UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

OFFICE OF THE
SECRETARY

October 3, 2002

COMMISSION VOTING RECORD

DECISION ITEM: SECY-02-0132

TITLE: PROPOSED RULE: REVISION OF 10 CFR 50.48 TO PERMIT LIGHT-WATER REACTORS TO VOLUNTARILY ADOPT NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARD 805, "PERFORMANCE- BASED STANDARD FOR FIRE PROTECTION FOR LIGHT-WATER REACTOR ELECTRIC GENERATING PLANTS, 2001 EDITION" AS AN ALTERNATIVE SET OF RISK-INFORMED, PERFORMANCE-BASED FIRE PROTECTION REQUIREMENTS

The Commission (with all Commissioners agreeing) approved the subject paper as recorded in the Staff Requirements Memorandum (SRM) of October 3, 2002.

This Record contains a summary of voting on this matter together with the individual vote sheets, views and comments of the Commission.

Annette L. Vietti-Cook
Secretary of the Commission

Attachments:
1. Voting Summary
2. Commissioner Vote Sheets

cc: Chairman Meserve
Commissioner Dicus
Commissioner Diaz
Commissioner McGaffigan
Commissioner Merrifield
OGC
EDO
PDR

VOTING SUMMARY - SECY-02-0132

RECORDED VOTES

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICIP	COMMENTS	DATE
CHRM. MESERVE	X				X	9/13/02
COMR. DICUS	X				X	7/24/02
COMR. DIAZ	X				X	9/4/02
COMR. McGAFFIGAN	X				X	9/18/02
COMR. MERRIFIELD	X				X	9/19/02

COMMENT RESOLUTION

In their vote sheets, all Commissioners approved the staff's recommendation and provided some additional comments. Subsequently, the comments of the Commission were incorporated into the guidance to staff as reflected in the SRM issued on October 3, 2002.

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook
Secretary of the Commission

FROM: CHAIRMAN MESERVE

SUBJECT: SECY-02-0132 - PROPOSED RULE: REVISION OF 10 CFR 50.48 TO PERMIT LIGHT-WATER REACTORS TO VOLUNTARILY ADOPT NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARD 805, "PERFORMANCE-BASED STANDARD FOR FIRE PROTECTION FOR LIGHT-WATER REACTOR ELECTRIC GENERATING PLANTS, 2001 EDITION" (NFPA 805) AS AN ALTERNATIVE SET OF RISK-INFORMED, PERFORMANCE-BASED FIRE PROTECTION REQUIREMENTS (WITS 199900032)

Approved X with edits Disapproved _____ Abstain _____

Not Participating _____

COMMENTS:

See attached.

SIGNATURE

September 13, 2002
DATE

Entered on "AS" Yes ✓ No ____

COMMENTS OF CHAIRMAN MESERVE ON SECY-02-0132

I approve of the staff's plan to publish the notice of proposed rule change in the Federal Register, allowing 75 days for public comment.

The current fire protection regulations are in need of change to meet the demands of our stakeholders and to produce a more risk-informed and performance-based set of fire protection requirements. Current nuclear facility fire protection requirements were developed more than twenty years ago before the NRC or industry had the benefit of probabilistic risk assessments (PRAs) for fires, and before there was a significant body of operating experience. Recently, the NRC staff cooperatively participated in the development of a National Fire Protection Association (NFPA) standard which could provide flexibility in achieving fire protection safety measures. I commend the staff's hard work in the development of this proposed rulemaking.

I believe a rule change to allow licensees the option to apply NFPA 805, "Performance-Based Standard for Fire Protection for Light-Water Reactor Electric Generating Plants, 2001 Edition" will result in increased attention to the most risk-significant fire protection equipment and activities for each reactor plant. Additionally, this rule change will reduce the need for exemptions, reduce unnecessary regulatory burden associated with the current deterministic approaches, and will maintain reactor safety while adding appropriate flexibility to the licensees' fire protection activities.

One issue concerning the proposed rule warrants discussion at this point. The Nuclear Energy Institute (NEI) has recently submitted a letter requesting that the proposed language for § 50.48(c)(4) be modified to eliminate the requirement that a licensee submit a license amendment to obtain approval to use alternative methods and analytical approaches. Letter to R.A. Meserve from R.E. Beedle (Aug. 22, 2002). It justifies this assertion on the basis of Cleveland Electric Illuminating Co. (Perry Nuclear Power Plant, Unit 1), CLI-96-13, 44 NRC 315 (1996). Although I recognize that any alternative methods or analytical methods, in order to be acceptable, must satisfy the goals, performance objectives, and performance criteria of NFPA 805, the endorsement of such alternatives would likely require an exercise of judgment quite unlike the approval at issue in Perry. Moreover, the revision of a material specimen withdrawal schedule at issue in Perry was defined in the relevant standard, see 44 NRC at 328, whereas NFPA 805 itself provides that deviations, analysis methods, and the like, must be approved by the authority having jurisdiction. See, e.g., NFPA 805 §§ 2.4.1.2.1, 2.4.2. I also note that NEI's argument, if accepted, would create the paradoxical situation in which the application of NFPA 805 would require a license amendment (as provided by proposed § 50.48(c)(3)), but the adoption of an alternative to NFPA 805 under proposed § 50.48(c)(4) would not. Although I would certainly consider further comment on this issue in the course of the rulemaking, I would not make any changes to proposed § 50.48(c)(4) at this time. However, I would modify the first sentence of § 50.48(c)(4) for purposes of clarity so that it provides: "A licensee may submit a request to use alternative methods and analytical approaches, including alternatives to the fundamental fire protection program and minimum design requirements identified in Chapter 3 of NFPA 805, ..."

