REGULATORY ANALYSIS

DRAFT REGULATORY GUIDE DG-1400

QUALIFICATION OF CLASS 1E CONNECTION ASSEMBLIES FOR PRODUCTION AND UTILIZATION FACILITIES

(Proposed Revision 2 of Regulatory Guide 1.156, issued July 2011)

1. Statement of the Problem

The U.S. Nuclear Regulatory Commission (NRC) is considering revising Regulatory Guide (RG) 1.156, currently titled, "Qualification of Connection Assemblies for Nuclear Power Plants," whose Revision 1 the agency issued in July 2011.

Given that environmental qualification is a recent focus area for the agency and licensees, the NRC expects that current licensees and new applicants should use the latest technical information. Further, license renewal would require up-to-date technical information for replacement or extension of the qualified life for equipment. Therefore, the staff needs to determine whether revision of this RG is warranted to provide guidance that reflects updated information for the qualification of Class 1E connection assemblies for production and utilization facilities.

2. Objective

The objective of this regulatory action is to assess the need to update NRC guidance for the qualification of Class 1E connection assemblies for production and utilization facilities.

3. Alternative Approaches

The staff considered three alternative approaches:

(1) Do not revise RG 1.156.
(2) Withdraw RG 1.156.
(3) Update RG 1.156.

Alternative 1: Do Not Revise Regulatory Guide 1.156

Under this alternative, the NRC would not revise this guidance, and applicants would continue to use the present version of the guide. This is considered the "No-Action" alternative. If the NRC takes no action, the agency would not incur any initial cost to revise the guide. However, the "No-Action" alternative would not provide updates to address the identified recommendations and current methodologies for the qualification of Class 1E connection assemblies for production and utilization facilities.

This may result in the NRC issuing requests for additional information (RAIs) to applicants. Applicants would be burdened by the effort required to respond to the RAIs, and the NRC staff would be burdened by the need to review the applicant responses.

Alternative 2: Withdraw Regulatory Guide 1.156

Under this alternative, the withdrawal of RG 1.156 would leave a void in the NRC's regulatory guidance for the qualification of safety-related connection assemblies. By eliminating guidance for future applicants, the content of future applications could vary from applicant to applicant, thereby making the review of these applications more burdensome for the staff. The burden on applicants would also be greater under this alternative, because without specific guidance, applicants might spend more time preparing applications and potentially responding to RAIs.

Alternative 3: Update Regulatory Guide 1.156

Under this alternative, the NRC would update RG 1.156 to reflect the latest information in Institute for Electrical and Electronics Engineers (IEEE) Standard 572-2019, "IEEE Standard for Qualification of Class 1E Connection Assemblies for Nuclear Power Generating Stations and Other Nuclear Facilities," its supporting guidance, and best 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 costs to the NRC would be the one-time cost of issuing the revised RG. The impact to the public would be the voluntary costs associated with reviewing the draft and providing comments to the NRC during the public comment period. The value to the NRC staff, licensees, and applicants would be the benefits associated with enhanced efficiency and effectiveness in using an updated guidance document as the technical basis for license applications, including for license renewal, and other interactions between the NRC and its regulated entities.

Conclusion

Based on this regulatory analysis, the NRC staff concludes that a revision of RG 1.156 is warranted. The action will enhance efficiency and effectiveness by using up-to-date guidance for ensuring reactor safety. It could also lead to cost savings for nuclear power reactor licensees, especially by providing guidance for using alternative approaches to satisfy the qualification requirements for Class 1E connection assemblies.