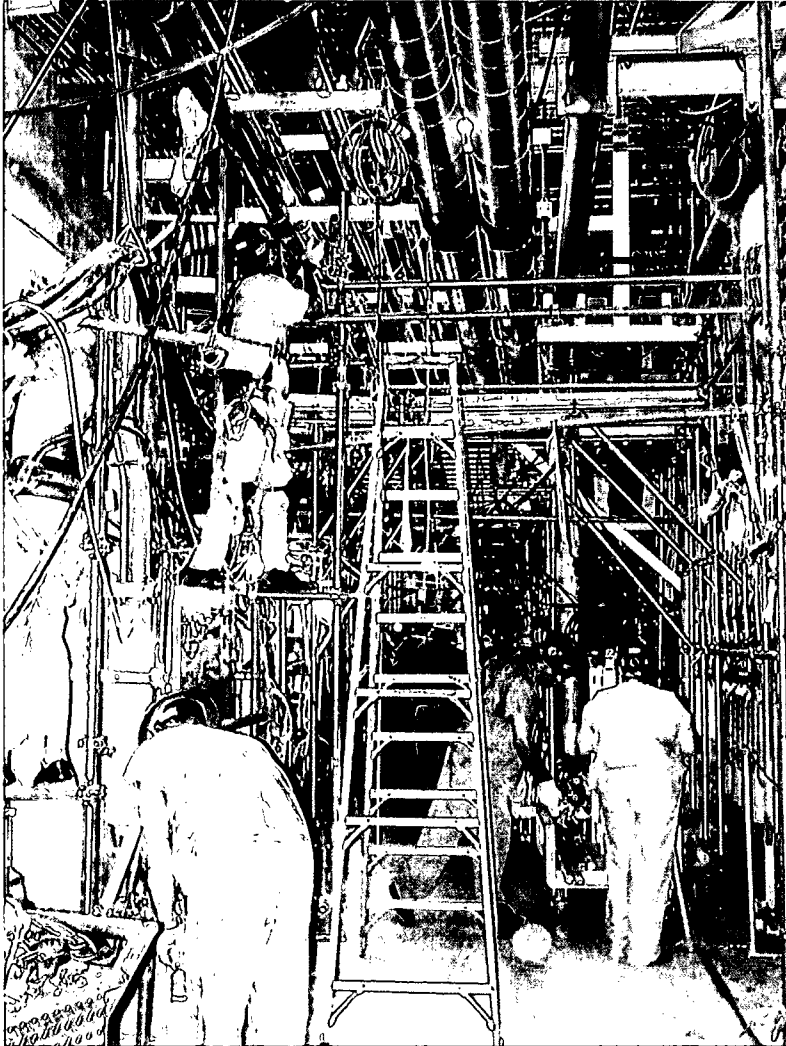
Introduction



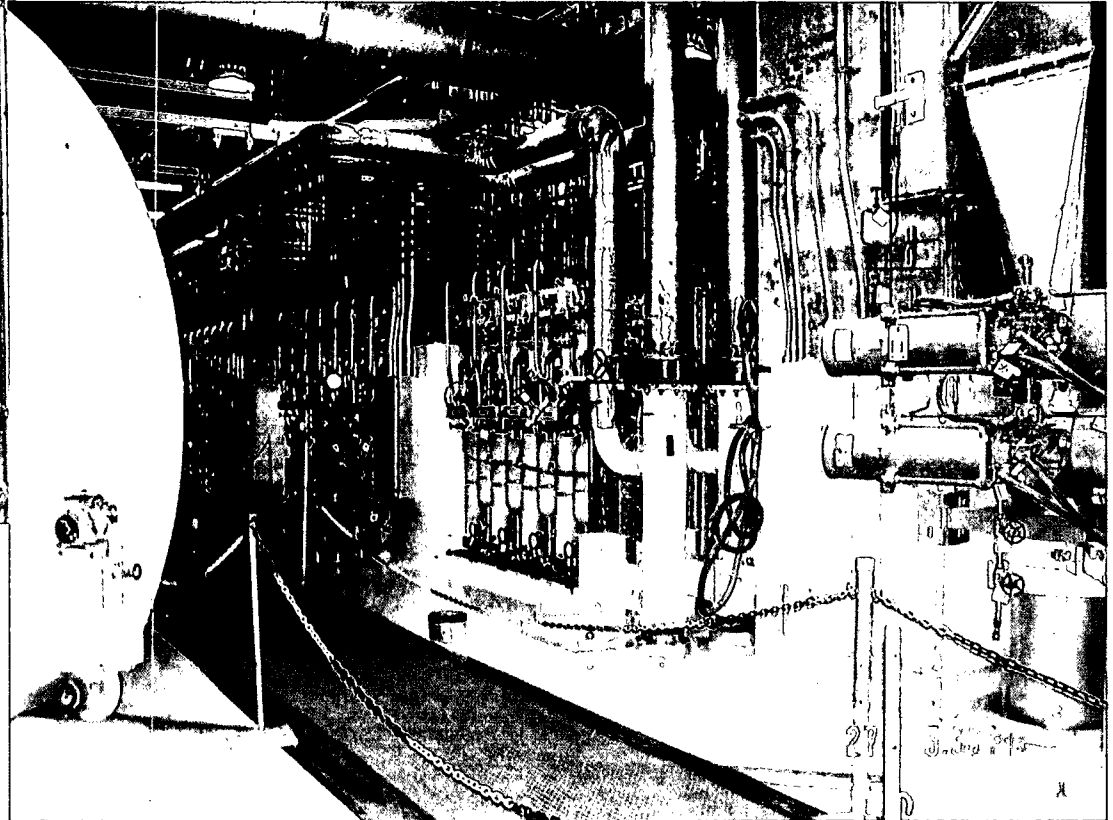
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- We are Confident that it is Safe to Operate Browns Ferry Unit 1
 - Identical to Units 2 & 3 restart processes
 - Rigorous design and modification process through turnover to operations
 - Extensive testing, self assessments and quality oversight
 - Unit 1 returns to service with improved margins
 - Operational perspective throughout modification and testing
 - Time and resources to do the job right



