



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

ACRSR-2234

February 14, 2007

Mr. Luis A. Reyes  
Executive Director for Operations  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

SUBJECT: DRAFT FINAL REVISION 1 TO REGULATORY GUIDE 1.189 (DG-1170), "FIRE PROTECTION FOR NUCLEAR POWER PLANTS"

Dear Mr. Reyes:

During the 539<sup>th</sup> meeting of the Advisory Committee on Reactor Safeguards (ACRS), February 1–3, 2007, we met with representatives of the NRC staff to discuss the draft final Revision 1 to Regulatory Guide 1.189 (DG-1170), "Fire Protection for Nuclear Power Plants." We reviewed this matter at our 537<sup>th</sup> meeting on November 1–3, 2006, and issued a letter on November 17, 2006. We also had the benefit of the documents referenced.

#### **RECOMMENDATION**

Revision 1 to Regulatory Guide 1.189 should be issued.

#### **BACKGROUND AND DISCUSSION**

Several regulations, including Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," contain the regulatory framework that establishes the design principles and detailed rules regarding the requirements for fire protection in nuclear power plants. Revision 1 to Regulatory Guide 1.189 applies to both new and existing plants. It incorporates experience gained over the last 30 years and information in many guidance documents issued by the NRC in the area of fire protection.

In our November 17, 2006 letter, we requested that the staff provide us with an opportunity to review the draft final version of this Guide after the resolution of public comments. The staff issued the proposed revision of this Guide for public comment and has dispositioned all comments. Revision 1 of Regulatory Guide 1.189 should be issued.

Additional Comments by ACRS Members George E. Apostolakis, Michael L. Corradini, and Thomas S. Kress are presented below.

Sincerely,

**/RA/**

William J. Shack  
Chairman

**Additional Comments by ACRS Members George E. Apostolakis, Michael L. Corradini, and Thomas S. Kress**

The part of Regulatory Guide 1.189, Revision 1 concerning the use of risk information in new reactors is troubling to us. Appendix B, “Fire Probabilistic Risk Assessments,” states that licensees preparing new reactor fire protection programs (FPPs) may apply risk-informed methodologies, including fire probabilistic risk assessment (PRA), to the evaluation of an FPP change. This Appendix also makes it clear that a combined operating license application must contain a detailed fire PRA only if the application references a certified design that had a detailed fire PRA.

These statements are troubling in that they perpetuate the “dual” regulatory system that has evolved over the last decade. Because existing plants have been licensed under a “deterministic” system, risk-informed changes to the licensing basis are voluntary. This makes sense for existing reactors. However, we see no reason why this dual system should extend to new reactors. Both the staff and the industry continue to tell us that the use of risk information has helped remove unnecessary regulatory burden without adversely affecting safety. Even for decisions that are based on “deterministic” rules, such as power uprates, risk information has been very useful. We note that the mandatory Reactor Oversight Process (ROP) is risk informed and the agency routinely uses the Standardized Plant Analysis Risk (SPAR) models to evaluate the significance of inspection findings.

The staff told us that it must write Regulatory Guide 1.189 according to the existing rules. It would require Commission action to ensure that a risk-informed regulatory system would apply to new reactors (not on a voluntary basis). We agree with the staff and hope that the Commission will consider this matter.

References:

1. Memorandum from Cornelius F. Holden, Director, Division of Risk Assessment, Office of Nuclear Reactor Regulation, to Frank P. Gillespie, Director, ACRS, “Transmittal of Revised DG-1170, ‘Fire Protection for Nuclear Power Plants,’ and Responses to Public Comments,” February 2, 2007.
2. Memorandum from Jimi T. Yerokun, Chief, Risk Applications and Special Projects Branch, Division of Risk Assessment and Special Projects, Office of Nuclear Regulatory Research, to Michael R. Snodderly, Chief, Technical Support Branch, ACRS, enclosing “Additional Information—Regulatory Guide 1.189, ‘Fire Protection for Nuclear Power Plants,’” September 25, 2006.
3. Letter from Graham B. Wallis, Chairman, ACRS, to Luis A. Reyes, Executive Director for Operations, “Proposed Revision 1 to Regulatory Guide 1.189 (DG-1170), ‘Fire Protection for Nuclear Power Plants,’” November 17, 2006.

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Chairman

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