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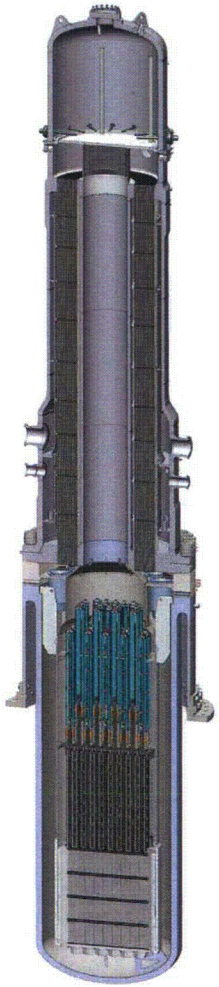
Clinch River Construction Permit Application Development

Second Regulatory Framework Workshop
November 3, 2011



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Agenda

- Introduction
- Workshop Objectives
- Translating RFDs to the PSAR
- Questions from First Workshop
- RFDs for Discussion Today
  - PSAR Chapter 1
  - PSAR Sections 3.1-3.2, 3.3, 3.5, 3.6, 3.10, 3.11, 3.12-3.13
  - PSAR Sections 9.2, 9.3, 9.5.2, 9.5.3, 9.5.4
  - PSAR Chapter 11
- Conclusion

Establishing Regulatory Alignment Consistent with NRC Requirements and Guidance

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Key Assumptions

- Use of Part 50
- RG 1.70/SRP
- Timing of SAMDA
- One design/one review

NRC Response Received

Regulatory Framework

- Regulatory Assessment
- CP Application Level of Detail
- OL/Design Certification Link
- Detailed at Section Level

NRC Interaction

Construction Permit Application

- PSAR
- ER
- Emergency Plan
- Security Plan
- General and Administrative

Workshop Objectives

- Present proposed Clinch River Licensing Baseline
  - Regulatory Framework Documents
  - Section Outlines
- Reach understanding how the RFDs and Section Outlines translate into a PSAR section
- Engage NRC Staff in discussions on RFD/Section Outline content
- Develop understanding of NRC CPA level of detail needs
- Address Questions from First Workshop
- Obtain NRC agreement on Identified Issues
- Identify areas for future interaction

Goal: NRC Acceptance of Licensing Baseline for CPA

Regulatory Framework Purpose

- Regulatory Framework Documents will be prepared for all PSAR Sections and for Parts 1 (General), 4 (Emergency Planning) and 5 (Physical Security Plan)
- Current Regulations and Regulatory Guidance will be addressed
  - Construction Permit (CP) (PSAR)
  - Design Control Document (DCD) (Standard Plant Design)
  - Operating License (OL) (FSAR)
- Establish Licensing Baseline for Construction Permit
  - Regulations
  - Regulatory Guidance
  - Generic Communications
  - Level of Detail

Regulatory Framework Purpose

- Illustrate alignment between CPA, B&W NE mPower™ Design Certification Application (DCA), and the OL Application
- Provide input to CPA development schedule

Regulatory Framework

Regulatory Framework Document

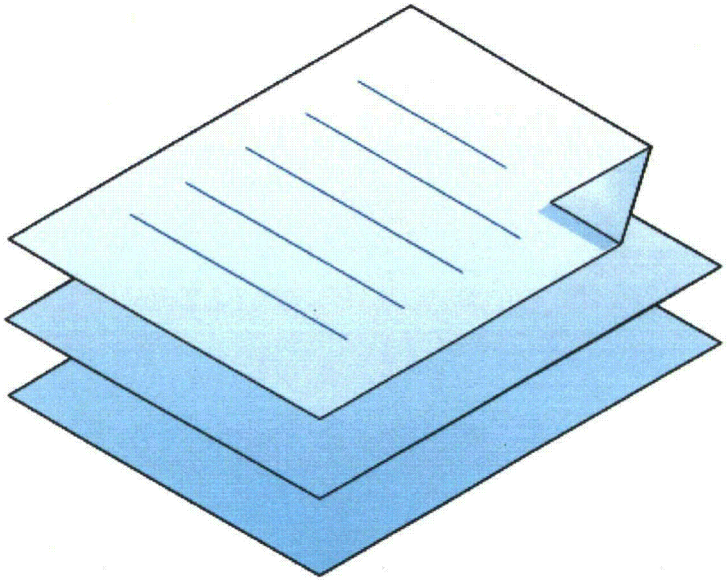
- Regulatory Requirements
- Regulatory Guidance
- Industry Guidance
- Level of Detail
- Key Issues

