10 CFR PART 50.48: HISTORY OF CHANGES

This document contains all the changes made to 10 CFR Part 50.48, *Fire Protection*, since it was first introduced in 1980. Between 1980 to the present, any changes made are documented in Federal Register Notices. All of these notices have been reviewed and compiled into this one outline.

HOW TO READ THIS DOCUMENT:

The original text of 50.48 is provided below as it appeared when in was first introduced in 1980. The first version was quickly replaced, thus the second version is also provided below since all significant changes originate from this version. Any portion of the text that has been altered through the years is circled and assigned a corresponding number and color. The color represents changes that are listed in the same Federal Register Notice, and the number represents the chronological order these changes were listed in and how they appear in this document. At the end of this document the most recent version of 10 CFR 50.48 is provided.

VERSION 1

and should be revised. Under these circumstances the Commission believes that there is good cause for an extension of the license condition schedules pending effectiveness of the final rule on fire protection.

The rule provides that all compliance dates contained in license conditions or technical specifications for required fire protection measures are suspended pending further action by the Commission. As is clear from the above discussion, that further action will be promulgation of the final rule on fire protection. The Commission intends that licensees affected by this rule should use best efforts to complete all required measures as soon as possible despite the suspension of the deadlines for this brief period.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and Sections 552 and 553 of Title 5 of the United States Code, notice is hereby given that the following amendment to Title 10, Chapter I, Code of Federal Regulations, Part 50, is published as a document subject to codification.

PART 50—DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

1. A new Section 50.48 is added to read as follows:

1 **§ 50.48 Fire protection schedules.**

To the extent that any facility's license conditions or technical specifications incorporate compliance dates for modifications necessary to provide fire protection features proposed by a licensee and accepted by the NRC staff as satisfying the provisions of Appendix A to Branch Technical Position BTP/APCSB 9.5-1 and reflected in NRC staff Fire Protection Safety Evaluation Reports issued prior to the effective date of this rule, those dates are hereby suspended pending further action by the Commission.

(Sec. 161b, Pub. Law 83-703, 68 Stat. 948; Sec. 201, Pub. Law 93-438, 88 Stat. 1242 (42 U.S.C. 2201(b), 5841))

Dated at Washington, D.C. this 27th day of October 1980

For the Nuclear Regulatory Commission.

Samuel C. Chilk,

Secretary of the Commission.

[FR Doc. 80-33844 Filed 10-28-80; 10:14 am]

BILLING CODE 7590-01-M

VERSION 2

General Comments Resolution:

Several commenters contended that Commission regulations mandate that an adjudicatory hearing be conducted prior to a final decision. One commenter labeled the regulation an "order" within the meaning of the Administrative Procedure Act (5 U.S.C. 551(6)) (APA) and asserted that 10 CFR 2.204 of the Commission's regulations, "Order for Modification of License," applies to this rulemaking proceeding.

The Commission disagrees with these comments. A "rule" is defined in the APA to mean "the whole or a part of an agency statement of general or particular applicability and future effect designed to implement * * * or prescribe law or policy * * *" (5 U.S.C. 551(4)). The agency action questioned here is clearly one that treats similarly situated licensees equally and that prescribes future conduct or requirements. For those licensees who have not already provided an equivalent level of fire protection, certain specific fire protection features are required. Various of these requirements would apply to approximately 40 facilities. The commenter's characterization of the rule as an order, along with the assertion that 10 CFR 2.204 mandates a hearing before the rule becomes final is incorrect. On its face, that regulation (which does grant a hearing right) applies only to Commission orders that modify a license.[2] It does not apply to requirements promulgated through a rulemaking action conducted in accordance with the requirements of applicable law.

Several commenters contended that the environmental impact had not been adequately addressed. One commenter, citing the requirements in Section III.A of Appendix R for two water supplies and two separate redundant sections as examples of requirements involving environmental issues, contended that the Commission relied upon its staff's "unsupported determination that, pursuant to 10 CFR § 51.5(d), an environmental impact statement, appraisal, or negative declaration is not required." The Commission has considered Section III.A and has further considered the remaining requirements of Appendix R and remains convinced that the regulations are not substantive and are insignificant from the standpoint of environmental impact.

One commenter suggested that all plants be required to install dedicated shutdown capability. The Commission does not agree. We believe that the Commission's overall fire protection program involving extensive plant-specific fire protection modifications that are based on guidance set forth in Branch Technical Position BTP APCSB 9.5–1 and its Appendix A and the specific requirements of Appendix R to resolve disputed issues provide adequate fire protection.

