



# **TENNESSEE VALLEY AUTHORITY BROWNS FERRY NUCLEAR PLANT**

## **UNIT 1 RESTART OVERSIGHT PANEL MEETING**

**December 7, 2005**

Enclosure 2



# Introduction

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- Welcome to the first public meeting for the Browns Ferry Unit 1 Restart Oversight Panel
- Purpose
  - Review the project status
  - Discuss upcoming activities
  - Discuss challenges
  - Solicit feedback



# Agenda

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- Introduction B. O'Grady
- BFN Site B. O'Grady
- Organizational Changes B. O'Grady
- Unit 1 Overview and Schedule M. Bajestani  
J. Valente  
E. Hollins
- Returning Systems to Service R.G. Jones
- Regulatory Status J. McCarthy
- Nuclear Assurance R. Baron
- Conclusion B. O'Grady

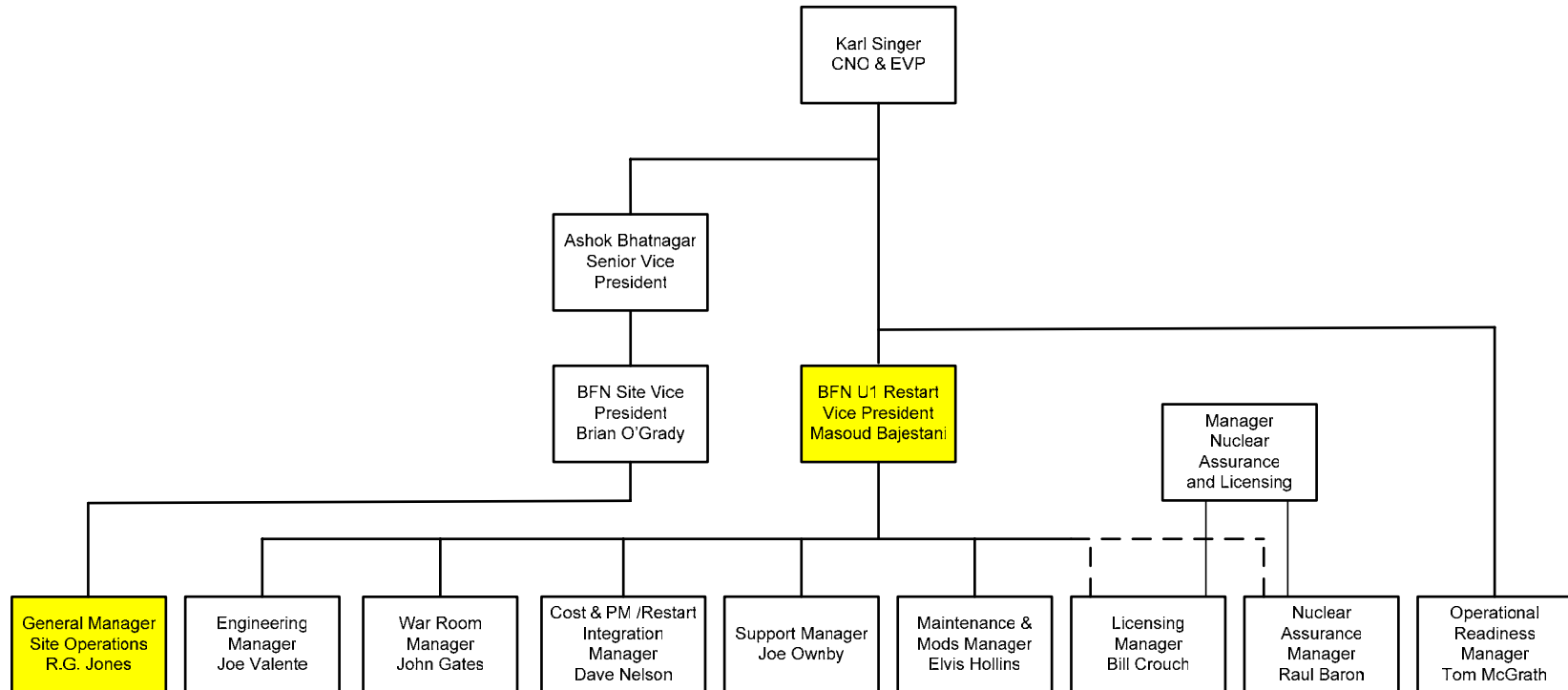


# BFN Site

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- Recent Organizational Change
- Three Unit Operation
  - All three units operationally the same
  - Site staffing plan
  - New simulator
  - Status of operational units
- Oversight
  - Operational Readiness program
  - Nuclear Safety Review Board
  - Nuclear Safety Oversight Committee
- Overall Unit 1 Restart Project 73% Complete

# Organizational Changes



Changes highlighted.

