

OMB SUPPORTING STATEMENT FOR
Proposed Rule, 10 CFR 50.48, "Fire Protection,
Voluntary Adoption of NFPA 805 Fire Protection Requirements"

(3150-0011)

Description of the Information Collection

The Nuclear Regulatory Commission (NRC) is amending its regulations in Part 50 to permit existing light water reactor licensees 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 and performance-based fire protection requirements in lieu of existing deterministic fire protection requirements. The proposed rule will impose new recordkeeping and reporting requirements.

The proposed rule would add Section 50.48(c) to 10 CFR Part 50 which would incorporate NFPA 805 into the NRC's regulations by reference with certain exceptions, modifications and supplementations, and require a license amendment for the adoption of the NFPA 805 or the use of alternative methods and analytical approaches to methods and approaches provided for in NFPA 805.

A. Justification

1. Need for and Practical Utility of the Collection of Information

Section 50.48(c)(3)(i) would provide a means for licensees to adopt NFPA 805, as excepted, as an alternative means of meeting existing fire protection requirements (10 CFR 50.48(a) and GDC 3). The existing requirements for which NFPA 805 would constitute an alternative are: 50.48(b) for plants licensed before January 1, 1979; fire protection license conditions for plants licensed to operate after January 1, 1979; or 50.48(f) for any light water reactor plant for which licensees have submitted the certifications of permanent cessation of operations required under 10 CFR 50.82(a)(1). The risk-informed and performance-based structure of NFPA 805 would reduce the need for licensees to submit fire protection exemption or deviation requests, and would therefore result in significant savings of licensee and NRC resources over time. Section 50.48(c)(3)(i) would require licensees to submit an application for a license amendment requesting prior NRC approval to change over to the alternative NFPA 805 fire protection requirements. The license amendment request would be required to ensure the identification of any orders and license conditions that must be revised or superseded, and would be required to contain any necessary revisions to the reactor plant's technical specifications and the bases therefore. The purposes of specifying this transition mechanism are to ensure that all cognizant parties understand and agree on the applicable fire protection requirements pertaining to each reactor plant at all times before, during, and after the changeover to NFPA 805 fire protection requirements, and to ensure that the post-NFPA 805 changeover fire protection licensing basis is logical, technically adequate, and internally consistent for the specific reactor plant under consideration.

Section 50.48(c)(3)(ii) would require that, before changing its fire protection program or modifying its nuclear power plant, the licensee completes 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 10 CFR 50.48(a) to reflect the licensee's decision to comply with NFPA 805. The purpose of this *a priori* plant-wide review requirement is to ensure that all cognizant parties reviewing a licensee's revised fire protection program and/or reactor plant systems, features and procedures can clearly and completely understand the reactor plant's intended fire protection status with respect to NFPA 805 in advance of, during, and after the regulatory changeover. This requirement would establish an appropriate level of licensee knowledge of the reactor plant licensing basis for the NFPA 805 changeover license amendment request required by Section 50.48(c)(3)(i) of the rule (e.g., "The application must identify any orders and license conditions that must be revised or superseded, and contain any necessary revisions to the reactor plant's technical specifications and the bases therefore.").

Section 50.48(c)(4) would require that, before a licensee uses alternative methods or analytical approaches in lieu of methods and approaches specified in NFPA 805, the licensee receive approval of a license amendment for those methods and approaches. The purpose of this requirement is to ensure that all risk-informed and performance-based approaches used by licensees within their NFPA 805 analytical processes are adequate to meet the nuclear safety and radiological release performance criteria in NFPA 805, maintain safety margins, and maintain fire protection defense-in-depth.

Sections 2.6 and 2.2.10 of NFPA 805 would require licensees to conduct a monitoring program to ensure that the availability and reliability of the fire protection systems and features are maintained at acceptable levels, to assess the performance of the fire protection program in meeting the performance criteria, and to ensure that the assumptions in the engineering analysis remain valid. The methods for monitoring are required to consider plant operating experience and industry operating experience. The monitoring program requires corrective actions be taken if the acceptable levels of availability, reliability or performance are not met. The purpose of the monitoring program requirements is to ensure that the reactor plant's fire protection configuration and procedures do not diverge from the NFPA 805 nuclear safety and radiological release performance criteria, reactor plant safety margins, and fire protection defense-in-depth characteristics over time.

Sections 2.7.1, 2.7.2 and 2.7.3 of NFPA 805 would become requirements for a licensee that chooses to adopt NFPA 805 as an alternative set of fire protection requirements. These sections of the standard provide requirements for program documentation, reactor plant configuration control, and analytical quality. They require that the licensee document and maintain all NFPA 805 analyses and evaluations, including assumptions and results, in an organized manner for future review, throughout the lifetime of the plant. Further, they require the establishment and maintenance of a "fire protection program design basis document" including fire hazard identification and nuclear safety capability

assessment for all fire areas, with references to comprehensive supporting documentation. Lastly, they require an independent review of each analysis, calculation or evaluation, verification and validation of numerical methods, appropriate limitations on use of engineering methods and numerical models, and appropriate qualification and competence of personnel who apply engineering analyses and numerical models. The purpose of these requirements is to ensure that all cognizant parties can, at all times, determine and clearly understand the analytical origin and safety bases of reactor plant systems, features and procedures put in place under NFPA 805.

