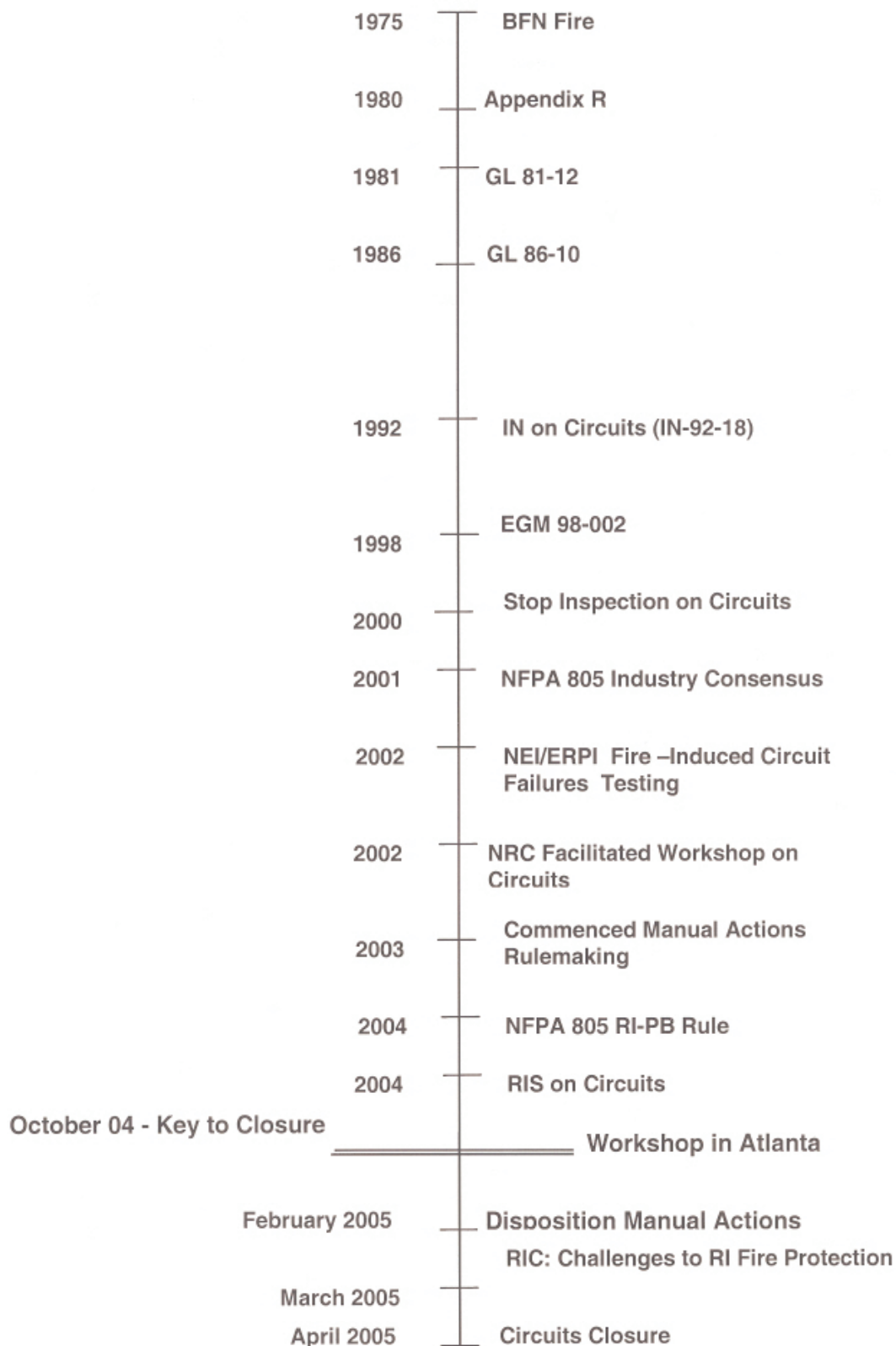


DAY 1- Handouts

Day 1 - October 13, 2004 Topic: NFPA 805

- 0800 - 0815 Registration
- 0815 - 0830 Welcome/High Level Objectives (Travers, Hannon)
- 0830 - 0845 Regulatory Stability Through NFPA 805 (Klein)
- 0845 - 0900 Related Public Questions
- 0900 - 0930 Utilizing NFPA 805 as "The Rule" (Lain)
- 0930 - 0945 Related Public Questions
- 0945 - 1000 Break
- 1000 - 1030 Enforcement Discretion (Sparks)
- 1030 - 1045 Related Public Questions
- 1045 - 1115 The Transition to NFPA 805 (Lain)
 -Process for Implementation
 -Cost/Benefit
 -NRC Review and Expectations
- 1115 - 1130 Related Public Questions
- 1130 - 1230 Lunch
- 1230 - 1330 The NFPA 805 Regulatory Guide (Lain)
- 1330 - 1345 Related Public Questions
- 1345 - 1400 Inspecting with NFPA 805 (Dipert)
- 1400 - 1415 Related Public Questions
- 1415 - 1430 Break
- 1430 - 1630 Change Control Process Examples (Gallucci)
 w/Related Public Questions After Each Example
- Adjourn

Path to Closure





Regulatory Stability Through NFPA 805


Alex Klein, P.E.
Senior Fire Protection Engineer
U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
October 13, 2004



Regulatory Stability




- New voluntary rule 10 CFR 50.48(c)
- Implementation process from preliminary assessment to new licensing basis
- Interim enforcement discretion
- NRC license amendment reviews
- Reactor Oversight Process
- Clear licensing basis



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The New Rule 10 CFR 50.48(c)

Paul W. Lain, P.E.
U.S. Nuclear Regulatory Commission
October 13, 2004




NRR
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The New Rule

- Risk-Informing Fire Protection
- Developing NFPA 805
- Rulemaking
- Enforcement Discretion (OE Rep.)
- Transition
- Regulatory Guide
- Inspection Criteria (Dipert)

October 13, 2004 Utilizing NFPA 805 as "The Rule" 2




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Risk-Informing Fire Protection

- SECY 98-058: Develop risk-informed, performance-based standard.
- SECY 00-009: Rulemaking plan.
- 2001 – NFPA 805 was approved.
- 2002 – Draft rule published for comment.
- 2004 - 10 CFR 50.48(c) approved.

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Developing NFPA 805

- National Fire Protection Association
- Consensus Standard
- Maintain Safety Margin & Defense-In-Depth
- Set Performance Goals and Criteria
- NRC insisted on "Fundamental Elements"
- Deterministic Requirements Incorporated
- Apply to Decommissioning Plants

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NFPA 805 Structure

- Ch 1 – Goals, Objectives & Criteria