One commenter stated that the ambiguity of the proposed regulation with regard to critical items requires that it be renoticed. The commenter referenced three portions of the proposed Appendix R as examples of such ambiguity. They were Section III.G, Section III.N, and Section III.Q. We have reviewed these examples.

In reference to the first example, the commenter stated that the first paragraph of Section III.G identifies alternative shutdown capability as an optional protective feature and that paragraph III.G.2.c then identifies alternative shutdown capability as a minimum fire protection feature. We do not agree with this statement. The first paragraph of Section III.G identifies alternative shutdown capability as one option in a combination of fire protection features for a specific fire area. Paragraph III.G.3 indicates when this option should be used.

In reference to the second example, the commenter stated that Section III.N requires a pressure differential across the test specimen during the testing of fire barrier penetration seals but fails to define the pressure differential. This comment is incorrect. The pressure differential called for by the proposed provision was the maximum pressure differential that the barrier would experience in the specific plant installation. In any event, the requirement for pressure differential during such testing has been deleted since only noncombustible material is now being used for such seals.

In reference to the third example, the commenter stated that Section III.Q is totally lacking in definition. We do not agree. Footnote 6 references Regulatory Guide 1.75 and IEEE Std 384–1974. The latter document is a commonly used industry standard that defines associated circuits and provides guidance for ensuring that such circuits do not compromise the independence of the shutdown circuits they are associated with.

Based on the above examples and our review of the other provisions of the proposed rule, we do not believe that the rule as proposed was ambiguous so as to require renoticing. Moreover, it should be noted that, based on other comments received on the proposed regulations, other commenters demonstrated a thorough understanding of the proposed requirements.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and Sections 552 and 553 of Title 5 of the United States Code, notice is hereby given that the following amendments to Title 10, Chapter I, Code of Federal Regulations, Part 50, are published as a document subject to codification.

1. A new § 50.48 is added to read as follows:

§ 50.48 Fire Protection.

(a) Each operating nuclear power plant shall have a fire protection plan that satisfies Criterion 3 of Appendix A to this part. This fire protection plan shall describe the overall fire protection program for the facility, identify the various positions within the licensee's organization that are responsibile for the program, state the authorities that are delegated to each of these positions to implement those responsibilities, and outline the plans for fire protection, fire detection and suppression capability, and limitation of fire damage. The plan shall also describe specific features necessary to implement the program described above, such as administrative controls and personnel requirements for fire prevention and manual fire suppression activities, automatic and manually operated fire detection and suppression systems, and the means to limit fire damage to structures, systems, or components important to safety so that the capability to safely shut down the plant is ensured.[3]

(b) Appendix R to this part establishes fire protection features required to satisfy Criterion 3 of Appendix A to this part with respect to certain generic issues for nuclear power plants licensed to operate prior to January 1, 1979. Except for the requirements of Sections III.G, III.J, and III.O, the provisions of Appendix R to this part shall not be applicable to nuclear power plants licensed to operate prior to January 1, 1979, to the extent that fire protection features proposed or implemented by

[2] It should also be noted that § 2.204 is codified in Subpart B of 10 CFR Part 2. The scope of Subpart B is specifically limited to "cases initiated by the staff * * * to impose requirements by *order* on a licensee" (10 CFR 2.200(a)). (Emphasis supplied.)

[3] Basic fire protection guidance for nuclear power plants is contained in two NRC documents:

- Branch Technical Position Auxiliary Power Conversion System Branch BTP APCSB 9.5–1, "Guidelines for Fire Protection for Nuclear Power Plants," for new plants docketed after July 1, 1976, dated May 1976.
- Appendix A to BTP APCSB 9.5–1, "Guidelines for Fire Protection for Nuclear Power Plants Docketed Prior to July 1, 1976," for plants that were operating or under various stages of design or construction before July 1, 1976, dated August 23, 1976.

Also see Note 4.

the licensee have been accepted by the NRC staff as satisfying the provisions of Appendix A to Branch Technical Position BTP APCSB 9.5-1[4] reflected in staff fire protection safety evaluation reports issued prior to the effective date of this rule, or to the extent that fire protection features were accepted by the staff in comprehensive fire protection safety evaluation reports issued before Appendix A to Branch Technical Position BTP APCSB 9.5-1 was published in August 1976. With respect to all other fire protection features covered by Appendix R, all nuclear power plants licensed to operate prior to January 1, 1979 shall satisfy the applicable requirements of Appendix R to this part, including specifically the requirements of Sections III.G, III.J, and III.O.

