

Regulatory Guide Periodic Review

Regulatory Guide Number: RG 1.89

Title: Environmental Qualification of Certain Electric Equipment Important to Safety for Nuclear Power Plants, Revision 1, dated June 1984

Office/Division/Branch: RES/DE/ICEEB

Technical Lead: Kenn Miller

Recommended Action: Revise regulatory guide within the next 12 to 18 months

1) What are the known technical or regulatory issues with the current version of the Regulatory Guide?

Regulatory Guide (RG) 1.89, Revision 1, "Environmental Qualification of Certain Electric Equipment important to Safety for Nuclear Power Plants," was issued in June 1984. The RG is based on the source term information in Technical Information Document (TID) 14844, "Calculation of Distance Factors for Power and Test Reactor Sites," dated 1962. Since then, the NRC staff has developed a new source term that better represents the anticipated source term inside containment. This new source term, as documented in NUREG-1465, "Accident Source Terms for Light-Water Nuclear Power Plants - Final Report," issued February 1995, should be added to the RG as an option (in addition to TID 14844). Furthermore, the computer codes and methods identified in RG 1.89 should be reviewed and updated (if appropriate and beneficial) with current methodologies. A revision to RG 1.89 should be developed that incorporates current guidance considering the new source term (as an option) and calculation methods (as deemed beneficial) available for new license applicants. Specifically, Appendix D, "Methodology and Sample Calculation for Qualification Radiation Dose" of RG 1.89 will be revised and expanded as the result of this work.

Additionally, the RG endorses the use of the Institute of Electrical and Electronic Engineers (IEEE) standard (Std.) 323-1974. The IEEE updated this standard in 1983 and again in 2003. This RG should be updated to incorporate new information from the normative references of the updated IEEE standard.

2) What is the impact on internal and external stakeholders of not updating the RG for the known issues, in terms of anticipated numbers of licensing and inspection activities?

Use of the current version of RG 1.89 will have no known impact on internal or external stakeholders at this time.

This RG should be revised within the next 12 to 18 months to minimize the potential impact on future licensing applications and reviews.

3) What is an estimation of the level of effort needed to address identified issues in terms of FTE and contract dollars?

Updating RG 1.89 is estimated to require approximately 80 hours of internal staff effort. A contractor has completed draft guidance to support the revision of the source term information in Appendix D to RG 1.89. The contractor report is currently being reviewed by multiple NRC program offices and their comments should be incorporated into the next revision of the RG.

4) Based on the answers to the questions above, what is the proposed staff action for this Regulatory Guide?

The staff plans to revise RG 1.89 within the next 12 to 18 months.

5) If the Regulatory Guide should be revised, provide a conceptual plan and timeframe to accomplish this.

The staff plans to issue a draft regulatory guide for public comment in late 2014. The revised RG will be finalized after addressing public comments.

NOTE: This review was completed in May 2014 and reflects the staff's plans as of that date. Plans are tentative and subject to change.