- Ch 2 – Methodology
- Ch 3 – Fundamental Elements
- Ch 4 – Fire Protection Determination
- Ch 5 – Decommissioning Plants
- App. A – Explanatory Material
- App. B – Nuclear Safety Analysis
- App. C – Fire Modeling
- App. D – Fire PSA Methods
- App. E – Plant Damage/Business Interruption

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Nuclear Safety

- Goal: Provide reasonable assurance that a fire during any operational mode and plant configuration will not prevent the plants from achieving and maintaining the fuel in a safe and stable condition.
- Objective: Reactivity control, fuel cooling, and fission product boundaries.
- Criteria: Reactivity control, inventory and pressure control, decay heat removal, vital auxiliaries, and process monitoring.

October 13, 2004 Utilizing NFPA 805 as "The Rule" 6



Radioactive Release NRR

- Goal: A fire will not result in a release that adversely affects the public, plant personnel, or the environment.
- Objective: Either maintain containment or limit source term.
- Criteria: Release to any unrestricted area due to the direct effects of fire suppression activities shall be ALARA and not exceed Part 20 limits.

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Life Safety, Plant Damage, & Business Interruption NRR

- The NFPA 805 goals, objectives, and criteria for life safety, plant damage, and business interruption are not within the regulatory responsibility of the NRC under the Atomic Energy Act and were exempted from the rule.

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NFPA 805 Methodology NRR

- Chapter 2 describes a general approach for establishing the fire protection requirements for a nuclear power plant.
- The Regulatory Guide and NEI 04-02 extend the level of detail of an acceptable methodology for implementing NFPA 805.

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Fundamental Elements NRR

- Chapter 3 contains the fundamental elements of the fire protection program and specifies the minimum design requirements for fire protection systems and features.
- Previous AHJ approved alternatives take precedence over Chapter 3 requirements. "Safe Today/Safe Tomorrow Philosophy"

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Systems & Features NRR

- Chapter 4 provides a methodology to determine the fire protection systems and features required to achieve the Performance Criteria in Chapter 1.
- Chapter 4 provides a deterministic and performance-based approach.
- Fire areas that meet Appendix R, III.G.2 requirements will meet the deterministic approach and can transition easily.