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(c) All fire protection modifications require to satisfy the provisions of Appendix R to this part or directly affected by such requirements shall be completed on the following schedule:

(1) Those fire protection features that involve revisions of administrative controls, manpower changes, and training, shall be implemented within 30 days after the effective date of this section and Appendix R to this part.

(2) Those fire protection features that involve installation of modifications that do not require prior NRC approval or plant shutdown shall be implemented within 9 months after the effective date of this section and Appendix R to this part.

(3) Those fire protection features, except for those requiring prior NRC approval by paragraph (c)(5) of this section, that involve installation of modifications that do require plant shutdown, the need for which is justified in the plans and schedules required by the provisions of paragraph (c)(5) of this section, shall be implemented before startup after the earliest of the following events commencing 180 days or more after the effective date of this section and Appendix R to this part:

(i) the first refueling outage;

(ii) another planned outage that lasts for at least 60 days; or

(iii) an unplanned outage that lasts for at least 120 days.

(4) Those fire protection features that require prior NRC approval by paragraph (c)(5) of this section, shall be implemented within the following schedule: Dedicated shutdown systems—30 months after NRC approval; modifications requiring plant shutdown—before startup after the earliest of the events given in paragraph (c)(3) commencing 180 days after NRC approval; modifications not requiring plant shutdown—6 months after NRC approval.

(5) Licensees shall make any modifications necessary to comply with these requirements in accordance with the above schedule without prior review and approval by NRC except for modifications required by Section III.G.3 of Appendix R to this part. Licensees shall submit plans and schedules for meeting the provisions of paragraphs (c)(2), (c)(3), and (c)(4) within 30 days after the effective date of this section and Appendix R to this part. Licensees shall submit design descriptions of modifications needed to satisfy Section III.G.3 of Appendix R to this part within 30 days after the the effective date of this section and Appendix R to this part.

(6) In the event that a request for exemption from a requirement to comply with one or more of the provisions of Appendix R filed within 30 days of the effective date of this rule is based on an assertion by the licensee that such required modifications would not enhance fire protection safety in the facility or that such modifications may be detrimental to overall facility safety, the schedule requirements of paragraph (c) shall be tolled until final Commission action on the exemption request upon a determination by the Director of Nuclear Reactor Regulation that the licensee has provided a sound technical basis for such assertion that warrants further staff review of the request.

(d) Fire protection features accepted by the NRC staff in Fire Protection Safety Evaluation Reports referred to in paragraph (b) of this section and supplements to such reports, other than features covered by paragraph (c), shall be completed as soon as practicable but no later than the completion date currently specified in license conditions or technical specifications for such facility, or the date determined by paragraphs (d)(1) through (d)(4) of this section, whichever is sooner, unless the Director of Nuclear Reactor Regulation determines, upon a showing by the licensee, that there is good cause for extending such date and that the public health and safety is not adversely affected by such extension. Extensions of such date shall not exceed the dates determined by paragraphs (c)(1) through (c)(4) of this section.

(1) Those fire protection features that involve revisions of administrative controls, manpower changes, and training shall be implemented within 4 months after the date of the NRC staff Fire Protection Evaluation Report accepting or requiring such features.

(2) Those fire protection features involving installation of modifications not requiring prior approval or plant shutdown shall be implemented within 12 months after the date of the NRC staff Fire Protection Safety Evaluation Report accepting or requiring such features.

(3) Those fire protection features, including alternative shutdown capability, involving installation of modifications requiring plant shutdown shall be implemented before the startup after the earliest of the following events commencing 9 months or more after the date of the NRC staff Fire Protection Safety Evaluation Report accepting or requiring such features:

(i) The first refueling outage;

(ii) Another planned outage that lasts for at least 60 days; or

(iii) An unplanned outage that lasts for at least 120 days.

(4) Those fire protection features involving dedicated shutdown capability requiring new buildings and systems shall be implemented within 30 months of NRC approval. Other modifications requiring NRC approval prior to installation shall be implemented within 6 months after NRC approval.

(e) Nuclear power plants licensed to operate after January 1, 1979, shall complete all fire protection modifications needed to satisfy Criterion 3 of Appendix A to this part in accordance with the provisions of their licenses.

