

# REGULATORY ANALYSIS

## REGULATORY GUIDE RG 1.79

### PREOPERATIONAL TESTING OF EMERGENCY CORE COOLING SYSTEMS FOR PRESSURIZED-WATER REACTORS

(Draft was issued as DG-1253, dated May 2011)

#### Statement of the Problem

The U.S. Nuclear Regulatory Commission (NRC) issued Revision 1 to Regulatory Guide 1.79 in September 1975 to ensure that pressurized-water reactors licensed under the requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," properly test emergency core cooling systems (ECCSs) before conducting normal operations in accordance with technical specifications. The revision to this regulatory guide is necessary to address new pressurized-water reactor preoperational testing of design certification and combined license design information using the requirements in 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants." The NRC also added some operating experience changes to detect ECCS component failures before plant startup begins.

#### Objective

The objective of this revision is to provide additional staff guidance to 10 CFR Part 52 applicants for the development of an acceptable initial test program.

#### Alternative Approaches

The NRC developed this regulatory guide to achieve the objective outlined above, and it is consistent with current regulatory practice. The benefit of this action is that it would enhance reactor safety for new reactors licensed under 10 CFR Part 52. 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

The NRC should issue this regulatory guide to improve the licensing process. The NRC staff concluded that the proposed action will enhance reactor safety and reduce regulatory burden on both the NRC and its licensees and will result in an approved and more uniform process for implementing the preoperational testing for ECCS systems. It could also lead to cost savings for the nuclear industry, especially for standard plant design certification and combined license applications.

#### Backfit Analysis

Because this regulatory guide reflects current regulatory practice, it does not require a backfit analysis as described in 10 CFR 50.109(c).