

## Regulatory Guide Periodic Review

Regulatory Guide Number: **1.75**  
Revision number: **3**  
Title: **CRITERIA FOR INDEPENDENCE OF ELECTRICAL SAFETY SYSTEMS**  
Office/division/branch: **RES/DE/ICEEB**  
Technical Lead: **David Dawood**  
Staff Action Decided: **Reviewed with issues identified for future consideration**

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

Revision 3 of RG 1.75 endorses, with some exceptions and clarifications, the Institute of Electrical and Electronics Engineers (IEEE) Standard 384, "IEEE Standard Criteria for Independence of Class 1E Equipment and Circuits" (IEEE Std. 384-1992), issued in 1992. The IEEE issued a revision to the standard in 2008 (IEEE Std. 384-2008) which updates processes and programs to more current methodologies and contains improved guidance on the use of fiber optic circuits and methods to protect electrical and electronic circuits from the adverse impact of electromagnetic and radio-frequency interference (EMI/RFI).

The NRC staff should reference the updated IEEE standard for reviews or licensing issues that include; 10 CFR 50.49, "Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants," Appendix A to 10 CFR Part 50, General Design Criteria (GDCs) 1, 2, 4, and 23, and Quality Assurance Criterion III, "Design Control" of 10 CFR Part 50, Appendix B.

**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 over the next several years?**

The use of the current version of RG 1.75 will have no known impact on internal or external stakeholders at this time. The 2008 version of IEEE-384 includes additional guidance that should be part of the NRC staff review of license applications for advanced reactors and license renewal or modification requests for some facilities.

**3. What is an estimate of the level of effort (LOE) needed to address identified issues in terms of full-time equivalent (FTE) and contractor resources?**

The LOE needed for new RG 1.75 revision will require approximately 0.2 FTE for 1 year.

**4. Based on the answers to the questions above, what is the staff action for this guide (Reviewed with no issues identified, Reviewed with issues identified for future consideration, Revise, or Withdraw)?**

RG 1.75 has been reviewed with issues identified for future consideration. The RG should be revised to endorse, with some exceptions and clarifications, IEEE Std. 384-2008.

**5. Provide a conceptual plan and timeframe to address the issues identified during the review.**

Revising the RG will take approximately 9 months to complete, including the technical work and the regulatory reviews. The work on the initial draft should start in the fourth quarter of 2016.

NOTE: This review was conducted in January 2016 and reflects the staff's plans as of that date. These plans are tentative and are subject to change.