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2. A new Appendix R is added to 10 CFR Part 50 to read as follows:

Appendix R—Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979

I. Introduction and Scope

This Appendix applies to licensed nuclear power electric generating stations that were operating prior to January 1, 1979, except to the extent set forth in paragraph 50.48(b) of this part. With respect to certain generic issues for such facilities it sets forth fire protection features required to satisfy Criterion 3 of Appendix A to this part.[5]

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[4] Clarification and guidance with respect to permissible alternatives to satisfy Appendix A to BTP APCSB 9.5-1 has been provided in four other NRC documents.

- "Supplementary Guidance on Information Needed for Fire Protection Evaluation," dated October 21, 1976.
- "Sample Technical Specification," dated May 12, 1977.
- "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Control and Quality Assurance," dated June 14, 1977.
- "Manpower Requirements for Operating Reactors," dated May 11, 1978.

A Fire Protection Safety Evaluation Report that has been issued for each operating plant states how these guidelines were applied to each facility and identifies open fire protection issues that will be resolved when the facility satisfies the appropriate requirements of Appendix R to this part.

[5] See footnote 4.

LIGHT BLUE CHANGE
45 FR 71569
October 29, 1980

Change #1

- **Type: 50.48 added.**
- **Explanation:**
  - **This section was added to temporarily suspend completion dates for certain fire protection requirements in Appendix A because some licensees considered the deadlines unattainable.**
  - **The suspension of these dates was justified because:**
    - **The NRC decided that neither health nor safety would be affected by suspending the deadlines,**
    - **And that the previous fire protection requirements provided sufficient protection during this period.**
- **Added Text:**

1. A new Section 50.48 is added to read as follows:

§ 50.48 Fire protection schedules.

To the extent that any facility's license conditions or technical specifications incorporate compliance dates for modifications necessary to provide fire protection features proposed by a licensee and accepted by the NRC staff as satisfying the provisions of Appendix A to Branch Technical Position BTP/APCSB 9.5–1 and reflected in NRC staff Fire Protection Safety Evaluation Reports issued prior to the effective date of this rule, those dates are hereby suspended pending further action by the Commission.

PINK CHANGE
45 FR 76610

Change #2

- Type: New 50.48.
- Explanation:
  - The previous version of 50.48 was replaced by this version.
  - This "new" version of 50.48 (and Appendix R) was "added to upgrade fire protection" at nuclear power plants that are licensed to operate after 1/1/1979.

BROWN CHANGE
46 FR 44734

Change #3

- Type: Error in Federal Register 45 FR 76610
- Explanation:
    - 45 FR 76610 states: "A new 50.48 is added..." (see Pink Change #2)
    - 45 FR 76610 was corrected to read: "Section 50.48 is ***revised*** to read as follows…"
    - While this is not a change in the primary document, 50.48, the distinction between "new" and "revised" is considered significant.

BLUE CHANGE
53 FR 19240
May 27, 1988

CHANGE #4

- **Type:** Change in NRC policy
- **Explanation:** The NRC amended their policy to establish a retention period for records that licensees must maintain.
- **Corrected Text:**

§ 50.48 Fire protection.

(a) Each operating nuclear power plant must have a fire protection plan that satisfies Criterion 3 of Appendix A of this part. This fire protection plan must describe the overall fire protection program for the facility, identify the various positions within the licensee's organization that are responsible for the program, state the authorities that are delegated to each of these positions to implement those responsibilities, and outline the plans for fire protection, fire detection and suppression capability, and limitation of fire damage. The plan must also describe specific features necessary to implement the program described above, such as administrative controls and personnel requirements for fire prevention and manual fire suppression activities, automatic and manually operated fire detection and suppression systems, and the means to limit fire damage to structures, systems, or components important to safety so that the capability to safely shut down the plant is ensured.[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 and shall retain each superseded revision of the procedures for three years from the date it was superseded.

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[3] Basic fire protection guidance for nuclear power plants is contained in two NRC documents:

- Branch Technical Position Auxiliary Power Conversion System Branch BTP APCSB 9.5–1, "Guidelines for Fire Protection for Nuclear Power Plants," for new plants docketed after July 1, 1976, dated May 1976.
- Appendix A to BTP APCSB 9.5–1, "Guidelines for Fire Protection for Nuclear Power Plants Docketed Prior to July 1, 1976," for plants that were operating or under various stages of design or construction before July 1, 1976, dated August 23, 1976.