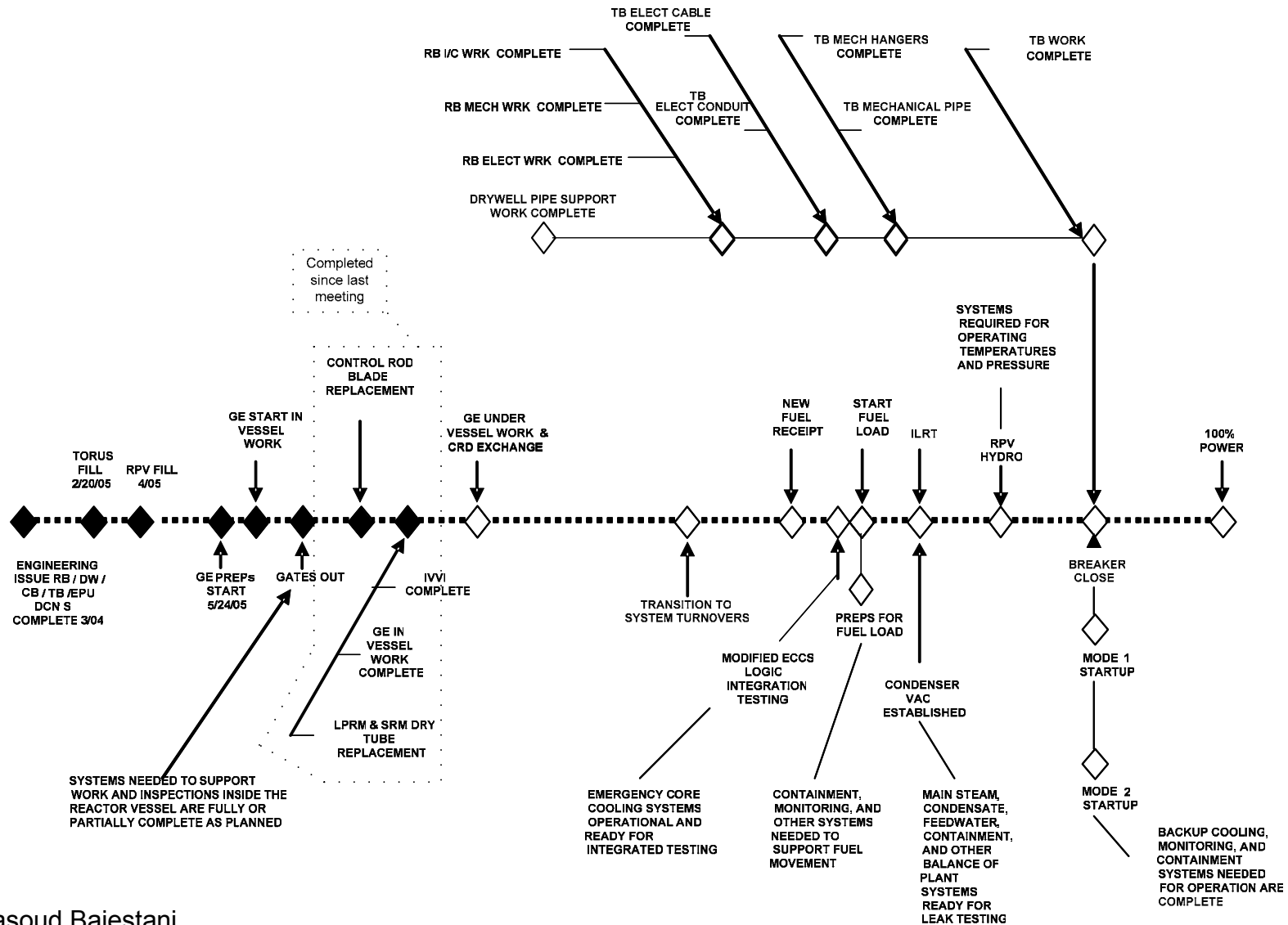


# Unit 1 Overview and Schedule

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- On Schedule for Start-up May 2007