Control Rod Drive Accumulators
Elevation 565 West side
November 2006

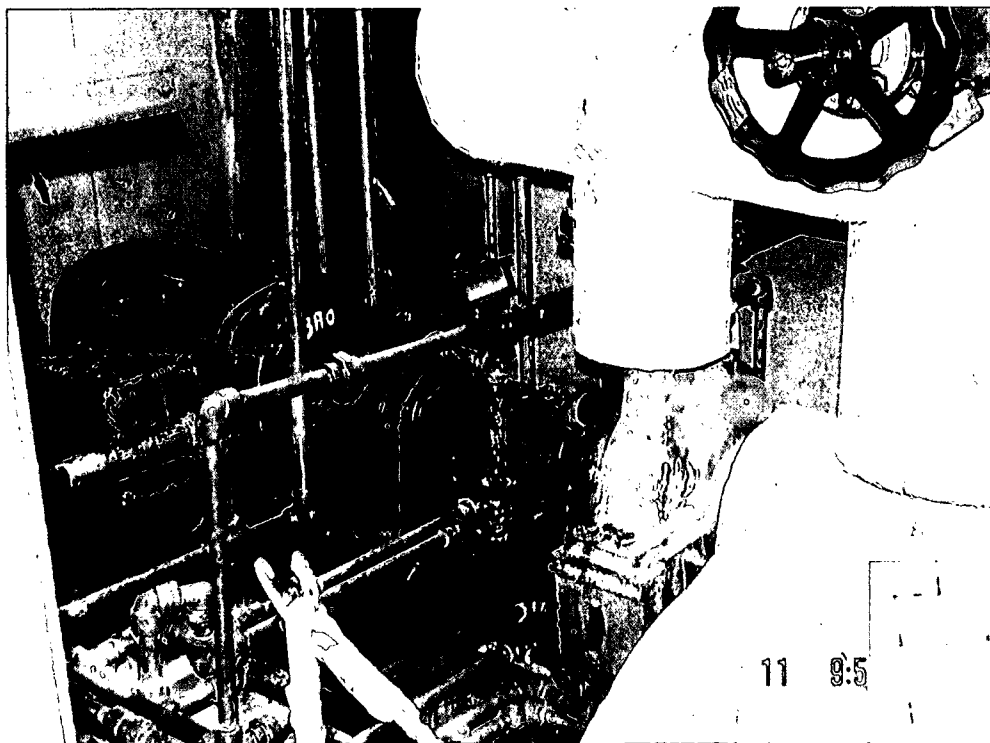


