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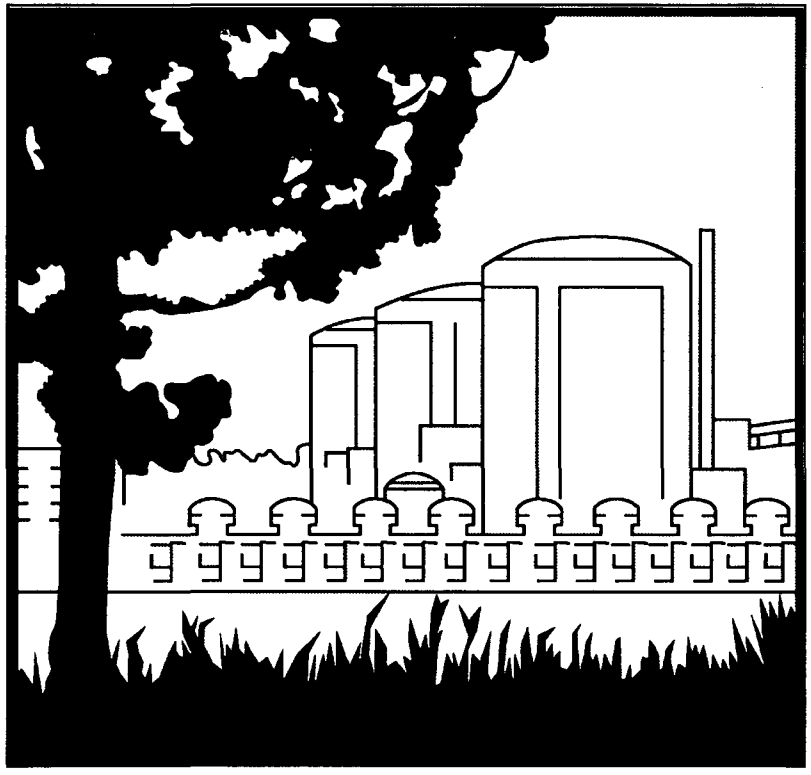

Proposed Technical Specifications for Oconee Digital RPS/ES

Oconee Nuclear Station

February 27, 2007

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Agenda

- Opening Remarks
- RPS/ES Digital Design
- Proposed Tech Spec Changes
- Discussion of Proposed Tech Spec Changes
- Closing Remarks

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Opening Remarks

- Introductions
- Purpose of Meeting & Expected Outcome
  - Meeting Purpose
    - Provide NRC with an understanding of proposed Oconee Tech Specs and the reason for retaining separate Tech Specs for RPS and ES
  - Expected Outcome
    - Common understanding of Oconee design and proposed Tech Specs
    - Agreement on structure of proposed Tech Specs for RPS and ES

