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Browns Ferry Nuclear Plant Filtering Strategies

January 9, 2013

Preston Swafford, Executive Vice
President and Chief Nuclear Officer
Tennessee Valley Authority



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Discussion Points

- **TVA Post-Fukushima Strategy**
- **TVA FLEX Initiatives**
- **TVA Containment Vent Approach**



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TVA Post-Fukushima Strategy

- TVA Planning Began in March 2011
- Key Elements of Strategy
 - Prevent Fuel Damage
 - Maintain Containment Integrity
 - Prevent Widespread Land Contamination
- TVA Strategy Elements Are Consistent with Industry Objectives

- Increase Coping Time
 - Extend DC Power Availability
 - Provide Additional Installed Robust AC Power and Pumping Capacity
 - Minimize Plant Staff Burden on Implementation
 - Maximize Onsite Resources



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TVA FLEX Initiatives

- Increase Coping Time (Continued)
 - Extend DC Power Availability
 - Protected 200 KVA Diesel Generators
 - Rapid Connection to Battery Chargers



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TVA FLEX Initiatives

- Increase Coping Time (Continued)
 - Additional Onsite AC Generating Capacity
 - Install 3MW Diesel Generator Per Unit
 - Flexible Power Distribution Design
 - Protected in Hardened Bunker Building



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TVA FLEX Initiatives

- Increase Coping Time (Continued)
 - Additional Onsite Pump Capacity
 - Portable 5000 gpm Pump Per Unit
 - Spare 5000 gpm Pump Per Site
 - Capable of Vessel Injection or Drywell Spray
 - Emergency Operating Instruction Changes



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TVA FLEX Initiatives

- Increase Coping Time (Continued)
 - Integrated Approach with NFPA 805 Solution
 - Installation of Additional Installed Injection System Per BFN Unit
 - “Motorized” RCIC System
 - Capable of Being Powered by Installed AC or Fukushima DGs



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TVA FLEX Initiatives

- TVA Coping Summary
 - A robust coping approach provides a diverse and flexible means to prevent fuel damage and maintain containment.
 - EOI improvements will guide operators in use of robust coping tools.



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TVA Containment Vent Approach

- TVA Tier 1 Reliable Hardened Vent
 - Separate Vent Header Per Unit
 - Reliability Enhancements Included
 - Design Provides Footprint for Potential Future Filter Installation
 - Drywell Vent Will Be Included in Design
- TVA is Exploring Filter Design Options



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TVA Containment Vent Approach

- TVA Evaluation of Dry Filters
 - Robust Coping Strategy Implemented Using Improved EOIs Will Significantly Reduce Likelihood of Severe Accident
 - TVA Determining Potential Insights of Source Term More Representative of “Delayed” or “Disrupted” Coping Strategy
 - Simple Dry Filter Design May Integrate Better With Robust Coping Strategy



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TVA Post-Fukushima Strategy

- TVA Perspective on SECY 12-0157
 - TVA is Interested in Timely Incorporation of Fukushima Lessons Learned
 - TVA Prepared for Timely Implementation of Performance Based Approach to Containment Vent Filter Issue



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List of Acronyms

- AC Alternating Current
- BFN Browns Ferry Nuclear Plant
- BWROG Boiling Water Reactor Owner's Group
- DC Direct Current
- EOI Emergency Operating Instruction
- FLEX Diverse and Flexible Coping Strategy
- GPM Gallons Per Minute
- NFPA National Fire Protection Association
- RCIC Reactor Core Isolation Cooling
- TVA Tennessee Valley Authority