REGULATORY ANALYSIS

Draft Regulatory Guide (DG)-1235
Qualification Tests for Safety-Related Actuators in Nuclear Power Plants

(Proposed Revision 1 of Regulatory Guide 1.73, dated January 1974)

1. Statement of the Problem

The U.S. Nuclear Regulatory Commission (NRC) issued Regulatory Guide (RG) 1.73, "Qualification Tests of Electric Valve Operators Installed Inside the Containment of Nuclear Power Plants," in January 1974. The RG endorses the processes and methods described in the Institute of Electrical and Electronics Engineers (IEEE) Standard (Std.) 382-1972, "IEEE Trial-Use Guide for Type Test of Class I Electric Valve Operators for Nuclear Power Generating Stations." The IEEE updated the standard in 1985, again in 1996, and, most recently, in 2006 (issued in 2007). However, RG 1.73 has not been updated since its original issue.

2. Objective

The objective of this regulatory action is to evaluate the need to update the guidance in RG 1.73 to provide applicants and licensees with current procedures and methods to demonstrate compliance with portions of Section III, "Design Control," of Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities."

3. Alternative Approaches

The NRC staff considered the following alternative approaches:

1. Do not revise RG 1.73.
2. Withdraw RG 1.73.
3. Revise RG 1.73 to endorse a more current IEEE standard.

Alternative 1: Do Not Revise RG 1.73

This is considered the no-action alternative. Under this alternative, the NRC would not revise RG 1.73 and the current guidance would remain active. If the NRC selects this alternative, the regulatory guide will continue to endorse an outdated standard that can no longer be easily obtained, and applicants and licensees would continue to follow guidance that was issued 38 years ago.

If the NRC follows this alternative, there would be no change in costs or benefit to the public, licensees, or the NRC. However, the no-action alternative would not address identified concerns with the current version of the RG, and the NRC would continue to review each application on a case-by-case basis. This alternative provides a baseline condition from which other alternatives can be assessed.

Alternative 2: Withdraw RG 1.73

Under this alternative, the NRC would withdraw this RG. This move would eliminate the current conflict that exists between the existing RG and the newer regulations. It would also eliminate the only readily available description of the methods the staff considers acceptable for demonstrating the operability of safety-related actuators under adverse conditions. Although this alternative would be less

costly than the proposed alternative to revise the guide, it would impede the public's access to the most current guidance information.

Alternative 3: Revise RG 1.73

Under this alternative, the NRC would revise RG 1.73 to endorse the most current revision of the IEEE standard (i.e., IEEE Std. 382-2006, "Standard for Qualification of Safety-Related Actuators for Nuclear Power Generating Stations," issued in 2007). This revision would provide applicants and licensees with the most current information on testing safety-related actuators in nuclear power plants.

The impact to the NRC would be the costs associated with preparing and issuing the regulatory guide 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 to applicants and licensees would be 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 staff recommends revision of RG 1.73. The staff concludes that the proposed action will enhance NRC guidance to applicants and licensees by endorsing the most current revision of an industry and international consensus standard.

Revising this RG to endorse portions of a consensus standard is consistent with the NRC policy of evaluating the latest versions of national consensus standards to determine their suitability for endorsement by regulatory guides. This approach also will comply with the NRC's directive that standards developed by consensus bodies must be used in accordance with Public Law 104-113, "National Technology Transfer and Advancement Act of 1995."