

## Regulatory Guide Periodic Review

Office: **NRO/DSEA/RENV**

Regulatory Guide Number: **4.2**

Title: **Preparation of Environmental Reports for Nuclear Power Stations, Revision 2**

Technical Lead: **Mark Notich**

Recommended Staff Action: **Revise**

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

Regulatory guide (RG) 4.2, "Preparation of Environmental Reports for Nuclear Power Stations," Revision 2, published July 1976, does not address changes to NRC regulations or environmental laws that have occurred over the last 38 years. For example, RG 4.2 does not address 10 CFR Part 51 requirements for Environmental Reports (ERs) for early site permits, combined licenses, or design certifications. It does not address severe accident mitigation alternatives, nor does it address the 2007 Final Rulemaking on Limited Work Authorizations that removed site preparation activities from the definition of NRC-authorized construction. RG 4.2 does not address environmental justice, climate change considerations or environmental issues specific to small modular reactors, as well as a variety of other recent topics relevant to the preparation of ERs for proposed nuclear power stations.

**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?**

Currently RG 4.2 has been of limited use to recent new reactor applicants in preparing their ERs. The lack of updated guidance in RG 4.2 has resulted in increased effort for both the applicants and the NRC staff during pre-application interactions as well as the licensing review. Because the guidance is so outdated, ERs from some applicants have not been of sufficient quality for the staff to complete its environmental review in a timely and efficient manner. Several applications for small modular reactors (SMRs) are anticipated in the next few years. These may include applications for design certifications, construction permits, early site permits (ESPs) and combined licenses. For example, in 2015 the Tennessee Valley Authority is planning to submit an application for an ESP for an SMR. However, RG 4.2 does not address environmental considerations for either SMRs or ESPs. There is an immediate need to revise RG 4.2 to address expected future licensing submittals, so applicants can benefit from the revised guidance in preparing their ERs.

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

NRC staff requires approximately 1.5 FTE.

- 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.**

The staff is currently revising RG 4.2 and has received a Technical Evaluation Report from the contractor. Staff subject matter experts are reviewing the technical evaluation report and developing the draft RG. NRO plans to provide the draft RG to RES in the second quarter of FY 2015 for concurrence and issuance for public comment. NRO expects to hold a public meeting in mid-2015 to receive comments on the draft RG, with a goal of issuing the final RG by the first quarter of FY 2016. This schedule will depend on the continued availability of NRC staff resources, which may be impacted by higher-priority activities such as licensing casework and support for mandatory and contested hearings.

**NOTE: This review was conducted in September 2014 and reflects the staff's plans as of that date. These plans are tentative and are subject to change.**