Also see Note 4.

ORANGE CHANGE
61 FR 39278

CHANGE #5

- Type: Change in policy
- Explanation:
  - Paragraph (f) is added
  - The NRC amended its regulations on the decommissioning procedures which lead to terminating an operating license.

§ 50.48 Fire protection.

* * * * *

(f) Licensees that have submitted the certifications required under § 50.82(a)(1) shall maintain a fire protection program to address the potential for fires which could cause the release or spread of radioactive materials (i.e., which could result in a radiological hazard).

(1) The objectives of the fire protection program are to—

(i) Reasonably prevent such fires from occurring;

(ii) Rapidly detect, control, and extinguish those fires which do occur and which could result in a radiological hazard; and

(iii) Ensure that the risk of fire-induced radiological hazards to the public, environment and plant personnel is minimized.

(2) The fire protection program must be assessed by the licensee on a regular basis and revised as appropriate throughout the various stages of facility decommissioning.

(3) The licensee may make changes to the fire protection program without NRC approval if these changes do not reduce the effectiveness of fire protection for facilities, systems, and equipment which could result in a radiological hazard, taking into account the decommissioning plant conditions and activities.

RED CHANGES
72 FR 49352

CHANGE #6

- Type: Clarification of text
- Explanation:
  - Paragraph a(1) is revised.
  - Clarify that holders of an operating license must have a fire protection plan.
- Revised text:

§ 50.48 Fire protection.

(a)(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:

* * * * *

CHANGE #7

- Type: Clarification of text
- Explanation:
  - Addition of a(4)
  - Text added for clarification of applications for design approvals and certification, and manufacturing licenses must meet the fire protection design requirements in Appendix A of Part 50, criterion 3 in general design.
- Revised text:

(a)(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.

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GREEN CHANGES

72 FR 49352
June 20, 2000

CHANGE # 8

- Type: Change in policy.
- Explanation:
  - Fire protection requirements amended to remove the requirement that penetration seal materials be noncombustible.
  - The following footnote (Footnote 3) is removed:
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> [3] Basic fire protection guidance for nuclear power plants is contained in two NRC documents:
> • Branch Technical Position Auxiliary Power Conversion System Branch BTP APCSB 9.5–1, "Guidelines for Fire Protection for Nuclear Power Plants," for new plants docketed after July 1, 1976, dated May 1976.
> • Appendix A to BTP APCSB 9.5–1, "Guidelines for Fire Protection for Nuclear Power Plants Docketed Prior to July 1, 1976," for plants that were operating or under various stages of design or construction before July 1, 1976, dated August 23, 1976.
> Also see Note 4.

CHANGE # 9

- Type: Change in policy.
- Explanation:
  - Fire protection requirements amended to remove the requirement that penetration seal materials be noncombustible.
  - The following footnote (Footnote 4) is removed:
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> [4] Clarification and guidance with respect to permissible alternatives to satisfy Appendix A to BTP APCSB 9.5–1 has been provided in four other NRC documents.
> • "Supplementary Guidance on Information Needed for Fire Protection Evaluation," dated October 21, 1976.
> • "Sample Technical Specification," dated May 12, 1977.
> • "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Control and Quality Assurance," dated June 14, 1977.
> • "Manpower Requirements for Operating Reactors," dated May 11, 1978.
> A Fire Protection Safety Evaluation Report that has been issued for each operating plant states how these guidelines were applied to each facility and identifies open fire protection issues that will be resolved when the facility satisfies the appropriate requirements of Appendix R to this part.

CHANGE # 10

- Type: Change in policy.
- Explanation:
  - Fire protection requirements of 50.48 are amended to remove the requirement that penetration seal materials be noncombustible.
- Corrected Text:

§ 50.48 Fire protection.

(a)(1) Each operating nuclear power plant must have a fire protection plan that satisfies Criterion 3 of appendix A to this part. This fire protection plan must:

(i) Describe the overall fire protection program for the facility;

(ii) Identify the various positions within the licensee's organization that are responsible for the program;

(iii) State the authorities that are delegated to each of these positions to implement those responsibilities; and

(iv) Outline the plans for fire protection, fire detection and suppression capability, and limitation of fire damage.