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Decommissioning NRR

- Chapter 5 applies to the power block areas of plants that have ceased operations.
- The Rule and NFPA 805 address decommissioning so 805 plants can decommission without reverting back to Appendix R.

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Appendices



- NFPA 805 appendices are not part of the requirements of the standard and are generally provided as additional explanatory material.
- NRC address the appendices within the regulatory guide and generally accepts the additional explanatory material.

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13



The Rule



- Purpose
 - Voluntary Alternative to Appendix R
 - Risk-Informed/Performance-Based
- 10 CFR 50.48(c)
 - In place of 50.48(b), Appendix R
 - The requirement for a fire protection program, 50.48(a), is still in place.
 - Endorses NFPA 805 w/ Minimal Exceptions

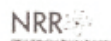
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14



Seven Exceptions



- Life Safety
- Plant Damage/Business Interruption
- Use of Feed and Bleed for Compliance
- Uncertainty Analysis
- Existing Cables
- Water Supply and Distribution
- Performance-Based Methods for Chap. 3

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Utilizing NFPA 805 as "The Rule"

15



Summary



- This rule has been developed in collaboration with stakeholders to offer a risk-inform voluntary alternative to the deterministic Appendix R criteria while assuring the health and safety of public.

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16

Interim Policy on Enforcement Discretion for 10 CFR 50.48(c)

Scott Sparks
U.S. Nuclear Regulatory Commission
Region II
October 13, 2004

Interim Policy on Enforcement Discretion

- ♦ NRC Enforcement Policy was revised to allow for discretion for certain violations of 10 CFR 50.48 and fire protection license conditions, during the transition to the new rule
- ♦ The Policy provides for enforcement discretion of certain noncompliances:
 - Noncompliances identified during the transition
 - Existing noncompliances

2

Interim Policy on Enforcement Discretion

- ♦ Discretion criteria are consistent with Section VII.B.3 of the Enforcement Policy, "Violations involving Old Design Issues"
- ♦ Discretion does not apply to violations categorized at Severity Level I or a Red finding
- ♦ Licensees must inform NRC in writing of their intent to adopt NFPA 805
- ♦ For violations identified during the transition, Policy is in effect for 2 years from date of licensee's letter of intent

3

Noncompliances Identified During the Transition to 10 CFR 50.48(c)

Criteria for Enforcement Discretion:

- Licensee-Identified through voluntary initiative; or, if NRC-Identified, it likely would have been identified via the licensee's transition review
- Violation was or will be corrected as a result of completing the transition
- Immediate corrective/compensatory measures taken commensurate with risk significance
- Not likely to have been previously identified by routine efforts
- It was not willful

4

Noncompliances Identified Prior to the Transition to 10 CFR 50.48(c)

- ♦ Criteria for discretion for existing identified noncompliances that could reasonable be corrected under 10 CFR 50.48(c) :
 - Entered into the corrective action program
 - Appropriate compensatory measures implemented
 - Discretion applies if licensees notify NRC by 01/16/2005 of their intent to adopt NFPA 805
 - NEI requested an extension until 12/31/2005

5

Withdrawing From 10 CFR 50.48 (c)

- ♦ Should licensees determine not to complete the transition to 10 CFR 50.48(c):
 - Licensees must submit a letter informing NRC of their intent
 - Noncompliances identified prior to the above withdrawal letter will be eligible for discretion IAW the Interim Policy and existing licensing basis
 - Noncompliances identified after the above withdrawal letter will be dispositioned IAW normal enforcement practices

6

Interim Policy on Enforcement Discretion

- ♦ Additional details:
 - Inspection reports will document severity level or safety significance - no violation cited, no action matrix entry, no PIM entry
 - NRC will address requests to extend the 2-year discretion period on case specific basis
 - NRC staff will normally rely on the licensee's risk assessment when making a decision on whether to exercise discretion
 - Separate enforcement for failure to make a required report

7

Interim Policy on Enforcement Discretion

- ♦ Interim Policy on Enforcement Discretion can be found on the NRC's web site at <http://www.nrc.gov/reading-rm/doc-collections/enforcement/history/fr061604.pdf>
- ♦ Policy published in the Federal Register on June 16, 2004 (69 FRN 33684)

8



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Transitioning to 10 CFR 50.48(c)

Paul W. Lain, P.E.
U.S. Nuclear Regulatory Commission
October 13, 2004



The New Rule

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- Risk-Informing Fire Protection
- Developing NFPA 805
- Rulemaking
- Enforcement Discretion (OE Rep.)
- Transition
- Regulatory Guide
- Inspection Criteria (Dipert)

