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Subject: Industry Comments on Draft Regulatory Guide DG-1218, *Risk-Informed, Performance-Based Fire Protection for Existing Light Water Nuclear Power Plants*, and Proposed SRP Section 9.5.1.2, *Risk-Informed, Performance-Based Fire Protection Program*

Project Number: 689

The Nuclear Energy Institute (NEI),¹ on behalf of the nuclear energy industry, is pleased to provide comments on Draft Regulatory Guide DG-1218, *Risk-Informed, Performance-Based Fire Protection for Existing Light Water Nuclear Power Plants*, and Proposed Standard Review Plan (SRP) Section 9.5.1.2, *Risk-Informed, Performance-Based Fire Protection Program*. The satisfactory resolution of stakeholder comments and final issuance of these documents is important to the common industry and NRC desire for a stable and predictable Fire Protection Regulatory Process.

The enclosures to this letter provide detailed comments and recommended changes to the text of the guidance documents. The following are key comments that are further discussed in the enclosures.

Comments on DG-1218, Proposed Rev. 1 to RG 1.205

- Industry implementation guidance is provided in NEI 04-02, "Guidance for Implementing a Risk-Informed, Performance-Based Fire Protection Program under 10CFR50.48(c)." It is important that RG 1.205 identify any exceptions to NEI 04-02 guidance. NEI 04-02 Revision 1 was reviewed and endorsed, with exceptions, in RG 1.205 Rev. 0. Specific exceptions

¹ NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

E-REDS = ADM-03

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Template = ADM-013

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should be identified and not rely on licensees and inspectors to individually interpret NFPA 805 without the benefit of a vetted guidance and endorsement process.

- NFPA 805 states that, for the fire PRA utilized under NFPA 805, the "approach, methods and data shall be acceptable to the AHJ [Authority Holding Jurisdiction]." The Regulatory Guide should clearly outline the acceptable means to meet the intent of this phrase.

Comments on NUREG-0800 – SRP Ch 9 Section 9.5.1.2

- The SRP should be revised to include pilot plant and non-pilot plant lessons learned over the last three years that have been documented via the FAQ Process.
- Utilization of the SRP would be greatly enhanced by incorporation of a cross reference to NEI 04-02 (Text and Appendices).

The basis for each of these concerns is explained in greater detail in the enclosures to this letter. A number of the comments in the enclosures center on what appears to be a divergence from guidance and agreements reached over the last three years of the NFPA 805 Pilot Process. In a number of instances the draft guidance reflects new interpretations of NFPA 805 that are different from the interpretations agreed to and implemented by the NFPA 805 pilots. We recognize that the NRC has been open to the industry comments on this concern and has agreed to meet with the industry during the week of June 29, 2009. We look forward to this meeting.

If you have any questions regarding the above comments, please do not hesitate to contact me or Steven Hutchins (202.739.8025; sph@nei.org).

Sincerely,



John C. Butler

Enclosures

c: Dr. Sunil D. Weerakkody, Deputy Director of Fire Protection, NRR
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Industry Comments on NUREG-0800 - Ch 9 Section 9 5 1 2 Rev 0 Dated 1-26-09 (ML090050052)

General Comments:

- The SRP should be revised to include pilot plant and non-pilot plant lessons learned.
- Each section of the SRP should appropriate cross references to NEI 04-02 (text and Appendices)
- Ensure that all comments incorporated in the text are also incorporated into the Table in the back.

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Comment #	SRP Section	Comment
1	<p>I. <u>AREAS OF REVIEW</u></p> <p>This chapter of the Standard Review Plan (SRP) provides guidance for the U.S. Nuclear Regulatory Commission (NRC) staff who reviews RI, Performance-Based (PB) Fire Protection Program (FPP) license amendment requests (LARs) submitted pursuant to 10 CFR 50.48(c) and the guidance in Regulatory Guide (RG) 1.205 "Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants." This guidance is applicable to existing operating reactor licensees under Title 10 of the <i>Code of Federal Regulations</i>, Part 50 (10 CFR Part 50) and covers the review of LARs for transition and post-transition to an RI/PB FPP based on National Fire Protection Association (NFPA) Standard 805. Also, the staff previously issued an update to SRP Section 9.5.1 in March, 2007; for the benefit of Combined License (COL) applicants under 10 CFR part 52. SRP Section 9.5.1 focused on deterministic FPPs and advised that the primary review guidance document for NFPA 805 plants would be developed in the future. SRP Section 9.5.1.2 provides this guidance. Note that only the review of RI/PB FPP LARs is covered by this SRP section. For example, exemptions from Appendix R to 10 CFR Part 50 requirements or deviations from NUREG-0800 Chapter 9.5.1 license commitments are not covered in this SRP section.</p>	<p>In developing this SRP section, the staff considered requirements of 10 CFR 50.48(c) and NFPA 805 to the extent it is incorporated into 10 CFR 50.48(c). The staff also considered the guidance provided by RG 1.205 which endorses with exceptions Nuclear Energy Institute (NEI) NEI 04-02, "Guidance for Implementing a Risk-Informed Performance-Based Fire Protection Program Under 10 CFR 50.48(c)" revision endorsed in RG 1.205. At the time of drafting this SRP section, some of the documents referenced herein are subject to revision, like RG 1.205 and NEI 04-02. For example, the referenced documents may be reorganized, which would affect the specific section references in this SRP section. A reviewer should use the most current revision of RG 1.205 for accurate references. In addition, the staff incorporated staff positions developed using experience from NFPA 805 implementation. The staff has documented these additional staff</p> <p>Revise second sentence as follows: The staff also considered the guidance provided by RG 1.205 which endorses with exceptions Nuclear Energy Institute (NEI) NEI 04-02, "Guidance for Implementing a Risk-Informed Performance-Based Fire Protection Program Under 10 CFR 50.48(c)" revision 2endorsed in RG 1.205</p>

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Comment #	SRP Section	Comment
<p>positions via the NFPA 805 Frequently Asked Questions (FAQ) Process. [RIS 2007-19]</p>	<p><u>Review Areas</u></p> <p>A FPP for a nuclear power plant (NPP) licensed to operate generally consists of the following elements: [RG 1.189]</p> <ul style="list-style-type: none"> ▪ Delineation of organization, staffing, and responsibilities ▪ Performance of a fire hazards analysis sufficient to ensure safe shutdown functions and minimize radioactive material releases in the event of a fire ▪ Limitation of damage to structures, systems and components (SSCs) important to safety so that the capability to safely shut down the reactor is ensured ▪ Evaluation of fire test reports and fire data to ensure they are appropriate and adequate for ensuring compliance with regulatory requirements ▪ Evaluation of compensatory measures for interim use for adequacy and appropriate length of use ▪ Training and qualification of fire protection personnel appropriate for their level of responsibility ▪ Quality assurance ▪ Control of FPP changes 	<p>This document uses RG 1.189 as a reference for the contents of a fire protection program. NFPA 805 Section 3.2 provides the requirements for a fire protection plan. Since NFPA 805 is included by reference in 10 CFR 50.48(c) the requirements in Section 3.2 take precedence over the information in RG 1.189.</p>
<p>The staff reviews the overall RI/PB FPP described in the LAR with respect to the acceptance criteria in this SRP and the Acceptance Review Matrix attached to this SRP section (Attachment 1). Specifically, the staff reviews the following, as applicable:</p> <ol style="list-style-type: none"> 1. Orders and license conditions that the licensee has identified as needing to be revised or superseded 2. Revised technical specifications (TSs), including Administrative Controls and Limiting Conditions for Operation and their bases 	<p>The listing of 25 items in Section I under "Review Areas" should be deleted (items identified are redundant and, for some items, inconsistent with Section III Review Procedures and the matrix table (Attachment 1). Level of detail requested in Section I is also inconsistent with Section III Review Procedures and the matrix table (Attachment 1).</p> <p>The paragraph should simply state:</p> <p>"The staff reviews the overall RI/PB FPP described in the LAR with respect to the acceptance criteria in this SRP, the Review</p>	

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Comment #	SRP Section	Comment
3.	Proposed Updated Final Safety Analysis Report (UFSAR) changes related to the FPP if provided	<p>Procedures (Section III) and the Acceptance Review Matrix attached to this SRP section (Attachment 1).” Specifically, the staff reviews the following, as applicable: [Then delete items 1 through 25 in this section]</p> <p>OR REVISE ITEMS AS IDENTIFIED BELOW:</p> <p>Item 7. Since this section of 10 CFR 50.48(c)(2)(vii) is not mandatory for transition to 10 CFR 50.48(c), it is suggested that the sentence end with “..., if provided.”</p> <p>Item 8. Since this section of 10 CFR 50.48(c)(4) is not mandatory for transition to 10 CFR 50.48(c), it is suggested that the sentence end with “..., if provided.”</p> <p>Item 10. The discussion incorrectly refers to NFPA 805 Section 2.4 with a title of “Fire Modeling, Nuclear Safety Capability Assessment, and Fire Risk Evaluations.” The title of NFPA 805 Section 2.4 is “Engineering Analyses.”</p> <p>Item 13 – Recommend that the guidance repeat the exception in 10 CFR 50.48(c)(2)(iii) rather than paraphrase the exception using different terminology.</p> <p>Item 16 – Radioactive Release and Nuclear Safety are separate performance criteria and should not be combined in the SRP. NFPA 805 and the implementing guidance in NEI 04-02 and RG 1.205 treat these goals and criteria separately.</p> <p>Item 22 states “Fire-induced multiple spurious operations (MSOs), including the process used to identify and screen MSOs and how each is evaluated in the fire PRA.”</p> <p>The proposed process for MSO resolution in FAQ 07-0038 Rev. 1 (ML082700815), discussed at NFPA 805 Pilot Meetings, and documented in the Pilot Plant LARs do not include a screening process. Recommend removing reference to a screening process.</p> <p>Item 24 – This item is incorrect as it states that recovery actions are not in accordance with NFPA 805 requirements. Recovery actions are allowed by NFPA 805.</p>
4.	Plant modifications and other changes that the licensee has identified as necessary to implement the RI/PB FPP, including the schedule for implementation and justification of the schedule	
5.	Process for self-approving RI/PB FPP changes post-transition, including the types of RI/PB changes that the licensee intends to self approve, the capability of the Fire Probabilistic Risk Assessment (PRA) to model those changes, and the method used to establish a cause-effect relationship to estimate the change in risk associated with the performance based alternative	
6.	Statements on no significant hazards consideration and environmental considerations	
7.	Licensee’s request per 10 CFR 50.48(c)(2)(vii) to subject the fundamental FPP and design elements of Chapter 3 of NFPA 805 to the PB methods permitted elsewhere in the standard	
8.	Licensee’s request per 10 CFR 50.48(c)(4) to use RI/PB alternatives to compliance with NFPA 805 including details of the proposed alternatives	
9.	Licensee’s description of operational guidance provided to plant personnel detailing the success path(s) for each fire area and the performance of recovery actions (RAs)	
10.	Engineering analyses required by NFPA 805 Section 2.4, “Fire Modeling, Nuclear Safety Capability Assessment, and Fire Risk Evaluations”	
11.	Any FAQs cited by the licensee. For FAQs that have not been closed by the NRC, the licensee’s detailed description and justification for their use in the submittal	
12.	Plant structures that comprise the power block as defined in NFPA 805	
13.	Verification that feed-and-bleed is not relied on as the only path to post-fire safe shutdown in pressurized-water reactors (PWRs) for	

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	safe shutdown	
14.	Pre- and post-transition regulatory basis for each fire area, including methods used to accomplish NFPA 805 performance criteria, disposition of deviations/exemptions, existing engineering equivalency evaluations (EEEEEs), and any associated risk assessment results	
15.	Fire protection during non-power operational modes to ensure that nuclear safety performance criteria are met	
16.	Results of the Nuclear Safety Capability Assessment for Radioactive Release to ensure that the radioactive release goals and performance criteria have been met	
17.	Basis for the technical adequacy of the fire PRA model, or model parts, being used to perform change evaluations and the process for assuring the PRA model is maintained and updated to reflect the as-built, as-operated and maintained plant, and operating experience of the plant as needed to support any proposed self approval process	
18.	Methods used to estimate the change in risk for each type of performance based approach, a sample of the calculations as appropriate, and verify that the change in risk is within the acceptance guidelines, including resultant risk increase/decrease, and how defense-in-depth (DID) and safety margins are maintained for each change	
19.	Monitoring program, including bases for failure probability assumptions used in the fire PRA, methods used to monitor availability, reliability, and performance of FPP systems, and processes for identifying and implementing corrective actions	
20.	FPP documentation, including the FPP design basis document and supporting documents, and the Licensee's configuration control process for the FPP and associated analyses	
21.	Process for assuring quality for each FPP analysis, calculation, and evaluation	
22.	Fire-induced multiple spurious operations (MSOs), including the	

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Comment #	SRP Section	Comment
23. Operator manual actions (OMAs) transitioning to RAs, including documentation for those that have been previously approved by the NRC and that those RAs that are credited with achieving the nuclear safety performance criteria are feasible and reliable 24. Change in risk associated with relying on RAs instead of NFPA 805 requirements 25. Process for resolving issues with electrical raceway fire barrier systems (e.g., Hemyc and/or MT)	process used to identify and screen MSOs and how each is evaluated in the fire PRA	
<u>Review Interfaces</u> Other SRP Sections interface with this Section as follows: SRP Section 19.1, "Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities." SRP Section 19.2, "Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance." SRP Section 9.5.1, "Fire Protection Program."		

