

Update to the 10 CFR 50.48

Reactor Fire Protection Risk-Informed, Performance-Based Rulemaking

Below is draft rule language for the NFPA 805 rulemaking with changes based on public comments received on the proposed rule. The language is draft and subject to further change as it goes through the review process. The NRC is not soliciting comments on the rule language. However, it is being made available to the public for information purposes as an effort to keep the public informed of progress on the rule.

2. In § 50.48, paragraph (c) is added to read as follows:

§ 50.48. Fire protection.

* * * * *

(c) *National Fire Protection Association Standard NFPA 805.*

(1) *Approval of incorporation by reference.* National Fire Protection Association (NFPA) Standard 805, "Performance-Based for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition" (NFPA 805), which is referenced in this section, was approved for incorporation by reference by the Director of the Federal Register. A notice of any changes made to the material incorporated by reference will be published in the Federal Register. Copies of NFPA 805 may be purchased from the NFPA Customer Service Department, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101 and in PDF format through the NFPA Online Catalog (www.nfpa.org) or by calling 1-800-344-3555 or 617-770-3000. Copies are also available for inspection at the NRC Library, Two White Flint North, 11545 Rockville Pike, Rockville, Maryland 20852-2738, and at the NRC Public Document Room, Building One White Flint North, Room O1-F15, 11555 Rockville Pike, Rockville, Maryland 20852-2738. Copies are also available at the Office of the Federal Register, 800 N. Capitol Street, Suite 700, Washington, DC.

(2) *Exceptions, modifications, and supplementation of NFPA 805.* As used in this section, references to NFPA 805 are to the 2001 Edition, with the following exceptions, modifications, and supplementation:

(i) *Life Safety Goal.* The Life Safety Goal of Section 1.3.3 is not endorsed.

(ii) *Plant Damage/Business Interruption Objectives.* The Plant Damage/Business Interruption Objectives of Section 1.3.4 are not endorsed.

(iii) *Use of feed-and-bleed.* In demonstrating compliance with the performance criteria of Sections 1.5.1(b) and (c), a high pressure charging/injection pump coupled with the pressurizer power-operated relief valves (PORVs) as the sole fire-protected safe shutdown path for maintaining reactor coolant inventory, pressure control, and decay heat removal capability (i.e., feed-and-bleed) for pressurized-water reactors (PWRs) is not permitted.

(iv) *Uncertainty analysis.* An uncertainty analysis performed in accordance with Section 2.7.3.5 is not required to support deterministic approach calculations.

(v) *Performance-based methods.* Notwithstanding the prohibition in Section 3.1 against the use of performance-based methods, the fire protection program elements and minimum design requirements of Chapter 3 may be subject to the performance-based methods permitted elsewhere in the standard.

(vi) *Existing cables.* In lieu of installing cables meeting flame propagation tests as required by Section 3.3.5.3, a flame retardant coating may be applied to the electric cables, or an automatic fixed fire suppression system may be installed to provide an equivalent level of protection. In addition, the italicized exception to Section 3.3.5.3 is not endorsed.

(vii) *Water supply and distribution.* The italicized exception to Section 3.6.4 is not endorsed.

(3) *Compliance with NFPA 805.*

(i) A licensee may maintain a fire protection program that complies with NFPA 805 as an alternative to complying with paragraph (b) of this section for plants licensed to operate before January 1, 1979; or the fire protection license conditions for plants licensed to operate after January 1, 1979. The licensee shall submit a request to comply with NFPA 805 in the form of an application for license amendment under § 50.90. The application must identify any orders and license conditions that must be revised or superseded, and contain any necessary revisions to the plant's technical specifications and the bases thereof. The Director of the Office of Nuclear Reactor Regulation, or a designee of the Director, may approve the application if the Director or designee determines that the licensee has identified orders, license conditions, and the technical specifications that must be revised or superseded, and that any necessary revisions are adequate. Any approval by the Director or the designee of the Director shall be in the form of a license amendment approving the use of NFPA 805 together with any necessary revisions to the technical specifications.

(ii) The licensee shall complete its implementation of the methodology in Chapter 2 of NFPA 805 (including all required evaluations and analyses) and, upon completion, modify the fire protection plan required by paragraph (a) of this section to reflect the licensee's decision to comply with NFPA 805, before changing its fire protection program or nuclear power plant as permitted by NFPA 805.

(4) *Risk-informed, performance-based alternatives to compliance with NFPA 805.* A licensee may submit a request to use risk-informed, performance-based alternatives to compliance with the methods and analytical approaches in NFPA 805. The request must be in the form of an application for license amendment under § 50.90. The Director of the Office of Nuclear Reactor Regulation, or designee of the Director, may approve the application if the Director or designee determines that the alternative methods and analytical approaches:

(i) Satisfy the goals, performance objectives, and performance criteria specified in NFPA 805 related to nuclear safety and radiological release.

(ii) Maintain safety margins.

(iii) Maintain fire protection defense-in-depth (fire prevention, fire suppression, and post-fire safe shutdown capability).

3. In § 50.48, paragraph (f) is revised to read as follows:

(f) Licensees that have submitted the certifications required under Section 50.82(a)(1) shall maintain a fire protection program to address the potential for fires that could cause the release or spread of radioactive materials (i.e., that could result in a radiological hazard). A fire protection program that complies with NFPA 805 shall be deemed to comply with the requirements of this paragraph.

Dated at Rockville, Maryland, this day of , 2003.
