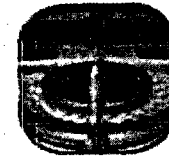
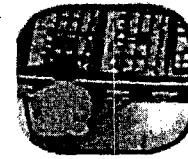
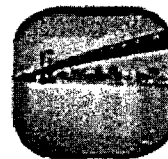


Constellation Energy

Nine Mile Point 1 Alternate Source Term

NRC Meeting
December 4, 2006

The way energy works.





Agenda

- Introductions
- NMP1 Design Overview
- Limiting Design Basis Accident (DBA) Analyses
- Suppression Pool pH Control
- Technical Specification Revisions



Constellation Attendees

<u>NAME</u>	<u>TITLE</u>
Todd Fiorenza	NMP Design Eng'g Manager
Glenn Stinson	NMP Sr. Analyst
Dennis Vandeputte	NMP Sr. Licensing Engineer
Jim Metcalf	Polestar Applied Technology
Phil Wenglowksi	CGG Nuclear Fuel Services
Gerry Gryczkowski	CGG Nuclear Fuel Services



NMP1 Licensing Background

- Initial Operating License - 1969
- Full-Term Operating License - 1974
- Pre-GDC Plant
- AST Submittal Satisfies Commitment Made in GL 2003-01 Response



NMP1 Design Overview

- BWR2 Reactor, 1850 MWt
 - 2 Main Steam Lines
- Mark I Containment
 - Drywell (inverted light bulb)
 - Suppression Chamber (torus)



NMP1 Design Overview

- Reactor Building (Secondary Containment)
 - Encloses Primary Containment
 - Houses ESF Systems
 - Houses New and Spent Fuel Storage Facilities
 - Poured Concrete up to Refuel Floor
 - Metal Wall Panels and Roof Deck Above Refuel Floor
- Reactor Building Emergency Ventilation System (RBEVS)
 - Maintains Negative Pressure in RB Post-Accident
 - 2 Trains of Fans and Filters (HEPA and Charcoal)



NMP1 Design Overview

- Control Room
 - Located in Southeast Corner of Turbine Building
 - Positive Pressure Maintained During Normal Operation and Post-Accident
 - Maximum Measured Inleakage of 45 scfm

- Control Room Air Treatment System (CRATS)
 - Filters Intake Air Post-Accident (HEPA, Charcoal)
 - Initiates Automatically on LOCA, MSLB, or High Radiation in Intake Air



Limiting DBA Analyses

- DBAs Analyzed
 - Loss of Coolant Accident (LOCA)
 - Main Steam Line Break (MSLB) Accident
 - Refueling Accident
 - Control Rod Drop Accident (CRDA)
- Regulatory Guide 1.183 Conformance



Limiting DBA Analyses

- New Atmospheric Dispersion Factors (X/Q values)
 - Based on on-site meteorological data collected from 1997 through 2001
 - PAVAN and ARCON96 computer codes used



Limiting DBA Analyses

- Loss of Coolant Accident (LOCA)
 - Evaluation Methodology
 - Radionuclide Release Pathways
 - Release Inputs and Timing
 - Transport Inputs
 - Removal Inputs
 - Single Failure Considerations
 - Conservatism



Limiting DBA Analyses

- Main Steam Line Break (MSLB) Accident
 - Revised reactor coolant specific activity limits consistent with ITS
 - Instantaneous ground level puff release dispersion factor for Control Room
 - No credit for CRATS filtration
 - Dose conversion factors per Table 2.1 of FGR-11



Limiting DBA Analyses

- Refueling Accident
 - Post-shutdown 24-hour decay period assumed
 - Instantaneous release with no credit for secondary containment
 - No credit for RBEVS or CRATS filtration



Limiting DBA Analyses

- Control Rod Drop Accident (CRDA)
 - Two cases considered
 - Release via main condenser leakage
 - Release via mechanical vacuum pump
 - No credit for CRATS filtration



Suppression Pool pH Control

- Credit for sodium pentaborate solution addition by the Liquid Poison System (LPS)
- Suppression pool pH calculation performed using methodology approved by NRC for Grand Gulf
- Evaluated suitability of LPS to perform post-LOCA pH control function
- Reviewed procedural guidance for post-LOCA LPS injection



Technical Specification Revisions

- New Definitions - Dose Equivalent I-131; Recently Irradiated Fuel
- Require LPS Operability in Hot Shutdown
- Revised RCS Coolant Activity Limits and Surveillance Requirements
- Relaxed Secondary Containment, RBEVS, and CRATS requirements
- Delete License Condition 2.C.(3)



Questions?