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Comment #	SRP Section	Comment
	<p>II. <u>ACCEPTANCE CRITERIA</u></p> <p>Section II lists the governing regulations applicable to the areas of review in this SRP Section and the primary guidance documents that provide acceptable methods for meeting the regulatory requirements.</p> <p><u>Requirements</u></p> <p>The licensee's FPP will generally be considered acceptable if it meets the applicable criteria established in the following:</p> <ol style="list-style-type: none"> 1. General Design Criterion (GDC) 3, "Fire protection," in Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50, which establishes the general criteria for fire and explosion protection of SSCs important to safety 2. 10 CFR 50.48(a), which requires that each operating NPP have a fire protection plan that meets the requirements of GDC 3 3. 10 CFR 50.48(c), which incorporates NFPA 805 (2001 Edition) by reference, with certain exceptions. This regulation establishes the requirements for using NFPA 805 as an alternative to the requirements associated with 10 CFR 50.48(b) and Appendix R to 10 CFR Part 50 or the specific plant license condition. 4. NFPA 805 (2001 Edition), which documents the consensus standard for RI/PB fire protection of existing NPPs, to the extent incorporated by reference by 10 CFR 50.48(c) 5. 10 CFR Part 20, "Standards for Protection Against Radiation," which establishes the radiation protection limits used as NFPA 805 performance criteria, as specified in Section 1.5.2 of NFPA 805 	
	<p><u>SRP Acceptance Criteria</u></p> <p>Specific SRP criteria acceptable to meet the relevant requirements of the NRC's Regulations identified above are as follows for the review</p>	<p>Item 2 – Recommend adding a FAQ clarification to RG 1.205 (similar to the statement provided for NUREG/CR-6850.</p> <p>Item 4 – RG 1.189 is currently Revision 1.</p>

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	<p>described in this SRP section. The SRP is not a substitute for the NRC's regulations, and compliance with it is not required. However, an applicant is required to identify differences between the design features, analytical techniques, and procedural measures proposed for its facility and the SRP acceptance criteria and evaluate how the proposed alternatives to the SRP acceptance criteria provide acceptable methods of compliance with the NRC regulations.</p>	<p>Item 4 – RG 1.189 should not be referenced in this document. The 'requirements of NFPA 805 Chapter 3' are not consistently reflected in RG 1.1.89. This could lead to regulatory uncertainty.</p>
	<p>The following documents provide acceptable methods, guidance, and other criteria applicable to meeting the Commission's FPP requirements:</p>	<p>Item 9 – The process for NFPA 805 transition in NEI 04-02 (RG 1.205) does not include NUREG-1852. The NRC response to NUREG-1852 industry and public comments clearly emphasize that NUREG-1852 is not applicable to an RI-PB NFPA 805 transition (ML0726809550, Item 24) item</p>
<p>1. NUREG-1600, "General Statement of Policy and Procedure for NRC Enforcement Actions, Interim Enforcement Policy, May 1, 2000," which provides the Commission's policy on enforcement discretion for non-compliant conditions, either existing or identified during transition to an RI/PB-FPP in accordance with 10 CFR 50.48(c)</p>	<p>2. RG 1.205, "Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants," which provides NRC guidance on an acceptable approach to meeting 10 CFR 50.48(c), including endorsement (with exceptions) of NEI 04-02, "Guidance for Implementing a Risk-Informed Performance-Based Fire Protection Program Under 10 CFR 50.48(c)," and portions of NEI 00-01, "Guidance for Post-Fire Safe Shutdown Circuit Analysis"</p>	<p><i>NEI 04-02 (to the extent to which it is endorsed in RG 1.205) provides guidance on performing HRA for OMAs (referred to as "recovery actions" there) as part of a RI/PB fire PRA under NFPA 805. NUREG-1852 provides one coherent set of feasibility and reliability criteria for NRC reviewers to use when evaluating future OMA exemptions or license amendment requests that may be submitted on a non-RI/PB basis. Reference to the RI/PB methods in NEI 04-02 (via RG 1.205) would be inappropriate in NUREG-1852, although the type of criteria offered in NUREG-1852 are implicit to an HRA under a RI/PB fire PRA.</i></p>
<p>3. RG 1.174, Revision 1, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," which provides NRC guidance on an acceptable method to assess the nature and impact on licensing basis changes using risk information within the context of applicability under 10 CFR 50.48(c) and RG 1.205</p>	<p>4. RG 1.189, Revision 2, "Fire Protection for Nuclear Power Plants," which provides general guidance on acceptable FPPs</p>	<p>NEI 00-01, Guidance for Post-Fire Safe Shutdown Circuit Analysis, Revision 1, dated January 2005 – NEI 00-01 contains the preferred methods of demonstrating compliance with certain aspects of NFPA 805. Its use was endorsed in RG 1.205 and therefore it should be listed here.</p>
<p>5. Section 19.1 of the SRP, "Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-</p>		

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		Informed Activities," which provides review guidance on determining the technical adequacy of PRA models for RI initiatives
6.	Section 19.2 of the SRP, "Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance," which provides guidance on reviewing risk information used to support plant-specific changes to the licensing basis	
7.	RG 1.200, Revision 2, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk Informed Activities," issue date to be determined (TBD), which provides guidance with respect to acceptable methods and PRA quality	
8.	NUREG/CR-6850, "EPRI/NRC-RES Fire PRA Methodology for Nuclear Power Facilities," Volumes 1 and 2, issued September 2005, which provides a method for developing a fire PRA in support of adopting an RI/PB FPP, within the context of the additional clarification provide by the staff via the NFPA 805 FAQ process.	
9.	NUREG-1852, "Demonstrating the Feasibility and Reliability of Operator Manual Actions in Response to Fire," which provides qualitative methods to demonstrate that OMAs are feasible and reliable	
10.	NUREG-1824, "Verification and Validation of Selected Fire Models for Nuclear Power Plant Applications," Volumes 1-7, issued May 2007, which provides guidance on (V&V) of fire models	

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III.	IV. <u>REVIEW PROCEDURE</u>	<p>Licenseses of existing plants that wish to adopt an RI/PB FPP that complies with NFPA 805 must submit a LAR in accordance with 10 CFR 50.48(c)(3)(i). Licenseses that wish to adopt 10 CFR 50.48(c) but wish to use PB methods permitted elsewhere in NFPA 805 for the Chapter 3, "Fundamental Fire Protection Program and Design Elements," of NFPA 805 may do so by submitting an LAR in accordance with 10 CFR 50.48(c)(2)(vii). Licenseses that wish to use RI/PB alternatives to compliance with NFPA 805 must submit an LAR in accordance with 10 CFR 50.48(c)(4). In addition to the LARs required by the rule, licenseses may submit additional elements of their program for which they wish to receive specific NRC review and approval as set forth in RG 1.205, "Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants," Regulatory Position 2.2.</p> <p>The review of an LAR starts with an acceptance review by the NRC staff in accordance with Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-109, "Acceptance Review Procedures." Attachment 1 of this SRP includes an acceptance review matrix as an aid in performing the acceptance review of the LAR. Once an LAR is accepted as sufficient for the staff to begin its review, the staff review proceeds in accordance with LIC-101, "License Amendments." If deemed appropriate for a given review, a regulatory audit of the licensee may be conducted in accordance with LIC-111, "Regulatory Audits," for the staff to gain a better understanding of the licensee's calculations, proposed plant modifications, and other aspects of the LAR.</p> <p>The NRC staff reviewing LARs to implement an RI/PB FPP should be aware of the NFPA 805 FAQ Process. The NRC established the FAQ process as described in RIS 2007-19, "Process for Communicating Clarifications of Staff Positions Provided in Regulatory Guide 1.205 Concerning Issues Identified during the Pilot Application of National Fire Protection Association Standard 805," to clarify issues encountered during the pilot transition. The FAQ process provides a means for the staff to establish and communicate interim positions on technical and regulatory issues that emerge as experience is gained in</p>

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		<p>the review of these LARs. Approved interim positions documented through the FAQ process should be used where applicable in reviewing those portions of an LAR to which they apply. These positions will be formalized in future revisions of RG 1.205 and reflected in this SRP.</p>
		<p>III.1 PROGRAMMATIC REVIEW OF LICENSE AMENDMENT REQUEST</p> <p>The required content of an LAR for transition to an RI/PB FPP is defined in 10 CFR 50.48(c)(3)(i), 10 CFR 50.90 and, as applicable, 10 CFR 50.48(c)(2)(vii) and 10 CFR 50.48(c)(4). Regulatory Position 2.2 of RG 1.205 and Section 4.6.1 of NEI 04-02, provide additional guidance on the content of the LAR. 10 CFR 50.48(c)(3)(ii) requires the licensee to perform the required analyses and revise the fire protection plan prior to changing either the plant or the FPP.</p> <p>Section 2.2 of NFPA 805 provides the general approach for establishing the fire protection requirements for a NPP. Section 3.3 of NEI 04-02 provides additional detail on implementing this approach. The NRC staff will review the LAR to verify that each step in the process has been satisfactorily completed.</p>
		<p>III.1.1 Orders, License Condition, and Technical Specifications</p> <p>The NRC staff will confirm that the licensee has identified any orders and license conditions that must be revised or superseded, and provided any necessary revisions to the plant's technical specifications and the bases thereof to implement a FPP that complies with NFPA 805. The reviewer should ensure that the LAR includes a discussion of the changes to the UFSAR necessitated by the license amendment. [NEI 04-02 paragraph 4.6.1]</p> <p>The staff will verify that the LAR provides updated TSs. The staff will verify that the package includes the following (as identified by the licensee):</p> <ul style="list-style-type: none">▪ Changed, added or revoked Administrative Controls

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<ul style="list-style-type: none"> ▪ Revised or superseded Limiting Conditions for Operation, ensuring that they are consistent with 10 CFR 50.48(c) and 10 CFR 50.36 ▪ Revised associated Bases as required by 10 CFR 50.48(c)(3)(i) 	<p>The reviewer must keep in mind that there will likely be other requirements that must be met with regard to remote shutdown capability to meet GDC 19 of 10CFR 50, Appendix A, "Control Room." The reviewer will confirm that the licensee does not inadvertently delete the TSs associated with remote shutdown requirements required by other regulations related to the ability to safely shut down from outside the control room.</p>	
<p>III.1.2 Modifications</p>	<p>The staff will ensure that the license condition lists any plant modifications that the licensee has identified as necessary to implement the RI/PB FPP and includes a description of the modification, a schedule for implementation of the modification, and a commitment to maintain in effect compensatory measures until the modification is completed.</p>	
<p>III.1.3 Self-Approval of Certain FPP Changes</p>	<p>After a licensee implements NFPA 805, it may implement changes to its FPP in accordance with the license condition approved by the NRC staff. A plant change evaluation as described in paragraph III.5.3 of this SRP is required for any change to a previously approved FPP element.</p> <p>A change may be any of the following: [RG 1.205 regulatory position 3.2.1]</p> <ul style="list-style-type: none"> (a) A physical plant modification that affects the FPP; (b) A programmatic change (e.g., change to a procedure, assumption or analysis) that affects the FPP; or, (c) An in situ condition (physical or programmatic) that is an FPP regulatory noncompliance or a fire protection licensing-basis noncompliance, which the licensee does not intend to correct via a 	<p>The last sentence in the first paragraph on page 9.5.1.2-9 should be revised to reflect RG 1.205:</p> <p>"Note that Regulatory Position 3.2.4 of RG 1.205 lists FPP changes that must be submitted for review and approval prior to implementation, except where otherwise permitted by the approved license condition."</p> <p>The document is written at a fairly high level, which leaves a lot of "latitude" (room for interpretation) on the part of the reviewer. For example, in Section III.1.3, it states that the "staff will ... determine whether the licensee has adequate processes in place to ensure that acceptable PRA technical adequacy is maintained ..." The process to maintain a PRA is typically reviewed and assessed during the Peer Review through a consensus process by a team of PRA-knowledgeable participants. Is the staff suppose to "reproduce that</p>

