



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

ACRSR-2227

December 12, 2006

The Honorable Dale E. Klein
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: DRAFT FINAL REGULATORY GUIDE DG-1145, COMBINED LICENSE APPLICATIONS FOR NUCLEAR POWER PLANTS (LWR EDITION)

Dear Chairman Klein:

During the 538th meeting of the Advisory Committee on Reactor Safeguards, December 7-8, 2006, we met with representatives of the NRC staff to discuss draft final Regulatory Guide DG-1145, Combined License Applications for Nuclear Power Plants (LWR Edition). Our Subcommittee on Future Plant Designs also reviewed this Guide and related matters on November 30, 2006. We also had the benefit of the documents referenced.

Recommendations

1. The final rule, 10 CFR Part 52, should retain the requirements that a design-specific probabilistic risk assessment (PRA) be submitted with the design certification application and that a plant-specific PRA be submitted with the combined license (COL) application.
2. DG-1145 should be issued as a final Regulatory Guide after the staff ensures that it is consistent with the final rule 10 CFR Part 52 and with the Regulatory Guides and Standard Review Plan (SRP) Sections/Chapters being revised or developed in support of new reactor licensing.

Background and Discussion

DG-1145, Combined License Applications for Nuclear Power Plants (LWR Edition), provides detailed guidance on the content of a COL application. The development of DG-1145 was done in parallel with the development of a proposed revision to 10 CFR Part 52 and the development of revisions to Regulatory Guides and (SRP) Sections/Chapters in support of new reactor licensing.

The proposed 10 CFR Part 52 (SECY-05-0203), that we reviewed, required that PRAs be submitted as part of the design certification and COL applications. In the draft final rule (SECY-06-0220), this requirement has been eliminated. The staff stated that DG-1145 has to be revised to reflect this change. We disagree with this change in Part 52. To certify a design or

approve a COL, it will be necessary to have a detailed review of the PRA. The information needed for this review includes event trees, fault trees, support system dependencies, initiating events, data (reliabilities/probabilities of failure), human reliability, common-cause failure analysis, fire risk, flooding risk, seismic risk, minimal cutsets, and uncertainty and importance measures. Unless the PRA is submitted, such a review will have to be done at the applicant's office. This will be extremely difficult for the staff and not feasible for the ACRS. The requirements to submit the PRA with a design certification application and with a COL application should be retained in Part 52. After issuance of the COL, updates to the PRA need not be submitted.

Before publishing DG-1145 as a final Regulatory Guide, the staff should ensure that it is consistent with 10 CFR Part 52 and with other Regulatory Guides and SRP Sections/Chapters associated with future plant designs. In addition, the staff should ensure that the scope and level of detail of the information within the various sections of DG-1145 are complete and consistent.

Section C.II.1 of DG-1145 identifies nine objectives that the COL applicant must address in its risk evaluation. Neither the ASME PRA Standard (ASME RA-S-2002) nor Regulatory Guide 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," provides guidance on how to meet these objectives. SRP Chapter 19.0, which is being revised, should include review guidelines for determining whether an applicant's risk evaluation meets these objectives.

We would like to be informed of any significant changes made to this Guide prior to publishing it in final form.

Sincerely,

/RA/

Graham B. Wallis
Chairman

References

1. Memorandum dated September 1, 2006, from David B. Matthews, Director, Division of New Reactor Licensing, NRR, to John T. Larkins, Executive Director, ACRS, Subject: Transmittal of Draft Regulatory Guide DG-1145 "Combined License Applications for Nuclear Power Plants (LWR Edition)"
2. SECY-05-0203, Revised Proposed Rule to Update 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," dated November 3, 2005
3. SECY-06-0220, Final Rule to Update 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," dated December 3, 2006
4. Standard for Probabilistic Risk Assessment for Nuclear Power Plant Applications (ASME RA-S-2002), Issued April 5, 2002
5. U. S. Nuclear Regulatory Commission, Regulatory Guide 1.200 For Trial Use, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," February 2004
6. Standard Review Plan NUREG-0800, Chapter 19.0, Probabilistic Risk Assessment