December 12, 2001

MEMORANDUM TO: Michael T. Lesar, Chief
Rules and Directives Branch
Division of Administrative Services
Office of Administration

FROM: John N. Hannon, Chief**/RA/**
Plant Systems Branch
Division of Systems Safety and Analysis
Office of Nuclear Reactor Regulation

SUBJECT: DRAFT RULE WORDING: REVISION OF 10 CFR PART 50.48, "FIRE PROTECTION," TO ALLOW ENDORSEMENT OF NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 805, "PERFORMANCE-BASED STANDARD FOR FIRE PROTECTION FOR LIGHT WATER REACTOR ELECTRIC GENERATING PLANTS 2001 EDITION"

By memorandum dated October 9, 2001, the staff informed the Commission that it had reached agreement with the Nuclear Energy Institute for a process to resolve substantive issues pertaining to the rulemaking effort to revise 10 CFR Part 50.48. In that memorandum, the staff provided the Commission an updated schedule for the rulemaking and informed the Commission of the staff's intent to keep interested stakeholders informed by making drafts of the preliminary rulemaking language available to the public.

Accordingly, your assistance in implementing the staff's commitment is requested by arranging for publication of the attached *Federal Register* notice announcing the availability of the draft rule language and posting the draft rule language, provided in Attachment 2, on the NRC Web site at http://ruleforum.llnl.gov/ with a link entitled "Proposed Rulemaking - Risk-Informed Revision to 10 CFR Part 50.48 'Fire protection'."

Attachments: 1. *Federal Register* Notice
2. Draft rule language

CONTACT: Leon Whitney, NRR/DSSA/SPLB
301-415-3081

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Attachment 1

Federal Register Notice

[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50.48

Fire protection

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Availability of draft rule wording.

SUMMARY: The Nuclear Regulatory Commission (NRC) is making available the draft wording of a possible amendment to its regulations. The NRC has initiated this rulemaking to amend Title 10 of the Code of Federal Regulations (10 CFR) part 50.48, “Fire protection,” to endorse the National Fire Protection Association (NFPA) Standard 805, “Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants 2001 Edition,” with exceptions, as a voluntary alternative fire protection requirement for holders of operating nuclear power plant licenses. In support of this rulemaking effort, the NRC is seeking public comment on the draft rule language.

ALTERNATIVE CONSENSUS STANDARDS: This draft rule revision is consistent with the requirements of the National Technology Advancement and Transfer Act of 1995, as the rule revision would endorse an industry consensus standard, NFPA 805, with exceptions. However, the NRC is also seeking public comment regarding whether there are alternative consensus standards other than NFPA 805 that should be considered as voluntary alternatives to current fire protection regulations.

DATES: Comments should be submitted within 45 days from the date of this notice. Any comments received after this date may not be considered during drafting of the proposed rule. Because of scheduling considerations in preparing a proposed rule, the NRC staff requests that stakeholders provide their comments at their earliest convenience before the end of the comment period, if practicable.

ADDRESSES: Submit written comments to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemakings and Adjudications Staff, Mail Stop O-16C1 or deliver written comments to One White Flint North, 11555 Rockville Pike, Rockville, Maryland, between 7:30 a.m. and 4:15 p.m. on Federal workdays.

You may also provide comments via the NRC‘s interactive rulemaking Web site through the NRC’s home page at http://ruleforum.llnl.gov. This site provides the capability to upload comments as files (any format), if your web browser supports that function. For information about the interactive rulemaking Web site, contact Ms. Carol Gallagher at (301) 415-5905 or by e-mail to cag@nrc.gov. Copies of any comments received and certain documents related to this rulemaking may be examined at the NRC Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. The NRC maintains an Agencywide Documents Access and Management System (ADAMS), which provides text and image files of NRC’s public documents. These documents may be accessed through the NRC’s Public Electronic Reading Room on the Internet at http://www.nrc.gov/NRC/ADAMS/index.html. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC Public Document Room (PDR) Reference staff at 1-800-397-4209, 301-415-4737 or by email to pdr@nrc.gov.

FOR FURTHER INFORMATION CONTACT: Leon E. Whitney, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001, telephone (301) 415-3081, e-mail: lew1@nrc.gov.