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Transition to NFPA 805

2



Transition

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- Process of Implementation
- Projected Savings
- NRC Review

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3



Implementation

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- Maintain existing Program thru Transition
- Preliminary Assessment
- Send NRC a "Letter of Intent"
- Reviews and Engineering Analysis
- Program Documentation & Maintenance
- Request a License Amendment
- License Amendment Acceptance
- Transition to NFPA 805 Licensing Basis

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Projected Savings

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- Transition Costs¹: \$0.2 - \$0.6 million
- NFPA 805 Savings²

- Reduced exemption and license amendment requests	\$3.0m
- Reduced cost to disposition non-compliances	\$3.4m
- Reduced compensatory measures	\$2.4m
- Miscellaneous (reduced maintenance & equipment, etc)	<u>\$3.0m</u>
Projected Total	\$11.8m
- Projected Savings: > \$11 million

¹ NEI Pilot at McGuire \$375,000

² 90 Year Projection Assuming Renewal

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Transition to NFPA 805

5



NFPA 805 Benefits


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- Enforcement Discretion
- Establish a Clear Licensing Basis
- Reduce Exemption Requests
- Alternative Resolution for Low Risk Items
- Respond to Emerging Issues
- Emergency Lighting Requirement
- Hot Shutdown vs Cold Shut Down
- Appropriate Safe Shutdown Path Protection
- Manual vs Recovery Actions
- Reduction in Compensatory Measures
- Safer Plant Operation especially during Outages


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Transition to NFPA 805

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NRC Review




- Assist Visits
 - Purpose: provide a template to transition.
 - First couple of licensees, upon request.
 - Prior to license amendment submittal.
 - After license amendments submittal.


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Transition to NFPA 805

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NRC Review




- License Amendment Review
 - First couple to send in Transition Report.
 - Develop review guidance lesson learned.
 - PB Fundamental Program changes (Chap. 3).
 - Eventually, ROP provide transition oversight.


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Transition to NFPA 805

8



Summary



- The licensees who transitions to NFPA 805 can take control of their own change control process, respond to emerging issue and reduce unnecessary burden.
- The NRC will utilize the Regulatory Oversight Process to monitor transition and oversee the use of the change control process.

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Transition to NFPA 805

9



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NFPA 805 Draft Regulatory Guide

Paul W. Lain, P.E.
U.S. Nuclear Regulatory Commission
October 13, 2004



The New Rule

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- Risk-Informing Fire Protection
- Developing NFPA 805
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- Regulatory Guide
- Inspection Criteria (Dipert)

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NFPA 805 Regulatory Guide

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DG-1139

NRR
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Draft Regulatory Guide DG-1139

*Risk-Informed, Performance-Based Fire
Protection for Existing Light-Water
Nuclear Power Plants*

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NFPA 805 Regulatory Guide

3



DG-1139

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- Purpose
- Safe Today / Safe Tomorrow Philosophy
- Regulatory Position
 - NEI 04-02 Endorsement
 - Transition Process
 - Change Control Process
 - NFPA 805 Appendices
 - Documentation
 - Risk-Informed, Performance-Based Tools

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NFPA 805 Regulatory Guide

4



Purpose



- Provide NRC guidance for licensees to transition and comply with NFPA 805 (10 CFR 50.48(c)).
- Endorse NEI Implementation Guidance
- Endorse New RI/PB Tools

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5



Safe Today/ Safe Tomorrow



- Does not require the licensee to re-assess the acceptability of license amendments, exemptions or deviations that have been previously approved.
- Overall objective is to enable licensees to transition without undue burden, while enhancing plant safety and providing a clear licensing basis.

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6



NEI 04-02



*Guidance for Implementing a Risk-Informed,
Performance-Based Fire Protection Program
under 10 CFR 50.48(c)*

- Framework for Transitioning
- Change Control Process
- Maintenance and Configuration Control

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7



Transition Process



- Standard License Condition
- Previously Approved Alternatives
- Fire Protection Program Change Process
- RI/PB Resolution to Non-Compliances

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Change Control Process NRR

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- Endorse NEI 04-02 Section 5.3
- Standard License Condition vs new Risk-Informed/Performance-Based Criteria
- Each change must ensure the CDF is low and adequate D-I-D and Safety Margin.
- DG makes an exception to NEI 04-02 for using NEI 02-03 change process.

