

REGULATORY ANALYSIS

DRAFT REGULATORY GUIDE DG-1274 DESIGN, INSPECTION, AND TESTING CRITERIA FOR AIR FILTRATION AND ADSORPTION UNITS OF POST-ACCIDENT ENGINEERED-SAFETY-FEATURE ATMOSPHERE CLEANUP SYSTEMS IN LIGHT-WATER-COOLED NUCLEAR POWER PLANTS (Proposed Revision 4 of Regulatory Guide 1.52, dated June 2001)

Statement of the Problem

Since the U.S. Nuclear Regulatory Commission (NRC) issued Revision 3 of Regulatory Guide (RG) 1.52, “Design, Inspection, and Testing Criteria for Air Filtration and Adsorption Units of Post-Accident Engineered-Safety-Feature Atmosphere Cleanup Systems in Light-Water-Cooled Nuclear Power Plants,” in June 2001, the American Society of Mechanical Engineers (ASME) Committee on Nuclear Air and Gas Treatment (CONAGT) has expanded the scope of equipment covered by ASME-AG-1, “Code on Nuclear Air and Gas Treatment,” which the staff had previously endorsed in RG 1.52. The revision to ASME-AG-1 consolidated some requirements from ASME-N509, “Nuclear Power Plant Air-Cleaning Units and Components”; ASME-N510, “Testing of Nuclear Air-Treatment Systems”; and other documents previously endorsed by the staff in RG 1.52. In addition, CONAGT has developed and published a new standard, ASME-N511-2007, “Inservice Testing of Nuclear Air Treatment, Heating Ventilation and Air Conditioning Systems.” This new standard provides comprehensive test and inspection requirements and is written to complement the expanded ASME-AG-1.

Therefore, revision of this regulatory guidance is necessary to address these changes to the referenced industry standards.

Objective

The objective of this regulatory action is to provide more current guidance that addresses the latest industry standards on nuclear air and gas treatment for safety-related engineered safety feature filter systems.

Alternative Approaches

The NRC staff considered the following alternative approaches:

- Do not revise RG 1.52.
- Revise RG 1.52.

Alternative 1: Do Not Revise Regulatory Guide 1.52

Under this alternative, the NRC would not revise guidance, and the current guidance would be retained. If the NRC does not take action, there would not be any changes in costs or benefit to the public, licensees, or the NRC. However, the “no-action” alternative would not address the latest editions of the previously endorsed codes and standards. The NRC would continue to review each application that uses newer edition codes and standards not endorsed by RG 1.52, Revision 3, on a case-by-case basis. This alternative provides a baseline condition from which any other alternatives will be assessed.

Alternative 2: Revise Regulatory Guide 1.52

Under this alternative, the NRC would revise RG 1.52, taking into consideration the newer codes and standards.

One benefit of this action is that it would enhance the reviews of new reactor applications that reference newer versions of industry codes from those endorsed by RG 1.52, Revision 3. Staff reviewers would not need to issue requests for additional information to reconcile submitted design information to the current guidance.

The impact to the NRC would be the costs associated with preparing and issuing the revised RG. 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 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 recommends revision of RG 1.52. The staff concludes that the proposed action will enhance the efficiency of design reviews. It could also lead to cost savings for the industry, especially with regard to applications for standard plant design certifications and combined licenses.