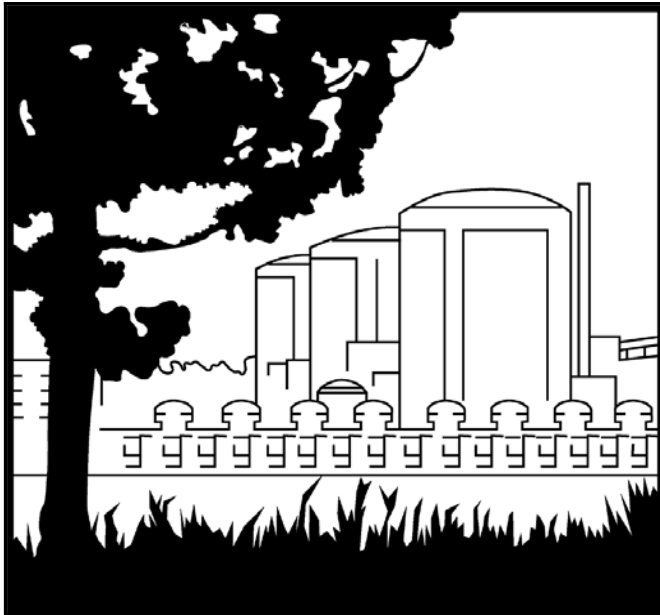


NRC Pilot Plants Observation Meeting UFSAR Change for Oconee

January 7-8, 2008
Raleigh, NC





Duke Presenter

M.R. Oates, P.E.
Duke Energy
NFPA-805 Licensing Lead

- Objectives
- NRC Guidance
- UFSAR – NFPA 805 Relationship
- UFSAR Outline - Proposed
- Oconee Example
- LAR/Transition Report
- Conclusions



Objectives

- Generic UFSAR Structure and Content for NFPA 805 Plants
- Not “dilute” UFSAR Content with too much Detail – “Point” to Other Documents Incorporated by Reference
- Provide “Roadmap” to New Licensing and Design Basis Information and Regulatory Commitments
- Current UFSAR Focused on Fire Protection Features - Revised UFSAR Equally Focused on Fire Safety Analyses
- UFSAR as a Reference for Configuration Management
- Summary information provided in the LAR
- Conclusions

Original Guidance

Regulatory Guide 1.70, *Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants, Revision 3, November 1978*

- 9.5.1 Fire Protection
 - 9.5.1.1 Design Bases
 - 9.5.1.2 Systems Description
 - 9.5.1.3 Safety Evaluation (Fire Hazards Analysis)
 - 9.5.1.4 Inspection and Testing Requirements
 - 9.5.1.5 Personnel Qualifications and Training

Additional UFSAR Guidance

Regulatory Guide 1.181, *Content of the Updated Final Safety Analysis Report in Accordance with 10 CFR 50.71(e), September 1999*

- RG 1.181 states *“The objectives of 10 CFR 50.71 (e) are to ensure that licensees maintain the information in the UFSAR to reflect the current status of the facility and address new issues as they arise, so that the UFSAR can be used as a reference document in safety analyses.”*
- RG 1.181 endorses NEI 98-03, Revision 1, “Guidelines for Updating Final Safety Analysis Reports”, dated June 1999 as providing methods that are acceptable to the NRC staff for complying with the provisions of 10 CFR 50.71(e).

NEI 98-03 Guidance, June 1999 - discusses

- Process for Updating and Modifying the UFSAR
- Use of References and Incorporation by Reference in UFSARs
- Removing Unnecessary Information from UFSARs
- Removing Commitments from UFSARs
- UFSAR Description, Scope (Content), and Level of Detail
- Reporting Requirements for Changes

Example: Section 9.5.1.2, System Descriptions

Traditional Topics:

- Water Supply
- Standpipe and Hose Stations
- Fire Extinguishers.
- Fire Alarm and Detection Systems.
- Automatic and Manual Water-Based Fire Suppression Systems.
- Gaseous Fire Suppression Systems
- Passive Fire Protection Features

NFPA 805, Chapter 3 Fundamental Fire Protection Program and Design Elements – specifies requirements for the above

Revised UFSAR will “point to” NEI 04-02 Table B-1, Upper Tier Design Documents (DBDs, etc.), as appropriate, by way of “incorporation by reference”. This concept was also a provision of Generic Letter 86-10.

- **9.5.1.1 Design Bases**
 - **Discuss applicable NFPA 805 Requirements**

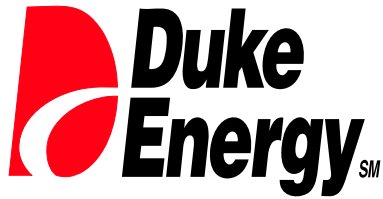
 - **Note: This section will provide a high level description of approach and point to the NEI 04-02, B-1 Tables, Upper Tier Design Documents (DBD, etc.) by reference, as appropriate**



UFSAR Outline - Proposed

(continued)

- **9.5.1.2 System Descriptions**
 - **Applicable NFPA 805 Requirements**
 - Water Supply
 - Standpipe and Hose Stations
 - Fire Extinguishers
 - Fire Alarm and Detection Systems
 - Automatic and Manual Water-Based Fire Suppression Systems
 - Gaseous Fire Suppression Systems
 - Passive Fire Protection Features
 - **Power Block structures identified** (FAQ 06-0019)
- **Note: This section will provide a high level description of approach and point to the NEI 04-02, B-1 Tables, Upper Tier Design Documents (DBD, etc.) by reference, as appropriate.**



