

Plant: Harris Nuclear Plant Submittal Date: 10/26/06
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☒ 805 TF ☐ FPWG ☐ RATF ☐ RIRWG ☐ BWROG ☐ PWROG

Subject:

Interpretation of guidance? ☒ Yes / No

Proposed new guidance not in NEI 04-02? ☒ Yes / No

Details:

NEI 04-02 guidance needing interpretation (include section, paragraph, and line numbers as applicable):

NEI 04-02, Section 5.3 and Appendix I.

Circumstances requiring guidance interpretation or new guidance:

Recommend making nuclear safety and radioactive release questions first in screening reviews in order to determine necessity for Chapter 3 features and systems.

Detail contentious points if licensee and NRC have not reached consensus on the facts and circumstances:

N/A

Potentially relevant existing FAQ numbers:

Related to FAQ 06-0003 and FAQ 06-0004

Response Section:

Proposed resolution of FAQ and the basis for the proposal:

Revise NEI 04-02 Section 5.3 and Appendix I, to reflect the revised order of questions.

If appropriate, provide proposed rewording of guidance for inclusion in the next Revision:

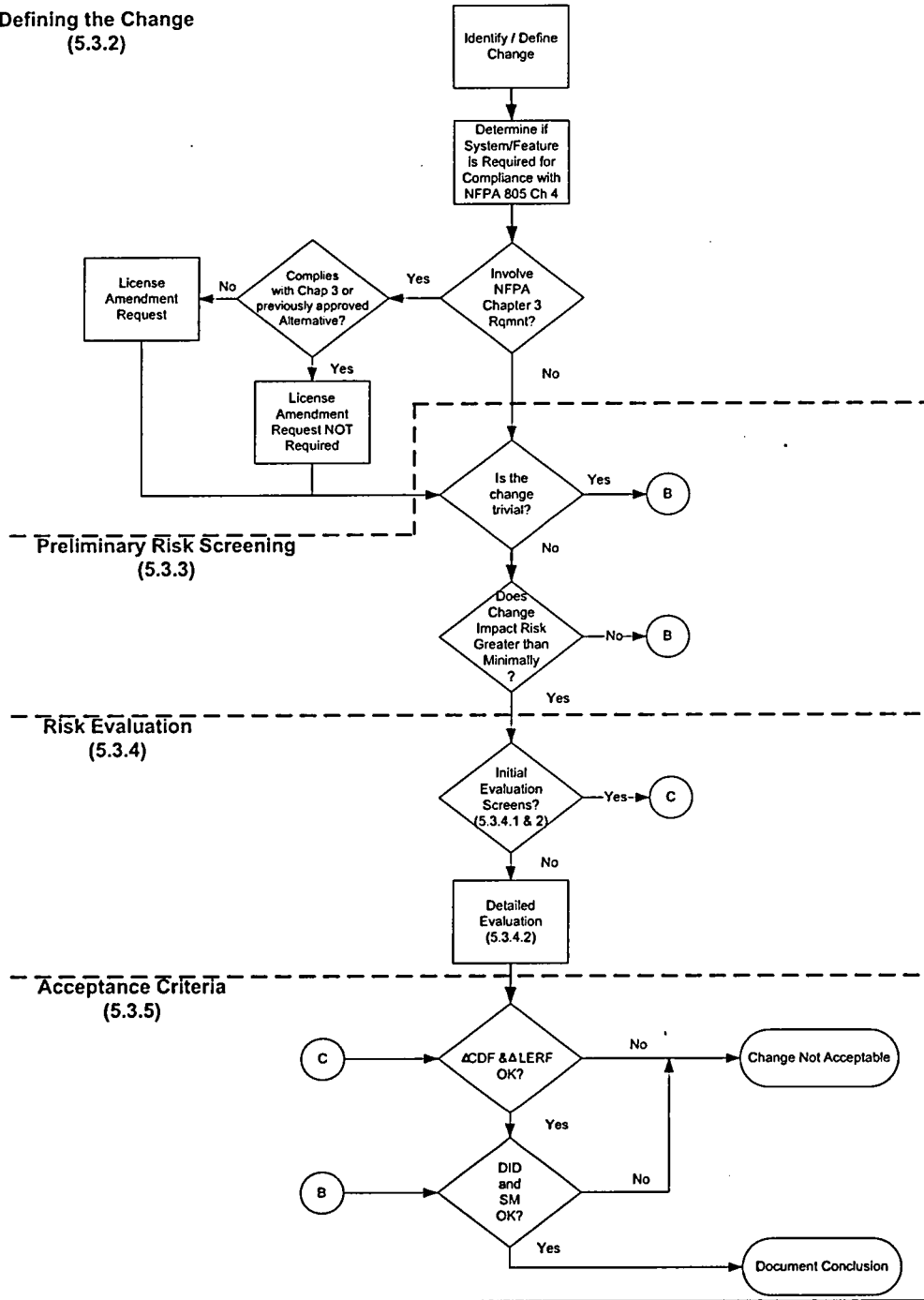
See attached revision.

