

aspects, NRC staff relied on experience from regulating other nuclear facilities, including nuclear power plants, in developing these parts of the Yucca Mountain Review Plan. The commenter also noted that some of the preclosure sections of the draft Yucca Mountain Review Plan apparently rely on experience with fuel cycle facilities and nuclear power plants, but urged that the operations at the proposed Yucca Mountain repository have little in common with nuclear power plants and, hence, many reactor-related guidance documents may not be transferable. The commenter argued that repeated references to reactor-based documents (e.g., NUREGs-2300 and 1278; Regulatory Guides 1.109 and 8.38; and references to the design of systems that are important to safety) support the observation that the Yucca Mountain Review Plan relies heavily on NRC documents prepared for and used in conjunction with the licensing of nuclear power plants.

The commenter suggested that NRC staff reevaluate inclusion of material from nuclear power plant reviews, and delete material and requirements that are not relevant to the safety of the proposed Yucca Mountain repository. For material deemed relevant, NRC staff should explain in the Yucca Mountain Review Plan, the use and relevance of reactor-based guides and policies, and should indicate where use of such material has been modified to account for differences between high-level waste disposal and nuclear power plant operation.

Response. The Yucca Mountain Review Plan has been modified to clarify that only applicable guidance, or portions of that guidance, are proposed for use in a licensing review for a high-level waste repository.

9.7 Use of Graphics

Issue: Could use of graphics clarify the purposes and use of the Yucca Mountain Review Plan?

Comment. Commenters stated that a process diagram that illustrates how decisions are made and how inadequacies are addressed would be helpful. Commenters noted that Figure 1-3 in "Components of Performance Assessment Review" provided information on how the potential for engineered barrier failure would be addressed and asked how other topics would be addressed.

One commenter recommended the use of tables, charts, and graphics to give the reader a high-level overview of activities under the Yucca Mountain Review Plan. The commenter suggested that an "activity network," which

diagrams how the Yucca Mountain Review Plan would be used would help identify linkages among plan sections. The commenter argued that an activity network diagram would also help communicate the completeness of the Yucca Mountain Review Plan and make the report more understandable to stakeholders.

Another commenter suggested that an appendix that referenced requirements from 10 CFR part 63 to the Yucca Mountain Review Plan would be useful.

Response. Graphics could be useful in promoting understanding of the Yucca Mountain Review Plan, and two have been added. One depicts the steps of the licensing process, and one describes how review of a license application section would be conducted using the Yucca Mountain Review Plan. Accompanying text in the review plan explains the graphics.

An appendix that cross-references requirements from 10 CFR part 63 to the Yucca Mountain Review Plan was not included because the related regulatory requirements are already identified in the evaluation findings portion of each review plan section.

Changes to address aspects of these comments were added to the new Appendix A (Licensing Review and the Yucca Mountain Review Plan) of the review plan.

9.8 Completeness of the Yucca Mountain Review Plan

Issue: Is the scope of the Yucca Mountain Review Plan adequate to evaluate the health and safety of a potential high-level waste repository at Yucca Mountain?

Comment. Several commenters had concerns regarding the adequacy of the scope of the Yucca Mountain Review Plan. The concerns included omission of potentially significant features, events, and processes; the nature of information that would be reviewed using the Review Plan for General Information; requirements for the size of restricted areas; the adequacy of the scope of a preclosure safety analysis; specificity of required design information; and the possibility that acceptance criteria were too lenient and subjective.

Response. The scope of the Yucca Mountain Review Plan is adequate and allows flexibility to evaluate whatever methods DOE might choose to demonstrate compliance.

The purpose of the "Review Plan for General Information" section of the Yucca Mountain Review Plan is to ensure that the requirements of 10 CFR 63.21(b) have been met. The General Information section of a license

application should provide a general understanding of the engineering design concept for the repository and of the aspects of the Yucca Mountain site and its environs that influence repository design and performance. Information provided by DOE in response to the requirements of 10 CFR 63.21(b) for the General Information section should be at the level of an executive summary and is not expected to be detailed. The level of detail requested for the site characterization description in the General Information section of the Yucca Mountain Review Plan has been substantially reduced. Detailed information would be evaluated with respect to its importance to health and safety in sections that address review of DOE's Safety Analysis Report.

The probability and consequences of features, events, and processes would be subjected to a detailed review using review methods and acceptance criteria in the section of the Yucca Mountain Review Plan that examines Repository Safety After Permanent Closure.

There is no regulatory requirement mandating the size of restricted areas. However, general practice is that these areas are as small as operationally feasible to facilitate monitoring and control. A DOE physical protection plan would have maps and diagrams associated with physical protection methods and procedures inside restricted areas as required by 10 CFR 73.51.

The Yucca Mountain Review Plan identifies the methods and criteria NRC staff would use to determine regulatory compliance. The review methods and acceptance criteria in the Yucca Mountain Review Plan are flexible rather than prescriptive because: (i) NRC regulations at 10 CFR part 63 are risk-informed and performance-based, (ii) prescriptive review methods and acceptance criteria could foreclose the license applicant from using the most effective approaches to regulatory compliance, and (iii) DOE has not yet presented a preclosure safety analysis.

The Yucca Mountain Review Plan has been modified throughout, as appropriate, to clarify the scope of the risk-informed, performance-based review methods and acceptance criteria.

10 Selected Topics

10.1 Consistency With Regulations

Issue 1: Should the terminology in the Yucca Mountain Review Plan be made more consistent with regulations and be used in a more consistent manner?

Comment. Several commenters stated that the draft Yucca Mountain Review Plan uses terms that are inaccurate or