I suggest certain other minor editorial changes to the Federal Register notice of the proposed rule.

I. Background and Rulemaking Initiation

In 1971, the NRC promulgated General Design Criterion (GDC) 3, "Fire protection," of Appendix A to 10 CFR Part 50. Subsequently (largely as a result of the fire at Browns Ferry Nuclear Plant in 1975), the NRC developed specific guidance for implementing GDC 3, as provided in Branch Technical Position (BTP) Auxiliary Power Conversion Systems Branch (APCSB) 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants," dated May 1, 1976, and Appendix A to BTP APCSB 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants Docketed Prior to July 1, 1976," dated February 24, 1977. In the late 1970s, the NRC worked with licensees to establish configurations that meet this guidance, reaching closure on most issues. However, to resolve the remaining contested issues, the NRC published the final fire protection rule (10 CFR.50.48, "Fire Protection") and Appendix R to 10 CFR Part 50 on November 10, 1980 (45 FR 76602).

Light water reactor licensees are currently required to have fire protection programs that comply with 10 CFR 50.48 and Criterion 3 of Appendix A to 10 CFR Part 50 (GDC 3). A fire protection program that satisfies Criterion 3 is required for all operating nuclear power plants by 10 CFR 50.48(a). Criterion 3 - "Fire protection," requires that structures, systems, and components important to safety shall be designed and located to minimize, consistent with other safety requirements, the probability and effects of fires and explosions. Further it requires that fire detection and fighting systems of appropriate capacity and capability be provided and designed to minimize the adverse effects of fires on ~~structures, systems, and components~~ SSCs important to safety. These fire protection requirements are deterministic.

As stated in 10 CFR 50.48(b)(1), with the exception of Sections III.G, III.J, and III.O of Appendix R, nuclear power plants that were licensed to operate before January 1, 1979, are exempt from the requirements of Appendix R to 10 CFR Part 50, to the extent that features meeting the provisions of Appendix A to Branch Technical Position (BTP) APCSB 9.5-1 had been accepted by the NRC staff. These reactor plants otherwise must meet 10 CFR 50, Appendix R, as well as any requirements contained in plant specific fire protection license conditions and/or technical specifications. Nuclear power plants that were licensed to operate after January 1, 1979, must comply with 10 CFR 50.48(a) as well as any plant-specific fire protection license conditions and/or technical specifications. Their fire protection license conditions typically reference Safety Evaluation Reports (SERs) generated by the NRC as the product of initial licensing reviews against either Appendix A to BTP APCSB 9.5-1 and the criteria of certain sections of 10 CFR 50, Appendix R, or against NUREG 0800, the NRC's Standard Review Plan (SRP) for fire protection (which closely follows the structure of 10 CFR 50, Appendix R).

The NRC has issued approximately 900 exemptions from the technical requirements specified in Appendix R. These exemptions were granted to licensees that submitted a technical evaluation demonstrating that an alternative fire protection approach satisfied the underlying safety purpose of Appendix R. During the initial implementation period for "pre-1979 Appendix R plants," the NRC granted exemptions under the provisions of 10 CFR 50.48(c)(6), which has since been deleted. For exemptions requested by "pre-1979" plants after the licensee's initial Appendix R implementation period, the NRC has conducted its reviews in accordance with the provisions specified in 10 CFR 50.12 "Specific exemptions." "Post-1979" plants have also requested and, when deemed acceptable by the staff, received approval to deviate from their

standard specifies the minimum fire protection requirements for existing light water nuclear power plants during all modes ("phases" in NFPA 805) of plant operation, including, shutdown, degraded conditions, and decommissioning.

The Nuclear Energy Institute (NEI) expressed support for the rulemaking in a letter dated September 13, 2001. The staff prepared a memorandum, dated October 9, 2001, informing the Commission that the staff had revised the rulemaking plan such that the staff would submit the proposed rule revision to the Commission by July 2002, and the final rule revision 12 months after the NRC published the proposed rule revision for public comment. Additionally, the staff informed the Commission that it was pursuing development of the implementation guidance to be endorsed by a regulatory guide. NEI is currently developing this guidance.

