

## Regulatory Guide Periodic Review

**Regulatory Guide Number**                    **1.180, Revision 1**

**Title:**    **Guidelines for Evaluating Electromagnetic and Radio-Frequency Interference in Safety-Related Instrumentation and Control Systems**

**Office/division/branch:**                    **RES/DE/ICEEB**  
**Technical Lead:**                                **David Dawood**

**Staff Action Decided:**                        **Revise**

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

Revision 1 of RG 1.180 was issued in October 2003 to endorse, in part and with certain clarifications, multiple consensus standards and guidance documents issued by the U.S. Military (MIL-STD), International Electrotechnical Commission (IEC), the Institute of Electrical and Electronics Engineers (IEEE), the Electric Power Research Institute (EPRI), and Oak Ridge National Laboratories (ORNL) in the U.S. Department of Energy (DOE).

Many of the standards and guidance documents endorsed by the 2003 revision of RG 1.180 have been updated to incorporate additional guidance and improved methods for evaluating the effects of electrostatic discharge, as well as improvements in the operational environment at nuclear power plants arising from the increased use of digital technology, including wireless communication for both personnel (personal digital assistants and smartphones) and industrial (remote I&C) applications.

Based on the results of the periodic review, the staff concludes that RG 1.180 should be revised to address the newer consensus guidance documents. The staff is currently working with ORNL to develop revision 2 of RG 1.180 and should deliver a draft RG to the Regulatory Guidance and Generic Issues Branch within 6 to 12 months.

**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?**

Since there are no known technical or regulatory issues, there is no impact.

**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 a revision of RG 1.180 will require approximately 0.3 to 0.5 FTE due to the multiple interrelated consensus standards and guidance documents that need to be reviewed and verified. The Oak Ridge National Laboratories (ORNL) is assisting with the revision of RG 1.180.

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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)?**

Revise.

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

The NRC is revising RG 1.180 and will deliver a draft guide to the Regulatory Guidance and Generic Issues Branch for processing within 6 to 12 months.

**NOTE: This review was conducted in April 2017 and reflects the staff's plans as of that date. These plans are tentative and are subject to change.**