

**SHEARON HARRIS NUCLEAR POWER PLANT, UNIT NO. 1
DOCKET NO. 50-400/LICENSE NO. NPF-63
FREQUENTLY ASKED QUESTIONS (FAQS), REQUESTING ADDITIONAL
GUIDANCE OR CLARIFICATION REGARDING TRANSITION TO NFPA-805
"PERFORMANCE BASED STANDARD FOR FIRE PROTECTION FOR LIGHT
WATER REACTOR ELECTRIC GENERATING PLANTS"**

NFPA-805 Transition Pilot Plant

FAQ 06-0004

**NFPA-805 Transition Pilot Plant
Frequently Asked Questions
(Template)**

Plant:	<u>Harris Nuclear Plant (HNP)</u>	FAQ # <u>06-0004</u>
Submittal Date:	<u>05-12-06</u>	
Licensee Contact:	<u>Jeff Ertman</u>	Tele/email <u>919-546-3681</u>
NRC Contact:	_____	Tele/email _____

Subject

Interpretive Guidance? Yes / No

Proposed New Guidance not currently in NEI 04-02? Yes / No

Details

NEI 04-02 Guidance needing interpretation (include section, paragraph number, and line number as applicable).

NEI 04-02 Section 5.3 and Appendix B

Circumstances requiring guidance interpretation or new guidance:

NEI 04-02 needs to be clearer on the relationship between NFPA 805 Chapter 3 and 4 requirements. There are a number of sections in Chapter 3 that are dependent upon the requirements for protection in Chapter 4 (e.g., Electrical Raceway Fire Barrier System (ERFBS), traditional fire barriers, suppression, and detection). There is potential for misinterpretation if this is not made clearer.

This change essentially defines those Chapter 4 fire protection features that must be met for Chapter 3 requirements. These fire protection features should be risk significant to require placing the items into the Chapter 3 Licensing Basis. Those fire protection features that are not "risk significant" but are credited in PRA must still be able to perform the credited function and, depending upon the risk input, the feature may require monitoring. The risk number (1E-06/year) is consistent with risk precedents defined in the following:

- Reg. Guide 1.174 (1E-05/year)*
- Proposed License Standard Condition (1E-06/year)*
- NEI 00-01 (1E-06/year)*
- Back-fit Rule (1E-05/year)*
- Proposed Multiple Spurious Operation (MSO) Screening Criteria (1E-06/year)*

Detail contentious points if licensee and NRC have not reached agreement:

NA

Potentially relevant existing FAQ numbers:

NA

Response Section

Proposed Resolution of FAQ and basis for the proposal:

Revised NEI 04-02 Section 5.3.2.4 and Appendix B to include more discussion of requirements for protection and flowcharts (in App. B) to assist in determining which systems and features are 'required' by Ch. 4 of NFPA 805. Certain systems, ERFBS, and fire rated barriers may be required to maintain the configurations assumed during the PRA or are necessary for Defense-in-Depth (DID) or Safety Margin (SM). Therefore, "Evaluate for Monitoring" was left in several flow chart sequences (Figures B-1, B-2, and B-3). Monitoring thresholds and criteria will be developed in detail during the Pilot Plant process.

If appropriate, provide proposed rewording of guidance for inclusion in next revision.

As follows;

5.3.2.4 Relationship of NFPA 805 Chapters 4 and 3 – Required Systems

It is important to note that there is overlap between the Fundamental Program Elements and Minimum Design Requirements in NFPA 805 Chapter 3 and the protection strategies defined in Chapter 4 of NFPA 805, particularly for fire protection features relied upon to satisfy the nuclear safety criteria of Section 4.2 of NFPA 805. In cases where NFPA 805 Chapter 4 specifies separation or protection methods and Chapter 3 discusses minimum design requirements for the methods, care must be taken to understand whether or not risk-informed, performance-based methods can be used. Examples and clarifications include the following:

- Section 3.11.5, Electrical Raceway Fire Barrier Systems, provides requirements for "ERFBS required by Chapter 4". The requirements are deterministic in nature and are intended to apply to barriers meeting the Chapter 4 deterministic criteria. If a barrier relied upon for meeting nuclear safety criteria is found not to meet acceptance criteria in Section 3.11.5, then a risk-informed, performance-based change evaluation in accordance with Section 2.4.4 of NFPA 805 is appropriate to assess impact on the nuclear safety capability, rather than a License Amendment Request for approval.
- Note that several sections of NFPA 805, Chapter 3 specify requirements for systems/features that are required to meet the performance-based or deterministic requirements of Chapter 4 (Appendix B-1 provides guidance to determine which fire protection systems are "required" by NFPA 805 Chapter 4.) These limitations are provided in the following sections of NFPA 805:

- 3.8.2 – Detection
- 3.9.1 – Automatic and Manual Water-Based Fire Suppression Systems
- 3.10.1 – Gaseous Fire Suppression Systems
- 3.11.2 – Fire Barriers
- 3.11.5 – Electrical Raceway Fire Barrier Systems (ERFBS)

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.

Completing the cover sheet of the Plant Change Evaluation (Appendix I) and Sections 1, 2 and 3 defines the change being evaluated in terms of the types of evaluations that may be necessary to demonstrate the acceptability of the change.

Deleted: It is important to note the restriction to the systems/features required to meet Chapter 4 criteria, in order to not place an unnecessary focus on systems and features that are not required.

Inserted: It is important to note the restriction to the systems/features required to meet Chapter 4 criteria, in order to not place an unnecessary focus on systems and features that are not required. These limitations are provided in the following sections of NFPA 805:†

3.8.2 – Detection
3.9.1 – Automatic and Manual Water-Based Fire Suppression Systems
3.10.1 – Gaseous Fire Suppression Systems
3.11.2 – Fire Barriers
3.11.5 – Electrical Raceway Fire Barrier Systems (ERFBS)
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.†

Deleted: 3.3.2.5, Deterministic Requirements – "Deemed to Satisfy"
NFPA 805 Section 4.1, states that, "Deterministic requirements shall be "deemed to satisfy" the performance criteria and require no further engineering analysis." Chapter 4 of NFPA 805 provides the requirements for the baseline evaluation of the fire protection program's ability to achieve the performance criteria outlined in Section 1.5 of NFPA 805. The "deemed to satisfy" with no additional engineering analysis does not imply that a Plant Change Evaluation would not be performed. For example if a licensee was changing its current licensing basis in a fire area to a "deterministic method", the change would require a "Plant Change Evaluation". Note the Defense in Depth and Safety Margin portion of the "Plant Change Evaluation" would be satisfied by the fact that a "deterministic" option was chosen for compliance (See Sections 2.4.4.2 and 2.4.4.3 of NFPA 805).†

Appendix B

NFPA 805, Chapter 3 because the NRC had previously approved an alternative compliance strategy. For example, if a licensee uses non-UL listed fire pumps, and this fact had been provided to the NRC during the licensing process and was discussed in the Station's Safety Evaluation Report(s), the previously approved alternative compliance will be carried over to NFPA 805, Chapter 3 as a previously approved alternative compliance. The rationale and documentation used to make the decision should be well documented in the worksheets. Exceptions and clarifications identified during the transition review should be documented in order to provide a well-established baseline for future changes.

Existing Generic Letter 86-10 evaluations, which evaluate deviations from NFPA 805 Chapter 3 requirements, must be submitted to the NRC for approval as a license amendment if they do not meet the License Amendment Request threshold discussed in Section 5.3.2.

Certain Sections of Chapter 3 are only applicable if the fire protection feature is 'required' to meet the performance or deterministic requirements of Chapter 4. Determining if a fire protection feature is required is an iterative process. Figures B-1 through B-3 depict processes that may be used to determine if the requirements of Chapter 3 are applicable to a particular fire protection feature.