Draft Rule Language and Public Comment

On December 20, 2001 (66 FR 65661), the NRC published in the *Federal Register* draft rule language proposing to endorse NFPA 805, and posted this draft language on the NRC's interactive Rulemaking Forum Web site athttp://ruleforum.llnl.gov. The NRC requested public comment on the draft rule language. (space

The comment period on the draft rule language ended on February 4, 2002. In response to the *Federal Register* notice the NRC received five sets of comments from the NRC staff, industry consultants, licensees and industry organizations, as summarized below:

NFPA 805; (4) the need for the NFPA 805 Section 3.5.4 seismic/Class 1E emergency power buses fire pump requirements; (5) the need for seismically designed fire hose station standpipes in lieu of a plan for manual fire capabilities following an earthquake (see Section 3.6.4 of the standard); (6) the degree of flexibility in the deterministic 3-hour fire area boundary rating requirement of Section 4.2.3.2 of NFPA 805; (7) the use of recovery actions within the deterministic approach of the standard.

An industry consultant commented that the NRC should endorse, as part of the rulemaking, NFPA 805, Appendix B, "Nuclear Safety Analysis," and its post-fire safe shutdown circuit analysis methodology for use by licensees in meeting the standard. Appendix B is now endorsed as discussed in ~~the Discussion of Proposed Rule Language section~~ Section II below.

Another comment from an industry consultant stated that the rule should permit licensees to adopt only those NFPA 805 requirements that relate to post-fire safe shutdown, without meeting NFPA 805 requirements related to combustible/ignition control, and detection and suppression. This comment did not result in the NRC choosing to make any changes to the draft rule language.

II. Discussion

Discussion of Proposed Rule

The NRC has conducted a review of the technical requirements contained in NFPA 805, related to nuclear safety and radiological release, and has concluded that NFPA 805, taken as a whole, provides an acceptable alternative for satisfying General Design Criterion 3 (GDC 3) of

The standard has an adequate definition of compensatory actions and requires procedures to be established to accomplish these compensatory actions and limit the duration, Sections 1.6.8 and 3.2.3(2) respectfully. The criteria in the standard is adequate to meet the intent of this element of RG 1.189.

6. Training and qualification of fire protection personnel appropriate for their level of responsibility.

Section 2.7.3.4 discusses the qualification of personnel who apply engineering analysis and numerical models. Section 3.4 discuss the training and qualifications of the fire brigade and those who will plant personnel ~~who~~ respond to ~~a fire~~ responding to the fire. The criteria in the standard is adequate to meet the intent of this element of RG 1.189.

7. Quality assurance.

Through-out the standard and in particular, Section 2.7, discusses the requirements for program documentation, configuration control, and quality. The NRC considers the standard adequate to meet the quality assurance guidance in RG 1.189.

8. Control of fire protection program changes.

Chapter 2 discusses plant change evaluations and configuration control of design basis documents. These sections will assist in maintaining compliance with the fire protection regulatory requirements and are adequate to meet the change control guidance in RG 1.189.

to ensure that the licensee is capable of detecting the performance failure, and that adequate time is available to take the needed corrective actions upon detection.

NFPA 805 achieves the risk principles of the Commission's PRA Policy Statement (60 FR 42622) in the following manner:

"PRA Policy Statement 1: The use of PRA technology should be increased in all regulatory matters to the extent supported by the state-of-the-art in PRA methods and data and in a manner that complements the NRC's deterministic approach and supports the NRC's traditional defense-in-depth philosophy."

NFPA 805 Appendices B, C, and D providing methodologies for nuclear safety analysis (which includes post-fire safe shutdown circuit analysis), fire modeling, and PSA methods respectively, are state-of-the-art analytical approaches representing a consensus of members of a diverse national standards committee (the NFPA Technical Committee on Fire Protection for Nuclear Facilities).

The NFPA 805 deterministic approach (Section 4.2.3) was derived from existing NRC deterministic requirements.

In Section 4.2.4.1.5 of NFPA 805, the alternative NFPA performance-based approach includes the requirement that "the effectiveness of fire protection systems and features shall demonstrate that the circuits and components required to achieve the nuclear safety performance criteria are maintained free of fire damage." Combined with the deterministic

"PRA Policy Statement 3: PRA evaluations in support of regulatory decisions should be as realistic as practicable and appropriate supporting data should be publicly available for review."

Section 2.7.1.1 of NFPA 805 says: "The analyses performed to demonstrate compliance with this standard shall be documented for each nuclear power plant (NPP). The intent of the documentation is that the assumptions be clearly defined and that the results be easily understood, that results be clearly and consistently described, and that sufficient detail be provided to allow future review of the entire analyses. Documentation shall be maintained for the life of the plant and be organized carefully so that it can be checked for adequacy or accuracy either by an independent reviewer or by the AHJ."