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<p>plant or programmatic modification.</p> <p>The NRC staff will review the licensee's process for self-approving changes and determine whether the licensee has adequate processes in place to ensure that acceptable PRA technical adequacy is maintained, and that DID and safety margins are appropriately addressed after transition.</p> <p>The staff will ensure that the license condition identifies whether the licensee is permitted to make certain changes to the FPP without prior NRC review and approval, and, if so, the risk acceptance criteria and any restrictions in terms of the types of changes that may be so implemented. Note that Section 3.2.4 of RG 1.205 lists FPP changes that always require prior NRC approval.</p> <p>RG 1.205 Regulatory Position 3.1 contains a sample license condition that allows for self-approval of FPP changes. The staff will verify that the license condition contains sufficient detail to ensure self-approval meets these regulatory positions.</p> <p>Note: Licensees may reference methods in NRC approved topical reports (TR). This option affords efficiencies both for licensees and NRC. A licensee must still request approval to adopt the alternative approved in the TR by applying for a license amendment which demonstrates the licensee has met the criteria in the TR for such adoption. [NEI 04-02 paragraph 2.4.2]</p>	<p>process" to determine if an adequate process exists? Can the staff simply look at the PRA Peer Review results to make that determination? There is nothing in the SRP to ensure consistency from review to review.</p> <p>III.1.3 – Self-Approval of Certain FPP Changes: At the end of this section there is a note that talks about a Topical Report. In the context of this section, this note suggests that the analysis methods being applied must have specific NRC approval. The specific reference to NEI 04-02 that is provided was intended to refer to the overall transition method. As such, this note seems to be misplaced or a clarification is needed as to the necessity and applicability of a Topical Report. In the absence of any TR, what criteria will the NRC use to establish adequacy for this item? Or should this note be moved to III.1.8?</p>	
<p>III.1.4 Significant Hazards Consideration</p> <p>The staff will verify that the LAR includes a statement concerning the "no significant hazards consideration," in accordance with 10 CFR 50.91 and 10 CFR 50.92. Appendix H to NEI 04-02 provides one example of an acceptable statement.</p> <p>III.1.5 Environmental Consideration (Categorical Exclusion Finding)</p> <p>The staff will verify that the LAR includes a statement on environmental considerations in accordance with 10 CFR 51.22(b) and (c). Appendix H to NEI 04-02 provides one example of an acceptable statement.</p>		

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III.1.6	Transition Implementation Schedule	The staff will verify that the LAR includes an "updated transition schedule" per Section 4.6.1 of NEI 04-02. The submittal will provide a transition schedule, justification for the schedule, and a list of modifications with a commitment to maintain in effect associated compensatory measures. The staff will ensure that the proposed schedule is reasonable.
III.1.7	Performance-Based Methods for NFPA 805 Chapter 3 Elements	Notwithstanding the prohibition in Section 3.1 of NFPA-805, a licensee can request NRC approval under 10 CFR 50.48(c)(2)(vii), via a license amendment, to apply PB methods permitted elsewhere in the standard (i.e. NFPA 805 4.2.4) to the fundamental FPP and design elements of Chapter 3 of NFPA 805. Where a licensee proposes to use PB methods to demonstrate compliance with the fundamental FPP and design elements in Chapter 3 of NFPA 805, the NRC staff will review the LAR in accordance with 10 CFR 50.48(c)(2)(vii) and RG 1.205, Regulatory Position 3.2.3, to verify the adequacy of the methods and the licensee's evaluation and conclusions.
III.1.8	Risk-Informed, Performance-Based Alternatives to Compliance with NFPA 805	First sentence – Change "PB, RI" to "RI/PB" for consistency with remainder of document.
	NFPA 805 provides one framework describing how PB, RI methods may be used to self-approve plant changes that affect the FPP program. Other frameworks may be acceptable. Under 10 CFR 50.48(c)(4), a licensee may request NRC approval to use RI or PB alternatives (i.e., different from those prescribed by NFPA 805) to demonstrate compliance with 10 CFR 50.48(c) using the LAR process. In those instances, the NRC staff will review the LAR in accordance with 10 CFR 50.48(c)(4) to verify that all of the following are true for the proposed alternative and its application:	
	(a) It satisfies the performance goals, objectives, and criteria specified in NFPA 805 related to nuclear safety and	

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(b)	radiological release;	
(c)	It maintains safety margins; and, It maintains fire protection DID (fire prevention, fire detection, fire suppression, mitigation, and post-fire safe-shutdown capability).	
	Regulatory Position 3.2.3 of RG 1.205 provides additional guidance regarding the information to be supplied by the licensee when requesting NRC staff approval for alternative RI/PB methods; the licensee should provide:	The wording on Regulatory Position 3.2.3 of RG 1.205 does not reflect the wording in RG 1.205. Specifically, the SRP items (d) and (e) provides different wording than RG 1.205.
(a)	A detailed description of the alternative RI/PB method	Section III.1.8, in the last set of bullets, leaves no doubt that if PRA methods are used to perform risk assessments, the ASME/ANS PRA Standard (RA-S-2008 or RA-Sa-2009) or ANS Fires PRA Standard (58.23-2007) needs to be used. Note that Regulatory Guide 1.200, Rev. 2 endorses Standard RA-Sa-2009 – while the supporting requirements are similar to the other cited Standards, use of those other Standards would create bookkeeping, logistic, and regulatory difficulties during a review. Therefore, if a Fire PRA is used, it needs to be developed against RA-Sa-2009. Also noted (as required in the Standard and RG 1.200), a peer review of the Fire PRA must be performed (also against RA-Sa-2009).
(b)	A description of how the method will be applied, the aspects of the FPP to which it will be applied, and the circumstances under which it will be applied	
(c)	The acceptance criteria, including risk increase acceptance criteria, that the licensee will apply when determining whether the results of an evaluation that uses this methodology meet the required NFPA 805 performance goals, performance objectives, and performance criteria	
(d)	For risk assessments using PRA methods, a justification of the technical adequacy of the PRA model per RG 1.200 for evaluation of the changes to which it will be applied	
(e)	For risk assessments using PRA methods, a description of the peer review and how the review findings have been addressed.	
	The NRC staff's review of LARs submitted in accordance with 10 CFR 50.48(c)(4) will focus on the technical aspects of the approach or method proposed as an alternative to compliance with NFPA 805. The approach or method shall meet an equivalent level of protection to that established by NFPA 805. The staff will review a sample of the calculations to verify that the licensee's evaluation and conclusions with regard to meeting the safety margin and DID criteria are acceptable. Proposed alternatives are subjected to the same	

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	<p>evaluation criteria (e.g., V&V) as the endorsed methods. The reviewer will also evaluate the LAR to verify that the licensee adequately performed and documented these evaluations.</p>	
	<p>III.2 FUNDAMENTAL FIRE PROTECTION PROGRAM ELEMENTS AND MINIMUM DESIGN REQUIREMENTS</p> <p>Chapter 3 of NFPA 805 establishes the fundamental FPP and design elements. The NRC staff will review the LAR to verify that the licensee complies with the fundamental FPP and design elements required by Chapter 3 of NFPA 805.</p> <p>The staff will review the LAR to evaluate the applicant's overall approach to determining how its FPP complies with the requirements of NFPA 805 Chapter 3 requirements. The approach in NEI 04-02 as endorsed in RG 1.205 is one approach acceptable to the NRC.</p> <p>Chapter 3 of NFPA 805 notes that alternatives to the fundamental FPP attributes of Chapter 3, which were previously approved by the NRC, take precedence over the requirements in Chapter 3. If the licensee references previous NRC approvals of exemption or deviation requests, the NRC staff will review the documentation demonstrating prior NRC approval. The documentation should contain justification that the exemption or deviation is still valid. [RG 1.205 regulatory position 2.4]</p>	<p>Revise first sentence of second paragraph as follows "....FPP complies with NFPA 805 Chapter 3 requirements."</p> <p>Third paragraph Alternatives to NFPA 805 Chapter 3 are, in many instances, not Exemption or Deviation Requests, since the topics in NFPA 805 are primarily associated with Branch Technical Position 9.5-1 and pre-dated 10 CFR 50, Appendix R and associated exemption or deviation requests. Recommend that the previous approval of the NRC statements in the SRP not be focused solely on exemptions and deviations.</p>
	<p>III.2.1 Water Supply and Distribution</p> <p>10 CFR 50.48(c)(2)(vi) modifies NFPA 805 paragraph 3.6.4 by not endorsing the italicized exception; i.e., a "provisional" manual fire fighting standpipe/hose station system may not be used in place of seismically qualified standpipes and hose stations unless previously approved in the licensing basis. Licensees who wish to use the italicized exception in Section 3.6.4 of NFPA 805 must submit a request for a license amendment in accordance with 10 CFR 50.48(c)(2)(vii). However, because the NRC considers seismically qualified standpipes and hose stations to be of such importance, the NRC reviewer must ensure that the three criteria in 10 CFR 50.48(c)(2)(vii) are satisfied.</p>	

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	<p>Note that Appendix A to Branch Technical Position (BTP) Auxiliary and Power Conversion Systems Branch (APCSB) 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants," dated February 24, 1977, makes separate provisions for operating plants and plants with construction permits issued before July 1, 1976, and does not require seismically qualified standpipes and hose stations for those plants. Therefore, the requirement in Section 3.6.4 of NPFA 805 is not applicable to licensees with non-seismic standpipes and hose stations previously approved in accordance with Appendix A to BTP APCS 9.5-1.</p>	
	<p>III.2.2 Definition of Power Block</p> <p>The staff will review the LAR to determine which plant structures are identified as comprising the "power block." The reviewer should verify that the licensee's list of power block structures conforms to the definition of "power block" in the glossary of NFPA 805, which defines power block as "structures that have equipment required for nuclear plant operations."</p>	<p>Section II.2.2 "Definition of Power Block"; suggest deleting wording "which defines power block as "structures that have equipment required for nuclear plant operations." and replace with "and RG 1.205". The FAQ (definition for power block) when resolved will be incorporated into the RG and ultimately may create inconsistency with the definition provided in the proposed SRP.</p>
	<p>III.2.3 Electrical Raceway Fire Barrier Systems (e.g. Hemyc and MT)</p> <p>On April 10, 2006, the NRC issued Generic Letter 2006-03, "Potentially Non-Conforming Hemyc and MT Fire Barrier Configurations," requiring licensees to provide information regarding the use of electrical raceway fire barriers, particularly Hemyc and MT, at their plants. If the applicant has not resolved the electrical raceway fire barrier issue prior to submittal of their RI/PB FPP LAR, the applicant must address the issue in the LAR. The staff will verify that the applicant has adequately addressed this issue, including having provided a justification for the use of any compensatory measures and proposed plant modifications.</p>	
	<p>III.3 NUCLEAR SAFETY PERFORMANCE CRITERIA</p> <p>Chapter 2 of NFPA 805 provides the methodology to be used in implementing a PB FPP. NEI 04-02 Section 4.3.2 sets out a systematic process for evaluating the existing post-fire safe shutdown</p>	<p>Section III.3 should be a lead-in to the entire Nuclear Safety Performance Criteria discussion (i.e., both the methodology review and the fire-area-by-fire area review). Revise first sentence as follows: "Chapter 2 of NFPA 805 provides the methodology to be used in</p>