SUPPLEMENTARY INFORMATION: The NRC's existing fire protection requirements are derived from General Design Criterion 3, "Fire protection," of Appendix A to 10 CFR Part 50, 10 CFR 50.48, "Fire protection," and for plants operating before January 1, 1979, certain provisions of Appendix R to 10 CFR Part 50, "Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979." Exemptions approved by the staff may apply for individual licensees.

The current (10 CFR 50.48) fire protection requirements were developed before the staff or industry had the benefit of probabilistic risk assessments (PRAs) for fires and before there was a significant body of operating experience. These deterministic fire protection requirements have been described by industry representatives and some members of the public as "prescriptive" and an "unnecessary regulatory burden." In the late 1990s, the Commission provided the NRC staff with guidelines to identify and assess performance-based approaches to regulation (see SECY-00-0191, and a Commission White Paper, "Risk-Informed and Performance-Based Regulation," issued as a Staff Requirements Memorandum (SRM) to SECY-98-144). This guidance was in addition to the risk-related guidance in the NRC's Probabilistic Risk Assessment Policy Statement and Regulatory Guide 1.174, "An Approach for Using PRA in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis."

On January 13, 2001, the National Fire Protection Association Standards Council issued NFPA 805, 2001 Edition, as a performance-based American National Standard for light water

nuclear power plants. As stated in Section 1.1 of the standard, “This standard specifies the minimum fire protection requirements for existing light water nuclear power plants during all phases of plant operation, including shutdown, degraded conditions, and decommissioning.” The U.S. Nuclear Regulatory Commission staff cooperatively participated in the development of NFPA 805. In the opinion of the NRC staff, with certain exceptions noted in Sections (c)(2) of the proposed rule revision, NFPA 805 could serve as a risk-informed, performance-based, voluntary alternative to the fire protection requirements of 10 CFR 50.48(b) and (f). Therefore, the staff requested (in SECY-00-009) and received Commission approval for proceeding with a rulemaking to permit reactor licensees to adopt NFPA 805, as excepted, as a voluntary alternative fire protection licensing basis for the requirements of 10 CFR 50.48(b) and (f). However, licensees which choose not to change their fire protection licensing basis would continue to be subject to the requirements of 10 CFR 50.48(b) and (f) as before.

The NRC is seeking public comment on the proposed rule revision language. The NRC is also seeking public comment regarding whether there are consensus standards other than NFPA 805 that could be considered as voluntary alternatives to current fire protection regulations.

This draft rule language is preliminary and may be incomplete in one or more respects. This draft rule language has been released to inform stakeholders of the current status of the contemplated 10 CFR 50.48 rule change and to provide stakeholders with an opportunity to comment on a draft version. Comments received prior to publishing the proposed rule revision will be considered in the development of the proposed rule revision. As appropriate, the Statements of Consideration for the proposed rule will briefly discuss substantive changes made to the rule language as a result of comments received. Comments may be provided

through the rulemaking Web site at http://ruleforum.llnl.gov or by mail as indicated under the ADDRESSES heading. The NRC may post updates periodically on the rulemaking web site that may be of interest to stakeholders.

Dated at Rockville, Maryland, this th day of 2001.

FOR THE NUCLEAR REGULATORY COMMISSION

John N. Hannon, Chief
Plant Systems Branch
Division of Systems Safety and Analysis
Office of Nuclear Reactor Regulation

Attachment 2

Draft Rule Language

DRAFT RULE LANGUAGE
as of December 10, 2001

The NRC staff has released the following draft rule language to solicit early stakeholder comment on a proposal to amend Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50.48, "Fire protection." The proposed change would endorse the National Fire Protection Association's (NFPA) "NFPA 805 Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants 2001 Edition," with exceptions, as a voluntary alternative fire protection license condition. NFPA 805, as excepted, would be available as an alternative to the fire protection requirements of 10 CFR 50.48 "Fire protection" Section (b) and Section (f). The availability of the draft wording is intended to inform stakeholders of the current status of the NRC staff's activities to amend 10 CFR Part 50.48 and to provide stakeholders the opportunity to comment on the draft changes. The draft rule language is preliminary and may be incomplete in one or more respects.

[Note: The staff has provided additional [bracketed] information within the body of the draft rule language to facilitate understanding of the staff's intent and the development of guidance for the proposed rule.]