(2) The plan must also describe specific features necessary to implement the program described in paragraph (a)(1) of this section such as—

(i) Administrative controls and personnel requirements for fire prevention and manual fire suppression activities;

(ii) Automatic and manually operated fire detection and suppression systems; and

(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.

(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.

(b) Appendix R to this part establishes fire protection features required to satisfy Criterion 3 of appendix A to this part with respect to certain generic issues for nuclear power plants licensed to operate before January 1, 1979.

(1) Except for the requirements of Sections III.G, III.J, and III.O, the provisions of Appendix R to this part do not apply to nuclear power plants licensed to operate before January 1, 1979, to the extent that—

(i) Fire protection features proposed or implemented by the licensee have been accepted by the NRC staff as satisfying the provisions of Appendix A to Branch Technical Position (BTP) APCSB 9.5–1 reflected in NRC fire protection safety evaluation reports issued before the effective date of February 19, 1981; or

(ii) Fire protection features were accepted by the NRC staff in comprehensive fire protection safety evaluation reports issued before Appendix A to Branch Technical Position (BTP) APCSB 9.5–1 was published in August 1976.

(2) With respect to all other fire protection features covered by Appendix R, all nuclear power plants licensed to operate before January 1, 1979, must satisfy the applicable requirements of Appendix R to this part, including specifically the requirements of Sections III.G, III.J, and III.O.

(c) [Reserved].

(d) [Reserved].

(e) [Reserved].

(f) Licensees that have submitted the certifications required under § 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).

(1) The objectives of the fire protection program are to—

(i) Reasonably prevent these fires from occurring;

(ii) Rapidly detect, control, and extinguish those fires that do occur and that could result in a radiological hazard; and

(iii) Ensure that the risk of fire-induced radiological hazards to the public, environment and plant personnel is minimized.

(2) The licensee shall assess the fire protection program on a regular basis. The licensee shall revise the plan as appropriate throughout the various stages of facility decommissioning.

(3) The licensee may make changes to the fire protection program without NRC approval if these changes do not reduce the effectiveness of fire protection for facilities, systems, and equipment that could result in a radiological hazard, taking into account the decommissioning plant conditions and activities.

YELLOW AND BLACK CHANGES
61 FR 39278

CHANGE #11

- Type: Amendment of requirements
- Explanation:
    - Paragraph (c) is added.
        - Amendment to fire protection requirements
    - A plant can voluntarily adopt
        - National Fire Protection Association (NFPA) Standard 805: "*Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition*"
    - NAFP805 provides a performance-based alternative to the existing prescriptive requirements.
- Amended text:

§ 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 Standard 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 pursuant to 5 U.S.C. 552(a) and 1 CFR part 51. 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 National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.*

(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, Objectives, and Criteria.* The Life Safety Goal, Objectives, and Criteria of Chapter 1 are not endorsed.

(ii) *Plant Damage/Business Interruption Goal, Objectives, and Criteria.* The Plant Damage/Business Interruption Goal, Objectives, and Criteria of Chapter 1 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) *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.

(vi) *Water supply and distribution.* The italicized exception to Section 3.6.4 is not endorsed. Licensees who wish to use the exception to Section 3.6.4 must submit a request for a license amendment in accordance with paragraph (c)(2)(vii) of this section.

(vii) *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. Licensees who wish to use performance-based methods for these fire protection program elements and minimum design requirements shall submit a request in the form of an application for license amendment under § 50.90. 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 performance-based approach;

(A) Satisfies the performance goals, performance objectives, and performance criteria specified in NFPA 805 related to nuclear safety and radiological release;

(B) Maintains safety margins; and

(C) Maintains fire protection defense-in-depth (fire prevention, fire detection, fire suppression, mitigation, and post-fire safe shutdown capability).

(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 must 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 or performance-based alternatives to compliance with NFPA 805.* A licensee may submit a request to use risk-informed or performance-based alternatives to compliance with NFPA 805. The request must be in the form of an application for license amendment under § 50.90 of this chapter. 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 proposed alternatives:

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

(ii) Maintain safety margins; and

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

CHANGE #12

- Type: Amendment of requirements
- Explanation:
  - Introductory text to (f) is amended.
    - Amendment to fire protection requirements
  - A plant can voluntarily adopt
    - National Fire Protection Association (NFPA) Standard 805: "*Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition*"
  - NAFP805 provide a performance-based alternative to the existing prescriptive requirements.
- Amended text:

> (f) Licensees that have submitted the certifications required under § 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 be acceptable for complying with the requirements of this paragraph.