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analysis against the methodology requirements provided in Chapter 2 of NFPA 805. RG 1.205 endorses the deterministic post-fire safe shutdown analysis methodology provided in Chapter 3 of NEI 00-01.	implementing a PB FPP. <u>Chapter 4 of NFPA 805 establishes the methodology to determine the fire protection systems and features required to achieve the performance criteria outlined in NFPA 805 Section 1.5.</u> NEI 04-02 Section 4.3.2 sets out a systematic process for evaluating the existing post-fire safe shutdown analysis against the methodology requirements provided in Chapter 2 of NFPA 805 <u>and the methods for achieving the nuclear safety performance criteria in Chapter 4 of NFPA 805.</u>	Move the last sentence of this section to III.3.1, since it addresses the 'methodology' transition.
<p>III.3.1 Transition and Implementation</p> <p>10 CFR 50.48 (3)(ii) states that Chapter 2 analyses shall be completed and the fire protection program plan modified before changing the FPP and the plan as permitted by NFPA-805.</p> <p>The staff will ensure that the licensee has adequately performed the engineering analyses required by NFPA 805, Section 2.4 including fire modeling, nuclear safety capability assessment and fire risk evaluations.</p> <p>The staff will ensure that the licensee completed a systematic approach to transition the FPP to the new requirements in NFPA 805. As endorsed in RG 1.205, Section B-2 of Appendix B to NEI 04-02 describes one acceptable approach to documenting the comparison of an existing FPP with the requirements of NFPA 805 and industry guidance document NEI 00-01. RG 1.205 endorses the deterministic post-fire safe shutdown analysis methodology provided in Chapter 3 of NEI 00-01.</p> <p>In evaluating nuclear safety performance criteria transition, staff will reference Section 1.5 of NFPA 805, which establishes the nuclear safety performance criteria, and Chapter 4 of NFPA 805, which provides the methodology to determine the fire protection systems and features required to achieve the performance criteria outlined in Section 1.5.</p> <p>The staff will review the LAR to determine whether the nuclear safety performance criteria have been met consistent with the requirements</p>	<p>First sentence. Typo, change to "...the FPP and the plant as"</p> <p>Section III.3.1 really deals with the 'transition of the methodology'. Revise title of section as follows:</p> <p>III.3.1 <u>Nuclear Safety Compliance Assessment Methodology Transition and Implementation</u></p> <p>Revise third paragraph as follows:</p> <p>The staff will ensure that the licensee completed a systematic approach to transition the FPP to the new requirements in NFPA 805. As endorsed in RG 1.205, <u>Section 4.3.2 and</u> Section B-2 of Appendix B to NEI 04-02 describes one acceptable approach to documenting the comparison of an existing FPP with the requirements of NFPA 805 and industry guidance document NEI 00-01. <u>RG 1.205 endorses the deterministic post-fire safe shutdown analysis methodology provided in Chapter 3 of NEI 00-01.</u></p> <p>Relocate fourth paragraph to section III.3.2 and revise the fifth paragraph as follows:</p> <p>The staff will review the LAR to determine whether the nuclear safety performance criteria have been met consistent with the requirements in NFPA 805 <u>and guidance in NEI 04-02 and RG 1.205.</u> The staff will ensure licensee compliance with the following requirements:</p>	

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	<p>in NFPA 805. The staff will ensure licensee compliance with the following requirements:</p>	
	<p>III.3.1.1 Feed-and-Bleed</p> <p>10 CFR 50.48(c)(2)(iii) specifically notes that use of feed-and-bleed as the sole fire-protected safe-shutdown path for maintaining reactor coolant inventory, pressure control, and decay heat removal capability is not permitted for pressurized water reactors. The staff will determine if the LAR includes a statement to this effect as well as a description of any dependence on feed-and-bleed in the FPP.</p>	
	<p>III.3.1.2 Existing Cables</p> <p>NFPA 805 paragraph 3.3.5.3 states that electrical cables shall meet a flame propagation test that is acceptable to the authority having jurisdiction. 10 CFR 50.48(c)(2)(v), which does not endorse the italicized exception in NFPA 805 paragraph 3.3.5.3, allows a flame retardant coating on the cables or an automatic fixed suppression system to provide an equivalent level of protection.</p> <p>The NRC staff will review the LAR to verify that the requirements for existing cables are met. If the NRC staff approves use of these alternatives, this approval should be explicitly documented in the staff's safety evaluation report.</p> <p>Note that the flame spread testing requirements in IEEE 383, "IEEE Standard for Type Test of Class 1E Electric Cables, Field Splices, and Connections for Nuclear Power Generating Stations," are now provided in IEEE 1202, "IEEE Standard for Flame-Propagation Testing of Wire and Cable," and have been removed from the current version of IEEE 383. Most existing plants reference earlier versions of IEEE 383 and have approved FPPs based on this standard. Plants that reference IEEE 383 are not required to meet IEEE 1202 when transitioning to a RI/PB FPP.</p>	<p>This section deals with NFPA 805 paragraph 3.3.5.3 as such it does not belong in the Nuclear Safety Performance Criteria Section (III.3.1.2). Relocate this discussion to Section. III.2 Fundamental Fire Protection Program Elements and Minimum Design Requirements and renumber following subsections.</p> <p>Section III.3.1.2, Existing Cables, states, "Most existing plants reference earlier versions of IEEE 383 and have approved FPPs based on this standard. Plants that reference IEEE 383 are not required to meet IEEE 1202 when transitioning to a RI/PB FPP." Several plants were essentially completed prior to the first edition of IEEE 383 in 1974 and do not have cables that can be specifically listed as IEEE 383 compliant, but do have a licensing basis that is equivalent to IEEE 383. This is addressed in FAQ 06-0022 and some statement allowing this deviation should be provided in this section. This will ensure the broader scope of what is allowable for existing plant cable insulation to be made clearer in the future.</p>
	<p>III.3.1.3 Fire-Induced Multiple Spurious Operations</p> <p>Section 2.4.2.2 of NFPA 805 requires the applicant to evaluate fire-induced failure modes resulting from spurious operations and signals,</p>	<p>Section 2.4.2.2 of NFPA 805 does not include discussion on multiple spurious operations. Recommend that the characterization of "...including multiples.." as an NFPA 805 "requirement" be removed.</p>

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	<p>including multiples, as a part of their safe shutdown circuit analysis. The description of the MSO analysis should contain sufficient information concerning methods, tools, and acceptance criteria used to enable the staff to determine the acceptability of the licensee's methodology. The analysis should generally be performed and arranged by fire area, although in some cases an alternative spatial approach may prove to be more practical. If an expert panel process was used, it should be documented with results clearly presented. The NRC staff will verify that the applicant has evaluated MSOs in conformance with Regulatory Position 3.3 of RG 1.205.</p>	<p>The statement "The analysis should generally be performed and arranged by fire area, although in some cases an alternative spatial approach may prove to be practical." should be removed, since it is not based on existing requirements or guidance.</p>
	<p>III.3.1.3 Transition of Operator Manual Actions to Recovery Actions</p>	<p>Since it appears the NRC's intention is to outline specific 'methodologies' used in transition in this section, revise to add new section III.3.1.3 to address the transition of OMAs to Recovery Actions (note section III.3.1.3 will be renumber to III.3.1.2 via comment on 'existing cables')</p> <p>Include the following relocated text from section III.3.2.1 :</p> <p><u>OMAs that are currently allowed or were previously reviewed and approved by the NRC's Office of NRR that meet the NFPA 805 definition of an RA automatically shall imply use of the PB approach as outlined in NFPA 805 paragraph 4.2.4</u></p>
	<p>III.3.2 Specific Compliance with NFPA 805 by Fire Area</p> <p>The staff will review the LAR to ensure that each fire area has been evaluated and determined to comply with the requirements of NFPA 805. The staff will verify that each fire area either meets NFPA 805 paragraph 4.2.3 deterministic requirements; meets the NFPA 805 paragraph 1.5 performance criteria as demonstrated using PB methods as allowed under NFPA 805 paragraph 4.2.4; or meets the NFPA 805 paragraph 1.5 performance criteria as demonstrated using RI or PB alternatives to compliance with NFPA 805 pursuant to 10 CFR 50.48(c)(4). Refer to paragraph III.1.8 of this SRP Section for further information on alternatives.</p>	<p>This section deals with the transition by fire area in which the nuclear safety performance criteria are demonstrated for each fire area. Suggest bringing forward the last paragraph of Section III.3.1 and revising this section as follows:</p> <p>In evaluating nuclear safety performance criteria transition, staff will reference Section 1.5 of NFPA 805, which establishes the nuclear safety performance criteria, and Chapter 4 of NFPA 805, which provides the methodology to determine the fire protection systems and features required to achieve the performance criteria outlined in Section 1.5.</p> <p>The staff will review the LAR to ensure that each fire area has been evaluated and determined to comply with the requirements of NFPA 805. The staff will verify that each fire area either meets NFPA 805 paragraph 4.2.3 deterministic requirements; meets the NFPA 805</p>

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		<p>paragraph 1.5 performance criteria as demonstrated using PB methods as allowed under NFPA 805 paragraph 4.2.4 (<u>with or without simplifying deterministic assumptions</u>); or meets the NFPA 805 paragraph 1.5 performance criteria as demonstrated using RI or PB alternatives to compliance with NFPA 805 pursuant to 10 CFR 50.48(c)(4). Refer to paragraph III.1.8 of this SRP Section for further information on alternatives.</p>
	<p>III.3.2.1 Deterministic Compliance with NFPA 805 Section 4.2.3</p> <p>For each fire area where the licensee has selected the deterministic approach to demonstrate compliance, the staff will verify that the deterministic requirements of NFPA 805 paragraph 4.2.3 are met. Licensees may demonstrate compliance through:</p> <p>a) Compliance with the deterministic requirements of NFPA 805 through the use of previously approved exemptions/deviations from their current licensing basis; or,</p> <p>b) The use of an engineering equivalency evaluation of an existing configuration to demonstrate an equivalent level of fire protection compared to the deterministic requirements. [NFPA 805 paragraph 2.2.7]</p> <p>Previously approved exemptions/deviations (normally from Appendix R requirements) describe plant configurations that the staff has determined to be acceptable, notwithstanding that Appendix R or NFPA-805 may require some other configuration. Such plant configurations may be deemed to satisfy the deterministic requirements of NFPA-805 provided the basis for acceptability of these previously approved exemption/deviations continues to be valid.</p> <p>EEEEEs that support deviations from the requirements and methods of NFPA 805 must be submitted for NRC approval as part of the transition to NFPA 805. [RG 1.205 regulatory position 2.3] These EEEEEs include those commonly referred to as a "Generic Letter 86-10 evaluations, which were developed by the licensee without prior NRC review or approval. The staff will verify that EEEEEs supporting deviations from the requirements and methods of NFPA 805 clearly demonstrate an equivalent level of fire protection compared to the</p>	<p>Fifth paragraph, last sentence – FAQ 07-0033 was specifically developed for transitioning engineering evaluations for NFPA 805. This FAQ should be referenced rather than/or to supplement NUREG-0800/RG 1.189. See suggested revisions below.</p> <p><u>NOTE TO TASK FORCE FOR REVIEW</u></p> <p><u>III:3:2:1 – This section says ALL EEEEE must be submitted for NRC review and approval. The wording for the treatment of OMAs also indicates that previously approved has no merit or weight. Instead, it must be processed as described in NFPA 805, 4-2.4 – which is from a practical standpoint, a Change Evaluation. Therefore, under NFPA 805 and this SRP, a previously NRC approved Exemption must not be measured against a new set of acceptance criteria. Note that SRP III:3:2:2 does not provide any relief for OMAs or RAs.</u></p> <p>Revise this section for clarity:</p> <p>For each fire area where the licensee has selected the deterministic approach to demonstrate compliance, the staff will verify that the deterministic requirements of NFPA 805 paragraph 4.2.3 are met. Licensees may demonstrate compliance through:</p> <p>a) Compliance with the deterministic requirements of NFPA 805 through the use of previously approved exemptions/deviations from their current licensing basis; or,</p> <p>Previously approved exemptions/deviations (normally from Appendix R requirements) describe plant configurations that the staff has determined to be acceptable, notwithstanding that Appendix R or NFPA-805 may require some other configuration. Such plant configurations may be deemed to satisfy the deterministic requirements of NFPA-805 provided the basis for acceptability of</p>

