

SNC000006



# Vogtle 3 & 4 COL

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Southern Nuclear Operating Company  
VEGP Units 3 & 4  
Combined Licenses and  
Limited Work Authorization

Mandatory Hearing

Safety – Panel 1

September 27, 2011

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# **Selected Topics – Chapters 1, 2 & 3**

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- ◆ **10 CFR Parts 30, 40 and 70**
- ◆ **Site Characteristics**
  - ◆ **Early Site Permit IBR**
- ◆ **Waterproof Membrane Departure**
- ◆ **AP1000 DCD Key Safety Information IBR**
  - ◆ **Shield Building**
  - ◆ **Containment Pressurization Relief System**



## 10 CFR Parts 30, 40 and 70

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- ◆ Information needs generally provided in COLA, including:
  - ◆ Final Safety Analysis Report
  - ◆ Physical Security Program
- ◆ Applicant responses provided additional NRC reviewer requested information
  - ◆ SNM MC&A Program description to address control of and accounting for SNM (Part 74)
  - ◆ SNMPPP description to address new fuel receipt/storage prior to an operational Protected Area (§ 73.67)
  - ◆ New Fuel Shipping Plan to address transfer of control of new fuel to a qualified shipper for return to mfg. [73.67(g)]
  - ◆ Established controls on types, form, and quantities of byproduct, source, and special nuclear material



## **10 CFR Parts 30, 40 and 70 (cont'd)**

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- ◆ Requested exemption to requirements in Parts 70 & 74 to apply similar exceptions from Part 50 requirements to Part 52 licensees
- ◆ Draft guidance developed in 2011 to bridge the gap between Part 52 and Parts 30, 40 and 70
- ◆ License Conditions will address implementation of key nuclear material programs and controls on nuclear material



## Site Characteristics in the ESP

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COLA FSAR Table 2.0-201 includes comparison of site characteristics to DCD site parameters (most were resolved in the Early Site Permit)

### ◆ Meteorological

- ◆ Maximum and minimum air temperatures – bounded \*ESP
- ◆ Wind speeds – gusts and tornado – bounded \*ESP
- ◆ Precipitation – bounded \*ESP
- ◆ Dispersion values – bounded \*ESP
- ◆ Exclusion area – bounded \*ESP

### ◆ Flooding

- ◆ Water level – bounded \*ESP
- ◆ Groundwater level – bounded \*ESP

## Site Characteristics in the ESP (cont'd)

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- ◆ Soil related
  - ◆ Static bearing capacity – bounded \*ESP
  - ◆ Dynamic bearing capacity – bounded \*ESP
  - ◆ Shear wave velocity – bounded \*ESP
  - ◆ Lateral variability – bounded \*ESP
  - ◆ Settlement evaluation – bounded \*ESP
  - ◆ Liquefaction potential – none identified \*ESP
  - ◆ Soil angle of internal friction – bounded \*ESP
- ◆ Seismic
  - ◆ Site specific analysis shows acceptable response \*ESP
  - ◆ Fault displacement potential – none identified \*ESP

# Waterproofing Membrane Departure

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- ◆ DCD Subsection 3.4.1.1.1.1
  - ◆ Sprayed-on waterproofing membrane system
    - ◆ Solids material based on polymer-modified asphalt or polyurea
- ◆ VEGP materials
  - ◆ elastomeric membrane based on methyl methacrylate resins
  - ◆ approved at ESP stage
  - ◆ architectural aid to limit infiltration of subsurface water
  - ◆ consistent with that provided by DCD design
  - ◆ provide for adequate transfer of horizontal seismic shear
- ◆ Verified by site-specific ITAAC to confirm conservative coefficient of friction

# DCD Key Safety Information

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- ◆ Nuclear Island Structures
  - ◆ e.g., Shield Building redesign
    - ◆ Section 3.7 – Seismic Design (methodology)
    - ◆ Section 3.8 – Structural Design (description)
- ◆ DCD describes the shield building and its functions
  - ◆ Surrounds and protects the containment vessel
  - ◆ Surrounds and protects safety systems
  - ◆ Shields from radioactivity inside the containment vessel
  - ◆ Integral to passive containment cooling function
- ◆ These sections incorporated by reference into the COLA at FSAR Sections 3.7 and 3.8





## DCD Key Safety Information (cont'd)

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- ◆ Nuclear Island Structures (cont'd)
  - ◆ Numerous related ITAAC in DCD Tier 1 Section 3.3
  - ◆ See related DCD Tier 1 Figures 3.3-1 to 3.3-10
  
- ◆ Safety Systems
  - ◆ e.g., Vacuum Relief System incorporated by reference at COLA FSAR Section 9.4
  - ◆ e.g., Containment Pressure Evaluation incorporated by reference at COLA FSAR Section 6.2

# Abbreviations and Acronyms

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◆ CFR	Code of Federal Regulations
◆ COL	Combined License
◆ COLA	Combined License Application
◆ CSDRS	Certified Seismic Design Response Spectra
◆ DCD	Design Control Document
◆ ESP	Early Site Permit
◆ FSAR	Final Safety Analysis Report
◆ ITAAC	Inspections, Tests, Analyses, and Acceptance Criteria
◆ MC&A	Material Control and Accounting



## **Abbreviations and Acronyms (cont'd)**

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- ◆ PPP            Physical Protection Program
- ◆ RAI           Request for Additional Information
- ◆ SNC           Southern Nuclear Operating Company
- ◆ SNM          Special Nuclear Material

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

**BEFORE THE COMMISSION**

**In the Matter of**

**Southern Nuclear Operating Company**

**(Vogtle Electric Generating Plant,  
Units 3 and 4)**

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**Docket Nos. 52-025-COL and 52-026-COL**

**September 20, 2011**

**CERTIFICATE OF SERVICE**

I hereby certify that copies of EXHIBIT SNC000006 for the Vogtle Units 3 & 4 COL Mandatory Hearing in the above-captioned proceeding have been served by electronic mail as shown below, this 20th day of September, 2011, and/or by e-submittal.

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Respectfully submitted,

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