REGULATORY ANALYSIS

Regulatory Guide (DG) 4.7
General Site Suitability Criteria for Nuclear Power Stations

1. Statement of the Problem

The U.S. Nuclear Regulatory Commission (NRC) first issued RG 4.7, "General Site Suitability Criteria for Nuclear Power Stations," in 1974 and issued revisions in 1975 and April 1998 to provide licensees and applicants with agency-approved guidance for complying with the then-current version of Title 10, of the *Code of Federal Regulations*. RG 4.7 does not reference 10 CFR Part 52 and thus overlooks the early site permit, design certification, and combined license application processes. This is an important omission because most new power plant applications are being filed under Part 52. Since 1998 there have been significant changes in the standard review plans the NRC staff uses to evaluate license applications. The standard review plan for the review of safety analysis reports for nuclear power plants (NUREG-0800, ADAMS Accession No. 070660036) has changed substantially. In addition, NRC is currently revising portions of the standard review plans for environmental reviews for nuclear power plants (NUREG-1555, October 1999) relating to early site permits to reflect new information and experience. The publicly available drafts are found at: http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1555/updates.html. Therefore consideration should be given to revising RG 4.7.

2. Objective

The objective of this regulatory action is to assess the need to update the NRC guidance on general site suitability criteria for nuclear power stations. Such guidance would be used to support applicants in the early site permit and combined license applications for nuclear power stations.

3. Alternative Approaches

The NRC staff considered the following alternative approaches:

1. Do not revise Regulatory Guide 4.7.
2. Withdraw Regulatory Guide 4.7.
3. Revise Regulatory Guide 4.7

Alternative 1: Do Not Revise Regulatory Guide 4.7

Under this alternative, the NRC would not revise this guidance, and applicants would continue to use the original version of this regulatory guide. If NRC takes no action, there would not be any changes in costs or benefit to the public, license applicants, or NRC. However, the "no-action" alternative would not provide an update on general siting criteria since the issuance of the last version of the regulatory guide in 1998. Since then, there have been substantial changes relative to siting in NUREG-0800 and NUREG-1555 and that information is not incorporated in the current version of Regulatory Guide 4.7. In addition, Part 52 applicants using this version of Regulatory Guide 4.7 may not be in compliance with the Part 52 regulations. This represents a significant impact.

Alternative 2: Withdraw Regulatory Guide 4.7

Withdrawing this regulatory guide would leave a void in the regulatory guide system relative to general siting criteria. By eliminating guidance for future applicants, the content of future applications could vary from applicant to applicant, thereby making the review of these applications more burdensome for the staff. The burden on applicants would be greater under this alternative than under Alternative 1 or 3 because applicants would spend more time preparing applications due to the lack of guidance.

Alternative 3: Revise Regulatory Guide 4.7

Under this alternative, NRC would revise Regulatory guide 4.7 taking into consideration the changes to regulations and NRC guidance documents, as noted above, since the issuance of the last revision of the guide in 1998. The impact to the public would be the voluntary costs associated with reviewing and providing comments to NRC during the public comment period. The value to 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.

4. Comparison of Alternatives

For Alternative 1, the benefit would be that no agency resources would be committed to revising the regulatory guide. Applicants would continue to use guidance with which many are already familiar with. They would not incur any costs needed to revise their method of implementing the guide. However, Regulatory Guide 4.7 would not contain the most current siting guidance. Furthermore, Part 52 applicants using this unrevised version of Regulatory Guide 4.7 might not be in compliance with the Part 52 regulations. These outcomes represent a significant impacts.

For Alternative 2, withdrawing the guide could be done at very modest cost. The benefit would be removal of a guide that does not reflect changes relative to siting in NUREG-0800 and NUREG-1555and the requirements of Part 52. The impact of withdrawal is significant. By eliminating guidance for future applicants, the content of future applications could vary from applicant to applicant, thereby making the review of these applications more burdensome for the staff. Likewise, due to the lack of guidance, applicants would be burdened by spending more time preparing applications under than Alternative 1 or 3.

For Alternative 3, the value to NRC staff and its applicants in revising the guide would be the benefits associated with providing guidance consistent with the siting criteria found in NUREG-0800, NUREG-1555 and Part 52. The impact on the NRC would be the costs associated with preparing and issuing the regulatory guide. The impact on the public would be the voluntary costs associated with reviewing and providing comments to the NRC during the public comment period and possible revisions to existing siting plans.

Conclusion

Based on this regulatory analysis, the NRC staff concludes that revision of Regulatory Guide 4.7 is warranted. The staff concludes that the proposed action will enhance an applicant's ability to do general site selection, consistent with insights gained from general siting experience and the modest changes that have been made in siting regulations and NRC guidance documents since 1998. Moreover, the staff sees no adverse effects associated with revising this regulatory guide.