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<p>deterministic requirements. Guidance for acceptable EEEEs is provided in NUREG-0800, Section 9.5.1, "Fire Protection," and in Regulatory Guide 1.189, "Fire Protection for Operating Nuclear Power Plants."</p> <p>OMAs that are currently allowed or were previously reviewed and approved by the NRC's Office of NRR that meet the NFPA 805 definition of an RA automatically shall imply use of the PB approach as outlined in NFPA 805 paragraph 4.2.4.</p>	<p>these previously approved exemption/deviations continues to be valid.</p> <p>b) The use of an engineering equivalency evaluation of an existing configuration to demonstrate an equivalent level of fire protection compared to the deterministic requirements. [NFPA 805 paragraph 2.2.7]</p> <p>EEEEs that support deviations from the requirements and methods of Chapter 3 of NFPA 805 must be submitted for NRC approval as part of the transition to NFPA 805. [RG 1.205 regulatory position 2.3] These EEEEs include those commonly referred to as a "Generic Letter 86-10 evaluations, which were developed by the licensee without prior NRC review or approval. The staff will verify that EEEEs supporting deviations from the requirements and methods of Chapter 3 of NFPA 805 clearly demonstrate an equivalent level of fire protection compared to the deterministic requirements. Guidance for acceptable EEEEs is provided in NEI 04-02 Section B-1, NUREG-0800, Section 9.5.1, "Fire Protection," and in Regulatory Guide 1.189, "Fire Protection for Operating Nuclear Power Plants."</p>	
<p>III.3.2.2 Performance-Based Compliance with NFPA 805 Section 4.2.4</p> <p>For each fire area where the licensee has selected the PB approach, the staff will verify that the requirements of NFPA 805 paragraph 4.2.4 are met. A PB approach is necessary if the deterministic requirements of NFPA 805 are not satisfied.</p> <p>The NRC staff will verify that the change in risk is appropriately defined, the magnitude is acceptable (Section III.5.5 of this SRP), and DID and sufficient safety margins are maintained (Section III.5.2 of this SRP).</p> <p>If the fire modeling PB approach is employed, the NRC staff will verify that the requirements of NFPA 805 paragraph 4.2.4.1 are met. The staff will verify that the licensee has made a statement in the LAR confirming that it has provided the operational guidance required by NFPA 805 paragraph 4.2.4.1.6, and that all RAs are feasible. NUREG-1852 is one acceptable PB approach that can be used in</p>	<p>1st paragraph, 2nd sentence. Recommend changing to:</p> <p>"A PB approach is necessary if the deterministic requirements of NFPA 805, Section 4.2.3 (as discussed in Section III.3.2.1) are not satisfied. As discussed in Section 4.2.2 of NFPA 805, the PB approach shall be permitted to utilize deterministic methods for simplifying assumptions with the fire area."</p> <p>This will help avoid potential confusion with the deterministic approach clarified in NEI 04-02 Section 4.3.2, RG 1.205, and discussed in the SRP Section III.3.2.1.</p> <p>3rd paragraph, last sentence - Recommend removing the last sentence referring to NUREG-1852. The process for NFPA 805 transition in NEI 04-02 (RG 1.205) does not include NUREG-1852. The NRC response to NUREG-1852 industry and public comments clearly emphasize that NUREG-1852 is not applicable to an RI-PB NFPA 805 transition (ML0726809550, Item 24) item</p>	

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<p>judging the feasibility and reliability of RAs.</p> <p>If the fire risk evaluation PB approach is employed, the NRC staff will review the integrated assessment of the acceptability of risk, DID, and safety margins per Section III.5.5 of this SRP. The staff will review OMA's that the licensee desires to transition to RAs. If the licensee has chosen to use the PB approach because the licensee credits RAs, the NRC staff will review the licensee's evaluation of the additional risk per Section III.5.4 of this SRP.</p>	<p><i>NEI 04-02 (to the extent to which it is endorsed in RG 1.205) provides guidance on performing HRA for OMA's (referred to as "recovery actions" there) as part of a RI/PB fire PRA under NFPA 805. NUREG-1852 provides one coherent set of feasibility and reliability criteria for NRC reviewers to use when evaluating future OMA exemptions or license amendment requests that may be submitted on a non-RI/PB basis. Reference to the RI/PB methods in NEI 04-02 (via RG 1.205) would be inappropriate in NUREG-1852, although the type of criteria offered in NUREG-1852 are implicit to an HRA under a RI/PB fire PRA.</i></p>	<p>The statements are problematic (based on ONS LAR Audit issue):</p> <p><i>"If the fire modeling PB approach is employed, the NRC staff will verify that the requirements of NFPA 805 paragraph 4.2.4.1 are met. The staff will verify that the licensee has made a statement in the LAR confirming that it has provided the operational guidance required by NFPA 805 paragraph 4.2.4.1.6, and that all RAs are feasible. NUREG-1852 is one acceptable PB approach that can be used in judging the feasibility and reliability of RAs.</i></p> <p><i>If the fire risk evaluation PB approach is employed, the NRC staff will review the integrated assessment of the acceptability of risk, DID, and safety margins per Section III.5.5 of this SRP. The staff will review OMA's that the licensee desires to transition to RAs. If the licensee has chosen to use the PB approach because the licensee credits RAs, the NRC staff will review the licensee's evaluation of the additional risk per Section III.5.4 of this SRP."</i></p> <p>III.3.2.2 – this section seems to allow the use of Fire Modeling only. This was explicitly rejected by the ACRS in a prior interaction related to RG 1.205. Are we to assume that this is now acceptable?</p>
<p>III.3.2.3 Risk-Informed or Performance-Based Alternatives to Compliance with NFPA 805</p>	<p>For each fire area where the licensee has selected RI or PB alternatives to compliance with NFPA 805, the staff will verify that the appropriate requirements are met. Refer to paragraph III.1.8 of this</p>	

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<p>SRP section for information relating to these alternatives.</p>		
<p>III.3.3 Non-Power Operational Modes</p>	<p>The staff will review the licensee’s treatment of fires during non-power operations (NPOs).</p> <p>RG 1.205 endorses the approach documented in NEI 04-02. Section 4.3.3 of NEI 04-02 states: “The nuclear safety goal of NFPA 805 requires evaluation of the effects of a fire during any operational modes and plant configurations.” Section 4.3.3 of NEI 04-02 goes on to provide a strategy that “...demonstrate[s] that the nuclear safety performance criteria are met for High(er) Risk Evolutions (HREs) (HREs as defined by Nuclear Management and Resources Council (NUMARC) 91-06) during non-power operational modes ...”</p> <p>The staff will review the LAR to verify that the licensee has demonstrated that the nuclear safety performance criteria are met during HREs. One way to accomplish this objective is for the NRC staff to verify that the licensee has adequately documented the completion of the tasks in Appendix F to NEI 04-02.</p> <p>NUMARC 91-06 discusses the development of outage plans and schedules. A key element of that process is to ensure SSCs that provide key safety functions (KSFs) perform as needed during the various outage evolutions. The results of the fire area analysis of those components relied upon to maintain DID should be factored into the plant’s existing outage planning process. In addition, for KSF equipment removed from service during the HREs, the impact should be evaluated based on KSF equipment status and the NPOs fire area assessment to develop needed contingency plans/actions. The NRC staff should review the licensee’s process for ensuring the nuclear safety performance criteria are met during HREs.</p>	<p>Recommend reference to FAQ 07-0040.</p> <p>The fourth paragraph should be replaced with FAQ 07-0040 information.</p>
<p>III.4 RADIOACTIVE RELEASE PERFORMANCE CRITERIA</p>	<p>NFPA 805 includes radioactive release goals, performance objectives, and performance criteria in paragraphs 1.3.2, 1.4.2, and 1.5.2. The staff will verify that the LAR documents that radiation release to any unrestricted area due to the direct effects of fire protection activities</p>	<p>1st paragraph second sentence should be rewritten to reflect NFPA 805 wording in Section 1.5.3.</p> <p><i>“The staff will verify that the LAR documents that radiation release to any unrestricted area due to the direct effects of fire suppression activities (but not involving fuel damage) remains as</i></p>

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(but not involving fuel damage) remains as low as reasonable achievable, not to exceed the limits in 10 CFR Part 20. Appendix G to NEI 04-02 provides items for the reviewer to consider as part of this review.	<i>low as reasonable achievable, not to exceed the limits in 10 CFR Part 20."</i>	
<p>III.5 RISK ASSESSMENTS AND PLANT CHANGE EVALUATIONS</p> <p>NFPA 805 requires risk assessments to be performed in several instances:</p> <ol style="list-style-type: none"> 1. Plant Change Evaluations [NFPA 805 Section 2.4.4] 2. Additional risk associated with RAs [NFPA 805 Section 4.2.4] 3. Fire Risk Evaluations [NFPA 805 Section 4.2.4.2] <p>NRC staff review guidance for the risk assessments (1, 2 and 3 above) is provided in SRP paragraphs III.5.3, III.5.4, and III.5.5, respectively.</p>	<p>SRP 9.5.1.2 leans heavily on Regulatory Guide (RG) 1.174. The principles in FG 1.174 include small change in risk, maintaining defense-in-depth (DID), and maintaining safety margin. These concepts are also repeated in SRP 9.5.1.2, most notably in Section III.5.2, where the DID philosophy from RG 1.174 has been adapted for a fire protection milieu. Using RG 1.174 is a reasonable approach, and for licensees that have submitted RG 1.174 license amendment requests, the process should be easily repeated and defensible to the NRC.</p>	
<p>III.5.1 Fire PRA Technical Adequacy</p> <p>The staff will confirm the licensee has provided an evaluation of the technical adequacy of its PRA model consistent with RG 1.200 and SRP Section 19.2. The staff will confirm that the licensee has provided a description of its processes for assuring the PRA model is maintained and updated to reflect the as-built, as-operated and maintained plant, including operating experience of the plant.</p> <p>The staff will review the licensee's assessment of the technical adequacy of the PRA model used for plant change evaluations required to transition to a RI/PB FPP and for any types of changes the licensee will be allowed to self-approve after implementation of the approved RI/PB FPP. The staff will review the maintenance and update process for the PRA model using SRP Section 19.1.</p>	<p>The last sentence of the first paragraph of this section appears redundant to the last sentence of the second paragraph</p>	
<p>III.5.2 Defense-in-Depth and Safety Margins</p> <p>The staff will ensure that the licensee's plant change evaluations (Section III.5.3 of this SRP) and fire risk evaluations (Section III.5.5 of this SRP) ensure that the philosophy of DID is maintained relative to</p>		

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<p>fire protection and nuclear safety. [NFPA 805 paragraph 2.4.4.2 and paragraph 4.2.4.2]</p>	<p>Fire protection DID is achieved when an adequate balance of each of the following elements is provided: [NFPA 805 paragraph 1.2]</p> <p>(1) Preventing fires from starting</p> <p>(2) Rapidly detecting fires and controlling and extinguishing promptly those fires that do occur, thereby limiting fire damage</p> <p>(3) Providing an adequate level of fire protection for SSCs important to safety, so that a fire that is not promptly extinguished will not prevent essential plant safety functions from being performed</p>	<p>Delete all references to 'nuclear' safety defense in depth. Defense in Depth is clearly defined in the regulation (NFPA 805) Section 1.2. By meeting the nuclear safety performance criteria and defense-in-depth as defined in NFPA 805 (which is more restrictive than core damage/containment failure) the process as documented in NEI 04-02 and endorsed in Regulatory Guide 1.205 revision 0 is adequate and meets the requirements of NFPA 805 Section 2.4.4.2.</p>
<p>Nuclear safety DID is achieved when an adequate balance of the following elements is provided: [SRP 19.2]</p>	<p>(1) Preventing core damage</p> <p>(2) Preventing containment failure</p> <p>(3) Mitigating consequence</p>	<p>Delete this section.</p>
<p>Consistency with the DID philosophy for fire protection and nuclear safety is maintained if the following acceptance guidelines, or their equivalent, are met:</p>	<ul style="list-style-type: none"> ▪ A reasonable balance is preserved among prevention of fires, early detection and suppression of fires, and the ability to achieve and maintain safe shut down of the plant post-fire. ▪ A reasonable balance is preserved among prevention of core damage, prevention of containment failure, and mitigation of consequences. ▪ Over-reliance on programmatic activities to compensate for weaknesses in plant design is avoided. ▪ System redundancy, independence, and diversity are preserved commensurate with the expected frequency of challenges, consequences of failure of the system, and 	<p>Section III.5.2, Defense-in-Depth and Safety Margins, has a bullet list item under the DID discussion that states, "The intent of the GDC of 10 CFR Part 50, Appendix A, is preserved." It appears this is intended to specifically mean GDC 3, but that is not clearly stated in this section as it is in Section IV. This should be revised to clearly state the scope intended.</p>