December 2006



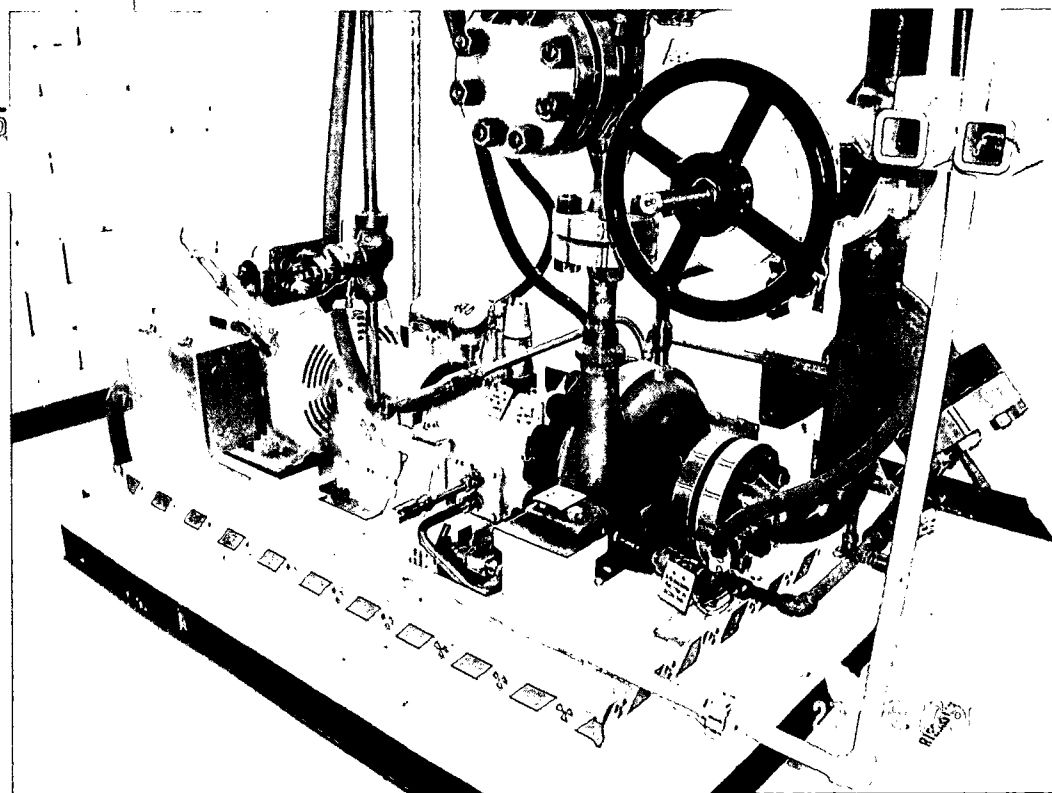


**Reactor Water Cleanup
Pump 1A
Elevation 593
December 2002**