# Significant Milestones





# Unit 1 Overview and Schedule

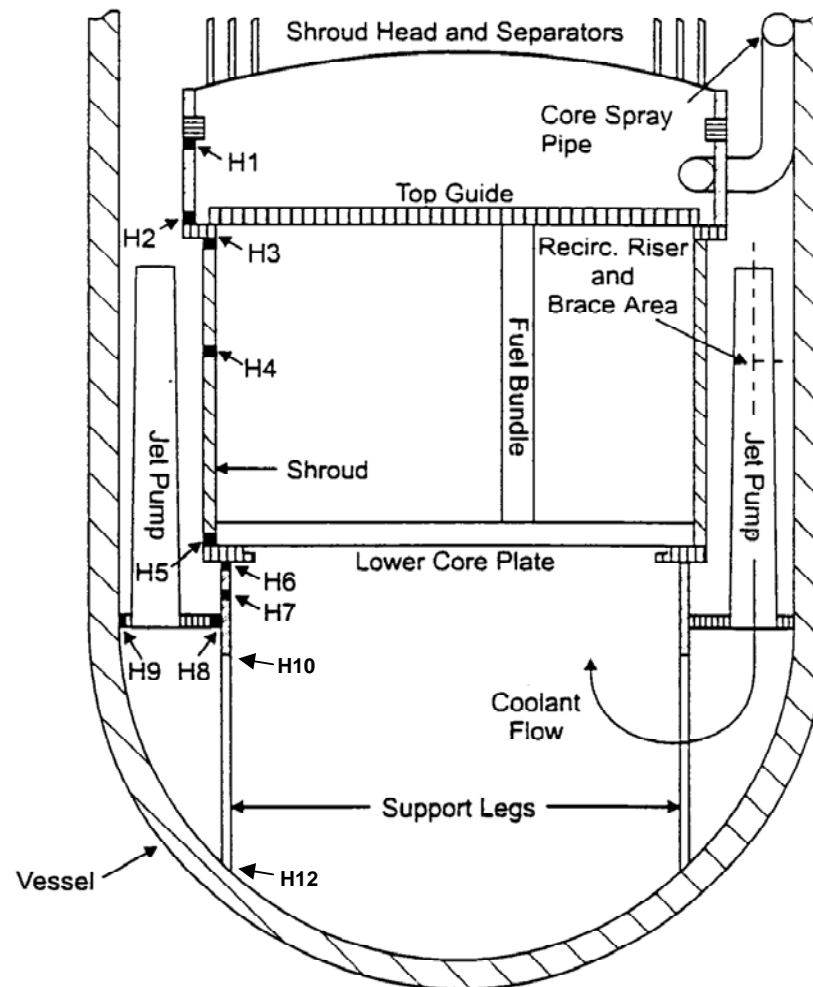
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- Engineering
  - Current status
    - Input for programmatic submittals completed
    - Input for two Technical Specifications pending NRC SERs on Topical Reports (DSS-CD and MELLLA+)
    - Overall 88 percent complete
  - Remaining activities
    - Primarily in a field support role
    - Closures
    - System testing, Surveillance Instructions and integrated testing
    - Completing System Plant Acceptance Evaluations (SPAE) and System Pre-operability Checklists (SPOCs)



# Inservice Vessel Visual Inspections

- Typical Vessel Diagram





# Inservice Vessel Visual Inspections

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- Core Shroud
  - Ultrasonic Examination on 7 horizontal welds
    - Indications noted on H1, H2, H3, H4, H5, H6, and H7 welds
    - Acceptance criteria met and no modifications or repairs required
  - Visual Examination on 4 remaining welds
    - No recordable indications on H-8, H-9, H-10, and H-12 welds
  
- Jet Pump
  - Visual Examination on all 20 Pumps
  - Indications noted
    - Set screw gaps and tack welds
  - Disposition of these minor indications is in process



# Inservice Vessel Visual Inspections

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- Core Spray and Sparger
  - Visual Examination
    - Indications noted on sparger T-box weld
    - Indications being evaluated
  
- Steam Dryer
  - Visual examination of approximately 100% of the outside area
    - Indications noted:
      - Drain channel welds
      - Top panel horizontal weld
      - Tack welds on hold down rod, gussets, and jacking bolt
    - Drain channel weld repair in progress
    - Disposition of other indications in progress