10 CFR 50.48 Fire protection.

(c) *Alternatives to compliance with 10 CFR 50.48 (b) and (f).*

(1) *National Fire Protection Standard NFPA-805*. 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. 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 (800)344-3555 or (617)770-3000. They are also available for inspection at the NRC Technical Library, Second Floor, Building Two White Flint North, 11545 Rockville Pike, Rockville, Maryland 20852-2738. Copies are also available for viewing at the Office of the Federal Register, 800 N. Capitol Street, Suite 700, Washington, DC.

(2) As an alternative to compliance with the requirements of paragraphs (b) and (f) of this section, a licensee may maintain a fire protection program which complies with the provisions of NFPA 805, 2001 Edition, relating to nuclear safety and radiological release as defined in the standard, with the following exceptions, modifications, and supplementations:

(i) *Section 1.3.3*. The Life Safety Goal is not endorsed. [This section is beyond the NRC's regulatory responsibilities.]

(ii) *Section 1.3.4 and Appendix E*. The Plant Damage/Business Interruption Objectives are not endorsed. [This section is beyond the NRC's regulatory responsibilities.]

(iii) *Section 1.5.1 (b) and (c)*. A high pressure charging/injection pump coupled with the pressurizer power operated relief valves 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) Section 2.7.3.5. At the end of the single sentence add the parenthetical comment, "(does not apply to deterministic approach calculations)."

(v) Section 3.1. At the end of the third sentence of Section 3.1 add the following sentence: "Risk-informed and performance-based methods are acceptable in lieu of deterministic methods (e.g., those in Chapter 3 of NFPA 805) provided those risk-informed and performance-based methods have been approved by the NRC staff."

(vi) The italicized exception to Section 3.3.5.3 is not endorsed.

(vii) The italicized exception to Section 3.6.4 is not endorsed.

(3) *Alternative methods and analytical approaches.* Alternative methods and analytical approaches to those specified in NFPA 805 may be used if the goals, performance objectives and performance criteria specified in NFPA 805 related to nuclear safety and radiological release will be satisfied, safety margins will be maintained, and fire protection defense-in-depth (fire prevention, fire suppression, and post-fire safe shutdown capability) will be maintained.

(4) *Licensee Notifications and NRC Approvals*

(i) *Transition from 10 CFR 50.48 (b) and (f).* A licensee seeking to implement a fire protection program under the provisions of this paragraph shall submit a letter setting forth the date for which the licensee will be in plant-wide compliance with NFPA 805. The licensee shall comply with NFPA 805, 2001 edition, as excepted, by the date set forth in its letter. A licensee seeking to use alternative methods or analytical approaches under paragraph (c)(3) must submit an application for license amendment under Section 50.90. The application must address the criteria in paragraph (c)(3). [A license amendment may also be needed to permit the licensee to revise or remove existing fire protection-related license conditions]

[The staff is considering a two-year maximum transition period. The new requirements of NFPA 805, 2001 Edition, as excepted, would begin to apply for enforcement purposes at the end of the two-year transition period, or upon the licensee documented commencement of initial NFPA 805 compliance, whichever is earlier.]

(ii) *Approval of alternative methods or analytical approaches for licensees with fire programs in compliance with NFPA 805.* A licensee with a fire protection program in compliance with NFPA 805 may use alternative methods or analytical approaches when authorized by the Director of the Office of Nuclear Reactor Regulation. The licensee's request must address the criteria in paragraph (c)(3).

(iii) *Changes to fire protection programs complying with NFPA 805.* [The staff is considering whether to specify a risk-informed change process for licensees which adopt NFPA 805 to allow minimal increases in risk from changes. Changes are defined, as in 10 CFR 50.59, to be a modification or addition to, or removal from, the facility or procedures that affects a design function, method of performing or controlling the function, or an evaluation that demonstrates that intended functions will be accomplished. The staff believes that such a risk-informed process may actually not be necessary, since most existing reactor plant fire protection programs are controlled by the Standard Fire Protection License Condition of Generic Letter 86-10, and the remaining fire protection programs are controlled by the requirements of 10 CFR 50.59, which sets forth risk-informed criteria.]

[The staff is considering whether the NFPA 805 option should be extended to future applicants for an approval, certification, permit or license under parts 50 or 52, because applicants may seek to license some existing designs or some existing partially constructed reactor facilities. In connection with this, the staff is considering whether 10 CFR 50.34 would need to be modified to specify the information with respect to the use of NFPA 805 which must be submitted as part of the initial application process. -- Note: Section 1.1 of NFPA 805 says that the standard was written for only “existing light water nuclear power plants.”]