5.3.2 Defining the Change

Changes can involve either physical components of the plant or specific details of the fire protection program. The need to perform a Change Evaluation can arise through a number of events or conditions.

1. An in-situ condition could be discovered that is inconsistent with the NFPA 805 Licensing Basis. A Change Evaluation can be performed to determine if the in-situ condition can remain and be treated as an acceptable change to the fire protection program.
2. A plant modification could be proposed that requires altering the fire protection program features in order to implement the modification in a cost-effective manner. A Change Evaluation can be performed to examine a number of proposed alternatives to develop a configuration that provides adequate protection at acceptable cost.

Defining the Change
(5.3.2)



Defining the Change

License Amendment Request

Preliminary Risk Screening

Risk Evaluation (5.3.4)

Acceptance Criteria (5.3.5)

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Figure 5-1 - Plant Change Evaluation

3. A programmatic change in the fire protection program may alter a feature that has been explicitly or implicitly incorporated into the Licensing Basis (pre-transition or NFPA 805 Licensing). A feature that forms the basis for the acceptance of an exemption or deviation (e.g., specific reference to a response by the fire brigade) would represent implicit incorporation into the Licensing Basis. A Change Evaluation is required in this case to determine if this modification is acceptable.
4. A change to administrative controls or organization, such as a change to surveillance frequencies.

The Change Evaluation process begins by defining the change or altered condition to be examined and the baseline configuration as defined by the Licensing Basis (CLB pre-transition or NFPA 805 Licensing Basis post-transition)¹.

1. The baseline is defined as that plant condition or configuration that is consistent with the Licensing Basis (CLB pre-transition or NFPA 805 Licensing Basis post-transition).
2. The changed or altered condition or configuration that is not consistent with the Licensing Basis is defined as the proposed alternative.

In some instances, the Change Evaluation focuses on the presence of plant system(s) that would typically have been located in separate fire areas or would have otherwise been provided with features or characteristics that would have minimized their concurrent failure given a postulated fire. The presence of these redundant features creates the potential for a single postulated fire to disable both. As such, combination of targets within the fire area represents the interactions that require evaluation in the Change Evaluation process. These interactions or target set(s) are an important consideration in the Change Evaluation process.

Additional consideration should be given to changes to Fundamental Program Elements and Minimum Design Requirements. Since many of the fire protection systems/features in NFPA 805 Chapter 3 are the result of meeting the Chapter 4 performance criteria, the change review process should determine the Chapter 4 requirements first in the change identification process.

10 CFR 50.48(c)(2)(vii) allows licensees to use performance-based methods to demonstrate compliance with NFPA 805 Chapter 3 requirements. However, these alternate methods must be approved via the license amendment process (10 CFR 50.48(c)(4)).

¹ In some instances where the existing licensing basis is unclear the 'Deterministic Approach' may form the baseline for the Change Evaluation.

Page 1 of ____					
LICENSEE NAME _____			UNIT(S) _____		
<input type="checkbox"/> SITE A	<input type="checkbox"/> SITE B	<input type="checkbox"/> SITE C	<input type="checkbox"/> Unit 1	<input type="checkbox"/> Unit 2	<input type="checkbox"/> Unit 3
ACTIVITY TITLE/DOCUMENT/REVISION _____					
Complete each section and summarize results below.					
CONCLUSIONS					
CHANGE EVALUATION :SUMMARY			RISK EVALUATION SUMMARY		
<input type="checkbox"/> The change is editorial or trivial in nature. (Screening per Section 1.a, 2.a, or 3.a) <input type="checkbox"/> The change affects compliance with the Nuclear Safety Criteria of NFPA 805 as defined in [insert reference to the appropriate document] (Section 1). <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> The change affects compliance with the Radioactive Release Criteria of NFPA 805 as defined in [insert reference to the appropriate document] (Section 2). <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> The change affects compliance with a required Fundamental Elements / Minimum Design Requirements of NFPA 805 Chapter 3 (Section 3). License Amendment Required? <input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> The change can be evaluated using a PRELIMINARY RISK SCREEN (Section 4) <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> The RISK EVALUATION demonstrates that Δ CDF/LERF are acceptable and defense-in-depth / safety margin are maintained. Therefore, the change is acceptable. <input type="checkbox"/> The RISK EVALUATION demonstrates that either the Δ CDF/LERF are unacceptable and/or defense-in-depth / safety margin are not maintained. Therefore, the change is NOT acceptable.		
SIGNOFFS					
Print Name _____		Signature _____		DATE _____	
SCREEN PREPARER ²					
Print Name _____		Signature _____		DATE _____	
SCREEN REVIEWER					
CHANGE DESCRIPTION					
Provide a brief description of what is being changed and why.					
REFERENCES					
List applicable references. Include sufficient identifying detail to facilitate independent review and retrieval.					

