

REGULATORY ANALYSIS

DRAFT REGULATORY GUIDE DG-1259

Initial Test Programs for Water-Cooled Nuclear Power Plants (Proposed Revision 4 of Regulatory Guide 1.68, dated March 2007)

1. Statement of the Problem

The U.S. Nuclear Regulatory Commission (NRC) issued Revision 3 to Regulatory Guide (RG) 1.68 in March 2007 to ensure that new reactor designs are properly tested under the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50 “Domestic Licensing of Production and Utilization Facilities.” Guidance is needed to address design qualification tests for new design certifications (DCs) and combined licenses (COLs) using the requirements in 10 CFR Part 52, “Licenses, Certifications, and Approvals for Nuclear Power Plants.” Also needed is guidance for some preoperational, low-power and power ascension tests for new light water reactors (LWRs) licensed under 10 CFR Part 52.

2. Objective

The objective of this regulatory action is to assess the need to: (1) update NRC guidance on an acceptable Initial Test Program to demonstrate compliance with the 10 CFR Part 50 and 10 CFR Part 52 requirements for an acceptable Initial Test Program, and (2) incorporate new preoperational, low-power, and power ascension tests that would apply to new LWRs .

3. Alternative Approaches

The NRC staff considered the following alternative approaches:

1. Do not revise Regulatory Guide 1.68
2. Withdraw Regulatory Guide 1.68
3. Revise Regulatory Guide 1.68 to address the current methods and procedures.

Alternative 1: Do Not Revise Regulatory Guide 1.68

Under this alternative, the NRC would not revise guidance and the current guidance would be retained. If NRC does not take action, there would not be any changes in costs or benefit to the public, licensees or NRC. However, this alternative would not address identified concerns with the current version of the regulatory guide. The NRC would continue to review each application on a case-by-case basis. This alternative is considered the “no-action” alternative and provides a baseline condition from which any other alternatives will be assessed.

Alternative 2: Withdraw Regulatory Guide 1.68

Under this alternative the NRC would withdraw this regulatory guide. This would eliminate the current conflict that exists between the current regulatory guide and the newer regulations. It would also eliminate the only readily available description of the methods the NRC staff considers acceptable for demonstrating compliance with 10 CFR Part 50 and 10 CFR Part 52. Although this alternative would be

less costly than the proposed alternative, it would impede the public's accessibility to the most current guidance information.

Alternative 3: Revise Regulatory Guide 1.68

Under this alternative, the NRC would revise Regulatory Guide 1.68. This revision would address design qualification tests for new design certifications (DCs) and combined licenses (COLs) using the requirements in 10 CFR Part 52. The revision would also add some preoperational, low-power and power ascension tests for new light water reactors (LWRs) licensed under 10 CFR Part 52 and would add new and updated references. This would ensure that the RG guidance available in this area is current, and accurately reflects the NRC staff's position.

Revising this regulatory guide can take advantage of endorsing portions of a consensus standard. This 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 will also comply with the NRC's Management Directive 6.5, "NRC Participation in the Development and Use of Consensus Standards." This is in accordance with Public Law 104-113, "National Technology Transfer and Advancement Act of 1995."

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 NRC during the public comment period. The value to 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 Regulatory Guide 1.68. The staff concludes that the proposed action will enhance efficiency and effectiveness through the use of a common guidance document as the technical basis for license applications and other interactions between the NRC and its regulated entities. It could also lead to cost savings for the industry with regard to applications for standard design certifications and combined licenses.