

January 6, 2006

MEMORANDUM TO: James E. Dyer, Director  
Office of Nuclear Reactor Regulation

FROM: Carl J. Paperiello, Director */RA/*  
Office of Nuclear Regulatory Research

SUBJECT: VERIFICATION AND VALIDATION OF SELECTED FIRE  
MODELS FOR NUCLEAR POWER PLANT APPLICATIONS

The purpose of this memorandum is to provide you advanced notice that the NRC Office of Nuclear Regulatory Research (RES) has completed draft NUREG-1824, Volumes 1 through 7, entitled "Verification and Validation of Selected Fire Models for Nuclear Power Plant Applications" and will be releasing it for public comment. This report documents the verification and validation of five (5) selected fire modeling tools commonly used in nuclear power plant (NPP) applications. The models selected for inclusion are Fire Dynamics Tools (FDT<sup>s</sup>) NUREG-1805 developed by the NRC, Fire-Induced Vulnerability Evaluation Revision 1 (FIVE Rev. 1) developed by the Electric Power Research Institute (EPRI), Consolidated Model of Fire Growth and Smoke Transport (CFAST) developed by the National Institute of Standards and Technology (NIST), MAGIC developed by Electricite de France (EdF), and Fire Dynamics Simulator (FDS) also developed by NIST.

Draft NUREG-1824 was prepared and authored jointly through a collaborative effort between RES and EPRI. This joint effort is identified in the Fire Risk Addendum of the NRC/EPRI Memorandum of Understanding of Cooperative Nuclear Safety Research. Its primary purpose is to examine the predictive capabilities of the models selected for inclusion in this study.

We plan to forward to publications the enclosed draft report for a 60-day public comment period in January 2006. Please contact me if you have any questions.

Enclosure:  
As stated

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