CURRENT VERSION:

§ 10 CFR 50.48, Fire protection

January 1, 2008

(a)(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:

(i) Describe the overall fire protection program for the facility;

(ii) Identify the various positions within the licensee's organization that are responsible for the program;

(iii) State the authorities that are delegated to each of these positions to implement those responsibilities; and

(iv) Outline the plans for fire protection, fire detection and suppression capability, and limitation of fire damage.

(2) The plan must also describe specific features necessary to implement the program described in paragraph (a)(1) of this section such as--

(i) Administrative controls and personnel requirements for fire prevention and manual fire suppression activities;

(ii) Automatic and manually operated fire detection and suppression systems; and

(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.

(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.

(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.

(b) Appendix R to this part establishes fire protection features required to satisfy Criterion 3 of appendix A to this part with respect to certain generic issues for nuclear power plants licensed to operate before January 1, 1979.

(1) Except for the requirements of Sections III.G, III.J, and III.O, the provisions of Appendix R to this part do not apply to nuclear power plants licensed to operate before January 1, 1979, to the extent that--

(i) Fire protection features proposed or implemented by the licensee have been accepted by the NRC staff as satisfying the provisions of Appendix A to Branch Technical Position (BTP) APCSB 9.5-1 reflected in NRC fire protection safety evaluation reports issued before the effective date of February 19, 1981; or

(ii) Fire protection features were accepted by the NRC staff in comprehensive fire protection safety evaluation reports issued before Appendix A to Branch Technical Position (BTP) APCSB 9.5-1 was published in August 1976.

(2) With respect to all other fire protection features covered by Appendix R, all nuclear power plants licensed to operate before January 1, 1979, must satisfy the applicable requirements of Appendix R to this part, including specifically the requirements of Sections III.G, III.J, and III.O.

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

(1) *Approval of incorporation by reference.* National Fire Protection Association (NFPA) Standard 805, "Performance-Based Standard 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 pursuant to 5 U.S.C. 552(a) and 1 CFR part 51. 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 (*http://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 National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html*.

(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, Objectives, and Criteria.* The Life Safety Goal, Objectives, and Criteria of Chapter 1 are not endorsed.

(ii) *Plant Damage/Business Interruption Goal, Objectives, and Criteria.* The Plant Damage/Business Interruption Goal, Objectives, and Criteria of Chapter 1 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) *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.

(vi) *Water supply and distribution.* The italicized exception to Section 3.6.4 is not endorsed. Licensees who wish to use the exception to Section 3.6.4 must submit a request for a license amendment in accordance with paragraph (c)(2)(vii) of this section.

(vii) *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. Licensees who wish to use performance-based methods for these fire protection program elements and minimum design requirements shall submit a request in the form of an application for license amendment under § 50.90. 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 performance-based approach;

(A) Satisfies the performance goals, performance objectives, and performance criteria specified in NFPA 805 related to nuclear safety and radiological release;

(B) Maintains safety margins; and

(C) Maintains fire protection defense-in-depth (fire prevention, fire detection, fire suppression, mitigation, and post-fire safe shutdown capability).

(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 must 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 or performance-based alternatives to compliance with NFPA 805.* A licensee may submit a request to use risk-informed or performance-based alternatives to compliance with NFPA 805. The request must be in the form of an application for license amendment under § 50.90 of this chapter. 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 proposed alternatives:

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

(ii) Maintain safety margins; and

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

(d) [Reserved].

(e) [Reserved].

(f) Licensees that have submitted the certifications required under § 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 be acceptable for complying with the requirements of this paragraph.

(1) The objectives of the fire protection program are to--

(i) Reasonably prevent these fires from occurring;

(ii) Rapidly detect, control, and extinguish those fires that do occur and that could result in a radiological hazard; and

(iii) Ensure that the risk of fire-induced radiological hazards to the public, environment and plant personnel is minimized.

(2) The licensee shall assess the fire protection program on a regular basis. The licensee shall revise the plan as appropriate throughout the various stages of facility decommissioning.

(3) The licensee may make changes to the fire protection program without NRC approval if these changes do not reduce the effectiveness of fire protection for facilities, systems, and equipment that could result in a radiological hazard, taking into account the decommissioning plant conditions and activities.

[65 FR 38190, June 20, 2000; 69 FR 33550, June 16, 2004; 72 FR 49495, Aug. 28, 2007]