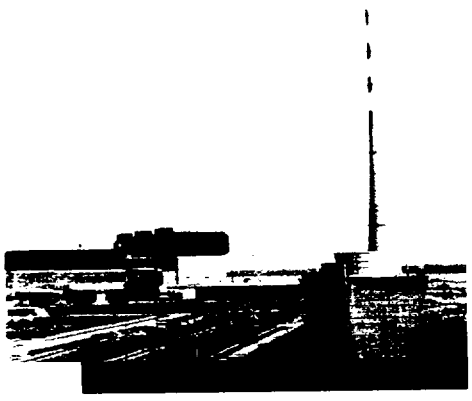
Tennessee Valley Authority
Browns Ferry Nuclear Plant
Alternative Source Term Implementation



TVA/NRC Meeting

Nuclear Reactor Regulation - Rockville MD

July 10, 2002

Enclosure 2

Agenda

- Introduction/Meeting Objectives
- Background
- Analysis Overview
- Analysis Results
- Submittal Content
- Unit 1 Synergy
- Summary and Conclusion

Introduction/Meeting Objectives

- Introduction

- Meeting Objectives
  - Preview AST Analysis Results
  - Discuss Submittal Content
  - Describe Approach for Unit 1
  - Notify Staff of Schedule for Submittal and Need Date for Review

Background

- Initial Meeting with NRC Staff January 16, 2002
  - Discussed AST Approach, Submittal Content and Schedule
- Contracted Polestar Applied Technology, Inc. to Perform Analysis
- Submittal in Final Approval
  - Incorporates Applicable RAIs from Previous AST Amendments
- Plan to Submit by July 31, 2002
- Approval Needed by April 2003, to Support Extended Power Uprate

Analysis Overview

- BFN Design Features
  - All 3 Units Essentially Identical
  - Pressurized Control Room
  - Two Intakes for Control Room Emergency Ventilation (CREV) System
  - 600 Feet Stack
  - Common Secondary Containment for all 3 Units
  - Main Steam Lines Seismically Rugged

Analysis Overview (Cont.)

- Analysis Scope
  - Loss of Coolant Accident (LOCA)
  - Main Steam Line Break (MSLB)
  - Refueling Accident (RA)
  - Control Rod Drop Accident (CRDA)

Analysis Overview (Cont.)

- Analysis Assumptions
  - Bounding Core Fission Product Inventory
  - No Credit for Standby Gas Treatment Charcoal Adsorption
  - No Credit for CREV Charcoal Adsorption
  - No Credit for Drywell Spray
  - Standby Liquid Control (SLC) System Operation for Suppression Pool pH Control
  - ECCS Leakage
  - Steamline and Condenser Model for Particulate Deposition
  - New X/Q Instantaneous Ground Level Puff Release for Main Steam Line Break

Analysis Results

Design Basis Accident	Control Room Dose	Low Population Zone Dose	Exclusion Area Boundary Dose
LOCA	1.25 rem (5 rem limit)	1.25 rem (25 rem limit)	1.02 rem (25 rem limit)
MSLB	0.41 rem (5 rem limit)	0.65 rem (25 rem limit)	1.3 rem (25 rem limit)
RA	0.38 rem (5 rem limit)	0.33 rem (6.3 rem limit)	0.67 rem (6.3 rem limit)
CRDA	0.25 rem (5 rem limit)	0.68 rem (6.3 rem limit)	1.19 rem (6.3 rem limit)

Submittal Content

- Consistent with RG 1.183 without Exception
- Extensive Effort to Incorporate Applicable RAIs from Previous AST Amendments
- Technical Specification Changes
  - Eliminate Requirement for Charcoal in Standby Gas Treatment and CREV Systems
  - Eliminate Requirement for Secondary Containment, Standby Gas Treatment, and CREV during Movement of Irradiated Fuel and Core Alterations
  - Increase the Volume and Concentration of Sodium Pentaborate Solution in SLC Tank

Submittal Content (Cont.)

- Other License Changes
  - –Add New SLC System Function to Control Post-Accident Suppression Pool pH
  - –Delete License Condition That Was Previously Met Regarding Analysis of Design Basis Accident
- Affected FSAR Chapter 14 Sections for NRC Information

Unit 1 Synergy

- TVA Plans to Restart Unit 1 by 2007
- AST is Being Requested for All 3 Units
  - –Only Refueling Accident Analysis Complete for Unit 1
  - –Due to Essentially Identical Units, Analysis is Expected to Give Similar Results
  - –Existing Unit 1 License Condition C. (4) States:

    The licensee shall review the Technical Specification (TS) changes made by License Amendment No. 234 and any subsequent TS changes, verify that the required analyses and modifications needed to support the changes are complete, and submit them for NRC review and approval prior to entering the mode for which the TS applies. This amendment is effective immediately and shall be implemented prior to entering the mode for which the TS applies.

  - –License Condition Provides Basis to Approve AST for Unit 1

Summary and Conclusion

Tim Abney