UFSAR Outline - Proposed

(continued)

- **9.5.1.3 Safety Analyses**
 - **Nuclear Safety Capability Assessment**
 - **Performance Objectives/ Criteria**
 - Reactivity Control
 - Inventory and Pressure Control
 - Decay Heat Removal
 - Vital Auxiliaries
 - Process Monitoring
 - **Engineering Evaluations**
 - Existing Engineering Equivalency Evaluations (EEEEEs)
 - Engineering Calculations
 - **Fire Area by Fire Area Evaluations**
 - Plant Fire Areas
 - **Operations Guidance**
 - Recovery Actions

UFSAR Outline - Proposed

(continued)

- **9.5.1.3 Safety Analyses (continued)**
 - **Performance-Based Evaluations**
 - Fire Hazards Analysis
 - Fire Models
 - Fire Scenarios
 - Fire PSA Analyses
 - Changes in Risk
 - Defense-in-depth
 - Safety Margins
 - **Note: This section will provide a high level description of approach and point to the B-1 and B-3 Tables or Fire Safety Analysis (FSA) sections, as appropriate**

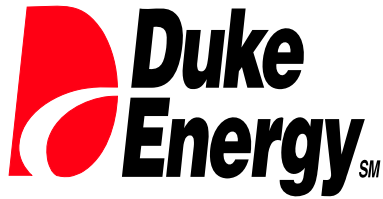


UFSAR Outline - Proposed

(continued)

- **9.5.1.4 Inspection and Testing Requirements**
 - **Discuss applicable NFPA 805 Requirements**

 - **Note: This section will provide a high level description of approach and point to the NEI 04-02, B-1 Tables, Surveillance Documents, and Monitoring Program by reference.**



UFSAR Outline - Proposed

(continued)

- **9.5.1.5 Personnel Qualifications and Training**
 - **Discuss applicable NFPA 805 Requirements**

 - **Note: This section will provide a high level description of approach and point to the NEI 04-02, B-1 & G-1 Tables, Surveillance Documents, and Monitoring Program by reference.**

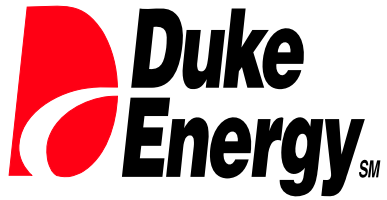
UFSAR Outline - Proposed

(continued)

■ 9.5.1.6 Fire Protection Program

- Fire Protection Plan
- Prevention
- Industrial Fire Brigade Program
- Monitoring Program
- Configuration Management Program

- **Note: This section will provide a high level description and point to the NEI 04-02, B-1 & G-1 Tables, Upper Tier Documents referenced in the B-1 Tables, Surveillance Guidance Documents, Program Management documentation and Fire Safety Analysis (FSA) sections, as appropriate**



Oconee Example

- **Proposed Oconee UFSAR Outline - detailed
(see Attachment A)**
- **Example UFSAR Section 9.5.1.2
(see Attachment B)**



UFSAR Discussion Items

- Current Outline based on RG 1.70 is nearly 30 years old
- Potential Changes for Discussion:
 - Combine 9.5.1.1, Design Basis and 9.5.1.2, System Descriptions into new 9.5.1, Fire Protection Systems and Features
 - Split 9.5.1.3 Safety Analysis into 2-3 sections
 - Nuclear Safety, and Radiological Release
 - Create new Fire Protection Program section
 - Focused on “maintenance” of fire protection capability and compliance
 - Move 9.5.1.4 and 9.5.1.5 into new Fire Protection Program section

Next Steps

- Complete Draft Writeups of Remaining Sections and Adjust UFSAR Outline
 - For example, discussion relative to “Power Block” might fit better in 9.5.1.3, Fire Area to Fire Area Transition and B-3 Table
- Seek Input and Consensus
 - Licensing Organizations
 - Fire Protection Program Owners
 - NEI Task Force Members
 - Users of UFSAR Information
 - Mod Engineers
 - Operations Procedure Writers



LAR/ Transition Report

- Summary discussion of the changes to the Updated Final Safety Analysis Report (UFSAR)

- Note: Detailed UFSAR Change submitted on normal UFSAR Amendment Cycle
 - UFSAR Information Incorporated by Reference in FSAs and/or DBDs, etc.
 - FSAs and/or DBDs completed after LAR

- Statement that the changes will be made in accordance with 10 CFR 50.71(e).

Conclusions

- **Proposed UFSAR Change Consistent with RG 1.70 and RG 1.181**
- **Provides “Roadmap” to New Licensing and Design Basis under 10 CFR 50.48(c) and NFPA 805**
- **Aligns with NFPA 805 Requirements**
 - **Demonstrates that Safety Objectives of NFPA 805 are met – documented in:**
 - **B1, B2, and B3 Tables**
 - **Fire Safety Analysis (FSA) and/or DBDs**
- **Meets Objective of Reference Document for Safety Analyses and Configuration Management**