2. Agency Use of the Information

The documentation and reporting required by the proposed rule provide the specific information required by the NRC: (1) to ensure that the applicable fire protection requirements pertaining to each reactor at all times before, during and after the changeover to NFPA 805 fire protection requirements are clearly understood by and agreed to between the NRC and the licensee; (2) to ensure that the analytical origin and safety bases of reactor plant procedures and features put in place under NFPA 805 are clearly understood; (3) to ensure that the post-NFPA 805 changeover fire protection licensing basis is logical, technically adequate, and internally consistent for the specific reactor plant under consideration; (4) to provide an appropriate level of licensee knowledge of the reactor plant licensing basis for the NFPA 805 transition license amendment request required by Section 50.48(c)(3)(i) of the rule; (5) to ensure that all risk-informed and performance-based approaches used by licensees within their NFPA 805 analytical processes are adequate to meet the nuclear safety and radiological release performance criteria in NFPA 805, maintain safety margins, and maintain fire protection defense-in-depth; and (6) to ensure that the reactor plant's fire protection configuration and procedures do not diverge from the NFPA 805 nuclear safety and radiological release performance criteria, reactor plant safety margins, and fire protection defense-in-depth characteristics over time. [Note: It is probable that the initial plant configuration and procedure changes conducted during a reactor plant's changeover to NFPA 805 fire protection requirements may, in actuality, be negligible, and only in later years might licensees take selective advantage of the methodological flexibility inherent in NFPA 805 to make changes to a reactor plant systems and features, or revisions to plant procedures. This presumption is reflected in the results provided in Table 2.]

3. Reduction of Burden Through Information Technology

There are no legal obstacles to licensees reducing the burden associated with this information collection requirement through the use of information technology. However, licensees typically do not electronically maintain records required by NRC regulations or report electronically to the NRC. Licensees have been almost exclusively submitting hard copy reports (e.g. exemption, deviation and license amendment requests) generated on word processing equipment. The use of computers (e.g., e-mail) for reporting requested information is being actively encouraged as a means to avoid delays associated with recently

instituted mail irradiation procedures. NRC's "e-rule," when implemented, will allow licensees to report certain information electronically.

4. Effort to Identify Duplication and Use Similar Information

The Information Requirements Control Automated System (IRCAS) was searched for duplication, and none was found.

5. Effort to Reduce Small Business Burden

The NRC has determined that the affected entities are not small entities or businesses as those terms are used in the Regulatory Flexibility Act.

6. Consequences to Federal Program or Policy Activities if the Collection is not Conducted or is Conducted Less Frequently

If information collection requirements associated with fire protection were not conducted, or were conducted less frequently, the U.S. Nuclear Regulatory Commission would not be able to appropriately fulfill its commercial light water reactor oversight responsibilities under the Atomic Energy Act of 1954 or the Energy Reorganization Act of 1974. Specifically, the NRC would find it difficult to readily determine whether commercial light water reactor licensees that choose to adopt NFPA 805 as an alternative set of fire protection regulatory requirements are conducting their activities so as to ensure adequate public health and safety, maintain safety margins, and maintain fire protection defense-in-depth.

7. Circumstances Which Justify Variation from OMB Guidelines

The records required by the proposed rule must be maintained until the license is terminated to ensure that the necessary information described in Section 1 above is available for review by the U.S. Nuclear Regulatory Commission to ensure compliance with health and safety, safety margin and fire protection defense-in-depth requirements.

8. Consultation Outside the NRC

Draft rule language and the NFPA 805 Rulemaking Plan were posted on the NRC public Rulemaking Forum web site for public comment and noticed in the *Federal Register* in December, 2001. Updated draft proposed rule language was posted on the NRC public Rulemaking Forum web site in April and again in May, 2002. No comments on the reporting and recordkeeping requirements were received in response to any of these communications.

The opportunity for public comment on the proposed rule and its information collection burdens will be published in a *Federal Register* notice.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

Not Applicable

11. Justification for Sensitive Questions

None.

12. Estimated Burden and Burden Hour Cost

The net total licensee burden and cost increase for 10 CFR Part 50 is 183,956 hours and \$28,697,136 per year for reporting and recordkeeping (given the NRC staff estimates of four reactor plants changing to NFPA 805 fire protection requirements per year and two licensees requesting to use alternative methods or analytical approaches per year). Although this number can not be estimated with any certainty, the NRC staff estimates that, within approximately 10 years from publication of the final rule, 25 reactor plants will have changed over to NFPA 805 fire protection requirements (with 12 having changed over during the first three years). Under this estimate, the remaining reactor plants are expected to not have changed over to these voluntary requirements during their operating lifetimes.

13. Estimate of Other Additional Costs

There are no other additional costs.