[authority having jurisdiction]

Section 2.7.2 of NFPA 805 addresses configuration control, and Section 2.7.3 addresses the quality of the calculational or numerical models, the appropriateness of their application, and the qualifications of the personnel who apply them.

Therefore, there would be a well-founded expectation that licensee NFPA 805 analyses would be readily available for review by the NRC or independent reviewers supporting licensee quality assurance activities.

PRA Policy Statement 4: The Commission's safety goals for nuclear power plants and subsidiary numerical objectives are to be used with appropriate consideration of uncertainties in making regulatory judgements on the need for proposing and backfitting new generic requirements on nuclear power plant licensees."

As a voluntary regulation, the proposed rule does not represent a new generic requirement on nuclear power plant licensees, and could be considered to not be bound by PRA Policy Statement 4. However, the following two qualitative safety goals and two supporting quantitative objectives would be met by licensees meeting Section 1.3.1 of NFPA 805 (Nuclear Safety Goal) and Section 1.3.2 of NFPA 805 (Radioactive Release Goal), and their supporting NFPA 805 nuclear and radioactive release objectives and performance criteria.

The two NRC Commission's qualitative safety goals are: (1) Individual members of the public should be provided a level of protection from the consequences of nuclear power plant operation such that individuals bear no significant additional risk to life and health, and (2) Societal risks to life and health from nuclear power plant operation should be comparable to or less than the risks of generating electricity by viable competing technologies and should not be a significant addition to other societal risks.

Two quantitative objectives are used in determining achievement of the above safety goals: (1) The risk to an average individual in the vicinity of a nuclear power plant of prompt facilities that might result from reactor accidents should not exceed one-tenth of one percent (0.1 percent) of the sum of prompt fatality risks resulting from other accidents to which members of the U.S. population are generally exposed, and (2) The risk to the population in the area near a nuclear power plant of cancer fatalities that might result from nuclear power plant operation should not exceed one-tenth of one percent (0.1 percent) of the sum of cancer fatality risks resulting from all other causes.

Safety Improvements or Small Increases in Risk: NFPA has provisions for evaluating acceptable change in risk in terms of CDF (core damage frequency) and LERF (large early release frequency). Section 2.4.4.1 of the standard says that "The change in public health risk from any plant change shall be acceptable to the AHJ (NRC). CDF and LERF shall be used to determine the acceptability of the change." The NRC bases its risk acceptance guidelines on the information provided in NRC Regulatory Guide 1.174, An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant Specific Changes to the Licensing Basis. In RG 1.174, "small" is defined in relation to total CDF (e.g., when the calculated increase in risk is calculated to be in the range of 10E-6 per reactor year to 10E-5 per reactor year, the risk increase is acceptable if it can be reasonably shown that the total CDF is less than 10E-4 per reactor year).

Unnecessary Burden: The proposed rule is expected to reduce the need for licensee developed exemption requests targeted at relief from the existing deterministic, prescriptive fire protection requirements. Additionally, the proposed rule is expected to result in net reduced operating, training, and maintenance costs (through the elimination of conservatively required deterministic barriers and fire protection features) over the remaining life of the reactor plants and during their decommissioning.

Adequate Protection: Licensees which adopt NFPA 805 will be required by Section 2.4.4.1 of the standard to monitor the cumulative risk changes. Therefore, a series of small increases in public health risk (see "Safety Improvements or Small Increases in Risk" above) will not be allowed to accumulate into a significant total increase in fire risk. Therefore, adequate protection of the public from the effects of nuclear power plant fires will be maintained.

The NRC has considered the regulatory practicality of the proposed rule. The areas considered are as follows:

Change Control Processes: Sections 2.2(h), 2.2(i), 2.2(j), 2.2.9, 2.2.10, 2.4.4,, 2.6, and 2.7 contain salient direction relating to change control processes. The major change control process features addressed in these sections are plant change evaluations (assessment of changes in public health risk against risk acceptance criteria, defense-in-depth and safety margins), a plant fire risk performance monitoring program (addressing availability, reliability and performance and including corrective action), and fire protection program documentation adequacy, analysis quality, and configuration control. Under 10 CFR 50.59(c)(4), the existence of these change control process features would therefore mean that the provisions of 10 CFR 50.59 would not apply to licensees which have adopted NFPA 805. Therefore, the NRC expects no difficulties in licensee efforts to control and document plant changes under this rule.

Licensee Implementation: Sufficient methodologies are provided in NFPA 805 and adequate risk, fire and nuclear safety data are available to implement them. In Section III of this FRN, NFPA 805 analytical processes for plant-wide reviews are summarized. Therefore, the NRC expects no difficulties in licensee's efforts to implement this rule.

