

Regulatory Guide Number: RG 1.68, Revision 4

Title: Initial Test Programs for Water-Cooled Nuclear Power Plants

Office/division/branch: NRR/DRO/IQVB

Technical Lead: Eva Brown and Michael Fitzgerald

Staff Action Decided: Revise

1. What are the known technical or regulatory issues with the current version of the Regulatory Guide (RG)?

Regulatory Guide (RG) 1.68 describes the general scope and depth that the staff of the U.S. Nuclear Regulatory Commission (NRC) considers acceptable for demonstrating compliance with the NRC regulations identified below as they pertain to Initial Test Programs (ITPs) for light water-cooled nuclear power plants. Since the publication of the RG in 2013, the NRC staff has been informed of the potential for the submittal of construction permits in support of light-water cooled related designs. To that end, the NRC staff is looking to streamline the initial test program guidance into a single document. Additionally, it has been determined that previously referenced international standards have been revised/superseded. As such, it is the staff's intent to update the guidance to reflect the new international standard.

2. What is the impact on internal and external stakeholders of not updating the RG for the known issues, in terms of anticipated numbers of licensing and inspection activities over the next several years?

For new reactors, the staff anticipates the submittal of 1-2 applications in the next several years. Since there are no issues currently identified with the technical content in the guide, there will be no impact on these licensing activities.

3. What is an estimate of the level of effort needed to address identified issues in terms of full-time equivalent (FTE) and contractor resources?

NRC staff requires approximately 0.25 FTE to complete combination and update related activities. No contractor support is anticipated.

4. Based on the answers to the questions above, what is the staff action for this guide (Reviewed with no issues identified, Reviewed with issues identified for future consideration, Revise, or Withdraw)?

Revise.

5. Provide a conceptual plan and timeframe to address the issues identified during the review.

Given the recommendation to withdraw RG 1.68.1, "Initial Test Program of Condensate and Feedwater Systems for Light-Water Reactors," Revision 2 during its last periodic

review, it is the staff's intent to combine RG 1.68 with RG 1.68.2, "Initial Startup Test Program To Demonstrate Remote Shutdown Capability for Water-Cooled Nuclear Power Plants," Revision 2, and the recommended revision to RG 1.68.3, "Preoperational Testing of Instrument and Control Air Systems," Revision 1. Additional changes planned include updating and harmonization with superceded international standards and consideration of initial test requirements related to alternative shutdown. It is intended that a draft guide will be made available by the end of the third quarter of the 2024 fiscal year for public comment.

NOTE: This review was conducted in February 2023 and reflects the staff's plans as of that date. These plans are tentative and subject to change.