14. Estimated Annualized Cost to the Federal Government

As stated in paragraph 12 above, an NRC staff estimate is that 25 licensees may ultimately adopt NFPA 805 fire protection requirements. Each license amendment request for transition to NFPA 805 fire protection requirements will be examined for administrative completeness (e.g., as stated in the proposed rule language, an adequacy review and appropriate agency action on the licensee's listing of orders, license conditions, and technical specifications which must be revised or superseded). The analyses supporting initial transition to NFPA 805 fire protection requirements, and the documents subject to program documentation and configuration control, will be reviewed during the current routine inspection process and, therefore, will incur minimal incremental cost to the government. The technical bases for reactor plant modifications and procedure changes, and as well as licensee decisions that existing fire protection configurations and procedures remain adequate under the new fire protection requirements, will not need to be reviewed during the transition license amendment review process. The review costs would be fully recovered through fee assessments to licensees pursuant to 10 CFR Parts 170 and/or 171.

15. Reasons for Changes in Burden or Cost

The NRC is offering to licensees what it believes to be a less prescriptive, more flexible, more risk-informed, and more technologically advanced means of achieving light water reactor fire safety. The NRC anticipates that, over the operating life of each adopting reactor plant, fewer requests for exemptions and deviations (under 10 CFR 50.12) will be submitted by reactor licensees that have changed over to NFPA 805 fire protection requirements. [Currently, the NRC staff reviews approximately 12 fire protection exemption or deviation requests each year for which licensees expend an average of 400 burden hours each.] This burden hour reduction, plus cost reductions associated with reduced maintenance, operating and training costs for fire protection features which have been removed, are expected to induce licensees to make the transition to NFPA 805 fire protection requirements.

16. Publication for Statistical Use

None.

17. Reason for not Displaying the Expiration Date

The requirement will be contained in a regulation. Amending the Code of Federal Regulations to display information that, in an annual publication, could become obsolete would be unduly burdensome and too difficult to keep current.

18. Exceptions to the Certification Statement

Not applicable.

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

Statistical methods are not used in the collection of information.

Table 1 Annual Reporting Requirements - 10 CFR Part 50

<u>Section</u>	<u>Report</u>	<u>Number of Respondents(1)</u>	<u>Responses Per Respondent</u>	<u>Total Responses</u>	<u>Burden Per Response</u>	<u>Total Annual Burden Hours</u>	<u>Cost @ \$156/Hr</u>
50.48(c)(3)(i)	NFPA 805 Adoption License Amendment Request (submitted under 10 CFR 50.90)	4	1	4	526	2104	328,224
50.48(c)(4)	NFPA 805 Alternative Methods and Analytical Approaches License Amendment Request (submitted Under 10 CFR 50.90)	2	1	2	526	1052	164,112
<u>Total for Part 50 Reporting</u>		<u>6</u>		<u>6</u>		<u>3156</u>	<u>492,336</u>

(1) It is estimated that, on average, four NFPA 805 fire protection requirement transition license amendments and two NFPA 805 alternative methods and analytical approaches license amendments will be submitted to the NRC each year.

Table 2A One Time Recordkeeping Requirements (Annualized) - 10 CFR Part 50

<u>Section</u>	<u>Record</u>	<u>Total Number of Recordkeepers</u>	<u>Hours per Recordkeeper</u>	<u>Total Annual Burden Hours</u>	<u>Cost@ \$156/Hr</u>
50.48(c)(3)(ii)	NFPA 805 Methodology-Implementation (Fire Protection Configuration Re-analysis)	4	45,000	180,000	28,080,000
50.48(c)(4)	NFPA 805 Alternative Methodology or Analytical Approach Implementation	2	400	800	124,800
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NET TOTAL FOR PART 50 ONE TIME RECORDKEEPING:		6		180,800	28,204,800

Table 2B Ongoing Annual Recordkeeping Requirements - 10 CFR Part 50 (1)

		<u>Total Number of Recordkeepers</u>	<u>Hours per Recordkeeper</u>	<u>Total Annual Burden Hours</u>	<u>Cost@ \$156/Hr</u>
805 Sections 2.7.1, 2.7.2 and 2.7.3	Program Documen- tation, Reactor Plant Configuration Control, and Analytical Quality	25 (25)	5000 (5000)	125,000 (125,000)	19,500,000 (19,000,000)
805 Sections 2.6 and 2.2.10	Monitoring Program for Availability and Reliability, Program Performance, and Assumption Validity	25 (25)	2000 (2000)	50,000 (50,000)	7,800,000 (7,800,000)
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NET TOTAL FOR PART 50 ONGOING RECORDKEEPING:		0	0	0	0

- (1) The level of effort to accomplish the fire protection program documentation, configuration control, analytical quality and monitoring requirements under NFPA 805 is roughly equivalent to the the level of effort currently expended by licensees to manage their current fire protection programs (reference: NRC Information Notice 77-002). Therefore, the added burden of NFPA 805 in these areas is approximately equivalent to the relieved burden, for no incremental cost associated with the rule-making. (Relieved burden shown in parenthesis).

TOTAL INCREASE IN BURDEN/COST FOR 10 CFR PART 50 (Table 1 and Tables 2A and 2B): 183,956 hours/\$28,697,136.