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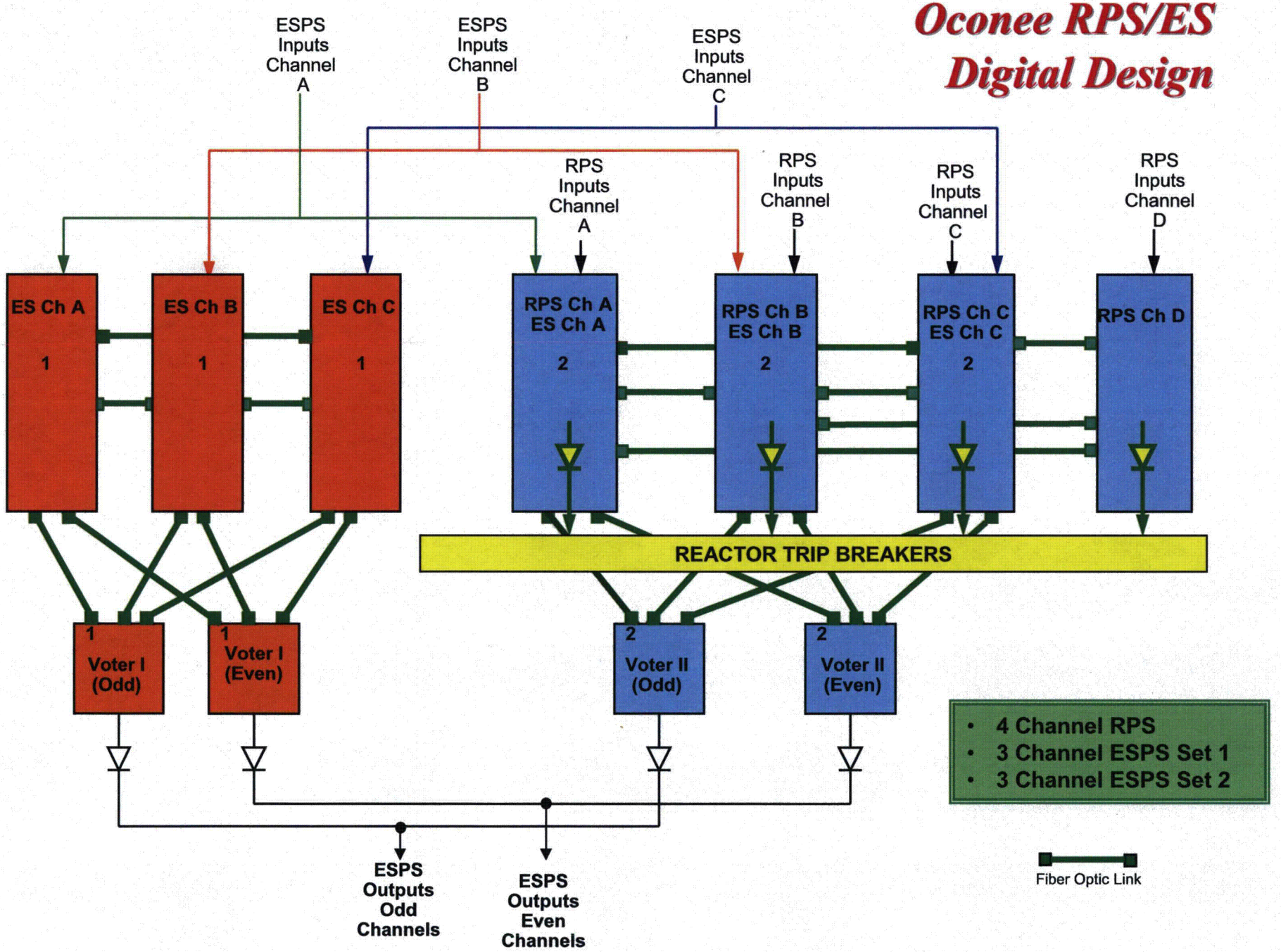
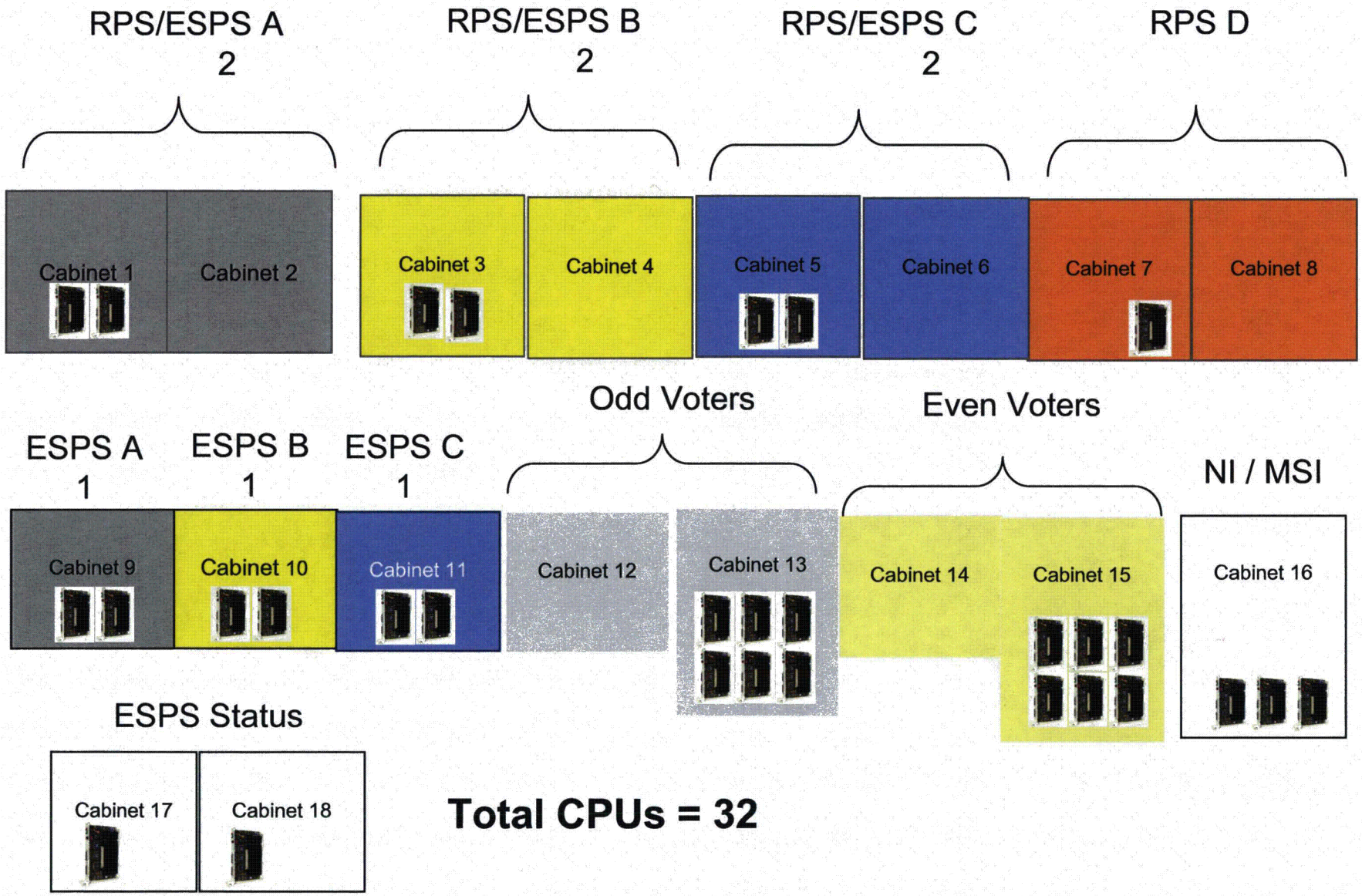
Oconee RPS/ES Digital Design

