Periodic Review

Regulatory Guide Number:	**1.158, Revision 1**
Title:	**Qualification of Safety-Related Vented Lead-Acid Storage Batteries for Production and Utilization Facilities**
Office/division/branch:	**NRR/DEX/EEEB**
Technical Lead:	**Kayleh James**
Staff Action Decided:	**Revise**

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

The NRC staff identified the following technical issues with the current version of the Regulatory Guide (RG):

Some of the new passive design nuclear power plants have duty cycles up to 72 hours. Consequently, the IEEE recently revised IEEE Standard (Std) 535, "Standard for Qualification of Class 1E Vented Lead Acid Storage Batteries for Nuclear Power Generating Stations" to addresses the change in the duty cycle for the direct current (dc) system in some of the new plant designs. The NRC is considering revising RG 1.158, Revision 1, to endorse, with clarifications, IEEE Std. 535-2022 to provide qualification methods for vented lead-acid batteries with duty cycles up to and including 72 hours and with 10- to 20-year qualification testing programs and not limited to the most recent corrigenda. Currently, RG 1.158, Revision 1, endorses IEEE Std. 535-2013 with clarifications.

2. What is the impact on internal and external stakeholders of <u>not</u> updating the RG for the known issues, in terms of anticipated numbers of licensing and inspection activities over the next several years?

Based on the results of the periodic review, the staff concludes that no changes to RG 1.158, Revision 1, are necessary and the guidance remains valid. However, the staff believes that an update of RG 1.158, Revision 1, is worth pursuing to endorse the latest guidance from IEEE Std. 535 on dc system duty cycles as discussed above.

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

0.5 FTE and no contractor resources

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 staff plans to update RG 1.158, Revision 1, and anticipates that the DG will be issued for public comments by the end of calendar year 2025.

NOTE: This review was conducted in February 2025 and reflects the staff's plans as of that date. These plans are tentative and subject to change.