11 9:5

December 2006

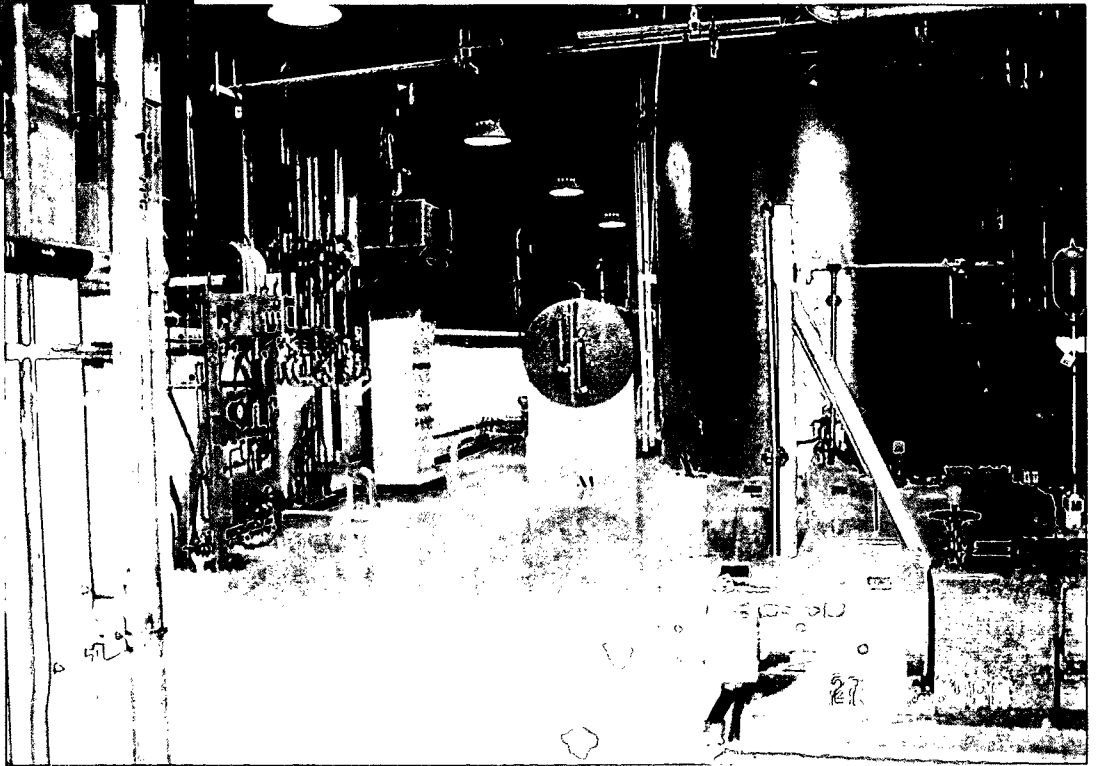
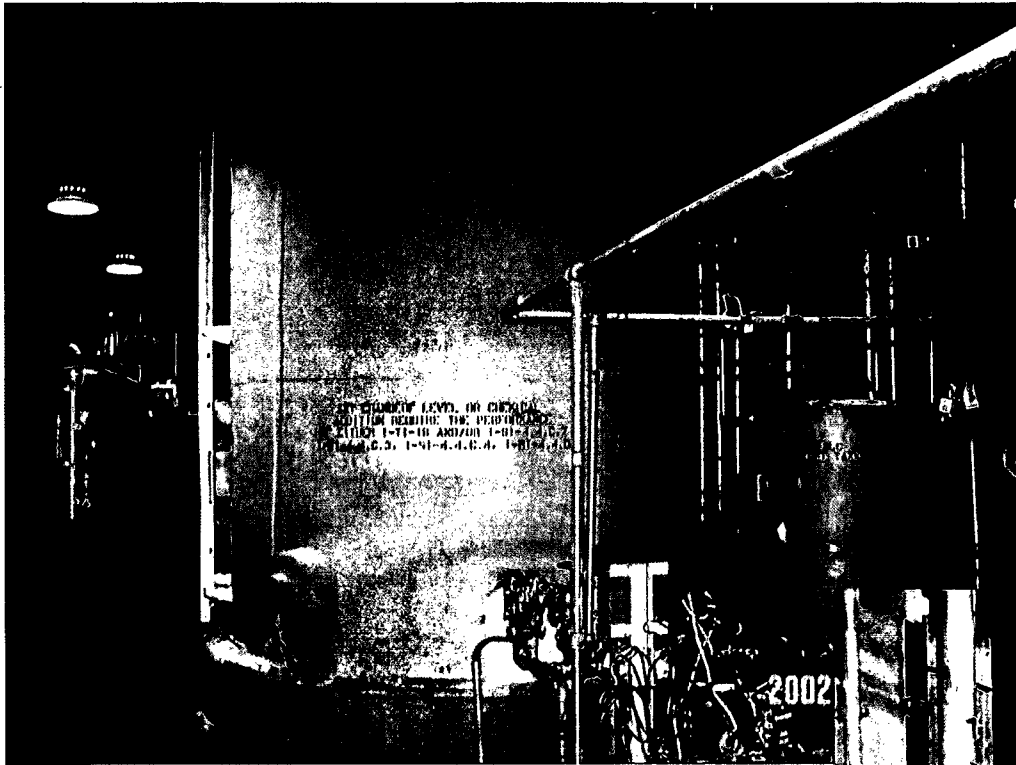