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	<p>associated uncertainties.</p> <ul style="list-style-type: none"> ▪ Defenses against potential common cause failures are preserved and the potential introduction of new common cause failure mechanisms is assessed. ▪ The independence of fission product barriers is not degraded. ▪ Defenses against human errors are preserved. ▪ The intent of the GDC of 10 CFR Part 50, Appendix A, is preserved. 	
	<p>The staff will ensure that the licensee's plant change evaluations ensure that sufficient safety margins are maintained. [NFPA 805 paragraph 2.4.4.3] With sufficient safety margins:</p> <ul style="list-style-type: none"> ▪ Codes and standards or their alternatives approved for use by the NRC are met; and, ▪ Safety analysis acceptance criteria in the licensing basis are met, or proposed revisions provide sufficient margin to account for analysis and data uncertainty. <p>Note that the deterministic approach in NFPA 805 for meeting the performance criteria shall be deemed to satisfy the DID and safety margins requirements. [NFPA 805 paragraphs 2.4.4.2 and 2.4.4.3]</p>	<p>Last paragraph – Recommend changing to “Note that the deterministic approach in NFPA 805 for meeting the performance criteria, <u>as described in Section III.3.2.1</u>, shall be deemed to satisfy the DID and safety margin requirements. [NFPA 805 paragraphs 2.4.4.2 and 2.4.4.3]</p>
	<p>III.5.3 Plant Change Evaluations</p> <p>Changes to a previously approved FPP element shall be evaluated with a plant change evaluation. NFPA 805 Section 2.4.4 states:</p> <p>“A plant change evaluation shall be performed to ensure that a change to a previously approved fire protection program element is acceptable. The evaluation process shall consist of an integrated assessment of the acceptability of risk, defense-in-depth, and safety margins. The impact of the proposed change shall be monitored.”</p> <p>As applicable, plant change evaluations are required for transition to</p>	<p>Last paragraph page 9.5.1.2-17 – The Industry asserts that for the purposes of assessing allowable changes per RG 1.174, it is inappropriate to aggregate the fire base line risk with the internal events PRA model CDF or other external events calculated CDFs. As discussed in EPRI report #1010068, December 2005, “Aggregation of Quantitative Risk Assessment Results,” aggregation of results from multiple models that have significant differences in their levels of uncertainty and/or conservatisms, can result in biased results. There are currently industry efforts underway to reduce the uncertainties associated with Fire PRA results, and it is expected that these efforts will result in lower overall Fire CDFs with lower associated uncertainties. These refinements will likely also lead to smaller calculated delta CDFs. Until this work is complete, it seems</p>

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	<p>NFPA 805 as well as after implementation of the NFPA 805 FPP.</p> <p>If required to address the acceptance guidance of RG 1.174 and SRP Section 19.2 (i.e., if any individual change or the overall change results in a risk increase above 1.0E-6/yr CDF, or 1.0E-7 large early release frequency (LERF)/yr), the staff will confirm the licensee has provided the total CDF and LERF, i.e., risk contributions from internal and external events, including internal fires, to allow comparison with the acceptance guidelines of RG 1.174.</p> <p>The staff will review the licensee's plant change evaluations using the acceptance guidance of RG 1.174, and SRP Section 19.2. The staff should review any combined changes and cumulative risk as described in Section III.5.6 below.</p>	<p>appropriate to compare fire delta CDFs to the Fire baseline CDF for the purposes of RG 1.174 reviews.</p> <p>Doesn't reference the Regulatory Guide or NEI 04-02</p>
	<p>III.5.3.1 LAR to Implement NFPA 805 ("Transition")</p> <p>The staff will verify that the LAR identifies all FPP non-compliances that the licensee does not intend to bring into deterministic compliance under NFPA 805. For each individual noncompliant item, the staff will confirm the licensee has provided a plant change evaluation which includes the following:</p> <ul style="list-style-type: none"> ▪ Change in CDF and LERF comparing the non-compliant configuration to what would constitute a fully compliant deterministic configuration ▪ DID evaluation ▪ Safety margin evaluation <p>In addition, the staff will confirm the licensee has provided the total change in CDF and LERF due to all non-compliances, including plant changes planned for the transition to NFPA 805. This may also include credit for risk decreases due to retaining or making changes to fire protection features not required by NFPA 805, as permitted in RG 1.205 Section 2.2.</p>	<p>Recommend that the first sentence be revised to</p> <p><i>"The staff will verify that the LAR identifies all FPP non-compliances with the pre-transition CLB, as discussed in Section III.3.2.1, that the licensee does not intend to bring into deterministic compliance under NFPA 805.</i></p> <p>Recommend that the first bullet be revised to:</p>
	<p>III.5.3.2 Plant Change Evaluations following NFPA 805 Implementation</p>	

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	<p>Once a licensee has implemented an FPP based on NFPA 805, some FPP changes will require prior NRC review and approval. The staff will review the plant change evaluation of these changes to ensure that the integrated assessment of risk, DID, and safety margins demonstrates that the change is acceptable. The staff will confirm the acceptability of the licensee's process for monitoring the impact of the change. For FPP changes that do not require NRC review and approval, the licensee will perform the plant change evaluation as approved by the NRC staff; see Section III.1.3 of this SRP.</p>	
	<p>III.5.4 Risk of Crediting Recovery Actions</p> <p>NFPA 805 paragraph 4.2.4 states, in part: "When the use of recovery actions has resulted in the use of this approach, the additional risk presented by their use shall be evaluated." The staff will evaluate the licensee's definition of recovery action, how all human actions associated with mitigating fire initiated sequences have been evaluated and characterized, and the risk assessment of all RAs when used in lieu of deterministic requirements in NFPA 4.2.3. This risk evaluation may be qualitative per NFPA 805 paragraph 4.2.4.1 or quantitative per paragraph 4.2.4.2, and a bounding approach is acceptable. [RG 1.205 regulatory position 2.3]</p>	
	<p>III.5.5 Fire Risk Evaluations</p> <p>NFPA 805 paragraph 4.2.4.2 states in part: "Use of fire risk evaluation for the PB approach shall consist of an integrated assessment of the acceptability of risk, DID, and safety margins."</p> <p>The licensee must describe the change in risk for each, or each type, of alternative to the deterministic requirements of NFPA 805 in sufficient detail for the staff to be able to determine that the method is acceptable (a reference to a previously approved methodology would be sufficient if the licensee fully adopts such a methodology). The characterization of each change, or type of change, should include establishing a cause-effect relationship to identify portions of the PRA affected by the issue being evaluated. The results of the change in risk analyses should reflect this cause-effect relationship in a quantification of the impact on the PRA elements.</p>	<p>Fourth paragraph states, "In any case, the effects of the changes on the reliability and unavailability of c or on operator actions..." The underlined section does not make sense and needs to be revised/corrected to be understandable.</p> <p>This section requires that each type of change be described in sufficient detail to allow the staff to review the methods. Alternatively, a previously approved method can be invoked. This refers back to III.1.3 and the note regarding a Topical Report. The concern here is that the greater the detail provided the less flexibility provided industry and the Fire PRA methods and technology matures. From a practical standpoint, once a specific method is approved, no other method can be employed without prior NRC approval. The details on 'how' these analyses are performed are varied and potentially very complex. As with many other engineering analyses, the rigor to be applied to any specific methodology is inherently graded based on the conservatism</p>

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<p>If the impacts of a change to the plant cannot be associated with elements of the PRA, the</p> <p>PRA should be modified accordingly or the impact of the change should be evaluated qualitatively as part of the integrated decision-making process. In any case, the effects of the changes on the reliability and unavailability of c or on operator actions should be appropriately accounted for in the risk assessment.</p> <p>The staff will review the licensee's evaluation for any use of the PB approach in NFPA 805 paragraph 4.2.4.2 to ensure that the change in risk satisfies RG 1.174 acceptance guidelines and that DID and safety margins remain acceptable. The staff should review any combined changes and cumulative risk as described in Section III.5.6 below.</p>	<p>in the input parameters. As such, we have a potential conflict between providing information to satisfy this requirement without creating technology boundaries. It is noted that the issuance of an NRC NUREG by itself does not constitute equivalent to an SER on a Topical Report. We can easily find ourselves in a situation where we are unable to apply methods that are more realistic without NRC approval while at the same time be forced to undertake sensitivity studies using other methods that suggest more conservative approaches.</p> <p>Second to last paragraph -- missing letter in last line.</p> <p>Last paragraph. It says the staff will review any use of the PB approach. How does this reconcile with the self-approval provisions where these analyses are not submitted to the NRC?</p> <p>Qualitative evaluation of change impact is mentioned. In addition, changes on the reliability and unavailability of operator actions is also required. Given the limitations of the state-of-the-art of fire PRA in general, and in HRA in particular, guidance is required to provide the scope and level of depth for a quantitative evaluation of the cumulative risk and combined changes beyond that referenced in Reg Guide 1.205 Section 3.2.6.</p>	
<p>III.5.6 Cumulative Risk and Combined Changes</p>		
<p>Section 2.4.4.1 of NFPA 805 requires licensees to evaluate the cumulative effect of plant changes (including all previous changes that have increased risk) on overall risk. The staff will review the licensee's evaluation of cumulative risk in accordance with the guidance in Section 3.3.2 of RG 1.174. For a transition LAR, cumulative risk is the total risk of transition. After transition to NFPA 805, the cumulative risk of further plant changes will be the change in risk between any future RI/PB changes and the fire CDF and LERF associated with the plant immediately after transition to NFPA 805. If the licensee includes a license condition permitting self approval of future changes to the FPP, the staff will verify that the proposed license condition limits the risk increase from any individual change such that there is reasonable assurance that the effect of self-approved changes on cumulative risk</p>		

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will be acceptable. [RG 1.205 Section 3.2.6]	<p>Section 2.4.4.1 further states that if more than one plant change is combined into a group for the purposes of evaluating acceptable risk, the evaluation of each individual change shall be performed along with the evaluation of combined changes. Any risk increases may be combined with risk decreases when estimating the total risk change. The staff will evaluate the licensee's combined changes as Combined Change Requests (CCRs) as described in RG 1.174 and SRP Section 19.2. RG 1.205 Section 3.2.6 provides guidance for combining changes.</p>	
	<p>III.6 MONITORING PROGRAM</p> <p>Section 2.6 of NFPA 805 requires licensees to establish and monitor acceptable levels of availability, reliability, and performance of fire protection systems and features. Monitoring methods are required to consider plant and industry operating experience. If the established levels of availability, reliability or performance are not met, appropriate corrective actions to return to the established levels shall be implemented.</p> <p>The staff will review the licensee's proposed program to comply with these requirements.</p>	<p>Another example is in Section III.6 (Monitoring Program) in which the staff is to review the monitoring program. This program requires licensees "to establish and monitor acceptable levels of availability, reliability, and performance of fire protection systems and features." How the terms "reliability" and "availability" are defined is not discussed, nor is the manner in which the acceptable levels of these parameters should be defined. Individual licensees are likely to develop their own "definitions" and levels of acceptance. How is a reviewer to judge these adequate?</p>
	<p>III.7 PROGRAM DOCUMENTATION, CONFIGURATION CONTROL, AND QUALITY ASSURANCE</p> <p>Section 5 of NEI 04-02 provides guidance to licensees regarding program documentation, configuration control, and quality assurance. This guidance is endorsed in RG 1.205.</p> <p>III.7.1 Program Documentation</p> <p>Section 2.7.1 of NFPA 805 requires the licensee to adequately document compliance with the requirements in the standard, including establishment of an FPP design basis document. The NRC staff will verify that the licensee has established an FPP design basis document</p>	