Appendix B Flowcharts (revised, added)

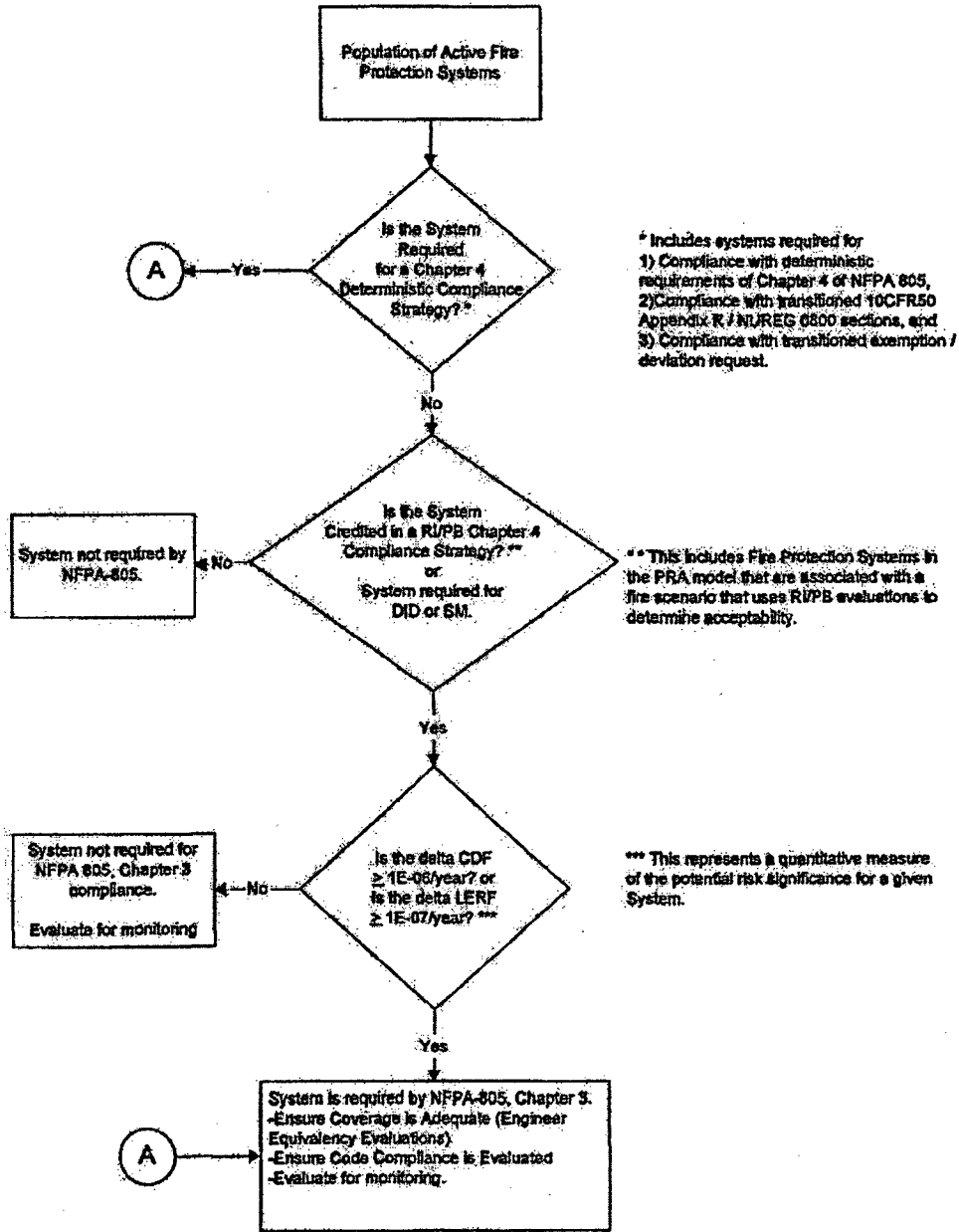


Figure B-1 – Process for Determining if an Active Fire Protection Feature is Required for NFPA 805 Chapter 4 Compliance