Standby Liquid Control

Elevation 639

May 2002



December 2006

Unit 1 Recovery



- Regulatory Framework Agreed to Between NRC and TVA
- Unit 1 Recovery Based on Lessons Learned from Units 2 & 3
- Scope of Unit 1 Restart Project Incorporated:
 - The same restart programs as Units 2 & 3
 - The same upgrades as installed on Units 2 & 3 including Power Uprate (105%)
- Unit 1 has the Same Licensing Basis as Units 2 & 3
- Unit 1 is Operationally Similar to Units 2 & 3
- Effective Recovery Process used for Units 2 & 3 Yielded a Ten Year Gross Capacity Factor - 91.5%

Rigorous Recovery Process



- Project is 98% Complete
 - All design modification packages issued
 - Bulk of design modifications implemented
 - Drywell work complete
 - Reactor Building work essentially complete
 - Remaining work is primarily balance of plant systems
 - NRC inspection of 26 of 30 Special Programs complete
 - 38 Systems modification complete
 - Two Phased approach to system completion
 - Modification and component testing complete
 - System and surveillance testing complete

System Turnover & Test



- Restart Test Program
 - Purpose
 - Post-maintenance and post-modification component testing
 - System testing
 - Integrated system testing

- System Turnover Process
 - Organizations Involved
 - Key Elements
 - Rigorous / Disciplined approach to demonstrating system operability
 - Results to date

System Turnover & Test



- Fuel Load Completed December 22, 2006
- Power Ascension Test Program
 - Systematic, controlled approach to full power
 - Single pump trip tests
 - Large transient testing
 - Generator load reject
 - Main steam line isolation valve closure



Trained/Qualified Staff

- Staffed for Safe Three Unit Operation
- Successful Transition to an Operating Organizational Structure
- Operations Organization
 - Experienced staff
 - Licensed on all three Units

Comprehensive Oversight



- **Self Assessments**
 - Department Self Assessments
 - Challenge Boards
 - Corrective Action Program

- **Operational Readiness Assessment Program**
 - Nuclear Safety Review Board (with external members)
 - Institute of Nuclear Power Operation Review

- **Nuclear Assurance**
 - Formal program audits
 - Focused assessments
 - Unit 1 Startup Oversight Plan

- **NRC Inspection Activities**

Conclusion



- Work is Nearly Done
- Recovery Processes are Effective and Yielding Positive Results in our Testing
- Readiness Reviews and Assessments Complete
- Plant Ownership is Imposing High Standards of Nuclear Safety
- Regulatory Process and Communications are Sound