



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



27 5:17 PM

December 2006



Standby Liquid Control
Elevation 639
May 2002



December 2006



Unit 1 Recovery



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- 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