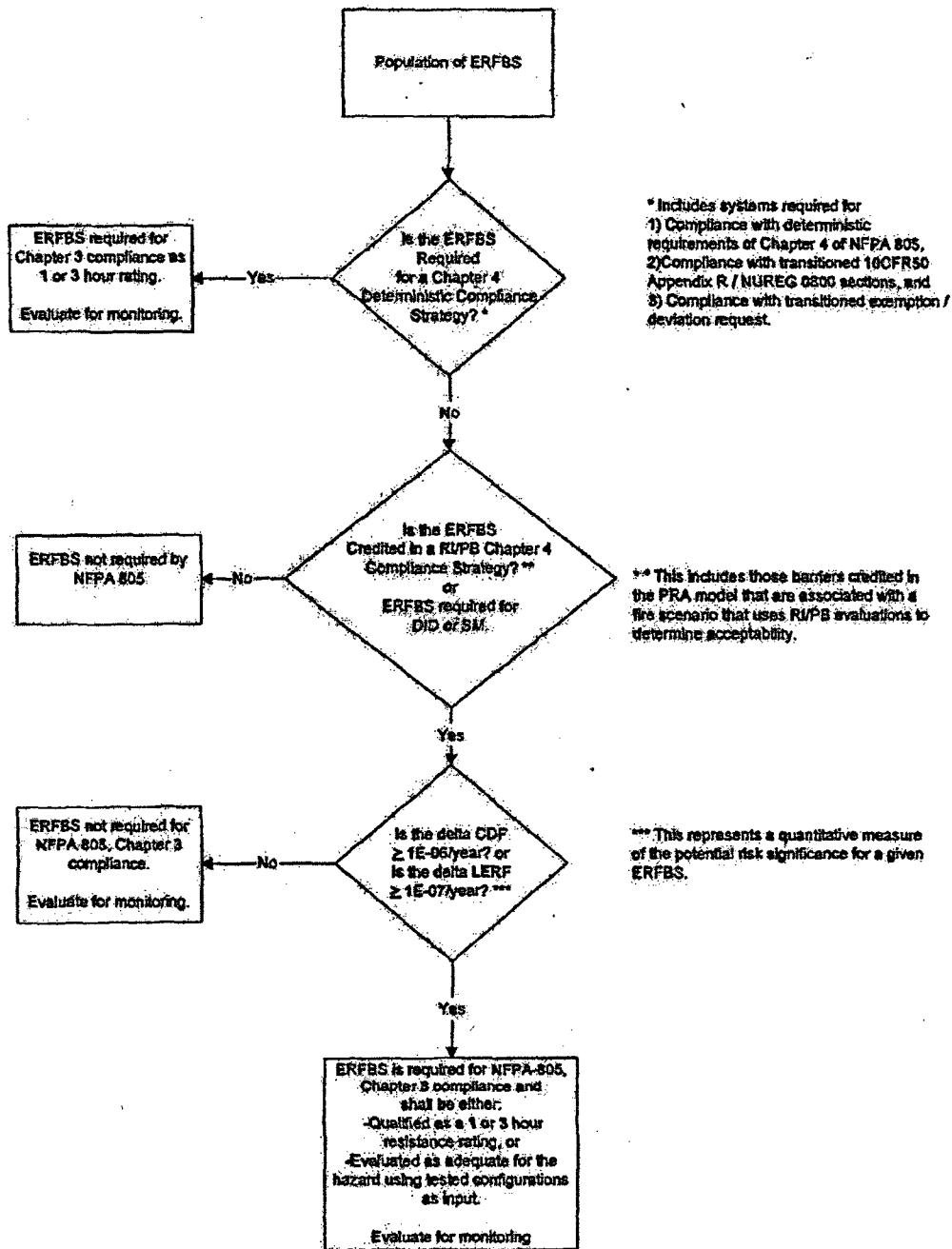


Figure B-2 – Process for Determining if an ERFB is Required for NPPA 805 Chapter 4 Compliance

