RIC 2011
Stable Regulatory Environment in Fire Protection for Non-NFPA-805 Plants

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Overview - Stable Regulatory Environment in FP for Non-NFPA-805 Plants

- **Historical Perspective: Past 30 Years Post Appendix R – Implementation**
- **Historical Perspective: Past 30 Years NRC Fire Protection (FP) Guidance**
- **Improved Fire Protection State of Knowledge**
- **Key Items for FP Regulatory Stability at Non-NFPA 805 Plants (Industry Level and Utility Level)**
- **Key NRC Items for FP Regulatory Stability**

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Historical Perspective: Past 30 Years Post Appendix R - Implementation

- Limited Large Fire Experience Post Browns Ferry Fire
- Issues continued to be Identified
- Fire PRA continues to evolve
- Fire protection was identified as “risk significant”
- Risk informed option developed (NFPA-805)
- B.5.b and new security challenges
- Fire Protection as an engineering discipline and fire risk tools continues to evolve

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Historical Perspective: Past 30 Years NRC FP Guidance

- Fire protection regulatory guidance and interpretations continued to address concerns identified including:
  - fire barrier capability
  - reactor coolant pump seal cooling
  - manual actions
  - multiple spurious operations (MSO)
- Significant focus and effort directed to resolve concerns:
  - Resolution plan was developed and followed
  - Fire research continues
  - RG 1.189 revision 2 issued

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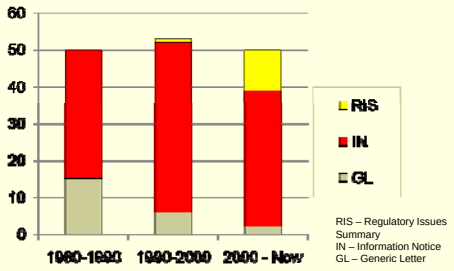
Historical Perspective: Past 30 Years NRC FP Guidance Documents



RIS – Regulatory Issues Summary
IN – Information Notice
GL – Generic Letter

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Improved Fire Protection State of Knowledge

- Improved fire modeling and analysis tools allows for more objective and realistic analysis.
  - Fire modeling applications allows specific assessment of fire issues
  - Fire Probabilistic Risk Analysis (PRA) assists with identification of higher risk aspects of fire protection and safe shutdown for continued improvement.
  - Circuit fire testing and continued refinement of circuit analysis guidelines provide improved tools for fire area and scenario analysis.
  - Fire testing research provides improvements in fire modeling tools and data.

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Key Items for FP Regulatory Stability at Non-NFPA 805 Plants

- **Industry Level**
  - Work with NEI to issue clear industry guidance for circuit analysis of MSOs.
  - Continue to share lessons learned from MSO identification and resolution with other utilities.
  - Perform additional circuit fire testing (if needed) to support proposed resolutions and circuit analysis criteria challenges.

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Key Items for FP Regulatory Stability at Non-NFPA 805 Plants (Continued)

- Utility Level
  - Maintain a clear and well documented licensing basis
  - Ensure the feasibility and reliability of the manual actions are maintained
  - Develop technically sound resolutions for MSO issues
  - Maintain a high level of material condition for fire protection features and systems as well as robust transient controls
  - Develop and/or maintain analysis tools to allow analysis of fire protection and safe shutdown challenges
  - Monitor results from NFPA-805 plants for potential impact

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Key NRC Items for FP Regulatory Stability

- Clear guidance for circuit analysis of MSOs.
  - Continue to work with NEI reach alignment between circuit analysis guidance and RG 1.189 rev. 2
  - Evaluate results from direct current fire testing and give feedback on NEI guidance.
- Consider some means to capture “refinements” from MSO inspections.

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Key NRC Items for Fire Protection Stability (Continued)

- Provide inspector training on more complex items changed in RG 1.189 Revision 2 including:
  - Scenario classification (green box/orange box)
  - Circuit analysis rules specific to MSOs
    - Interpretation of NEI 00-001 Rev. 3 guidance
    - Differences from NUREG-6850 used for fire PRAs
  - Treatment of III.G.3 areas including non-tradition areas

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- Questions?

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