- The digital RPS will be functionally equivalent to the analog system it replaces
- The digital ESPS will be functionally equivalent to the analog system it replaces
- The modification adds a redundant set of ESPS A, B and C channels that share processors with RPS channels A, B and C

Oconee RPS/ES Digital Design



Processor Distribution



Total CPUs = 32

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Affected Technical Specification Changes

RPS Tech Specs

- **TS 3.3.1, RPS Instrumentation**
- **TS 3.3.2, RPS Manual Reactor Trip – No changes**
- **TS 3.3.3, RPS – Reactor Trip Module**

ESPS Tech Specs

- **TS 3.3.5, ESPS Input Instrumentation**
- **TS 3.3.6, ESPS Manual Initiation – No changes**
- **TS 3.3.7, ESPS Output Instrumentation**

Note: Oconee has one set of Technical Specifications that apply to all three units and operators are licensed on all three units

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Proposed Technical Specification Changes

- Extend Required Action (RA) Completion Time (CT) for placing inoperable channel in trip from 1 hour to 4 hours
- Eliminate 12 hour channel checks
- Extend channel functional test frequency to 18 months
- Other potential changes are under consideration

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Discussion of Proposed Tech Spec Changes

- The digital RPS and ESPS are functionally equivalent to the analog systems they replace
- There are two redundant sets of ESPS channels, only one of which is required to be operable
- One set of ESPS channels (A, B, and C) shares processors with RPS channels A, B, and C
- Changes to Tech Specs are minor – extending CTs and surveillance intervals

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Discussion of Proposed Tech Spec Changes

(continued)

- Retaining separate RPS and ESPS Tech Specs reduces operator burden associated with implementation
- An inoperable RPS/ESPS processor will require entry into RA for RPS Tech Spec
- An inoperable RPS/ESPS processor would only require entry into RA for the ESPS Tech Spec if the other redundant set is inoperable
- An inoperable RPS or ESPS sensor on an RPS and ESPS channel sharing a processor would require entry into the Tech Spec associated with the inoperable sensor
- An inoperable processor on the standalone ESPS set of channels would only require entry into the ESPS Tech Spec if the other redundant set is inoperable
- TSAIL used for tracking inoperable Tech Spec components

