

FAQ Number 07-0032

FAQ Revision 2

FAQ Title Clarification of 10 CFR 50.48(c), 50.48(a), and GDC 3

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Purpose of FAQ:

The purpose of this FAQ is to clarify that satisfying 10 CFR 50.48(c) will satisfy 10 CFR 50.48(a) and GDC3.

Is this Interpretation of guidance? Yes / No

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

Details:

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

During the Pilot Observation meetings discussions have been held regarding how requirements for 10 CFR 50.48(a) and GDC 3 are met by implementing NFPA 805 (10 CFR 50.48(c)). Specifically:

- 10 CFR 50.48(a) uses the terms “limit fire damage to structures, systems, or components important to safety so that the capability to shut down the plant safely is ensured”
- GDC 3 uses the terms “Structures, systems, and components important to safety”.
- 10 CFR 50.48(c) uses the term “Important to Nuclear Safety”

In addition, it is important to ensure that all requirements of 10 CFR 50.48 and GDC 3 are addressed in 10 CFR 50.48 (c) / NFPA 805.

NEI 04-02 contains an overview of the 10 CFR 50.48 (c) in Section 2.1 but does not clearly explain how meeting 10 CFR 50.48(c) satisfies 10 CFR 50.48(a) and GDC 3. This guidance needs to be provided to ensure that it is clearly understood that post-transition fire protection systems, features and components are required to meet the ‘nuclear safety performance criteria’.

Circumstances requiring guidance interpretation or new guidance:

The request to clarify how transitioning to a 10 CFR 50.48 (c) licensing basis satisfies 10 CFR 50.48 (a) and General Design Criteria 3 has been requested by the Transitioning Plants.

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

None.

Potentially relevant existing FAQ numbers:**Response Section:****Proposed resolution of FAQ and the basis for the proposal:**

Federal Register Notice 69 FR 33536 provides the necessary clarification. This information should be included in Section 2.2.2 of NEI 04-02 and in Appendix H (LAR submittal).

In addition the following table depicts how each section of 10 CFR 50.48 (a) and GDC have a corresponding section in NFPA 805.

10 CFR 50.48(a) Section(s)	Applicability / Compliance Reference
(1) Each holder of an operating license issued under this part or a combined license issued under part 52 of this chapter must have a fire protection plan that satisfies Criterion 3 of appendix A to this part. This fire protection plan must:	See below
(i) Describe the overall fire protection program for the facility	NFPA 805 Section 3.2
(ii) Identify the various positions within the licensee's organization that are responsible for the program;	NFPA 805 Section 3.2.2
(iii) State the authorities that are delegated to each of these positions to implement those responsibilities; and	NFPA 805 Section 3.2.2
(iv) Outline the plans for fire protection, fire detection and suppression capability, and limitation of fire damage	NFPA 805 Section 2.7 and Chapters 3 and 4
(2) The plan must also describe specific features necessary to implement the program described in paragraph (a)(1) of this section such as	See below
(i) Administrative controls and personnel requirements for fire prevention and manual fire suppression activities;	NFPA 805 Sections 3.3 and 3.4

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10 CFR 50.48(a) Section(s)	Applicability / Compliance Reference
(ii) Automatic and manually operated fire detection and suppression systems; and	NFPA 805 Sections 3.5 through 3.10 and Chapter 4
(iii) The means to limit fire damage to structures, systems, or components important to safety so that the capability to shut down the plant safely is ensured.	NFPA 805 Section 3.3 and Chapter 4
(3) The licensee shall retain the fire protection plan and each change to the plan as a record until the Commission terminates the reactor license. The licensee shall retain each superseded revision of the procedures for 3 years from the date it was superseded.	NFPA 805 Section 2.7.1.1 requires that documentation be maintained for the life of the plant.
(4) Each applicant for a design approval, design certification, or manufacturing license under part 52 of this chapter must have a description and analysis of the fire protection design features for the standard plant necessary to demonstrate compliance with Criterion 3 of appendix A to this part.	Not applicable to plants licensed under 10 CFR 50.