# Inservice Vessel Visual Inspections

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- Top Guide
  - Visual Examination of the Top Guide Grid area
  - Minor indications noted
  - Disposition of minor indications is in process
  
- Feedwater Sparger
  - Visual Examination of the sparger nozzles (per NUREG 0619)
  - No Recordable Indication



# Inservice Vessel Visual Inspections

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- Other
  - Visual Examination of reactor pressure vessel interior per ASME Code Requirements
  - Access Hole Cover Modification
  - Core Plate Plugs
  - Shroud Head Bolts Replacement
  - Jet Pump Sensing Line Clamp Modification
  - Core Plate Hold Down Bolts



# Unit 1 Overview and Schedule

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- Current status
  - Modifications are 69% complete
- Major Work Completed Since Last Meeting
  - Completed Unit 1 HFA relay replacement
  - Completed reactor vessel IVVI original scope
  - Installed refurbished Component Cooling Water pumps and motors
  - Installed refurbished Reactor Recirculation pumps and motors
  - Performed stress improvement of welds
  - Refurbished and reassembled the 1A Control Rod Drive pump
  - Refurbished Control Rod Drive Hydraulic Control Units
  - Refurbished and reassembled the inboard Main Steam Isolation Valves (MSIVs)
  - Replaced Local Power Range Monitors (LPRMs)
  - Replaced Source and Intermediate Range Monitors
  - Replaced the 4KV breakers



# Unit 1 Overview and Schedule

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- Major Work In-progress
  - Cable tray, conduit and support installation
  - Control Rod Drive exchange
  - Control Room Design Review modifications
  - Core Spray and Residual Heat Removal room coolers replacement
  - Large and small bore pipe replacement
  - LPRM hard cable replacement
  - Pipe hanger installation
  - Refurbishment of outboard MSIVs
  - Replacement of 185 control rod blades
  - Switchyard breaker replacement and additions
  - Traveling water screen refurbishment
  - Upgrading Madison substation



# Unit 1 Overview and Schedule

- Status of Major Commodities

<b>COMMODITY</b>	<b>INSTALLED SINCE THE 7/20/05 TVA/NRC MEETING</b>	<b>CURRENTLY INSTALLED*</b>	<b>END OF PROJECT TOTAL</b>
Piping - Large Bore	2,342 feet	11,442 feet	15,267 feet
Hangers - Large Bore	168	1,136	1,741
Piping - Small Bore	2,122 feet	14,512 feet	28,136 feet
Hangers - Small Bore	757	3,500	6,167
Conduit	25,645 feet	123,675 feet	177,008 feet (33½ miles)
Conduit Supports	2,685	13,920	20,483
Cable Terminations	13,515	35,631	106,265
Cable	129,193 feet	257,759 feet	870,788 feet (165 miles)
Cable Tray	621	9,034	9,747
Cable Tray Supports	40	1,481	1,534

