REGULATORY ANALYSIS

DRAFT REGULATORY GUIDE DG-4029
USE OF THE PLANT PARAMETER ENVELOPE IN EARLY SITE PERMIT APPLICATIONS

1. Statement of the Problem

The U.S. Nuclear Regulatory Commission (NRC) is considering issuing a new guide to document the use of the plant parameter envelope (PPE) concept by early site permit (ESP) applicants. The PPE approach can be used to postulate certain generic design criteria at the ESP stage when a specific reactor technology has not been selected for the proposed site. The PPE concept is currently contained in NRR Review Standard (RS) 002, "Processing Applications for Early Site Permits," published May 2004. However, many sections of RS-002 contain outdated guidance that has been superseded by subsequent updates to NUREG-0800 and by RG 1.206, Revision 1, and does not fully reflect the NRC's implementation of a risk-informed, performance-based approach to licensing. The staff plans to withdraw RS-002 to remove the outdated guidance but the PPE information in RS-002 is not wholly contained in other guidance that supersedes RS-002. Accordingly, some other mechanism should be used to retain the PPE component of RS-002 for future use by prospective ESP applicants. The withdrawal of the outdated guidance in RS-002, in conjunction with the issuance of this draft guide specific to the use of the PPE concept in ESP applications, is consistent with the NRC's implementation of a risk-informed, performance-based approach to licensing.

2. Objective

The objective of this regulatory action is to assess the need to issue a regulatory guide to retain the PPE information in RS-002 for future use once RS-002 is withdrawn.

3. Alternative Approaches

The NRC staff considered the following alternative approaches:

1. Withdraw RS-002 but do not issue a regulatory guide

2. Revise RS-002 to bring it up to date

3. Issue a regulatory guide to address the PPE concept for ESP applications.

Alternative 1: Withdraw RS-002 but do not issue a regulatory guide

Under this alternative, the NRC would not issue guidance and, once RS-002 is formally withdrawn, there would be no guidance from the NRC specific to the use of the PPE for ESP applications. The impact to NRC would be the modest cost of withdrawing RS-002. The cost to stakeholders would be the loss of the PPE information in RS-002 for future applicants. There would be no additional costs or benefits to the public, applicants or 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 does not address the

concerns associated with the withdrawal of RS-002 without a mechanism to retain the PPE information. The NRC would continue to review each application on a case-by-case basis.

Alternative 2: Revise RS-002 to bring it up to date

Under this alternative, the NRC would revise RS-002 to reflect changes in guidance in the 20 years since RS-002 was developed. The impact to the NRC would be the cost of updating RS-002. That cost is anticipated to be modest considering that much of RS-002 was incorporated in other guidance leaving only the PPE guidance. Stakeholders would incur costs with reviewing the proposed revision and commenting on it. The benefit to NRC and stakeholders would be minimal since much of the original guidance in RS-002 was incorporated in other guidance.

Alternative 3: Issue a regulatory guide to address the PPE concept for ESP applications

Under this alternative the NRC would issue a regulatory guide to address the use of a PPE in ESP applications, as it is currently provided in RS-002. This would allow the NRC to withdraw the outdated guidance in RS-002 while retaining the RS-002 PPE guidance for future use. This new regulatory guide would incorporate the latest guidance and review practices regarding the plant parameter envelope. By doing so, the NRC would ensure that the guidance available in this area is current and accurately reflects the staff's position and is consistent with the NRC's risk-informed, performance-based regulatory framework.

The impact to the NRC would be the costs associated with preparing and issuing a new regulatory guide that addresses the PPE concept. However, the anticipated level of effort to develop this new guide is expected to be small since the PPE language in RS-002 can be adapted to the structure of the regulatory guide. The costs to stakeholders would be associated with reviewing and providing comments to NRC during the public comment period for development of this regulatory guide. The benefits to NRC staff and its applicants would be associated with enhanced efficiency and effectiveness in using an updated guidance document as the technical basis for license applications and other interactions between the NRC and its regulated entities. The issuance of a PPE-focused RG would also allow the staff to remove the potential for future confusion by formally withdrawing the outdated guidance in RS-002.

Conclusion

Based on this regulatory analysis, the NRC staff concludes that issuance of a new regulatory guide is warranted. The action will enhance regulatory consistency and remove potential confusion associated with the outdated guidance in RS-002. Additionally, it would allow the NRC to have specific guidance on the PPE concept for ESP applications separate from other technical guidance. That approach could also lead to cost savings for the industry, especially for ESP applications where a specific reactor technology has not yet been selected.