Inspectability: Section 2.7.1.1 says: "The analyses performed to demonstrate compliance with this standard shall be documented for each nuclear power plant (NPP). The intent of the documentation is that the assumptions be clearly defined and that the results be easily understood, that results be clearly and consistently described, and that sufficient detail be provided to allow future review of the entire analyses. Documentation shall be maintained for the

life of the plant and be organized carefully so that it can be checked for adequacy and accuracy either by an independent reviewer or by the AHJ." Therefore, the NRC expects no difficulties in inspector efforts to review licensee implementation of this rule.

Enforcability: The proposed rule does not affect the existing requirements of 10 CFR 50.48(a), which include fire protection plan compliance with General Design Criterion (GDC) 3 - "Fire Protection," seven specific fire protection plan requirements and features, the requirement to retain fire protection plan changes "until the Commission terminates the reactor license" and fire protection procedures for three years after they are superceded. Section (c)(3) of the proposed rule requires adopting licensees to maintain a fire protection program which complies with NFPA 805. Therefore, all requirements of that standard would be subject to enforcement, including the nuclear and radiological goals, performance objectives and performance criteria of Chapter 1 of NFPA 805. Therefore, the NRC expects no difficulties in enforcing against licensee failures to comply with 10 CFR 50.48(a), (f) or the main body of NFPA 805.

Quality Assurance: Section 2.7.3 of NFPA 805 requires that each analysis, calculation or evaluation performed shall be independently verified, calculational models and numerical methods shall be verified and validated, engineering methods and numerical models shall be used only within the scope, limitations and assumptions prescribed for them, personnel applying engineering analyses and numerical models shall be competent in their field and experienced in the application of these methods as they relate to nuclear power plants, nuclear power plant fire protection, and power plant operations. Therefore, the NRC expects no difficulties in licensee efforts to maintain the quality of their application of NFPA 805 requirements.

the electric cables, or alternatively an automatic fixed fire suppression system may be installed. Either alternative would establish an equivalent level of fire protection to that provided by the presence of flame propagation test compliant cables. The italicized exception to Section 3.3.5.3 is not endorsed ~~to preclude non-flame-propagation-qualified cable from remaining in place in a reactor plant without mitigation unless previously approved in the licensing basis.~~

Electrical flame propagation test compliance has been in NRC guidance since 1981 (NUREG 0800, the NRC's Standard Review Plan or SRP). The NRC is unaware of any licensees which are using electrical cable which does not comply with flame propagation tests where an alternate means of protection (e.g., fire retardant coating or automatic fixed suppression) has not been provided. Accordingly, the NRC does not expect any licensee to be adversely affected by this proposed exception.

50.48(c)(2)*(vi) Water Supply and Distribution.* The italicized exception to Section 3.6.4 is not endorsed.

This paragraph would not allow a standpipe/hose station system in place of seismically qualified standpipes and hose stations unless previously approved in the licensing basis. Seismically qualified standpipes and hose stations have been in NRC guidance since 1976 (Appendix A to Branch Technical Position (BTP) APCSB 9.5-1. The NRC is unaware of any licensees using a non-seismically qualified standpipe/hose station system in place of a seismically qualified standpipe/hose station system. Accordingly, the NRC does not expect any licensee to be adversely affected by this proposed exception.

50.48(c)(3) *Compliance with NFPA 805.*

The use of the term "Authority Having Jurisdiction" (AHJ) within the standard, for the purposes of this rulemaking, means the U.S. Nuclear Regulatory Commission.

For purposes of transitioning to NFPA 805, the NRC expects that licensees will be able to treat existing reactor plant fire protection elements as "previously approved" for the purposes of the Chapter 3 delineation of fundamental program elements. This approach would normally be acceptable because licensees should either be in compliance with regulatory requirements or should have obtained approval from the NRC for exemptions or deviations from those requirements. Fire protection elements that have not been previously reviewed and approved would continue to be subject to normal NRC inspection and enforcement.

50.48(c)(3)(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; the fire protection license conditions for plants licensed to operate after January 1, 1979; or paragraph (f) of this section for plants for which licensees have submitted the certifications required under 10 CFR 50.82(a)(1). 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 ~~therefore~~ 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

This section of the proposed rule language requires licensees to complete all of the NFPA 805 evaluations and analyses, and also modify their fire protection plan to indicate that they are adopting NFPA 805 as an alternative set of fire protection requirements. This is to ensure that the changeover to an NFPA 805 configuration is conducted in a complete, controlled, integrated, and organized manner. This also ensures that the NRC reactor oversight (inspection) process can effectively identify and monitor the changeover. This requirement of the proposed rule has the effect of precluding licensees from implementing NFPA 805 on a partial or selective basis (e.g., in some fire areas and not others, or truncating the methodology within a given fire area).