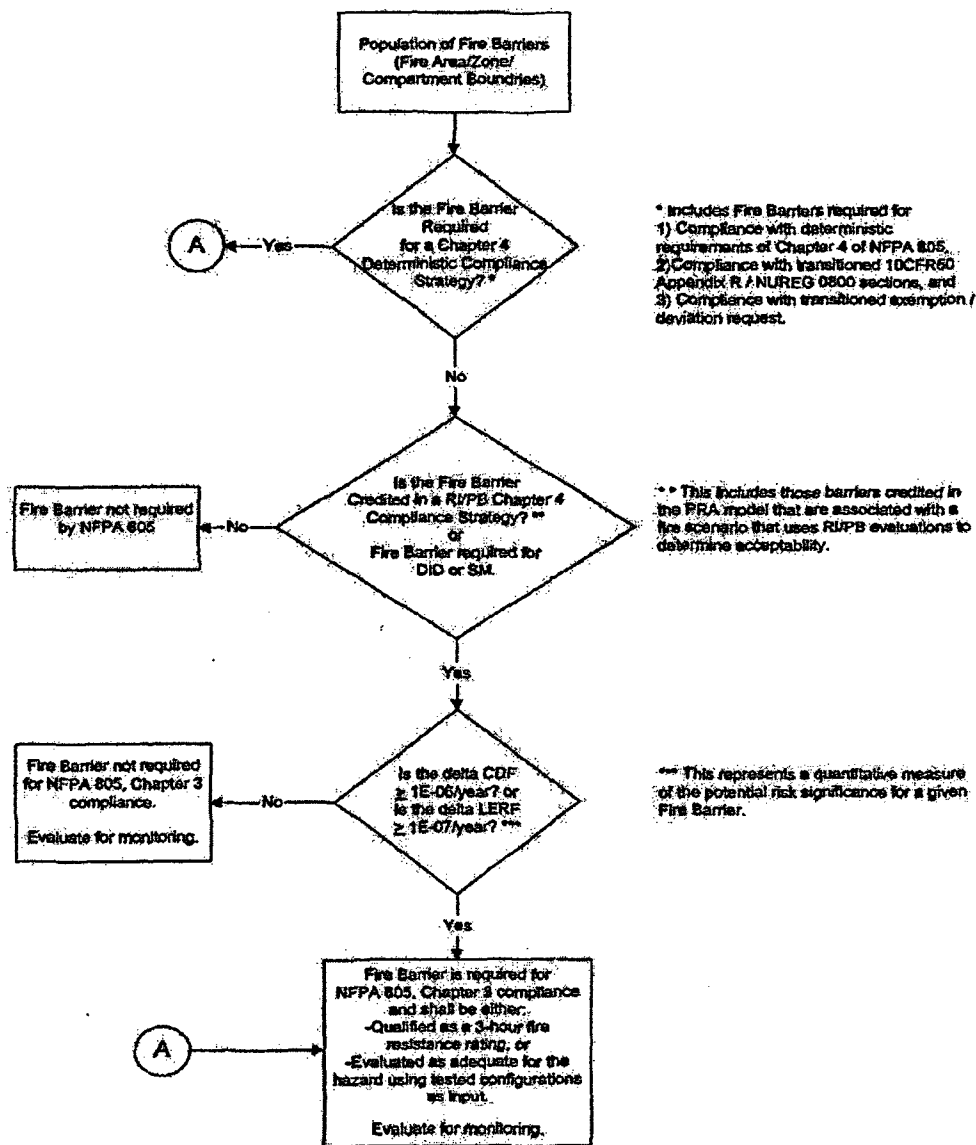


Figure B-3 – Process for Determining If a Fire Barrier is Required for NFPA 805 Chapter 4 Compliance

Included in Table B-1 is the mapping of the Fire Protection Fundamentals for “water supply” for a plant licensed to BTP 9.5-1 APCSB, May 1, 1976, Application Docketed but Construction Permit Not Received as of July 1, 1976. This mapping will be done for each section of Chapter 3 of NFPA 805. An example of how a licensee would map over the first 2 sections is provided. Once this mapping is completed all previous commitments will be superseded by compliance with the new rule.