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National Fire Protection Association

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From:

Nancy McNabb

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SUBJECT: NUREG-1934, Nuclear Power Plant

Fire Modeling Application Guide (NPP FIRE
MAG), Draft Report Comment

[Docket ID NRC-2009-05608]

Total Pages: 3 (Including Cover Sheet)

NFPA is the premier source worldwide for the development and dissemination of knowledge about fire and life safety.

NFPA's mission is to reduce The mission of the international nonprofit NFPA, established in 1896, is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education.

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**National Fire Protection Association**

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March 8, 2010

Mr. Michael T. Lesar
Chief, Rulemaking and Directives Branch
Division of Administrative Services, Office of Administration
Mail Stop: TWB-05-B01M
Office of Nuclear Regulatory Research
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

**RE: NUREG-1934, Nuclear Power Plant Fire Modeling Application Guide (NPP FIRE MAG),
Draft Report for Comment [Docket ID NRC-2009-05608]**

Dear Mr. Lesar:

The National Fire Protection Association (NFPA) commends the Nuclear Regulatory Commission (NRC) for giving us the opportunity to provide comments concerning the Nuclear Power Plant Fire Modeling Application Guide (NUREG-1934.) We concur with the NRC that there is a movement to use risk-informed and performance-based (RI/PB) analyses in fire protection practice and we appreciate the NRC allowance for use of the requirements set forth in **NFPA 805 Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants** as a voluntary alternative to the existing NRC deterministic requirements for existing reactor licensees set forth in 10CFR 50.48.

NFPA 805 is a performance based standard that describes the methodology for applying performance-based requirements, fundamental fire protection program design and elements, determination of fire protection systems and features, and fire protection during decommissioning and permanent shutdown. This document was assembled through a consensus process with a wide range of technical experts from the nuclear field, including representation and active involvement from the NRC.

Our comments concerning the NUREG-1934 Draft Report are as follows:

1) Revise the 2nd paragraph of 2.3.1 to read as follows:

The Fire Dynamics Tools (FDTs) library includes 23 distinct spreadsheets that can be used to calculate various fire parameters under varying conditions. Documentation of the theoretical bases underlying the equations used in the FDTs spreadsheets helps to ensure that users understand the significance of the inputs that each spreadsheet requires, and why a particular spreadsheet should (or should not) be selected for a specific analysis. The governing equations and assumptions come primarily from the principles described in the **NFPA Fire Protection Handbook** (NFPA Handbook, 20072008), the *SFPE Handbook of Fire Protection Engineering* (SFPE Handbook, 2008), and other fire science literature, and are generally accepted within the fire science community as state-of-the-art calculation methods for fire phenomena.

Substantiation: A more recent edition of the **NFPA Fire Protection Handbook** was released in 2008 and the NRC would best be served by the latest edition of this document.

2) Revise throughout the document:

NFPA 805 Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants 2004-2010 Edition.

Substantiation: The 2001 edition of **NFPA 805** is considered to be outdated material and the NRC would best be served to use the latest edition of the document in NUREG-1934. A 2010 edition is now available.

3) Revise the reference section as follows:

NFPA Fire Protection Handbook, 48²⁰th Edition (A.E. Cote, Editor-in-Chief), National Fire Protection Association, Quincy, MA, ~~1997~~2008.

Substantiation: This updates the NRC reference to the most recent edition of the **NFPA Fire Protection Handbook**.

4) Revise the reference section as follows:

NFPA 805 Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, National Fire Protection Association, Quincy, MA, ~~2004~~2010.

Substantiation: 2001 edition of **NFPA 805** is considered to be outdated material and the NRC would best be served to use the latest edition of the document in NUREG-1934. A 2010 edition is now available.

NFPA appreciates the opportunity to share our views concerning the NRC's draft guidance on using fire modeling for nuclear power plant applications, the features and limitations of various models as well as the implications of the verified and validated fire models. If you have any questions or require additional information concerning this matter, please do not hesitate to contact me at (202) 898 1229 or Paul May, Fire Protection Engineer, at 617 984 7410.

Sincerely,



Nancy McNabb, AIA
Director, Government Affairs

cc PMay
encl: NFPA 805