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☐ The change affects compliance with the Nuclear Safety Criteria of NFPA 805 as defined in [insert reference to the appropriate document] (Section 2).¶

☐ Yes ☐ No¶

☐ The change affects compliance with the Radioactive Release Criteria of NFPA 805 as defined in [insert reference to the appropriate document] (Section 3).¶

☐ Yes ☐ No

² Signoffs should be consistent with the Licensee's processes. For example it may be necessary for a fire protection engineer, PRA engineer, or safe shutdown engineer to have signature authority on the Plant Change Evaluation.

NUCLEAR SAFETY COMPLIANCE STRATEGY CHANGE QUESTIONS

Considering the proposed change, answer the following questions, including a reference to the applicable regulatory licensing basis, or NFPA document(s), and a brief description of why the proposed change does or does not satisfy the referenced document(s).

1. Does the proposed change involve a Nuclear Safety Compliance Strategy requirement as defined in [Insert appropriate document reference]?

- ☐ Yes – Proceed to Question 1.a.
- ☐ No – Document basis and proceed to Question 2.

a. Is the change editorial or trivial in nature? (See Attachment 1)

- o ☐ Yes Document basis and stop.
- o ☐ No Proceed to Question 1.b.

b. Does the change meet the deterministic requirements of Chapter 4 of NFPA 805?

- o ☐ Yes Document basis and complete remaining sections.
- o ☐ No Proceed to Question 1.c.

c. Is the change equivalent to the NFPA 805 Chapter 4 compliance strategy as defined in [Insert appropriate document reference]? Ensure documentation for determination of equivalency is included and meets NEI 04-02 requirements for documentation.

- o ☐ Yes Document basis and complete remaining sections.
- o ☐ No Perform a Risk Evaluation.

Deleted: (See Attachment 2)

Changes to Fire Protection Program Fundamental element / minimum design requirements that are required for compliance with NFPA 805 Chapter 3 or to meet the Nuclear Safety Performance Criteria must be evaluated in Section 3.

Comment [EK1]: Added based on NRC Comments

RADIOACTIVE RELEASE CHANGE QUESTIONS

Considering the proposed change, answer the following questions, including a reference to the applicable regulatory, licensing basis, or NFPA document(s), and a brief description of why the proposed change does or does not satisfy the referenced document(s).

2. Does the proposed change involve a **Radioactive Release** requirement as defined in [Insert appropriate document reference]?

- ☐ Yes – Proceed to Question 2.a.
- ☐ No – Document basis and proceed to risk screening.

a. Is the change editorial or trivial in nature? (See Attachment 1)

- o ☐ Yes Document basis and stop.
- o ☐ No Proceed to Question 2.b.

b. Does the change meet the requirements of the Radioactive Release criteria?

- o ☐ Yes Document conclusions and proceed to risk screening.
- o ☐ No Proceed to Question 2.c.

c. Is the change equivalent to the Radioactive Release compliance strategy as defined in [Insert appropriate document reference]? Ensure documentation for determination of equivalency is included and meets NEI 04-02 requirements for documentation.

- o ☐ Yes Document conclusions and proceed to risk screening
- o ☐ No Perform a Risk Evaluation.

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Changes to Fire Protection Program Fundamental element / minimum design requirements that are required for compliance with NFPA 805 Chapter 3 or to meet the Radioactive Release Performance Criteria must be evaluated in Section 3.

Comment [EK2]: Added based on NRC Comments

FIRE PROTECTION PROGRAM FUNDAMENTAL ELEMENT / MINIMUM DESIGN REQUIREMENT CHANGE QUESTIONS

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Considering the proposed change, answer the following questions, including a reference to the applicable regulatory, licensing basis, or NFPA document(s), and a brief description of why the proposed change does or does not satisfy the referenced document(s).

3. Does the proposed change involve an NFPA 805 Chapter 3 requirement as defined in [Insert appropriate document reference]? For those fire protection program changes that involve a Nuclear Safety Compliance Strategy requirement or a Radioactive Release requirement, ensure the effect of the change is evaluated in Appendix I, Sections 1.0 and 2.0, respectively.

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- ☐ Yes – Proceed to Question 3.a.
- ☐ No – Document basis and proceed to Question 2

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a. Is the change editorial or trivial in nature? (See Attachment 1)

- o ☐ Yes Document basis and stop.
- o ☐ No Proceed to Question 3.b.

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b. Does the change meet NFPA 805 Chapter 3 requirements or the previously approved alternative as defined in [Insert appropriate document reference]?