50.48(c)(4) *Alternative Methods and Analytical Approaches.* A licensee may submit a request to use alternative methods and analytical approaches, including fundamental fire protection program and minimum design requirements identified in Chapter 3 of NFPA 805, in lieu of those methods and approaches specified 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 a designee of the Director, may approve the application if the Director or designee determines that the alternative methods and analytical approaches:

This section of the proposed rule language provides licensees with a mechanism to gain plant-specific NRC approval of alternative methods and analytical approaches to those specified in NFPA 805. It allows licensees maximum flexibility to identify and apply new methods of analysis that may be appropriately used within NFPA 805. This approval mechanism is broad enough even to allow licensees to apply risk-informed, performance-based methods to establish

As well as seeking public comment on the proposed rule itself, the NRC is also seeking public comment regarding any other alternative consensus standards that the agency should consider as voluntary alternatives to the current fire protection regulations. The NRC expects that once adopting the new licensing basis that provides additional flexibility above that provided by Appendix R, licensees will not return to an Appendix R licensing basis. Never the less, the NRC requests a response to the following specific questions: (1) Is there any likelihood that licensees who are approved to use NFPA 805 would later decide that they would like to comply with paragraph (b) and the licensing basis that existed immediately prior to approval of NFPA 805? and (2) Do you agree that a license amendment would be required to revert to compliance with Section 50.48(b), and if not, why not?

VII. Availability of Documents

The NRC is making the documents identified below available to interested persons through one or more of the following methods, as indicated.

Public Document Room (PDR). The NRC's Public Document Room is located at One White Flint North, 11555 Rockville Pike, Rockville, Maryland.

Rulemaking Forum Web Site. The NRC's interactive Rulemaking Forum Web site is located at http://ruleforum.llnl.gov. These documents may be viewed and downloaded electronically via this Web site.

supports that function. Information on the use of the Rulemaking Forum is available on the site. For additional assistance on the use of the interactive Rulemaking Forum Web site, contact Ms. Carol A. Gallagher by telephone at 301-415-5905 or via email tocag@nrc.gov.

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IX. Plain Language

The Presidential memorandum entitled, "Plain Language in Government Writing," dated June 1, 1998, directed that the Government must write in plain language. This memorandum was published in the Federal Register on June 10, 1998 (63 FR 31883). In complying with this directive, the NRC has made editorial changes to improve the readability of the proposed rule language. The NRC requests comment on the proposed rule specifically with respect to the clarity and effectiveness of the language used. Comments should be sent to the addresses listed under either the ADDRESSES or "Electronic Access for Comment Submission" sections above.

X. Voluntary Consensus Standards

The National Technology Advancement and Transfer Act of 1995, P.L. 104-113, requires that Federal agencies use technical standards that are developed or adopted by voluntary consensus standards bodies, unless the use of such standards is inconsistent with applicable law or otherwise impractical. Under this proposed rule, the NRC would provide holders of operating licenses for nuclear power plants with the option to voluntarily adopt NFPA 805, as excepted, as an alternative set of fire protection requirements. The NRC is not aware of any consensus standard that could be adopted instead of NFPA 805, but will consider using an

remove underline

requirements for licensees with construction permits prior to January 1, 1979 (all existing LWR reactor plants). Licensees may adopt NFPA 805 as an alternative set of fire protection requirements by submitting a license amendment. However, current licensees may continue to comply with existing requirements. Any additional burden incurred by adopting NFPA 805 would be at the licensee's discretion. The proposed rule does not impose any new requirements, and therefore, does not constitute a backfit as defined in 10 CFR 50.109(a)(1).

List of Subjects in 10 CFR Part 50

The current list of subjects addressed in 10 CFR Part 50 includes Antitrust, Classified Information, Criminal Penalties, Fire Protection, Intergovernmental Relations, Nuclear Power Plants and Reactors, Radiation Protection, Reactor Siting Criteria, and Reporting and Recordkeeping Requirements.

For the reasons given in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 553, the NRC is proposing to adopt the following amendments to 10 CFR Part 50:

PART 50 - DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

1. The authority citation for Part 50 continues to read as follows:

AUTHORITY: Secs. 102, 103, 104, 105, 161, 182, 183, 186, 189, 68 Stat. 936, 938, 948, 953, 954, 955, 956, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2132, 2133,

NOTATION VOTE

(4)

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER DICUS

SUBJECT: **SECY-02-0132 - PROPOSED RULE: REVISION OF 10 CFR 50.48 TO PERMIT LIGHT-WATER REACTORS TO VOLUNTARILY ADOPT NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARD 805, "PERFORMANCE-BASED STANDARD FOR FIRE PROTECTION FOR LIGHT-WATER REACTOR ELECTRIC GENERATING PLANTS, 2001 EDITION" (NFPA 805) AS AN ALTERNATIVE SET OF RISK-INFORMED, PERFORMANCE-BASED FIRE PROTECTION REQUIREMENTS (WITS 199900032)**

Approved X Disapproved _____ Abstain _____

Not Participating _____

COMMENTS:

Approve with edits to proposed FRN. See attached.

Peta Jay Dicus
SIGNATURE

July 24, 2002
DATE

: JUL 02 9: 43

Entered on "STARS" Yes X No ____

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"PRA Policy Statement 3: PRA evaluations in support of regulatory decisions should be as realistic as practicable and appropriate supporting data should be publicly available for review."