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Closing Remarks

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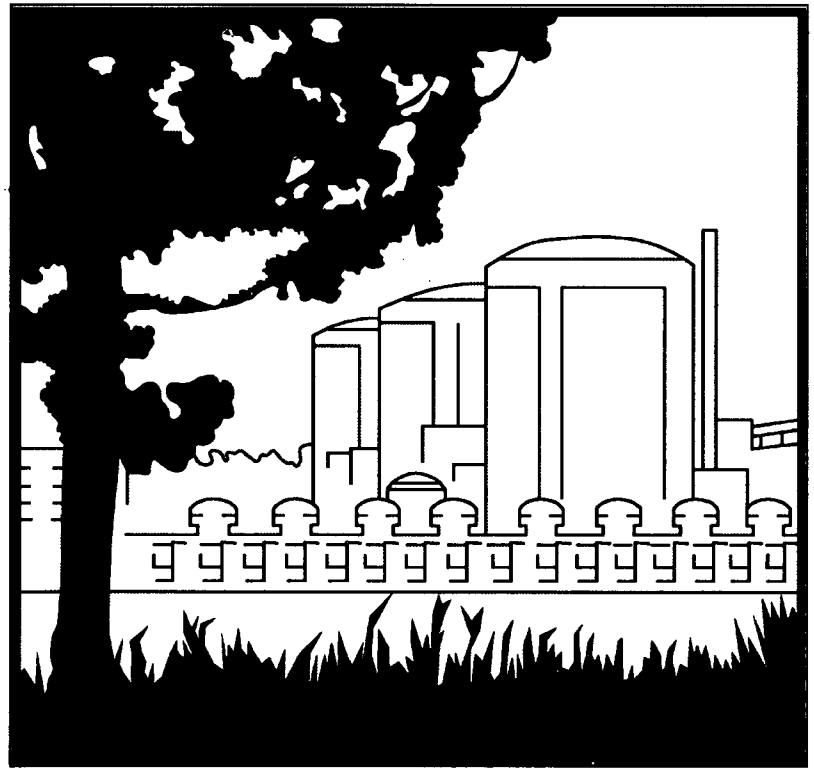

Oconee Digital LAR Licensing Plan

Oconee Nuclear Station

February 27, 2007

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Agenda

- Purpose
- Digital LAR Finding
- Digital LAR Regulatory Requirements
- Digital LAR Cyber Security Requirements
- Digital LAR Regulatory Guidance
- Digital LAR Format and Content
- DG-1145 Comments
- Document Availability
- Acceptance Review Checklist
- Proposed Digital LAR Review Plan
- Future Licensing Actions

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Opening Remarks

- The purpose of the Digital LAR Licensing Plan is to establish a regulatory framework that reduces the risk and uncertainty of licensing a digital LAR

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Digital LAR Finding

- *The facility and equipment, the operating procedures, the processes to be performed, and other technical requirements provide reasonable assurance that the licensee will comply with the regulations of 10 CFR Chapter I, and that public health and safety will be protected*

(DG-1145, C.I.7, page C.I.7-1)

Digital LAR Requirements

- 10 CFR 50.55a (h) – "Codes and Standards"
- 10 CFR 50.62 – "Requirements for reduction of risk from anticipated transients without scram (ATWS) events for light-water-cooled nuclear power plants"
- 10 CFR 50, Appendix A – "General Design Criteria for Nuclear Power Plants"

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Cyber Security Requirements

- NEI 04-04 - "Cyber Security Program for Power Reactors,"
- 10 CFR 73.55(m) Rulemaking -"Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage"

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Digital LAR Regulatory Guidance

- EPRI Topical Report (TR)-102348, Revision 1 - "Guideline on Licensing Digital Upgrades"
- SECY 93-087 - "Policy, Technical, and Licensing Issues Pertaining to Evolutionary and Advanced Light-Water Reactor (ALWR) Designs"
- Branch Technical Position HICB-19 - "Guidance for Evaluation of Defense-in-Depth and Diversity in Digital Computer-Based Instrumentation and Control Systems"
- Regulatory Guide (RG) 1.47 – "Bypassed and Inoperable Status Indication for Nuclear Power Plant Safety Systems," Revision 0, May 1973
- RG 1.53 – "Application of the Single-Failure Criterion to Nuclear Power Plant Protection Systems," Revision 2, November 2003
- RG 1.62 – "Manual Initiation of Protective Actions," Revision 0, October 1973
- Draft Regulatory Guide DG-1145 (RG 1.70 Supplement)- "Combined License Applications for Nuclear Power Plants (LWR Edition)"
- RG 1.75 – "Physical Independence of Electric Systems," Revision 3, February 2005
- RG 1.118 – "Periodic Testing of Electric Power and Protection Systems," Revision 3, April 1995