Changes that deviate from the NFPA standards referenced in NFPA 805 Chapter 3 can be made without NRC approval if allowed by the code of record (so long as the evaluated condition is in accordance with the terms of the code of record) or if the code does not dictate the specific issue (e.g., adequacy of coverage of suppression and detection systems). Ensure documentation for determination of acceptability is included and meets NEI 04-02 requirements for documentation. (See Attachment 2)

- o ☐ Yes Document conclusions, complete remaining sections.
- o ☐ No License Amendment Request must be processed for NRC approval. Complete remaining sections.

PRELIMINARY RISK SCREENING

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NUCLEAR SAFETY COMPLIANCE
STRATEGY CHANGE QUEST ... [1]

Considering the proposed change, answer the following questions. The nature of the change should enable you to choose among the three categories. Refer to the IPEEE, a plant-specific fire PRA, or other documents to determine whether the change could have "no", "minimal" or "greater than minimal" impact. Document the basis for the conclusion. The potential for common cause effects of a given plant change on the above factors should be considered. For example, an increase in combustible loading in an area can impact all of the factors. See Attachment 3 for examples.

4.0 Can the change be evaluated using a preliminary risk screen?

- a. Does the proposed change impact the **FIRE FREQUENCY** of any fire scenarios affected by the change?

- ☐ No Impact
☐ Minimal Impact
☐ Greater than minimal
- _____

- b. Does the proposed change impact the **MAGNITUDE OF THE EXPECTED FIRES** for any fire scenarios affected by the change?

- ☐ No Impact
☐ Minimal Impact
☐ Greater than minimal
- _____

- c. Does the proposed change impact the **DETECTION CAPABILITY** for any fire scenarios affected by the change?

- ☐ No Impact
☐ Minimal Impact
☐ Greater than minimal
- _____

- d. Does the proposed change impact the **SUPPRESSION CAPABILITY** for any fire scenarios affected by the change?

- ☐ No Impact
☐ Minimal Impact
☐ Greater than minimal

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-
- e. Does the proposed change impact the POST-FIRE CAPABILITY OF PLANT SYSTEMS TO PREVENT CORE DAMAGE (including fire affected human actions) during any mode of operation for any fire scenarios affected by the change?

- ☐ No Impact
- ☐ Minimal Impact
- ☐ Greater than minimal
-
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- f. Do any of the risk screening questions have "Greater than minimal" impact, then a detailed quantitative risk evaluation may be required.

- ☐ No. The Fire Protection Program Plant change meets the risk-informed acceptance criteria of NFPA 805 Section 2.4.4.
- ☐ Yes, a detailed quantitative risk evaluation is required.
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NUCLEAR SAFETY COMPLIANCE STRATEGY CHANGE QUESTIONS

Considering the proposed change, answer the following questions, including a reference to the applicable regulatory, licensing basis, or NFPA document(s), and a brief description of why the proposed change does or does not satisfy the referenced document(s).

2. Does the proposed change involve a Nuclear Safety Compliance Strategy requirement as defined in [Insert appropriate document reference]?

☐ Yes – Proceed to Question 2.a.

☐ No – Document basis and proceed to Question 3.

- a. Is the change editorial or trivial in nature? (See Attachment 1)

☐ Yes Document basis and stop.

☐ No Proceed to Question 2.b.

- b. Does the change meet the deterministic requirements of Chapter 4 of NFPA 805?

☐ Yes Document basis and complete remaining sections.

☐ No Proceed to Question 2.c.

- c. Is the change equivalent to the NFPA 805 Chapter 4 compliance strategy as defined in [Insert appropriate document reference]? Ensure documentation for determination of equivalency is included and meets NEI 04-02 requirements for documentation. (See Attachment 2)

☐ Yes Document basis and complete remaining sections.

☐ No Perform a Risk Evaluation.

RADIOACTIVE RELEASE CHANGE QUESTIONS

Considering the proposed change, answer the following questions, including a reference to the applicable regulatory, licensing basis, or NFPA document(s), and a brief description of why the proposed change does or does not satisfy the referenced document(s).

3. Does the proposed change involve a **Radioactive Release** requirement as defined in [Insert appropriate document reference]?

- ☐ Yes – Proceed to Question 3.a.
☐ No – Document basis and proceed to risk screening.

- a. Is the change editorial or trivial in nature? (See Attachment 1)

- ☐ Yes Document basis and stop.
☐ No Proceed to Question 3.b.

- b. Does the change meet the requirements of the Radioactive Release criteria?

- ☐ Yes Document conclusions and proceed to risk screening.
☐ No Proceed to Question 3.c.

- c. Is the change equivalent to the Radioactive Release compliance strategy as defined in [Insert appropriate document reference]? Ensure documentation for determination of equivalency is included and meets NEI 04-02 requirements for documentation. (See Attachment 2)

- ☐ Yes Document conclusions and proceed to risk screening
☐ No Perform a Risk Evaluation.

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