Section Outline

- Section Organization
- Content Description
- Methods and Analysis
- Tables and Figures

Engineering Inputs

- Design Basis
- Design Criteria
- System Descriptions
- Preliminary Analysis
- Drawings
- Topical Reports



PSAR Section X.Y

PSAR Level of Detail

- RFD "Regulatory Basis for Section Content" and "CPA Information beyond RG 1.70" will guide level of detail and required scope of section
- Consideration of RG 1.206 and operating experience and industry issues
- Unique mPower design features are considered in level of detail

PSAR Design Basis

- Function from System Description
- SSC Classification from PSAR Section 3.2
- Effects of Natural Phenomena - refer to Sections 3.3 (wind & tornado), 3.4 (floods), 3.5 (external missiles) and 3.7 (seismic)
- GDCs – see Section 3.1
- Codes and Standards from "Regulatory Requirements" and "Industry Guidance"
- Regulatory Guide from "Regulatory Guidance" – refer to Section 1.9
- Generic issues - refer to Section 1.9

PSAR Design/System Description

- PSAR Content Derived From
  - Preliminary system design descriptions
  - Preliminary drawings and P&IDs
  - Preliminary system calculations and analyses
- Address Section Outline
- Reference to related Sections for supporting functions:
  - Ventilation
  - Radiation monitoring
  - Instrumentation
  - Power supply

PSAR Safety/Design Evaluation

- Compliance with GDC - Section 3.1
- Compliance with Regulatory Requirements
- Conformance to Regulatory Guides - Section 1.9
- Preliminary Engineering Evaluations (as noted in the Section Outlines)

Questions from First Workshop

- Administrative:
  - RFDs are being developed for all PSAR Sections, and CPA Parts 1 (General), 4 (EP), and 5 (Security)
  - RFD and Section Outlines define the scope and level of detail for the PSAR, DCA, and FSAR
  - The Section 9.1.2 Mock Up illustrated how the RFD and Section Outline would be translated into the PSAR
  - CP PSAR alignment with DCA
  - OL FSAR alignment with DCD

Questions from First Workshop

- Regulatory
  - Specific approach to inspection and testing activities will be discussed in a future meeting
  - The RFD process identifies where information supplementing Part 50 requirements will be provided
  - TVA determines when information beyond RG 1.70 is required from:
    - Unique mPower design features
    - Consideration of RG 1.206
    - Operating experience and
    - Key industry issues

Questions from First Workshop

- Regulatory (cont.)
  - OL FSAR will be aligned with DCA standard content supplemented by operational programs and site specific detailed design
  - TVA would welcome NRC audits of methodologies described in the PSAR after Docketing.
  - Current CPA submittal schedule: by fourth QTR 2013
  - LWA – not currently planned, but not ruled out
  - Part 30, 40 and 70 licenses will be applied for with the OLA

Questions from First Workshop

- Technical
  - An EP RFD (Part 4) will be presented at a future Workshop
  - The DCA will include proposed standard TS
  - NEI Templates are considered in the RFD, as applicable, and the PSAR will address adoption of the templates
  - Aircraft impact analysis required under 10 CFR 50.150 will be addressed in PSAR Chapter 19
  - PSAR Chapter 1 will include a description of the B&W mPower research and test program

Regulatory Framework Schedule

- Schedule for Future Workshops
  - November 30
  - Future Workshops planned for first QTR 2012

Regulatory Framework Presentations

- Chapter 1 – Introduction and General Description of Plant
- Sections 3.1 – 3.2 – GDC Conformance – SSC Classification
- Section 3.3 – Wind and Tornado Loadings
- Section 3.5 – Missile Protection
- Section 3.6 – Protection Against the Dynamic Effects
- Section 3.10 – Seismic and Dynamic Qualification
- Section 3.11 – Environmental Qualification
- Sections 3.12 – 3.13 – ASME Code Class 1, 2, 3
- Section 9.2 – Water Systems
- Section 9.3 – Process Auxiliaries
- Sections 9.5.2, 9.5.3, and 9.5.4 - Other Auxiliary Systems
- Chapter 11- Radioactive Waste Management

Conclusion

- Conclusion
- Recap of Questions/Comments
- Questions?