



NUCLEAR ENERGY INSTITUTE

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March 23, 2001

Mr. John N. Hannon
Chief, Plant Systems Branch
Division of Safety Systems and Analysis
Office of Nuclear Reactor Regulation
Mail Stop O11-A11
U. S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: NFPA 805, *Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants*

PROJECT NUMBER: 689

Dear Mr. Hannon:

We discussed in a meeting with NRC staff on March 15, 2001, the industry's concerns about the proposed NRC rulemaking to implement NFPA 805 as an optional alternative licensing basis. We indicated that there were three levels of concern to be addressed:

- Exceptions to NFPA 805 that must appear explicitly in the language of the rule.
- Barriers to licensee implementation that should be addressed either in the language of the rule or in the implementing guidance.
- Clarifications required in the implementing guidance.

The three exceptions were discussed in the meeting, along with examples of the barriers to implementation and clarifications required. We are providing a more comprehensive list of the barriers to implementation and clarifications (see Enclosures 1 and 2).

The three exceptions are provided as Enclosure 3. With regard to Exception 3, we understand from staff comments during the meeting that NRC would prefer not to reference specific documents/revisions in the language of a rule, since any revisions to the referenced document would require another rulemaking to make the revision effective. Therefore, we have altered the wording of Exception 3 (as stated in the meeting) to reflect this fact. However, we re-emphasize that these exceptions

address fundamental issues that must be addressed in the language of the rule for the rulemaking to be effective.

Also, as we stated in the meeting, industry would like to discuss NRC staff concerns with NFPA 805.

Please direct questions to me or Fred Emerson at 202-739-8086, fae@nei.org.

Sincerely,

A handwritten signature in black ink that reads "Alex Marion". The signature is written in a cursive, slightly slanted style.

Alexander Marion

FAE/maa
Enclosures

c: Mr. Eric Weiss, U. S. Nuclear Regulatory Commission
Mr. Edward Connell, U. S. Nuclear Regulatory Commission

NFPA 805 Barriers to Implementation

NFPA 805 Section	Comment or Proposed Change	Address in Rule or Guidance
<i>The changes below are applicable if the proposed exception to Section 3-1 is not implemented.</i>		
3.2.3	Limits on impairment duration: Imposes limits on impairment duration, a new requirement.	Guidance
3.3.1.2	Combustible control: Imposes combustible controls to all areas (except subsections 1 and 2), not just the power block.	Guidance
3.3.3	Interior finishes: Delete the phrase “for Class I interior floor finishes.”	Rule
3.3.5.1	Plenum-rated cable: Delete the second sentence, or add the same exception stated in 3.3.5.3.	Rule
3.4.3 (2)	Hot drills: If quarterly training includes live fire training, this increases the live fire training requirement from annually to quarterly. Need to clarify.	Guidance
3.5.4	Seismic Category I Class IE electric motor-driven fire pumps: Delete “seismic Category I Class IE” and “connected to redundant Class IE emergency power buses.”	Rule
3.5.5	Separation of fire pumps from remainder of plant by rated fire barriers: This provision should be deleted.	Guidance
3.5.15	Hydrants: “Approximately 250 feet” does not allow for acceptable designs with different distances.	Guidance
3.5.16	Dedication of fire protection water supply: Does not allow sufficient flexibility to demonstrate acceptability of other designs, even with exceptions.	Guidance
3.6.1	Class III standpipe: Significant barrier to implementation for many plants.	Guidance
3.6.4	Exception must be maintained.	Rule
3.9.4	Automatic sprinklers for diesel-driven fire pumps: This is a new requirement.	Guidance

3.11.4(b)	Conduits with internal fire seal: Add exception to use EEI conduit test	Guidance
3.11.5	Exception 2: Need to maintain.	Guidance
<i>The following barriers to implementation should also be addressed as shown below:</i>		
1-1	Applicability of the standard to all modes of operation: Appropriate to provide standard applicable to all modes of operation, but implementation may pose a barrier to implementation for some plants.	Guidance
Several locations	Requirements for life safety and business interruption: These requirements are addressed adequately in NFPA 101, model building codes, and OSHA requirements, and need not be addressed here. Plant damage and business interruption requirements constitute an unnecessary additional burden.	Guidance
2.2.7	Equivalency evaluations: Equivalency evaluations need not be submitted to NRC.	Guidance
2.2.9	Change process: Change evaluation should not be required for deterministic as well as performance-based approaches.	Guidance
2.4	Engineering analysis: Guidance should provide clear expectations on the types and extent of analyses required to meet the intent of this section.	Guidance
No specific reference	Availability of plant fire PSA: While desirable that each plant should have one, the fact that many plants have not yet developed one constitutes a barrier to implementation for those plants.	Guidance
2.5	Smoke impacts: Additional guidance on how to determine smoke impacts is needed for this to be implementable	Guidance
2.6.1	Acceptable levels: Define criteria for acceptability in implementing guidance	Guidance
2.7.3.5	Uncertainty analysis: Address whether this applies to the deterministic approach.	Guidance