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Digital LAR Regulatory Guidance

- RG 1.152 - "Criteria for Use of Computers in Safety Systems of Nuclear Power Plants"
- RG 1.153 - "Criteria for Safety Systems" and IEEE 603-1991 - "IEEE Standard Criteria for Safety Systems for Nuclear Power Generating Stations"
- RG 1.168 – "Verification, Validation, reviews, and Audits for Digital Computer Software Used in Safety Systems of Nuclear Power Plants," Revision 1, February 2004
- RG 1.169 – "Configuration Management Plans for Digital Computer Software Used in Safety Systems of Nuclear Power Plants," Revision 0, September 1997
- RG 1.170 – "Software Test Documentation for Digital Computer Software Used in Safety Systems of Nuclear Power Plants," Revision 0, September 1997
- RG 1.171 – "Software Unit Testing for Digital Computer Software in Safety Systems of Nuclear Power Plants," Revision 0, September 1997
- RG 1.172 – "Software Requirements Specifications for Digital Computer Software Used in Safety Systems of Nuclear Power Plants," Revision 0, September 1997
- RG 1.173 – "Developing Software Life Cycle Processes for Digital Computer Software Used in Safety Systems of Nuclear Power Plants," Revision 0, September 1997
- RG 1.180 – "Guidelines for Evaluating Electromagnetic and Radio-Frequency Interference in Safety Related Instrumentation and Control Systems," Revision 1, October 2003

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Use of Regulatory Guidance

- Note – in many instances the existing regulatory guidance documents endorsed IEEE Standards that have been recently revised

- The policy of Oconee will be to state explicitly within the LAR the IEEE Standard to which the Digital RPS/ES Systems has been designed

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Digital LAR Format and Content Guidance

- NEI 06-02 provides guidance for the basic format and content
  - General Information

- DG-1145 (RG 1.206) provides guidance for the technical portion of the LAR

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DG-1145 Comments

- Oconee will review the final regulatory guide for format and content following its issuance – currently expected in March 2007
- The current draft contains some guidance that is vague as to what specifically is expected to be submitted
- Some sections contain no guidance as to what should be in an application

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Document Availability

- Existing regulatory guidance assumes that all design documents will be available at time of LAR submittal
- All documents listed in NRC letter dated January 11, 2006 will be available at time of submittal with a few exceptions
- Estimated time of submittal is by November 30, 2007

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Document Availability

- Documents Available Post-SE Issuance
  - Requirements Traceability Matrix (post FAT version)
  - Factory Acceptance Test Procedures and Results
  - Site Acceptance Test Plan, Procedures, and Results
  - Power-Imbalance Safety Limits and Setpoints
  - Removal and Restoration Procedures
  - Training documents
  - Operating documents
  - Maintenance documents

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Acceptance Review Checklist

- Operating Experience from previous submittal indicates need for Acceptance Review Checklist
- Proposal:
  - Use NEI 06-02 for overall completeness
    - General Information, Summary Descriptions, Regulatory Evaluation, Environmental Considerations, Technical Specification mark-ups
  - Use digital-specific regulatory guidance for completeness of Technical Information portion
    - DG-1145, C.I.7, Instrumentation and Controls Appendices A, B, C
- Duke could provide a draft Acceptance Review Checklist for discussion purposes

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Proposed Digital LAR Review Plan

- LAR Submittal
- + 1 Month – Acceptance Review Complete
- + 4 months – All RAIs sent by NRC to Duke
- + 6 months – All RAI responses submitted by Duke
- + 8 months – Staff conducts on-site audit
- + 9 months – Management Meeting to identify any areas of concern not resolved
- +11 months – Technical Review complete
- +12 months – NRC issues Safety Evaluation

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Future Licensing Actions

- Finalize Format of LAR
- Clarify level of detail based on RG and SRP when issued
- Confirm Finding
- Confirm Regulatory Requirements and Applicable Regulatory Guidance
- Establish Acceptance Review Checklist (completeness)
- Confirm Staff Review Plan