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Risk Region IV NRR

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- NEI 04-02 defines a Region IV of delta CDFs, that do not require tracking.
- This region is not included in RG 1.174, the NRC acknowledges this region of risk does not need to be individually tracked, but the plant design changes associated with this region should be included in subsequent evaluations to assess cumulative risk.

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Approval of Changes NRR

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- Most changes will not require prior NRC approval and will be monitored by the Reactor Oversight Process
- 805 Changes that do Require Approval:
 - Fundamental Program Elements (805 Ch.3)
 - Do not meet the Risk Acceptance Criteria
 - Unapproved Methods
 - Deviation from Specific 805 Requirements

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11



DG-1139 Documentation NRR

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- 10 CFR 50.48
 - Fire Protection Program Plan
- NFPA 805
 - Section 2.7.1.2 – Design Basis
 - Section 2.7.1.3 – Supporting Documentation
- NEI 04-02
 - Transition Report
 - Fire Protection Program Plan
 - Fire Hazards/Safe Shutdown Analysis

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12



NFPA 805 Appendices NRR Office of Nuclear Reactor Regulation

- The staff finds the specific guidance contained within the NFPA 805 appendices to be useful in evaluating and applying the associated methods.

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13



RI/PB Tools NRR Office of Nuclear Reactor Regulation

- NFPA 805 requires licensees to use approved models and method appropriate for the specific application.
- DG provides guidance on what the NRC thinks is appropriate.
- RES is developing the V&V for fire models and PSA approach for NRC endorsement.

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NFPA 805 Regulatory Guide

14

NFPA 805 Inspection Guidance

Richard A. Dipert, P.E.
Fire Protection Engineer

Plant Systems Branch
Division of Systems Safety and Analysis
Office of Nuclear Reactor Regulation

Fire Protection Workshop
Atlanta, GA
October 13, 2004

United States Nuclear Regulatory Commission
Washington, DC 20555-0001



1

NFPA 805 Inspection Guidance

- How will the NRC inspect during Transition to NFPA 805?
- How will the NRC inspect after Transition to NFPA 805?
- How will the NRC develop Inspection Guidance for Plants which have adopted NFPA 805?

2

NFPA 805 Inspection Guidance **Inspections During Transition Period**

- Starts with Submission of Transition Letter of Intent, including Proposed Schedule
- Plant remains committed to Current License Basis During Transition until NRC Approval of Amendment Request
- Regional Inspections will continue regular Triennial Inspection on established schedule, inspecting the existing fire protection program.



3

NFPA 805 Inspection Guidance **Inspections During Transition Period**

- During Triennial Audits, Regional Inspectors may also observe NFPA 805 Transition and Work Products
- Enforcement Discretion Applies – Discussed by Enforcement Branch Representative
- During Transition, observation visits by NRC Headquarters and Regional Staff will be offered to the first couple of licensees (not part of the triennial inspection).



4

NFPA 805 Inspection Guidance **Inspections After Transition Period**

- After NRC Approval of Amendment Request - Regional Triennial Inspection to NFPA 805 Criteria at same level of effort as before
- Methods to achieve consistency of enforcement between Regions



5

NFPA 805 Inspection Guidance **Inspections After Transition Period**

- Regional Triennial Inspections will continue at the same level of effort as currently performed
- Fundamental Fire Protection Program
 - Documentation and Configuration Management
 - Risk-Informed Change Evaluations



6

NFPA 805 Inspection Guidance **Development of Inspection Guidance**

- Establish a Working Group consisting of Regional Inspectors, IIBP, and SPLB.
- Working Group will develop the framework for the inspection of Risk-Informed Performance-Based Fire Protection Programs, to consist of:
 - Deterministic Requirements
 - Qualitative Engineering Evaluations
 - Quantitative Fire Modeling
 - Probabilistic Safety Assessments and Techniques

7



NFPA 805 Inspection Guidance **Development of Inspection Guidance**

- Continue the Working Group to provide Inspector and Stakeholder experience to the inspection process
- Incorporate lessons learned from Observation visits into Inspector Manual revisions
- Training for Regional Staff with emphasis on how to inspect the NEI 04-02 Risk Informed Change Control Process

8



NFPA 805 Inspection Guidance **Schedule**

- Establish Working Group – Underway
- Stakeholder meetings as necessary
- 2 or 3 Day Inspector Workshop June 2005
- Enhance Regional Inspector Guide Sept. 2005
- Inspector Training December 2005

9



NFPA 805 Inspection Guidance

Questions?

10

