



UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001

December 12, 2003

The Honorable Nils J. Diaz
Chairman
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555-0001

Dear Chairman Diaz:

SUBJECT: DRAFT FINAL RULE REVISING 10 CFR 50.48, "FIRE PROTECTION," TO PERMIT LICENSEES TO VOLUNTARILY ADOPT FIRE PROTECTION REQUIREMENTS CONTAINED IN NATIONAL FIRE PROTECTION ASSOCIATION STANDARD 805 (NFPA 805)

During the 508th meeting of the Advisory Committee on Reactor Safeguards, December 3-5, 2003, we reviewed the draft final rule amending 10 CFR 50.48 to permit existing reactor licensees to voluntarily adopt fire protection requirements contained in National Fire Protection Association Standard 805 (NFPA 805), "Performance-Based Standard for Fire Protection for Light-Water Reactor Electric Generating Plants," 2001 Edition, as an alternative to the existing deterministic fire protection requirements. We had the benefit of the referenced documents and discussions with the NRC staff and representatives of the Nuclear Energy Institute (NEI) during two previous Fire Protection Subcommittee meetings held June 4, 2002 and September 9, 2003.

CONCLUSIONS AND RECOMMENDATIONS

1. The final rule amending 10 CFR 50.48 to permit licensees to voluntarily adopt fire protection requirements contained in NFPA 805 should be issued.
2. We agree that the staff should continue to work cooperatively with the industry to develop detailed guidance for the implementation of a risk-informed, performance-based fire protection program in accordance with NFPA 805.

DISCUSSION

Current fire protection requirements for nuclear power plants are deterministic. They are designed to ensure the post-fire survival of at least one set of safety systems that can be used to take the plant to cold shutdown. The requirements were developed before the NRC staff or the industry had the benefit of probabilistic risk assessments (PRAs) for fires and recent advances in fire modeling. Consequently, the current requirements are prescriptive and, due to their inflexibility, may create an unnecessary regulatory burden.

In SECY-98-058, "Development of a Risk-Informed, Performance-Based Regulation for Fire Protection at Nuclear Power Plants," dated March 26, 1998, the staff proposed to work with the NFPA and the industry to develop a risk-informed, performance-based consensus standard for fire protection at nuclear plants that could be used as an alternative to the current deterministic

fire protection requirements. The Commission approved the proposal, and the staff began cooperative participation in the development of NFPA 805.

On January 13, 2001, the NFPA Standards Council approved NFPA 805, which specifies the minimum fire protection requirements for existing light-water nuclear power plants during all phases of plant operations, including shutdown and decommissioning. The standard describes a method for the use of risk-informed, performance-based approaches and fundamental fire protection design elements for establishing adequate fire protection procedures, systems, and features.

The staff believes that the methodology in NFPA 805, with certain exceptions noted in the proposed rule language, is an acceptable approach for satisfying existing fire protection requirements. The staff has proposed to incorporate NFPA 805 by reference into 10 CFR 50.48 as a voluntary alternative to existing requirements.

According to the staff projections, the implementation of a performance-based alternative would result in a reduction in future regulatory interactions associated with requests for license exemptions and deviations related to fire protection changes. It would also allow licensees and the staff to focus their attention and resources on the most risk-significant fire protection equipment and activities through more flexible, efficient, and rational processes. The staff should monitor inspection resources and expertise to ensure that appropriate inspection guidance and training are in place to support the effective inspection of the different approaches to fire protection (Appendix R, Branch Technical Position 9.5-1, License Condition and NFPA 805).

Since NFPA 805 primarily addresses technical issues and does not provide a framework or guidance pertaining to the regulatory process for plants choosing to adopt NFPA 805, NEI has volunteered to develop an implementing guide. NEI 04-01, "Guidance for Implementing a Risk-Informed, Performance-Based Fire Protection Program Under 10 CFR 50.48(c)," is being developed and is expected to provide direction and clarification for plants choosing to adopt NFPA 805. The guide would further provide supplemental technical guidance and methods for demonstrating compliance with fire protection requirements.

The Committee agrees that the staff should continue to work with the industry to develop implementation guidance that includes instructions on transitioning to and administering a fire protection program consistent with NFPA 805 and that does not create unnecessary barriers to the use of the standard.

Sincerely,

/RA/

Mario V. Bonaca
Chairman

References:

1. Draft Federal Register Notice, Subject: Final Rule, Voluntary Fire Protection Requirements for Light Water Reactors; Adoption of NFPA 805 as a Risk-Informed, Performance-Based Alternative.
2. National Fire Protection Association (NFPA) Standard 805, "Performance-Based Standard for Fire Protection for Light-Water Reactor Electric Generating Plants," 2001 Edition.