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		that meets the requirement of NFPA 805 Section 2.7.1.2.
III.7.2 Configuration Control		<p>Section 2.7.2 of NFPA 805 requires the licensee to maintain configuration control of the design basis and supporting documents. The design basis document shall be kept up-to-date and maintained as a controlled document. Changes affecting the design, operation, or maintenance of the plant shall be reviewed by the licensee to determine if these changes impact the FPP documentation.</p> <p>The NRC staff will review the licensee's process for maintaining configuration control of the FPP design basis document.</p> <p>The acceptability of licensee's process for maintaining configuration control of the fire PRA methods and model is determined per Section III.5.1 of this SRP.</p>
III.7.3 Quality		<p>Section 2.7.3 of NFPA 805 establishes the quality requirements for each analysis, calculation, or evaluation performed in support of the LAR. These quality requirements are in the areas of independent review, V&V, personnel qualifications, and uncertainty analyses.</p> <p>The NRC staff will verify that the licensee has established an FPP quality program that meets the requirements of NFPA Section 2.7.3. The staff will verify that the licensee has justified that fire models used are acceptable to the NRC. Note that the uncertainty analysis required by NFPA 805 Section 2.7.3.5 is not required to support deterministic approach calculations per 10 CFR 50.48(c)(2)(iv).</p>

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Attachment 1 - RI/PB FPP LAR Acceptance Review Matrix

SRP III.	Required Information	LAR Template Section*	Potential FAQ Changes to NEI 04-02 / Comments
1.1	The LAR identifies any orders and license conditions that must be revised or superseded:	<ul style="list-style-type: none"> ▪ Attachment M – License Condition ▪ Attachment O – Orders & Exemptions 	Attachment M will be revised based on Regulatory Guide 1.205, Rev 1.
	The LAR provides any necessary revisions to the plant's technical specifications and the bases thereof to implement a FPP that complies with NFPA 805.	<ul style="list-style-type: none"> ▪ Attachment N – Technical Specification Changes 	
	The LAR includes a discussion of the changes to the Updated Final Safety Analysis Report (UFSAR) necessitated by the license amendment.	<ul style="list-style-type: none"> ▪ ONS Section 5.4 ▪ Attachment R – UFSAR Change 	Add Section 5.4 to LAR Template and guidance on completing Attachment R – UFSAR Change
1.2	The LAR lists any plant modifications necessary to implement the RI/PB FPP; it includes description, a schedule, and justification, including compensatory measures until the modification is completed.	<ul style="list-style-type: none"> ▪ Section 4.8.3 ▪ HNP Section 5.4 ▪ ONS Section 5.5 ▪ Attachment S – Plant Modifications (HNP modifications scoped) 	
1.3	The LAR provides process for self-approving changes post-transition; including methods to be used. Ensure the following are included in the LAR:	See sub-sections	See sub-sections
	Licensee's process for self-approving changes post-transition	<ul style="list-style-type: none"> ▪ Attachment M – License Condition Changes ▪ The process for self approving changes is detailed in NEI 04-02 Section 5.3 and Appendix J, endorsed by Regulatory Guide 1.205, Rev 1. 	<p>This post transition procedure was not part of the LAR Submittal. The process for self approving changes is detailed in NEI 04-02 Section 5.3 and Appendix J, endorsed by Regulatory Guide 1.205, Rev 1.</p> <p>The acceptance criteria are being revised in Regulatory Guide 1.205, Rev 1. Attachment M will be revised based on Regulatory Guide 1.205, Rev 1.</p>
	The risk acceptance criteria in both CDF and LERF and any restrictions in terms of the types of changes that may be so implemented.	<ul style="list-style-type: none"> ▪ Attachment M – License Condition Changes 	The acceptance criteria are being revised in Regulatory Guide 1.205, Rev 1. Attachment M will be revised based on Regulatory Guide 1.205, Rev 1.

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Attachment 1 - RI/PB FPP LAR Acceptance Review Matrix

SRP III.	Required Information	LAR Template Section*	Potential FAQ Changes to NEI 04-02 / Comments
	Licensee's approach to demonstrating that the fire PRA is technically adequate for the types of changes to be self-approved	<p>HNP:</p> <ul style="list-style-type: none"> ▪ Attachment W – Internal Events PRA Quality ▪ Attachment X – Fire PRA Quality ▪ Attachment Z – Fire PRA Quality Post-Transition Process <p>ONS:</p> <ul style="list-style-type: none"> ▪ Attachment U – Internal Events PRA Quality ▪ Attachment V – Fire PRA Quality ▪ Attachment X – Fire PRA Quality Post-Transition Process 	Questions about 'specific guidance necessary for, future self-approved changes before the staff can conclude the future analyses will be acceptable' arose during the Pilot LAR Acceptance Review / LAR Audit.
	Licensee's PRA maintenance and update process to ensure that the PRA reflects the as-built, as-operated and maintained plant	<ul style="list-style-type: none"> ▪ This post transition process was not part specifically part of the LAR Submittal. It is indirectly included via the Fire PRA Peer Review Supporting Requirements discussion. <p>HNP:</p> <ul style="list-style-type: none"> ▪ Section 4.5.1 ▪ Attachment W – Internal Events PRA Quality ▪ Attachment X – Fire PRA Quality <p>ONS:</p> <ul style="list-style-type: none"> ▪ Section 4.5.1 ▪ Attachment U – Internal Events PRA Quality ▪ Attachment V – Fire PRA Quality 	Revise LAR template and Sections 4.5 and 5.1 of NEI 04-02 to include more specific guidance as to what should be included in the Transition Report.
	The method for ensuring adequate DID and safety margins are maintained	<ul style="list-style-type: none"> ▪ The process for self approving changes is detailed in NEI 04-02 Section 5.3 and Appendix J, endorsed by Regulatory Guide 1.205, Rev 1 	This post transition procedure was not part of the LAR Submittal. Revise LAR template and Sections 4.5 and 5.1 of NEI 04-02 to include more specific guidance as to what should be included in the Transition Report.
	Allowed self-approval of NFPA 805 chapter 3 changes (optional)	<ul style="list-style-type: none"> ▪ Attachment P - Performance-Based Methods - NFPA 805 Chapter 3 – 10 CFR 50.48.(c)(2)(vii) 	FAQ 06-0008 Rev 9 will obviate the need for a revision to the proposed Standard License Condition, unless a licensee provides a 'bounding approach' for review and approval.

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Attachment 1 - RI/PB FPP LAR Acceptance Review Matrix

SRP III.	Required Information	LAR Template Section*	Potential FAQ Changes to NEI 04-02 / Comments
	Revised license condition, including self-approval if sought	<ul style="list-style-type: none"> ▪ Attachment M – License Condition Changes as modified by FAQ 06-0008 	<p>The acceptance criteria are being revised in Regulatory Guide 1.205, Rev 1</p> <p>FAQ 06-0008 Rev 9 will obviate the need for a revision to the proposed Standard License Condition, unless a licensee provides a 'bounding approach' for review and approval.</p>
1.4	The LAR includes "no significant hazards consideration"	<ul style="list-style-type: none"> ▪ HNP LAR Attachment U - No Significant Hazards Consideration ▪ ONS LAR Section 5.3.1 	Final Template will suggest this information be kept in an Attachment consistent with HNP LAR
1.5	The LAR includes a statement on environmental considerations	<ul style="list-style-type: none"> ▪ HNP LAR Attachment V – Environmental Consideration ▪ ONS LAR Section 5.3.2 	Final Template will suggest this information be kept in an Attachment consistent with HNP LAR
1.6	The LAR includes a transition schedule, justification for the schedule, and a list of modifications with a commitment to maintain in effect associated compensatory measures.	<ul style="list-style-type: none"> ▪ Sections 4.8.3 ▪ HNP Section 5.4 ▪ ONS Section 5.5 ▪ Attachment S 	HNP Attachment S reflects the latest template.
1.7	The LAR includes a request to use PB methods to establish compliance with the prescriptive fundamental FPP and design elements of Chapter 3 of NFPA 805 (10 CFR 50.48(c)(2)(vii) (if applicable)	<ul style="list-style-type: none"> ▪ Attachment P - Performance-Based Methods 10 CFR 50.48(c)(2)(vii) 	FAQ 06-0008 Rev 9 will obviate the need for a revision to the proposed Standard License Condition, unless a licensee provides a 'bounding approach' for review and approval.
1.8	The LAR includes a request to use RI or PB alternatives to demonstrate compliance with 10 CFR 50.48(c) (10 CFR 50.48(c)(4) (if applicable)	<ul style="list-style-type: none"> ▪ Attachment Q - RI-PB Alternatives to NFPA 805 10 CFR 50.48(c)(4) 	Neither Pilot submitted alternatives.
2	The LAR describes how the licensee complies with the fundamental FPP and design elements in Chapter 3 of NFPA 805; the LAR describes the licensee's approach.	<ul style="list-style-type: none"> ▪ Section 4.1 ▪ Attachment A - NEI 04-02 Table B-1 - Transition of Fundamental FP Program and Design Elements (NFPA 805 Chapter 3) 	
2.1	The LAR justifies use of the italicized exception in Section 3.6.4 of NFPA 805 per 10 CFR 50.48(c)(2)(vii) for water supply and distribution (if applicable)	<ul style="list-style-type: none"> ▪ Attachment A - NEI 04-02 Table B-1 - Transition of Fundamental FP Program and Design Elements (NFPA 805 Chapter 3) 	
2.2	The LAR identifies structures that comprise the "power block."	<ul style="list-style-type: none"> ▪ Attachment I – Definition of Power Block 	

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Attachment 1 - RI/PB FPP LAR Acceptance Review Matrix

SRP III.	Required Information	LAR Template Section*	Potential FAQ Changes to NEI 04-02 / Comments
2.3	The LAR addresses electrical raceway fire barrier system issues (e.g., Hemyc and MT) if applicable.	<ul style="list-style-type: none"> ▪ HNP Section 4.8.2.3 Hemyc and MT Electrical Raceway Fire Barrier Systems 	<p>This item should be revised as follows to be consistent with Section III.2.3</p> <p>The LAR addresses process for resolving issues with electrical raceway fire barrier systems issues (e.g., Hemyc and MT) if applicable.”</p>
3.1	The LAR describes the licensee's approach to establishing nuclear safety performance criteria and the results of implementing the approach.	<ul style="list-style-type: none"> ▪ Section 4.2.1 ▪ Attachment B - NEI 04-02 Table B-2 - Nuclear Safety Capability Assessment – Methodology Review ▪ Section 4.2.2 ▪ Attachment C - NEI 04-02 Table B-3 - Fire Area Transition 	<p>This item should be revised as follows to be consistent with Section III.3.1:</p> <p>The LAR describes the licensee's approach to establishing nuclear safety performance criteria and the results of implementing the approach. is consistent with Chapter 2 of NFPA 805.”</p>
	The LAR includes the engineering analyses required by NFPA 805, Section 2.4	<p>The engineering Analyses required by NFPA 805 to demonstrate compliance with the Nuclear Safety Performance Criteria include:</p> <ul style="list-style-type: none"> ▪ 2.4.1 Fire Modeling Calculations Documented in Section 4.5.2 ▪ 2.4.2 Nuclear Safety Capability Assessment. Methodology documented in Section 4.2.1 and 4.2.2 and Attachments B and C ▪ 2.4.3* Fire Risk Evaluations Documented in Section 4.5 	

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Attachment 1 - RI/PB FPP LAR Acceptance Review Matrix

SRP III.	Required Information	LAR Template Section*	Potential FAQ Changes to NEI 04-02 / Comments
	The LAR documents the comparison of the existing FPP with the requirements of NFPA 805	<p>When demonstrating the comparison of the existing FPP against the Nuclear Safety Performance Criteria of NFPA 805, 3 steps were conducted (Methodology documented in Section 4.2.2.1 - Overview of Evaluation Process)</p> <ul style="list-style-type: none"> ▪ Review of Existing Engineering Equivalency Evaluations Results documented in Section 4.2.2.2.1 Attachment J - EEEE Transition ▪ Existing Licensing Actions were reviewed: Results documented in Section 4.2.2.2.2 Attachment K - Existing Licensing Action Transition ▪ Review of Fire Area Compliance Results documented in Section 4.2.2.3 Attachment C - NEI 04-02 Table B-3 - Fire Area Transition 	
	The LAR summarizes the current licensing basis including the applicable regulatory requirements	<ul style="list-style-type: none"> ▪ Section 2 Overview of Existing Fire Protection Program 	
3.1.1	The LAR discusses use of feed-and-bleed for post fire	<ul style="list-style-type: none"> ▪ Section 5.1 Table 5-3 	
3.1.2	The LAR discusses flame propagation ratings of existing cables and the basis for the ratings and provides flame propagation ratings for new or replacement cables.	<ul style="list-style-type: none"> ▪ Attachment A - NEI 04-02 Table B-1 - Transition of Fundamental FP Program and Design Elements (NFPA 805 Chapter 3) 	
3.1.3	The LAR discusses fire-induced multiple spurious operations of equipment	<ul style="list-style-type: none"> ▪ Section 4.8.2.1 ▪ Attachment F - Fire-Induced Multiple Spurious Operations Resolution ▪ HNP Attachment Y- NFPA 805 Transition Risk Insight ▪ ONS Attachment W – Fire PRA Insights 	
3.2	The LAR evaluates each fire area for compliance to NFPA 805 requirements:	<ul style="list-style-type: none"> ▪ Section 4.2.2.2 ▪ Attachment C - NEI 04-02 Table B-3 - Fire Area Transition 	Please number the items in this sub-section of the table to be consistent with text.

