

# **REGULATORY ANALYSIS**

## **DRAFT REGULATORY GUIDE DG-1311 SIZING OF LARGE LEAD-ACID STORAGE BATTERIES**

(Proposed Revision 1 of Regulatory Guide 1.212 dated November 2008)

### **1. Statement of the Problem**

The U.S. Nuclear Regulatory Commission (NRC) issued Regulatory Guide (RG) 1.212 in November 2008 to endorse, with certain clarification, the Institute of Electrical and Electronics Engineers (IEEE) Standard (Std.) 485-1997, "IEEE Recommended Practice for Sizing Lead-Acid Batteries for Stationary Applications." In 2010 the IEEE revised Std. 485 to refine the methods for defining direct current (dc) load guidance and sizing large lead-acid batteries to ensure consistent performance. The revised IEEE standard provides guidance on the sizing of batteries and contains additional information in several informative annexes. The NRC staff believes that RG 1.212 should be revised to address the updated IEEE standard and support applications for new reactor licenses, design certifications, and license amendments.

### **2. Objective**

The objective of this regulatory action is to update NRC guidance and provide applicants with a method to demonstrate compliance with the applicable requirements in 10 CFR 50.55a(a)(1) and 50.63(a)(2), General Design Criteria (GDC) 1, and GDC 17 for the sizing of lead-acid storage batteries.

Revising RG 1.212 to endorse portions of a newer consensus standard is consistent with the NRC policy of evaluating the latest versions of national consensus standards to determine their suitability for endorsement by RGs. This approach also will comply with the NRC's Management Directive (MD) 6.5, "NRC Participation in the Development and Use of Consensus Standards" (ML100600460). This is in accordance with Public Law 104 113, "National Technology Transfer and Advancement Act of 1995."

### **3. Alternative Approaches**

The NRC staff considered the following alternative approaches:

1. Do not revise Regulatory Guide 1.212
2. Withdraw Regulatory Guide 1.212
3. Revise Regulatory Guide 1.212 to address the current methods and procedures.

#### **Alternative 1: Do Not Revise Regulatory Guide 1.212**

Under this alternative, considered the "no-action" alternative, the NRC would not issue additional guidance, and the current guidance would be retained. If NRC does not take action, there would not be any changes in costs or benefit to the public, licensees or NRC. However, the "no-action" alternative would not address identified concerns with the current version of the regulatory guide. The NRC would continue to review each application on a case-by-case basis. This alternative provides a baseline condition from which any other alternatives will be assessed.

## **Alternative 2: Withdraw Regulatory Guide 1.212**

Under this alternative the NRC would withdraw this regulatory guide. This would eliminate the problems identified above regarding the regulatory guide. It would also eliminate the only readily available description of the methods the NRC staff considers acceptable for demonstrating compliance with portions of 10 CFR 50.55a(a)(1) and 50.63(a)(2), GDC 1, and GDC 17. Although this alternative would be less costly than the proposed alternative, it would impede the public's access to the most current regulatory guidance.

## **Alternative 3: Revise Regulatory Guide 1.212**

Under this alternative, the NRC would revise RG 1.212. This revision would incorporate the latest guidance from IEEE Std. 485-2010, as well as address the concerns regarding the battery duty cycle span. It would increase the consistency between regulatory positions and other related guidance and review practices. By doing so, the NRC would ensure that the regulatory guidance available in this area is current, and accurately reflects the staff's position.

The impact to the NRC would be the costs associated with preparing and issuing the RG revision. The impact to the public would be the voluntary costs associated with reviewing and providing comments to the NRC during the public comment period. The value to NRC staff and applicants would be the benefits associated with enhanced efficiency and effectiveness in using a common guidance document as the technical basis for license applications and other interactions between the NRC and its regulated entities.

## **Conclusion**

Based on this regulatory analysis, the NRC staff concludes that revision of RG 1.212 is warranted. The action will make available to the public the most current regulatory guidance in this area and enhance the efficiency and effectiveness of the licensing process for new and existing nuclear power plants. It could also lead to cost savings for applicants by reducing the time spent by the NRC staff reviewing the application.