GDC 3, Fire Protection, Statement	Applicability / Compliance Reference
Structures, systems, and components important to safety shall be designed and located to minimize, consistent with other safety requirements, the probability and effect of fires and explosions.	NFPA 805 Chapters 3 and 4
Noncombustible and heat resistant materials shall be used wherever practical throughout the unit, particularly in locations such as the containment and control room.	NFPA 805 Sections 3.3 and 3.11.4
Fire detection and fighting systems of appropriate capacity and capability shall be provided and designed to minimize the adverse effects of fires on structures, systems, and components important to safety.	NFPA 805 Chapters 3 and 4
Firefighting systems shall be designed to assure that their rupture or inadvertent operation does not significantly impair the safety capability of these structures, systems, and components	NFPA 805 Sections 3.4 through 3.10 and 4.2.1

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

See attached:

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2.2.2 Relationship to Other Fire Protection Requirements

NFPA 805 is codified as 10 CFR 50.48(c). The new rule was placed deliberately in this location to show how it relates to existing fire protection requirements. The new rule establishes alternative requirements that a licensee may voluntarily adopt instead of continuing to comply with its current fire protection licensing basis. A fire protection program that complies with 10 CFR 50.48 (c), NFPA 805, as adopted by the NRC, is an acceptable alternative to compliance with either 10 CFR 50.48(b) (for plants licensed to operate before January 1, 1979 “Appendix R Plants”), or existing plant fire protection license conditions (10 CFR 50.48(c)(3)(i)) for plants licensed to operate after January 1, 1979 (Post-Appendix R Plants). For plants that have shut down and submitted the certifications required by 10 CFR 50.82(a)(1), compliance with NFPA 805 may be adopted as an acceptable method for complying with 10 CFR 50.48(f).

~~2.2.3 Alternative Requirements in the New Rule~~

The new rule does not supersede the requirements of GDC 3 or 10 CFR 50.48(a). The new rule provides actions that may be taken to establish compliance with 10 CFR 50.48(a), which requires each operating nuclear power plant to have a fire protection program plan that satisfies General Design Criterion 3 (GDC 3), as well as specific requirements in that section. The NRC in 69 FR 33536 provides the following clarification:

“NFPA 805 does not supersede the requirements of GDC 3, 10 CFR 50.48(a), or 10 CFR 50.48(f). Those regulatory requirements continue to apply to licensees that adopt NFPA 805. However, under NFPA 805, the means by which GDC 3 or 10 CFR 50.48(a) requirements may be met is different than under 10 CFR 50.48(b). Specifically, whereas GDC 3 refers to SSCs important to safety, NFPA 805 identifies fire protection systems and features required to meet the Chapter 1 performance criteria through the methodology in Chapter 4 of NFPA 805. Also, under NFPA 805, the 10 CFR 50.48(a)(2)(iii) requirement to limit fire damage to SSCs important to safety so that the capability to safely shut down the plant is ensured is satisfied by meeting the performance criteria in Section 1.5.1 of NFPA 805. The Section 1.5.1 criteria include provisions for ensuring that reactivity control, inventory and pressure control, decay heat removal, vital auxiliaries, and process monitoring are achieved and maintained.

This methodology specifies a process to identify the fire protection systems and features required to achieve the nuclear safety performance criteria in Section 1.5 of NFPA 805. Once a determination has been made that a fire protection system or feature is required to achieve the performance criteria of Section 1.5, its design and must meet any applicable requirements of NFPA 805, Chapter 3. Having identified the required fire protection systems and features, the licensee selects either a deterministic or performance-based approach to demonstrate that the performance criteria are satisfied. This process satisfies the GDC 3 requirement to design and locate SSCs important to safety to minimize the probability and effects of fires and explosions.”

The transition process described in 10 CFR 50.48(c)(3)(ii) provides, in pertinent parts, that a licensee intending to adopt the new rule must, among other things, “modify the fire protection

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plan required by paragraph (a) of that section to reflect the licensee's decision to comply with NFPA 805." Therefore, to the extent that the contents of the existing fire protection program plan required by 10 CFR 50.48(a) are inconsistent with NFPA 805, the fire protection program plan must be modified to achieve compliance with the requirements in NFPA 805. All other requirements of 10 CFR 50.48 (a) and GDC 3 have corresponding requirements in NFPA 805.

A comparison of the current requirements in Appendix R with the comparable requirements in Section 3 of NFPA 805 shows that the two sets of requirements are consistent in many respects. However, there are differences. Among them are the elimination of specific requirements for: (1) emergency lighting; (2) an alternative shutdown capability; and (3) cold shutdown. These topics are addressed in the transition of the nuclear safety performance criteria (Appendix B-2).