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SNC000006



Vogtle 3 & 4 COL

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

- ◆ **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

- ◆ 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)

- ◆ 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- ◆ Draft guidance developed in 2011 to bridge the gap between Part 52 and Parts 30, 40 and 70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

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)

- ◆ 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

- ◆ 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

- ◆ 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)

- ◆ 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

◆ 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)

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

BEFORE THE COMMISSION

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