

TSTF Concerns with the Proposed NFPA-805 License Conditions

1

Proposed License Conditions

- The Staff in RG 1.205 (Rev. 1) includes a sample LAR, which contains language for the license conditions to be included in the plant's Operating License (OL).
- The industry has been counseled to not deviate from this proposed LAR for fear of rejection per LIC-109.

2

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Technical Specifications Task Force A Joint Owners Group Activity

(Name of Licensee) shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the license amendment request dated _____ (and supplements dated _____) and as approved in the safety evaluation report dated _____ (and supplements dated _____). Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), the change does not require a change to a technical specification or a license condition, and the criteria listed below are satisfied.

Risk-Informed Changes that May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment or NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

- (a) Prior NRC review and approval is not required for changes that clearly result in a decrease in risk. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.
- (b) Prior NRC review and approval is not required for individual changes that result in a risk increase less than 1×10^{-7} /year (yr) for CDF and less than 1×10^{-5} /yr for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

Other Changes that May Be Made Without Prior NRC Approval

- (1) Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval are not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent or

adequate for the hazard. The licensee may use an engineering evaluation to demonstrate that a change to an NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard.

The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3, elements are acceptable because the alternative is "adequate for the hazard." Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard. The four specific sections of NFPA 805, Chapter 3, are as follows:

- "Fire Alarm and Detection Systems" (Section 3.8).
- "Automatic and Manual Water-Based Fire Suppression Systems" (Section 3.9).
- "Gaseous Fire Suppression Systems" (Section 3.10), and
- "Passive Fire Protection Features" (Section 3.11).

- (2) Fire Protection Program Changes that Have No More than Minimal Risk Impact

Prior NRC review and approval are not required for changes to the licensee's fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in the NRC safety evaluation report dated _____ to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

Transition License Conditions

- (1) Before achieving full compliance with 10 CFR 50.48(c), as specified by (2) below, risk-informed changes to the licensee's fire protection program may not be made without prior NRC review and approval unless the change has been demonstrated to have no more than a minimal risk impact, as described in (2) above.

- (2) The licensee shall implement the following modifications to its facility to complete the transition to full compliance with 10 CFR 50.48(c) by (date).

(Include a plant-specific list of any modifications identified by the licensee as necessary to complete the transition to its new fire protection license basis.)

- (3) The licensee shall maintain appropriate compensatory measures in place until completion of the modifications delineated above.

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License Conditions

- The first paragraph can be condensed to:
 - Follow 50.48(a) and 50.48(c). The licensee can make changes to the program without prior NRC approval unless the regulations say they can't.
- The sections "Risk Informed Changes that may be made without prior NRC approval" and "Other changes that may be made without prior NRC approval" then provide limitations on the changes the licensee can make without prior NRC approval that are more restrictive than 50.48(c).
 - Why isn't this in the regulations, a Reg Guide, or endorsed Topical Report?

License Conditions

- The sections provide criteria for allowable changes with and without NRC prior approval – both risk-informed (including specific values for delta-CDF and delta-LERF) and "other changes" (presumably non-risk informed), quality of models that can be used to justify the changes, and the qualification of individuals that can approve these changes.

5

License Conditions

- These criteria mimic those in established risk informed Reg. Guides, such as RG 1.174 (Rev 2):
 - "Result in risk increase less than 1×10^{-7} /year (yr) for CDF and less than 1×10^{-8} /yr for LERF." (Note: these are more restrictive than RG 1.174)
 - "... must be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins."
 - Use acceptable methods to assess the risk of the change, which goes on to give 4 alternatives from "peer-reviewed Fire PRA models"
- The level of detail in these license conditions far exceed any other area, such as EP, or Security, in the OL, which reference an approved plan and specific correspondence. These referenced documents have criteria for how to modify these plans.

6

Duplicative or Conflicting

- Here are two sections from the LC that cover the same material, but are worded differently:
 - "The risk assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant."
 - "Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment or NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact."

Are these separate, complimentary, or conflicting?

7

Undefined Terms

- Introduces vague terms and requirements, such as:
 - "adequate for the hazard"
 - No explicit definition in RG 1.205, NEI 04-02 or NFPA-805, 2001.
 - "a relevant technical requirement or standard."
 - "methods that have been demonstrated to bound the risk impact." (demonstrated in what manner?)
 - "clearly result in a decrease in risk" (criteria implied?)
 - "must maintain sufficient safety margins"
 - "qualified fire protection engineer"

8

Undefined Terms

- These undefined terms will make compliance difficult, in particular as standards are updated with improvements in technology.

9

Inconsistency Between Guidance

- Creates potential conflicts between these OL requirements, and others such as RG 1.174, as the delta-CDF and delta-LERF requirements are not the same and with RG 1.200 on acceptable PRA modeling.
 - We are concerned with potential conflicts between these OL conditions and 10 CFR 50.69, RG 1.200 & RG 1.174
- NEI 06-09 methodology used for risk-informed Completion Times is based RG 1.174 acceptance criteria and RG 1.200 Rev. 2 requires consideration of fire risk. What criteria are applicable?

10

Inconsistent with Normal Regulatory Process

- The detailed license condition is inconsistent with normal regulatory process, such as.
 - Rulemaking to codify such allowance, criteria, or qualification, or
 - Administrative Controls that reference an approved LTR that describes the change process, similar to other "risk-informed" initiatives, such as Maintenance Rule, Risk-informed ISI, TSTF-425, TSTF-505, etc.
 - 10 CFR 50.109. The reference to a "relevant" technical requirement or standard could lead to inspectors expecting licensees to adopt new standards without the evaluation required by the Backfit Rule.

11

Staff Guidance

- LIC-101, Rev. 3, states:
 - The escalation of an action proposed by a licensee as a commitment into a license condition, requiring prior NRC approval of subsequent changes, should be reserved for matters that satisfy the criteria for inclusion in technical specifications by 10 CFR 50.36 or inclusion in the license to address a significant safety issue. Routine commitments on technical matters that do not satisfy the above criteria for license conditions should be discussed in the staff's safety evaluation but should not be escalated into formal license conditions;
- Fire protection doesn't fall under a 50.36 criteria and the change process appears to be a routine technical matter.

12

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Request

- The TSTF would like to work with the Staff to construct an appropriate regulatory approach for NFPA-805 conversions that would address the above concerns.

13

COVER SHEET FOR CORRESPONDENCE
USE THIS COVER SHEET TO PROTECT ORIGINALS OF
MULTI-PAGE CORRESPONDENCE