

COMPLIANCE DETERMINATION STRATEGY

RRT 1.7 STATEMENT OF COMPLIANCE WITH THE PERFORMANCE OBJECTIVES OF 10 CFR PART 60 AND SUMMARY OF PERFORMANCE ASSESSMENT RESULTS

APPLICABLE REGULATORY REQUIREMENT:

None

TYPES OF REVIEW:

Acceptance Review (Type 1)
General Information Review (Type 2)

RATIONALE FOR TYPES OF REVIEW:

Acceptance Review (Type 1) Rationale:

This topic is considered to be license application-related because, as specified in regulatory guide "Format and Content for the License Application for the High-Level Waste Repository" (FCRG), it must be addressed by the U.S. Department of Energy (DOE) in its license application. Therefore, the staff will conduct an acceptance review of the license application for this topic.

General Information Review (Type 2) Rationale:

This review plan topic is related to a request for general information which is not based on a specific regulatory requirement in 10 CFR Part 60, but which supports the staff's reviews and overall finding with respect to safety, as stated in 10 CFR 60.31(a). This information should enable the reviewer to obtain a basic understanding of the overall geologic repository performance without having to refer to the subsequent more detailed chapters. Review of the detailed chapters that follow can then be accomplished with a better perspective, with recognition of the relative safety importance of each individual item to the repository design and performance.

This review plan topic requires that the performance assessment information contained in Chapters 3.0 - 5.0 of the license application be summarized with a brief discussion that describes the performance of the individual repository systems with respect to the performance objectives cited in §§ 60.111, 60.113(a)(1)(ii)(A-B), and 60.113(a)(2). In addition, the results and conclusions of the performance assessment of overall repository performance, described in Chapter 6.0 of the license application, should also be summarized with respect to the overall system performance objectives (60.112). Both of these discussions should describe how these performance objections are met.

This review plan topic requests brief discussions and summaries from DOE of the more detailed descriptions and analyses contained elsewhere in the license application. As no modeling efforts are required to demonstrate (DOE) or determine (NRC) compliance, a higher level of review is not necessary.

REVIEW STRATEGY:

Acceptance Review:

In conducting the acceptance review of the statement of compliance with the performance objectives of 10 CFR Part 60 (*Code of Federal Regulations*, Title 10, "Energy") and summary of the performance assessment results, the reviewer should determine whether the information presented in the license application and its references for determining compliance with the information request made in regulatory guide "Format and Content for the License Application for the High-Level Waste Repository" (FCRG) is complete in breadth and depth as identified in the FCRG.

The reviewer should determine that the information in the license application is presented in a manner such that the discussions and summaries leading to a demonstration of compliance with the FCRG information requests are clear and do not require the reviewer to conduct extensive searches for information contained in referenced chapters elsewhere in the license application.

General Information Review:

In conducting the General Information Review, the reviewer will, as a minimum, determine the completeness and adequacy of the summaries presented in the license application to determine the U.S. Department of Energy's (DOE's) demonstration of compliance with this general information request. Specifically, DOE will need to provide summary discussions describing how individual repository systems (i.e., the natural systems of the geologic setting, the geologic repository operations area, and the engineered barrier system (EBS)) meet the performance objectives described in §§ 60.111 and 60.113 and discussed in detail in specific sections of Chapters 3.0 - 5.0 of DOE's License application. In addition, DOE should summarize the results of its overall system performance assessment conducted in accordance with § 60.112 and described in detail in Chapter 6.0 of the license application.

The reviewer should assure that DOE has provided summary discussions of its demonstrations of compliance with: (1) the radiation protection and waste retrieval performance objectives of § 60.111; (2) the waste package containment and EBS release rate performance objectives of § 60.113(a)(1)(ii)(A) and § 60.113(a)(1)(ii)(B); and (3) the performance objectives related to pre-waste emplacement groundwater travel time in § 60.113(a)(2). These discussions should address the uncertainties present in the compliance demonstrations, and the extent to which the favorable conditions and potentially adverse conditions of § 60.122(b-c) have been incorporated, as necessary, into the demonstrations.

In summarizing the performance assessment, DOE should present the results of compliance demonstrations with the "generally applicable environmental standards for radioactivity" promulgated by the U.S. Environmental Protection Agency (i.e., 40 CFR Part 191 (*Code of Federal Regulations*, Title 40, "Protection of the Environment")), as referenced in § 60.112, related to the containment of high-level radioactive waste, individual protection, and groundwater protection. The reviewer should assure that the results are summarized for anticipated processes and events and unanticipated processes and events, as necessary, and that the extent to which the favorable conditions and potentially adverse conditions of § 60.122(b-c) have been incorporated is addressed. Discussion of the uncertainties, qualitative and quantitative, present in the analyses should be provided, and the data and parameters to which the results are most sensitive should be presented.

In order to conduct an effective review, the staff reviewer will rely on his or her own expertise and

independently-acquired knowledge and information, in addition to that provided by DOE in its license application.

RATIONALE FOR REVIEW STRATEGY:

Not applicable.

Contributing Analysts:

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Date of Analysis: December 16, 1992

APPLICABLE REGULATORY REQUIREMENTS FOR EACH TYPE OF REVIEW:

None.

REFERENCES:

Code of Federal Regulations, "Disposal of High-Level Radioactive Wastes in Geologic Repositories," Part 60, Chapter I, Title 10, "Energy."

Code of Federal Regulations, "Environmental Standards for the Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes," Part 191, Chapter I, Title 40, "Protection of the Environment."

Nuclear Regulatory Commission, "Format and Content for the License Application for the High-Level Waste Repository," Office of Nuclear Regulatory Research. [Refer to the "Products List" for the Division of High-Level Waste Management to identify the most current edition of the FCRG in effect.]