\* Installed as of November 20, 2005



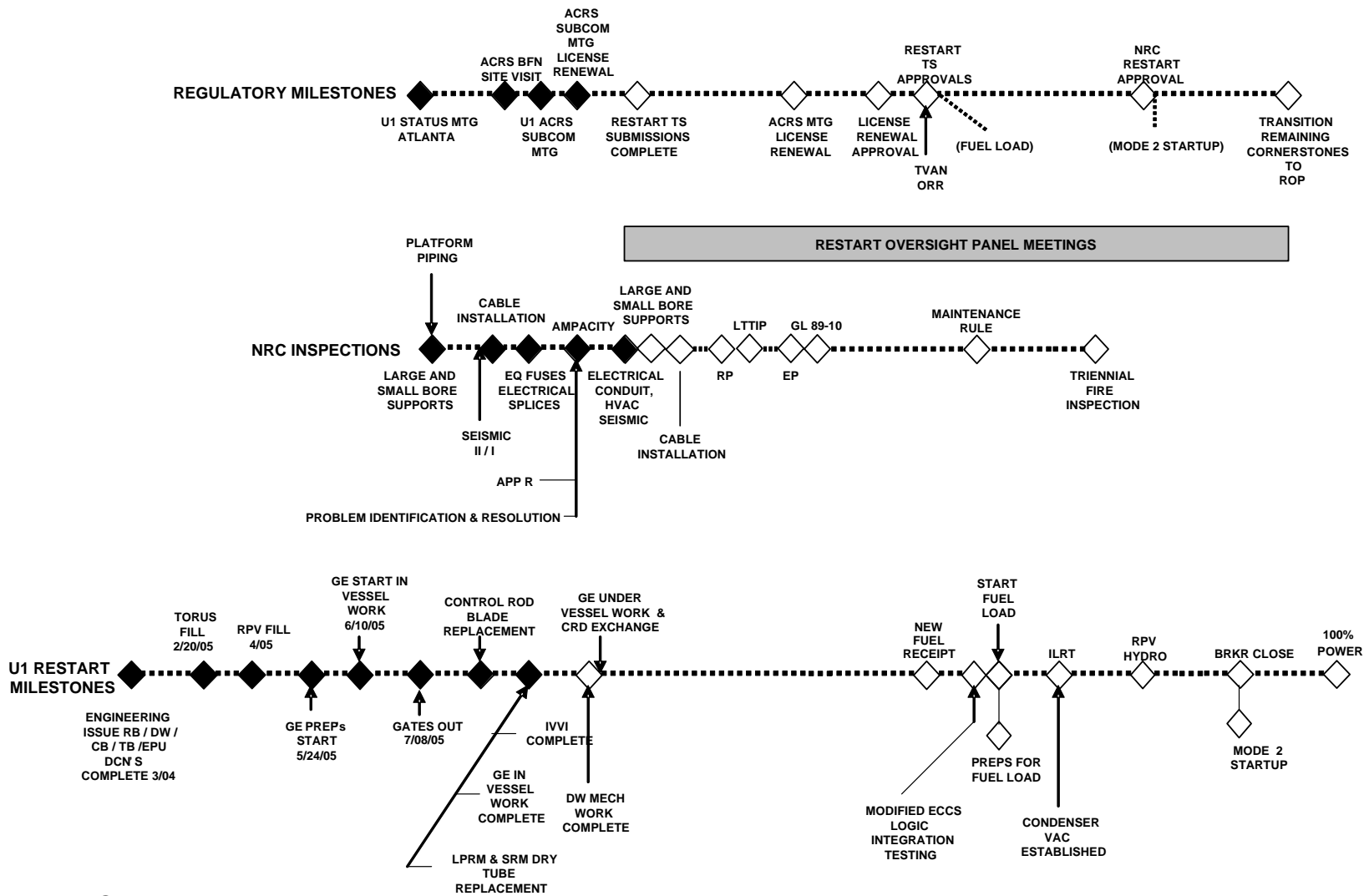
# Returning Systems to Service

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- System Plant Acceptance Evaluations
  - 34 completed
  - 27 scheduled in the next six months
- System Pre-operability Checklists (SPOCs) Phase I
  - 11 completed
  - 1 scheduled in the next six months
- System Pre-operability Checklists (SPOCs) Phase II
  - 8 completed
  - 2 scheduled in the next six months
- Residual Heat Removal Service Water Testing Completed
- Unit 1 / Units 2 and 3 Interface



# Regulatory Status





# Regulatory Status

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- Unit 1 License Amendments
  - 21 amendments identified
  - 16 submitted to date
  - 2 submittals pending NRC issuance of Topical Report SERs
  - 5 approved by NRC
  - 6 on hold pending resolution of Method 3 instrument setpoint methodology
- Relief Requests
  - 5 relief requests submitted and approved by NRC
  - Risk informed ISI to be submitted for post-restart implementation



# Regulatory Status

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- Other Unit 1 Submittals
  - Regulatory Framework
    - Submitted December 2002
    - Approved August 2003
  - 82 programmatic and completion submittals identified
    - 29 submitted to date
    - 4 approved by NRR
    - 17 closed by Inspection Report
    - Quarterly status letter being used to notify NRC upon the completion of Bulletins, Generic Letters, TMI Action Plan Items, and Nuclear Performance Plan Special Programs
- Regulatory Challenges
  - Applicability of existing BFN Appendix R/Fire Protection SERs to Unit 1



# Nuclear Assurance

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- Focus Areas
  - Areas with noted improvement and reduced Nuclear Assurance attention
    - Welding, material control, coatings, piping/pipe supports, and Fire Protection
  - Continued Nuclear Assurance attention
    - Control of work, Mechanical and Electrical installation, testing, and system return to service



# Conclusion

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