Section 2.7.1.1 of NFPA 805 says: "The analyses performed to demonstrate compliance with this standard shall be documented for each nuclear power plant (NPP). The intent of the documentation is that the assumptions be clearly defined and that the results be easily understood, that results be clearly and consistently described, and that sufficient detail be provided to allow future review of the entire analyses. Documentation shall be maintained for the life of the plant and be organized carefully so that it can be checked for adequacy or accuracy either by an independent reviewer or by the AHJ." Define AHJ

Section 2.7.2 of NFPA 805 addresses configuration control, and Section 2.7.3 addresses the quality of the calculational or numerical models, the appropriateness of their application, and the qualifications of the personnel who apply them.

Therefore, there would be a well-founded expectation that licensee NFPA 805 analyses would be readily available for review by the NRC or independent reviewers supporting licensee quality assurance activities.

PRA Policy Statement 4: The Commission's safety goals for nuclear power plants and subsidiary numerical objectives are to be used with appropriate consideration of uncertainties in making regulatory judgements on the need for proposing and backfitting new generic requirements on nuclear power plant licensees."

gpo
7-24-02

life of the plant and be organized carefully so that it can be checked for adequacy and accuracy either by an independent reviewer or by the AHJ." Therefore, the NRC expects no difficulties in inspector efforts to review licensee implementation of this rule.

Enforcability: The proposed rule does not affect the existing requirements of 10 CFR 50.48(a), which include fire protection plan compliance with General Design Criterion (GDC) 3 - "Fire Protection," seven specific fire protection plan requirements and features, the requirement to retain fire protection plan changes "until the Commission terminates the reactor license" and fire protection procedures for three years after they are superceded. Section (c)(3) of the proposed rule requires adopting licensees to maintain a fire protection program which complies with NFPA 805. Therefore, all requirements of that standard would be subject to enforcement, including the nuclear and radiological goals, performance objectives and performance criteria of Chapter 1 of NFPA 805. Therefore, the NRC expects no difficulties in enforcing against licensee failures to comply with 10 CFR 50.48(a), (f) or the main body of NFPA 805.

Quality Assurance: Section 2.7.3 of NFPA 805 requires that each analysis, calculation or evaluation performed shall be independently verified, calculational models and numerical methods shall be verified and validated, engineering methods and numerical models shall be used only within the scope, limitations and assumptions prescribed for them, personnel applying engineering analyses and numerical models shall be competent in their field and experienced in the application of these methods as they relate to nuclear power plants, nuclear power plant fire protection, and power plant operations. Therefore, the NRC expects no difficulties in licensee efforts to maintain the quality of their application of NFPA 805 requirements.

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(8)

This section of the proposed rule language requires licensees to complete all of the NFPA 805 evaluations and analyses, and also modify their fire protection plan to indicate that they are adopting NFPA 805 as an alternative set of fire protection requirements. This is to ensure that the changeover to an NFPA 805 configuration is conducted in a complete, controlled, integrated, and organized manner. This also ensures that the NRC reactor oversight (inspection) process can effectively identify and monitor the changeover. This requirement of the proposed rule has the effect of precluding licensees from implementing NFPA 805 on a partial or selective basis (e.g., in some fire areas and not others, or truncating the methodology within a given fire area).

50.48(c)(4) *Alternative Methods and Analytical Approaches.* A licensee may submit a request to use alternative methods and analytical approaches, including fundamental fire protection program and minimum design requirements identified in Chapter 3 of NFPA 805, in lieu of those methods and approaches specified 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 a designee of the Director, may approve the application if the Director or designee determines that the alternative methods and analytical approaches:

This section of the proposed rule language provides licensees with a mechanism to gain plant-specific NRC approval of alternative methods and analytical approaches to those specified in NFPA 805. It allows licensees maximum flexibility to identify and apply new methods of analysis that may be appropriately used within NFPA 805. This approval mechanism is broad enough even to allow licensees to apply risk-informed, performance-based methods to establish

gjd
7-24-02

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER DIAZ

SUBJECT: **SECY-02-0132 - PROPOSED RULE: REVISION OF 10 CFR 50.48 TO PERMIT LIGHT-WATER REACTORS TO VOLUNTARILY ADOPT NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARD 805; "PERFORMANCE-BASED STANDARD FOR FIRE PROTECTION FOR LIGHT-WATER REACTOR ELECTRIC GENERATING PLANTS, 2001 EDITION" (NFPA 805) AS AN ALTERNATIVE SET OF RISK-INFORMED, PERFORMANCE-BASED FIRE PROTECTION REQUIREMENTS (WITS 199900032)**

w/comments

Approved XX Disapproved _____ Abstain _____

Not Participating _____

COMMENTS:

Although a license amendment is the appropriate mechanism to change from the current fire protection requirements contained in license conditions and/or technical specifications, it is not clear that a license amendment is the appropriate mechanism to gain approval to use alternative methods and analytical approaches from those specified in NFPA 805. If an existing license condition or technical specification must be changed to implement an alternative, a licensee amendment would be necessary. Otherwise, another means of approval may be adequate.

