REGULATORY ANALYSIS

DRAFT REGULATORY GUIDE DG-1359
FIRE PROTECTION FOR NUCLEAR POWER PLANTS
(Proposed Revision 4 of Regulatory Guide 1.189, dated November 2020)

1. Statement of the Problem

The U.S. Nuclear Regulatory Commission (NRC) is considering revising Regulatory Guide 1.189, "Fire Protection for Nuclear Power Plants," to update guidance with respect to the treatment of fire-induced circuit failures. The NRC published Revision 2 of Regulatory Guide 1.189 in October 2009 to provide licensees and applicants with then-current agency-approved guidance for the treatment of fire-induced circuit failures. The current version of Regulatory Guide 1.189 (Revision 3) does not align with the latest understanding of fire-induced circuit failures. Revision 3 was published to incorporate an administrative correction and did not contain any significant technical changes.

2. Objective

The objective of this regulatory analysis is to assess whether to update the RG to update the guidance relating to fire-induced circuit failures or take an alternative approach to address the regulatory problem.

3. Alternative Approaches

The NRC staff considered the following alternative approaches:

1. Do not revise Regulatory Guide 1.189
2. Withdraw Regulatory Guide 1.189
3. Revise Regulatory Guide 1.189 to address the current methods and procedures.

Alternative 1: Do Not Revise Regulatory Guide 1.189

Under this alternative, the NRC would not revise the guidance, and the current guidance (Revision 3) would be retained. If the NRC does not take action, then there would not be any changes in costs or benefit to the public, licensees, or the NRC. This alternative is considered the “no-action” alternative and provides a baseline condition from which any other alternatives will be assessed. However, the “no-action” alternative would not address identified concerns with the current version of the regulatory guide.

Alternative 2: Withdraw Regulatory Guide 1.189

Under this alternative, the NRC would withdraw this regulatory guide. This would eliminate the problems identified above regarding the regulatory guide. However, it would also eliminate the only readily available description of the methods the NRC staff considers acceptable for demonstrating compliance with 10 CFR 50.48 for deterministic fire protection programs. Although this alternative would be less costly to the NRC in the short term than the proposed alternative 3, it would impede the public’s accessibility to the most current regulatory

guidance and would be expected to be more costly in the long term to the NRC, the public, and licensees because a void in guidance reduces predictability, efficiency, and regulatory stability.

Alternative 3: Revise Regulatory Guide 1.189

Under this alternative, the NRC would revise Regulatory Guide 1.189. This revision would incorporate the latest information concerning the treatment of fire-induced circuit failures and supporting guidance. By doing so, the NRC would ensure that the regulatory guidance available in this area is current, and accurately reflects the staff's positions.

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 the NRC during the public comment period. The value to NRC staff and its licensees and 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.

4. Conclusion

Based on this regulatory analysis, the NRC staff recommends the revision of Regulatory Guide 1.189. The staff concludes that the proposed action will clarify current regulatory guidance with respect to fire-induced circuit failures. The increased clarity in this subject area would reduce unnecessary regulatory burdens by providing a predictable and stable regulatory framework for assessing licensee compliance. It could also lead to cost savings for licensees and applicants, especially with regard to clarifying expectations for applications for standard plant design certifications and combined licenses.