REGULATORY ANALYSIS

REGULATORY GUIDE RG 2.3

Quality Verification for Plate-Type Uranium-Aluminum Fuel Elements for Use in Research and Test Reactors

(Draft was issued as DG-2005, dated March 2012)

1. Statement of the Problem

Section 50.34(a) of Part 50 in Title 10 of the *Code of Federal Regulations* requires each applicant for a construction permit to build a production or utilization facility to describe in its preliminary safety analysis report the quality assurance program that will be applied to the design, fabrication, construction, and testing of the facility's structures, systems, and components. The guidance document endorsed in the current version of Regulatory Guide 2.3 is ANSI N398-1974, "Quality Verification for Plate-Type Uranium-Aluminum Fuel Elements." In 2009, a Work Group of ANS-15.2 of Subcommittee ANS-15, Research Reactors, of the American Nuclear Society Standards Committee produced a new version of the standard, ANSI/ANS 15.2-1999 (R2009), "Quality Verification for Plate-Type Uranium-Aluminum Fuel Elements." Therefore, a revision of this RG is necessary to endorse the new technical standard so licensees can conform to new acceptable technical standard ANSI/ANS 15.2 1999 (R2009).

2. Objective

The objective of this regulatory action is to provide consistent and updated guidance to the research and test reactor (RTR) community on the quality verification for plate-type uranium-aluminum fuel elements.

3. Alternative Approaches

The staff considered the following alternative approaches:

(1) Do not revise RG 2.3
(2) Withdraw RG 2.3
(3) Revise RG 2.3 to address revisions in regulations since 1976.

3.1 Alternative 1: Do Not Revise RG 2.3

This is considered the "no-action" alternative. Under this alternative, the NRC would not revise RG 2.3, and the current guidance would remain active. If the NRC selects this alternative, the RG will not address the current ANSI standard. Not revising RG 2.3 would not address identified concerns with the current version of the regulatory guide.

3.2 Alternative 2: Withdraw RG 2.3

Under this alternative, the NRC would withdraw this RG. Withdrawing the current regulatory guide would provide a benefit by eliminating guidance that the NRC no longer believes should be implemented, but this alternative would not provide licensees with guidance to help them establish and execute a quality assurance program for verifying the quality of plate type uranium aluminum fuel elements used in research and test reactors.

3.3 Alternative 3: Revise RG 2.3

Under this alternative, the NRC would revise RG 2.3 to provide applicants and licensees with methods the staff considers acceptable taking into consideration the availability of industry standards for license applications and technical specifications for the RTRs. The costs and benefits of this alternative would include the following:

- This action would aid license applicants in the preparation of the application package, as the current guidance is no longer currently-accepted practice.

- The impact to the NRC would be the costs associated with preparing and issuing the regulatory guide. Updating this guide would require minimal cost and effort.

- 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 the NRC staff and its applicants would be the benefits associated with enhanced efficiency and effectiveness in using a common, contemporary guidance document as the technical basis for license applications and other interactions between the NRC and its regulated entities.

4. Conclusion

Based on this regulatory analysis, the NRC staff recommends Alternative 3 to revise Regulatory Guide 2.3. The staff concludes that the proposed action will enhance the review of license applications by designating ANSI/ANS 15.2-1999 (R2009) as acceptable for use by RTR license holders and applicants. It could also lead to a cost savings for the industry, especially with regard to the use of current standards within license applications and supporting documentation of program elements for RTR licenses. 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 RGs. This approach also will comply with the NRC's Management Directive 6.5, "NRC Participation in the Development and Use of Consensus Standards" (Agencywide Documents Access and Management System Accession No. ML100600460). This is in accordance with Public Law 104-113, "National Technology Transfer and Advancement Act of 1995."