

# REGULATORY ANALYSIS

## DRAFT REGULATORY GUIDE DG-4026 PREPARATION OF ENVIRONMENTAL REPORTS FOR NUCLEAR POWER STATIONS

(Proposed Revision 3 of Regulatory Guide 4.2, Revision 2 dated July 1976)

### 1. Statement of the Problem

The U.S. Nuclear Regulatory Commission (NRC) is considering revising Regulatory Guide 4.2 to update references to align guidance with NRC regulations, interim NRC guidance, changes in environmental statutes and regulations, and Executive Orders.

The NRC published Revision 2 to RG 4.2 in 1976, to provide general guidance to applicants for the preparation of Environmental Reports (ERs) that are submitted as part of an application for a permit, license, or authorization to site, construct, and/or operate a new nuclear power plant. The current version of Regulatory Guide 4.2 (Revision 2) does not reflect changes in NRC regulations, environmental statutes, or regulations of other federal agencies since issuance of Revision 2 in 1976 that should be reflected in the preparation of these reports.

Subsequent to issuance of Revision 2, the NRC staff has developed or revised regulations including Title 10 of the *Code of Federal Regulations* (10 CFR) 51.45, "Environmental report," related to the requirements for submitting ERs, and 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants." Additionally, while preparing Environmental Impact Statements (EIS) for the first group of combined licenses (COL) applications under the revised regulations, the NRC staff identified a number of issues that necessitated changes to staff guidance. New issues, such as environmental justice and severe-accident mitigation design alternatives as well as new licensing structures such as early site permits (ESPs), and COLs raised the need for new regulatory guidance. To address these issues and changes in regulatory structure, NUREG-1555, NRC's, Environmental Standard Review Plan for Nuclear Power Plants (ESRP) was revised in 2000 and again in 2007. The updated guidance to the staff in the revised ESRP is not reflected in the guidance to applicants contained in the current version of RG 4.2. In addition to the changes to the ESRP, in 2014, the NRC staff released two interim staff guidance documents, COL/ESP-ISG-026, "Interim Staff Guidance on Environmental Issues Associated with New Reactors" (ADAMS Accession No. ML14100A471) and COL/ESP-ISG-027, "Interim Staff Guidance on Specific Environmental Guidance for Light Water Small Modular Reactor Reviews" (ADAMS Accession No. ML14100A648). These documents clarified the NRC guidance regarding environmental reviews for applications for licenses to construct and operate light water as well as small modular reactors. They provided guidance on the assessment of construction impacts, greenhouse gas and climate change, socioeconomics, environmental justice, need for power, alternatives, cumulative impacts and historic and cultural resources as part of the preparation of EISs for ESP and COL applications. Finally, environmental statutes and regulations from other federal agencies have changed which directly affect the information required by the NRC to develop EISs. As a result, the information requested in RG 4.2, Revision 2 is no longer current and results in numerous formal requests for additional information during the staff's review process for new reactor licensing.

## **2. Objective**

The objective of this regulatory action is to assess the need to update the NRC guidance and provide applicants with a method to demonstrate compliance with 10 CFR Parts 50, 51 and 52 requirements for developing an ER.

## **3. Alternative Approaches**

The NRC staff considered the following alternative approaches:

1. Do not revise RG 4.2
2. Withdraw RG 4.2
3. Revise RG 4.2 to address the current methods and procedures.

### Alternative 1: Do Not Revise Regulatory Guide 4.2

Under this alternative, considered the “no-action” alternative, the NRC would not issue additional 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, the “no-action” alternative would not address identified concerns with the current version of the RG. The NRC would continue to review each application on a case-by-case basis and request the necessary information not provided by the applicant as formal requests for additional information. This alternative provides a baseline condition from which any other alternatives will be assessed.

### Alternative 2: Withdraw Regulatory Guide 4.2

Under this alternative the NRC would withdraw this RG. This would eliminate the problems identified above regarding the RG. It would also eliminate the guidance to applicants on the methods the NRC staff considers acceptable for demonstrating compliance with portions of 10 CFR Parts 50, 51 and 52. Although this alternative would be less costly in the short term than the proposed alternative, it would impede the staff’s ability to develop the EISs for new reactor licensing in a timely and cost-effective manner and would be more costly in the long term.

### Alternative 3: Revise Regulatory Guide 4.2

Under this alternative, the NRC would revise RG 4.2. This revision would incorporate the changes from environmental statutes, 10 CFR Parts 50, 51, and 52, the interim staff guidance from COL/ESP-ISG-026 and COL/ESP-ISG-027, review guidance from NUREG–1555, “Environmental Standard Review Plan” and lessons learned through the numerous EISs developed since Revision 2 was issued in 1976. By updating RG 4.2, the NRC would ensure that the regulatory guidance available in this area is current, and accurately reflects the staff’s position.

The impact to the NRC would be the costs associated with preparing and issuing the RG 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 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. As a result of that, it would reduce the need for RAIs thus benefitting applicants and staff.

### **Conclusion**

Based on this regulatory analysis, the NRC staff concludes that revision of RG 4.2 is warranted. The action will make available to the staff, applicants and public the most current regulatory guidance in this area and enhance the efficiency and effectiveness of the licensing process for new and existing nuclear power plants. It could also lead to cost savings for applicants by reducing the time spent by the NRC staff reviewing the application.