4.2.3.1	Operator actions: Operator actions currently acceptable shouldn't be limited to performance-based approach. Add: "Exception: Recovery actions currently acceptable for compliance with existing regulations are acceptable under the deterministic approach."	Rule
4.2.3.2	Requirement for 3-hour barriers: Replace "minimum fire resistance rating of 3 hours" with "fire resistance rating equal to the hazard."	Rule
4.2.3.3 (a)	Conduits embedded in concrete: Restore earlier exception: "Conduits embedded in concrete at a depth of greater than 6 inches are considered to have an equivalent level of protection as required above."	Guidance
4.2.3.3 (c)	Conduits embedded in concrete: Restore earlier exception: "Conduits embedded in concrete at a depth of greater than 4 inches are considered to have an equivalent level of protection as required above."	Guidance
4.2.3.4 (b)	Separation with ½ hour rating radiant energy shields: Rating should be commensurate with the hazard.	Guidance
Section 5	All changes made for Sections 1-4 need to be made applicable for Section 5 as well.	Rule or Guidance, as appropriate
Appendix B	Must continue to include provisions allowing other risk-informed, performance-based methods.	Guidance
Appendix E	Delete	Guidance

NFPA 805 – Additional Guidance Needed

NFPA 805 Section	Area Where Guidance Needed	Recommendation
Numerous locations	Terminology “acceptable to the AHJ”	Provide guidance for each such locations as to what is “acceptable.”
2.2.3	Reference to “area basis”	Provide additional guidance on use of “area basis.”
2.4.4	“Bundling” effects of multiple changes is addressed only briefly in Appendix A (A.2.4.4).	Additional guidance on bundling multiple changes is needed.
2.4.4.1	Cumulative effects of change – suggests an additional requirement.	Provide additional guidance on calculating cumulative effects of change.
3.3.2	Components required to maintain structural integrity	Implementing guidance should indicate that this does not include coatings.
3.3.72	Gas storage containers	Define which buildings this applies to.
3.5.3	Diesel fire pump	Need to clarify that the assumption of failure of a pump power source does not force the use of a diesel fire pump.
3.8.2	Detection	Does Section 1.8 apply?
3.10.4	“Any pipe”	There should be guidance that this does not apply to low pressure CO2 manifold pipe.
All appendices		State intended application of appendices in implementing guidance.
Appendix C		Need to address acceptability of fire models.
Appendix D		Need to address applicability of future fire PSA standards to Appendix D and to general use in risk methods in NFPA 805.

**Industry Exceptions to NFPA 805
Language to be included in Fire Protection Rulemaking**

1. The rule must state that its application is optional by any licensee.

Rationale: Mandatory changes to the fire protection regulations would be very costly to implement with no expected safety improvement.

2. This recommendation provides for an exception to the current version of NFPA 805 that must appear in the language of the rule for industry to support the rulemaking. The recommended language changes or exceptions are italicized.

Section 3-1: Revise this section to read: “**General**: This chapter contains the fundamental elements of the fire protection program and specifies the minimum design requirements for fire protection systems and features. *Performance-based approaches may be applied to the fire protection programs elements and minimum design requirements in this chapter. Fire protection elements described in the existing licensing basis take precedence over the requirements contained herein. If previously approved licensing bases do not address specific fire protection program elements and design requirements in this chapter, performance-based approaches for meeting these elements and requirements shall be permitted as described above.*”

Rationale: This language affords licensees increased flexibility in addressing the fundamental elements and minimum design requirements while providing the NRC the opportunity to review licensee performance-based approaches. It addresses a concern about potential conflicts between Section 1-7 (Equivalency) and this section. It specifically addresses Section 3 requirements that do not currently appear in operating plant licensing bases.

3. This recommendation addresses the importance to industry of assuring the use of risk-informed methods for resolving circuit failure issues, including NEI 00-01 (which will be completed later this year).

Section 2.4.2: Maintain the current wording as follows: “Other performance-based or risk-informed methods acceptable to the authority having jurisdiction shall be permitted.”

Rationale: The industry’s proposed risk-informed method for resolving the fire-induced circuit failure issue, NEI 00-01, is scheduled for completion later this year.

Current circuit analysis guidance in NFPA 805 Appendix B is deterministic and does not address the safety significance of potential fire-induced circuit failures. It

is essential that the use of the NEI 00-01 risk-informed method be permitted under the provisions of any new rule.