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Attachment 1 - RI/PB FPP LAR Acceptance Review Matrix

SRP III.	Required Information	LAR Template Section*	Potential FAQ Changes to NEI 04-02 / Comments
	Description of use of the deterministic approach of NFPA 805 paragraph 4.2.3 are met, as applicable	<ul style="list-style-type: none"> ▪ Section 4.2.2.2 ▪ Attachment C - NEI 04-02 Table B-3 - Fire Area Transition 	Questions about risk of alternative shutdown OMAs during the Pilot LAR Acceptance Review / LAR Audit.
	Documentation of previous NRC approval	<ul style="list-style-type: none"> ▪ Section 4.2.2.2 ▪ Attachment K – Existing Licensing Action Transition 	
	EEEEs that support deviations from the requirements and methods of NFPA 805	<ul style="list-style-type: none"> ▪ Section 4.2.2.2.2 ▪ Attachment J - EEEE Transition 	
	OMAs that will transition to recovery actions	<ul style="list-style-type: none"> ▪ Section 4.8.2.2. ▪ Attachment G - Operator Manual Actions Transition 	Questions about the 'risk of recovery actions' during the Pilot LAR Acceptance Review / LAR Audit.
	Description of use of the fire modeling approach of NFPA 805 paragraph 4.2.4.1, as appropriate	<ul style="list-style-type: none"> ▪ Section 4.5.2 	
	Statement that licensee has provided operational guidance required by NFPA 805 4.2.4.1.6	<ul style="list-style-type: none"> ▪ Section 4.8.2.2. ▪ Attachment G - Operator Manual Actions Transition 	
	Description of use of the fire risk approach of NFPA 805 paragraph 4.2.4.2, as appropriate	<ul style="list-style-type: none"> ▪ Section 4.5 ▪ Table 4-2 (ONS) Table 4-3 (HNP) 	Questions about applicability of NFPA 805, Section 4.2.4.2 during the Pilot LAR Acceptance Review / LAR Audit.
	Description of use of RI/PB alternatives to NFPA 805 if approved (or approval requested) per 50.48(c)(4)	<ul style="list-style-type: none"> ▪ Table 5-3 ▪ Attachment Q - RI-PB Alternatives to NFPA 805 10 CFR 50.48(c)(4) 	

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SRP III.	Required Information	LAR Template Section*	Potential FAQ Changes to NEI 04-02 / Comments
	Compliance summary for each fire area, including identifying fire hazards, reporting CDF and LERF values, identifying the significant core damage sequences and initiating events	<ul style="list-style-type: none"> ▪ ONS and HNP Attachment C - NEI 04-02 Table B-3 - Fire Area Transition ▪ HNP Attachment Y- NFPA 805 Transition Risk Insight 	<p>Summary Level information Fire Hazards and risk insights are in the FSA document. The FSA needs to be completed prior to implementation (may be included as supplemental information)</p> <p>Compliance summary for each fire area, including identifying fire hazards, reporting CDF and LERF values, identifying the significant core damage sequences and initiating events”, is within the context of RI/PB alternatives per section III.3.2.3. Therefore, a suggested lead-in could be “If RI/PB alternatives are selected, describe compliance summary for each fire area.....”</p> <p>CDF and LERF need to be reported? Are these delta CDF and delta LERF? For those FPP elements in certain fire areas in which PRA resolution or state-of-the-art does not allow quantification, what are the acceptable risk metrics or alternate reporting risk measures?</p>
	Exemptions, deviations, and EEEEs that the licensee desires to incorporate into the new licensing basis	<ul style="list-style-type: none"> ▪ Section 4.2.2.2.1 EEEEs ▪ Section 4.2.2.2.2 Licensing Actions ▪ Attachment J - EEEE Transition ▪ Attachment K - Existing Licensing Action Transition 	Exemptions, deviations, and EEEEs that the licensee desires to incorporate into the new licensing basis” is not discussed in Section III.3.2. Suggest relocating and adding with III.3.2 which states “The LAR evaluates each fire area for compliance to NFPA 805 requirements” and add “including exemptions, deviations, and EEEEs ...:
3.3	The LAR describes fire protection during NPOs and the procedures to address fire risk during these modes	<ul style="list-style-type: none"> ▪ Section 4.3 ▪ Attachment D – NEI 04-02 Table F-1 – Non-Power Operational Mode Transition 	This post transition procedure was not part of the LAR Submittal. Revise LAR template to include more specific guidance as to what should be included in the Transition Report.
4	The LAR describes how the radioactive release performance criteria are met	<ul style="list-style-type: none"> ▪ Section 4.4 ▪ Attachment E – NEI 04-02 Table G-1 – Radioactive Release Transition 	
5.1	The LAR describes the fire PRA technical adequacy, including:	See sub-sections	See sub-sections

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SRP III.	Required Information	LAR Template Section*	Potential FAQ Changes to NEI 04-02 / Comments
	evaluation against appropriate standards	<p>HNP:</p> <ul style="list-style-type: none"> ▪ Section 4.5.1 ▪ Attachment W – Internal Events PRA Quality ▪ Attachment X – Fire PRA Quality <p>ONS:</p> <ul style="list-style-type: none"> ▪ Section 4.5.1 ▪ Attachment U – Internal Events PRA Quality ▪ Attachment V – Fire PRA Quality 	
	process for PRA model maintenance/update	<p>This post transition process was not part specifically part of the LAR Submittal. It is indirectly included via the Fire PRA Peer Review Supporting Requirements discussion.</p> <p>HNP:</p> <ul style="list-style-type: none"> ▪ Section 4.5.1 ▪ Attachment W – Internal Events PRA Quality ▪ Attachment X – Fire PRA Quality <p>ONS:</p> <ul style="list-style-type: none"> ▪ Section 4.5.1 ▪ Attachment U – Internal Events PRA Quality ▪ Attachment V – Fire PRA Quality 	Revise LAR template and Sections 4.5 and 5.1 of NEI 04-02 to include more specific guidance as to what should be included in the Transition Report.
	technical adequacy for any NFPA 805 required risk assessments	<ul style="list-style-type: none"> ▪ Section 4.5 	
	technical adequacy for any applications for which the licensee is requesting self-approval	<p>HNP:</p> <ul style="list-style-type: none"> ▪ Section 4.5.6 ▪ Attachment Z – Fire PRA Quality Post-Transition Process <p>ONS:</p> <ul style="list-style-type: none"> ▪ Section 4.5.6 ▪ Attachment X – Fire PRA Quality Post-Transition Process 	Questions about 'specific guidance necessary for, future self-approved changes before the staff can conclude the future analyses will be acceptable' arose during the Pilot LAR Acceptance Review / LAR Audit.

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SRP III.	Required Information	LAR Template Section*	Potential FAQ Changes to NEI 04-02 / Comments
5.2	The LAR describes how DID and safety margins are maintained.	<ul style="list-style-type: none"> ▪ Section 4.5.3 ▪ Section 4.5.4 ▪ Specific Change Evaluation Calculations ▪ The process for self approving changes is detailed in NEI 04-02 Section 5.3 and Appendix J, endorsed by Regulatory Guide 1.205, Rev 1 	
5.3	The LAR includes plant change evaluations for non-compliances (based on current deterministic requirements) that the licensee does not intend to bring into deterministic compliance under NFPA 805	<ul style="list-style-type: none"> ▪ Section 4.5.3 ▪ Section 4.5.4 ▪ Specific Change Evaluation Calculations ▪ ONS Attachment C - NEI 04-02 Table B-3 - Fire Area Transition ▪ HNP Attachment Y 	
	The LAR includes the total change in CDF and LERF due to all non-compliances, including plant changes planned for the transition to NFPA 805.	<ul style="list-style-type: none"> ▪ Section 4.5.5 ▪ ONS – Attachment W ▪ HNP – Attachment Y 	
	The LAR provides the total CDF and LERF, i.e., risk contributions from internal and external events, including internal fires (if required to address the acceptance guidance of RG 1.174 and SRP Section 19.2)	<ul style="list-style-type: none"> ▪ Section 4.5.5 ▪ ONS – Attachment W Section W.2 ▪ HNP – Attachment Y Section Y.2 	
5.4	The LAR provides the risk of crediting recovery actions in lieu of meeting the deterministic requirements of NFPA 805 Section 4.2.3	<ul style="list-style-type: none"> ▪ Section 4.8.2.2. ▪ Attachment G - Operator Manual Actions Transition 	Questions about the 'risk of recovery actions' during the Pilot LAR Acceptance Review / LAR Audit.
5.5	The LAR includes fire risk evaluations per NFPA 805 Section 4.2.4.2 including an integrated assessment of the acceptability of risk, DID, and safety margins.	<ul style="list-style-type: none"> ▪ Section 4.5 ▪ Table 4-2 (ONS) Table 4-3 (HNP) 	Questions about applicability of NFPA 805, Section 4.2.4.2 during the Pilot LAR Acceptance Review / LAR Audit.
5.6	The LAR provides the cumulative risk if applicable. The LAR provides the individual risk of changes when changes are combined into a group for the purposes of evaluating risk.	<ul style="list-style-type: none"> ▪ Section 4.5.5 ▪ ONS - Attachment C - NEI 04-02 Table B-3 - Fire Area Transition ▪ ONS – Attachment W Section W.2 ▪ HNP – Attachment Y Section Y.2 	

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Attachment 1 - RI/PB FPP LAR Acceptance Review Matrix

SRP III.	Required Information	LAR Template Section*	Potential FAQ Changes to NEI 04-02 / Comments
6	The LAR describes the proposed monitoring program to monitor acceptable levels of availability, reliability, and performance of fire protection systems and features	▪ Section 4.6	Questions regarding 'the acceptance guidelines and the methods that have been developed to monitor plant performance and return to established levels if the acceptance guidelines are exceeded' during the Pilot LAR Acceptance Review / LAR Audit.
7.1	The LAR describes of the FPP design basis document	▪ Section 4.7.1	<p>Questions about the specific implementing procedures during the Pilot LAR Acceptance Review / LAR Audit.</p> <p>This post transition procedure was not part of the LAR Submittal. Revise LAR template and Sections 4.5 and 5.1 of NEI 04-02 to include more specific guidance as to what should be included in the Transition Report.</p>
7.2	The LAR describes the configuration control process for the FPP design basis document	▪ Section 4.7.2	<p>Questions about the specific implementing procedures during the Pilot LAR Acceptance Review / LAR Audit.</p> <p>This post transition procedure/document was not part of the LAR Submittal. Revise LAR template and Sections 4.5 and 5.1 of NEI 04-02 to include more specific guidance as to what should be included in the Transition Report.</p>
7.3	The LAR describes the program to ensure quality requirements are met	▪ Section 4.7.3	<p>Questions about the specific implementing procedures during the Pilot LAR Acceptance Review / LAR Audit.</p> <p>This post transition procedure was not part of the LAR Submittal. Revise LAR template and Sections 4.5 and 5.1 of NEI 04-02 to include more specific guidance as to what should be included in the Transition Report.</p>