The staff should evaluate the methods that could be used to approve alternatives. Until this evaluation is complete, the second sentence of paragraph 50.48(4) of the proposed rule should be modified to read "The request must be in the form of an application for license amendment under § 50.90 if a change to a license condition or technical specification is necessary."

SIGNATURE

Sept 4, 02

DATE

Entered on "STARS" Yes X No ____

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER MCGAFFIGAN

SUBJECT: **SECY-02-0132 - PROPOSED RULE: REVISION OF 10 CFR 50.48 TO PERMIT LIGHT-WATER REACTORS TO VOLUNTARILY ADOPT NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARD 805, "PERFORMANCE-BASED STANDARD FOR FIRE PROTECTION FOR LIGHT-WATER REACTOR ELECTRIC GENERATING PLANTS, 2001 EDITION" (NFPA 805) AS AN ALTERNATIVE SET OF RISK-INFORMED, PERFORMANCE-BASED FIRE PROTECTION REQUIREMENTS (WITS 199900032)**

Approved X Disapproved _____ Abstain _____

Not Participating _____

COMMENTS:

I concur in the Chairman's comments and edits. I particularly agree with his comments regarding NEI's August 22, 2002, letter.

Edward McGaffigan Jr.
SIGNATURE

September 18, 2002
DATE

Entered on "STARS" Yes X No ____

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: COMMISSIONER MERRIFIELD

SUBJECT: **SECY-02-0132 - PROPOSED RULE: REVISION OF 10 CFR 50.48 TO PERMIT LIGHT-WATER REACTORS TO VOLUNTARILY ADOPT NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARD 805, "PERFORMANCE-BASED STANDARD FOR FIRE PROTECTION FOR LIGHT-WATER REACTOR ELECTRIC GENERATING PLANTS, 2001 EDITION" (NFPA 805) AS AN ALTERNATIVE SET OF RISK-INFORMED, PERFORMANCE-BASED FIRE PROTECTION REQUIREMENTS (WITS 199900032)**

Approved X Disapproved _____ Abstain _____

Not Participating _____

COMMENTS:

See attached comments.

SIGNATURE

9/19/02

DATE

Entered on "STARS" Yes ✓ No ____

COMMISSIONER MERRIFIELD'S COMMENTS ON SECY-02-0132

I approve the staff's recommendation to publish the notice of proposed rulemaking in the Federal Register, allowing 75 days for public comment.

As I have expressed on many occasions, our current fire protection regulations provide a glaring example of an overly complex and prescriptive regulatory regime. They are so convoluted that licensees expend inordinate effort trying to understand and comply with them, and our staff spends an equally inordinate amount of time interpreting them and ensuring consistent compliance and enforcement. Furthermore, these requirements were developed before the NRC or the industry had the benefit of probabilistic risk assessments for fires, and before recent advances in performance-based methods such as fire modeling. Over the past couple of years, I have strongly encouraged the staff to accelerate their efforts to produce a more risk-informed and performance-based set of fire protection requirements. While progress on this initiative has been slow, I am pleased that the staff, through its cooperative participation in the development of a National Fire Protection Association (NFPA) standard, has taken a significant step in moving toward that goal. I commend the staff for their efforts associated with this important initiative.

I agree with the staff that by giving licensees a regulatory option to adopt NFPA 805, as excepted, the NRC would enable licensees to focus their resources primarily on the most risk-significant fire protection equipment and activities for each plant. Furthermore, this alternative should reduce the need for exemptions, reduce unnecessary regulatory burden associated with the current deterministic approaches, and will maintain reactor safety while adding appropriate flexibility to our licensees' fire protection activities. Based on the information provided by the staff, I sincerely believe that the staff's proposal is consistent with the agency's safety mission and performance goals, and serves our stakeholder community well.

In a letter to the Chairman dated August 22, 2002, the Nuclear Energy Institute (NEI) requested that the proposed language for § 50.48(c)(4) be revised to eliminate the requirement that a licensee submit a license amendment to obtain approval to use alternative methods and analytical approaches. I agree with the Chairman that changes to the proposed § 50.48(c)(4) should not be made at this time. This is a complicated issue that warrants further consideration and analysis, and I believe that the agency could benefit from further stakeholder comment on the issue during the course of the rulemaking. The staff and OGC should carefully review the comments received from stakeholders and provide the Commission with their analysis of these comments and the basis for their ultimate position on this important issue as part of the final rulemaking package.

Finally, I support the Chairman's minor editorial changes and proposed clarifying revision to the first sentence of § 50.48(c)(4).