

**SUMMARY OF
U.S. NUCLEAR REGULATORY COMMISSION/U.S. DEPARTMENT OF ENERGY
TECHNICAL EXCHANGE AND MANAGEMENT MEETING ON
DESIGN CHANGES APPROVED THROUGH DOE'S CRITICAL DECISION-1 PROCESS
August 29, 2006
Las Vegas, Nevada**

INTRODUCTION

On August 29, 2006, U.S. Nuclear Regulatory Commission (NRC) and Department of Energy (DOE) met in Las Vegas, Nevada, to discuss "Design Changes Approved Through DOE's Critical Decision-1 (CD-1) Process¹." The meeting was held at the NRC Las Vegas Hearing Facility, and was open to the public.

To support staff and stakeholder interactions, the meeting included video connection to NRC offices in Rockville, Maryland, the Center for Nuclear Waste Regulatory Analyses in San Antonio, Texas, and the offices of Bechtel-SAIC Company, LLC, in Las Vegas, Nevada. Teleconference connections were also available to interested stakeholders. Participants included representatives of the NRC, DOE, State of Nevada, Affected Units of Local Government, Nuclear Energy Institute, other industry representatives, and members of the public.

The meeting agenda, list of attendees, and presentations by NRC and DOE were provided with the interim meeting summary, and are available along with the summary on the NRC web site, at <http://www.nrc.gov/waste/hlw-disposal/public-involvement.html>.

PURPOSE OF THE MEETING

The primary purpose of this meeting was to discuss changes to the DOE plans for the proposed high-level radioactive waste repository at Yucca Mountain, Nevada, as recently approved through DOE's CD-1 process. NRC was to present regulatory considerations regarding DOE's proposed use of Transport, Aging, and Disposal (TAD) canisters.

TOPICS OF DISCUSSION

NRC presented information on the regulatory requirements for transportation, storage, aging, and disposal of commercial spent nuclear fuel, under 10 CFR Parts 50, 71, 72, and 63. The presentation covered areas discussed in NRC's letter to DOE dated August 10, 2006. Three topics were highlighted:

1. The regulatory framework for DOE's proposed TAD canister. The different approaches of the three sets of regulation that apply to transportation (10 CFR Part 71), interim storage at a reactor site (10 CFR Part 72), and disposal at a geologic repository (10 CFR Part 63) were discussed, especially the differences between the prescriptive criteria in, for example,

¹DOE's Critical Decision process as required by DOE Order 413.3A provides the department with project management direction for capital asset acquisition projects having a total project cost greater than or equal to \$20 Million.

Part 71, and performance-based, risk-informed considerations of Part 63.

2. Examples of technical areas where use of a TAD canister may affect the Part 63 analysis and review. Part 63 provides DOE flexibility to design its disposal facility, and requires it to demonstrate that its design meets safety limits for preclosure operations and postclosure waste isolation. For example, some design aspects of a TAD canister may be important in evaluating potential hazards, initiating events, and event sequences during preclosure operations. Other aspects of the TAD canister, such as materials and means of criticality control, could be significant in postclosure performance assessment.
3. The importance of applying the appropriate Quality Assurance requirements throughout the process of developing and implementing a TAD canister.

DOE had no questions on the NRC presentation at the meeting.

In their three scheduled presentations, DOE gave an overview of changes to the facility designs and preclosure operations at the proposed high-level waste repository at Yucca Mountain. DOE described the new design as providing a "safer, simpler, cleaner" facility, with no dry handling of individual spent nuclear fuel assemblies, and many fewer expected lifts and handling operations. The presentations covered DOE's CD-1 process and design control, and the proposed changes to the site layout and waste handling processes to incorporate the TAD canister. They also discussed their plans for phased construction and operation, and provided some information on the layout and preliminary hazard analyses for the four principal waste handling facilities: the Initial Handling Facility, the Canister Receipt and Closure Facility, the Wet Handling Facility, and the Receipt Facility. DOE stated that all of these proposed surface facilities will be included in the Preclosure Safety Analysis in the License Application. DOE also provided a brief, unscheduled summary of potential impacts of the TAD canister approach to the understanding of repository postclosure performance.

The DOE presentations generated questions and discussion from NRC on several aspects of the proposed new designs. The NRC asked about implementation of Design Control and Quality Assurance procedures during the CD-1 process. DOE responded that the CD-1 alternatives are not part of their licensing basis, and thus were not performed under DOE's Quality Assurance procedures. DOE provided the status of implementation of the design control process, including development of the DOE Level 2 and subtier documents that must be in place before approval of design output can commence in accordance with Quality Assurance procedures. The NRC also asked several questions about the Wet Handling Facility in particular. DOE acknowledged that operations at this facility would likely be more complex than in the other buildings, but similar or identical to operations at existing nuclear power plants.

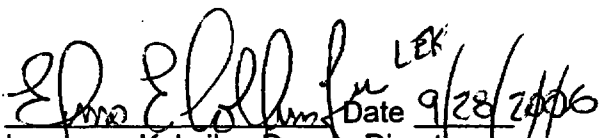
Overall, DOE provided clarifications in many areas, but in some cases noted that detailed discussions could not occur until more design information and analysis are available. NRC expressed interest in understanding how the new designs would be incorporated into the Preclosure Safety Analysis and the Postclosure Total System Performance Assessment. In closing remarks, both NRC and DOE acknowledged that timely availability of information on the new design and its implications for performance is in the best interest of both organizations.

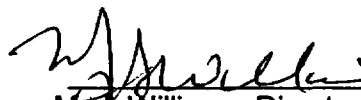
PUBLIC COMMENTS

Two members of the public offered comments during the time provided. Mr. Steve Frishman, on behalf of the State of Nevada, sought and received clarification from DOE on the role of the proposed Receipt Facility. He also requested that DOE release to the public two reports prepared for the CD-1 process, on the Conceptual Design and on the Preliminary Hazard Analysis. DOE replied that they would consider this, but that because the reports had been prepared for an internal process, they would need review and possible redaction before release. Mr. Rod McCullum, on behalf of the Nuclear Energy Institute (NEI), stated that NEI members welcomed the interactions between NRC and DOE on CD-1 and the TAD canister, and encouraged further examination of cross-cutting issues. He suggested that NRC work towards a common regulatory approach for 10 CFR Parts 71, 72, and 63. He also noted that NEI would like to minimize the number of non-TAD canisters in use, and supported continued interactions between NRC and DOE on technical areas. He indicated that NEI members would like to be involved in interactions on technical areas where the industry feels it can offer experience and expertise.

ACTION ITEMS/COMMITMENTS

None.

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Date 9/28/06
Lawrence Kokajko, Deputy Director
Technical Review Directorate
Division of High-Level Waste Repository Safety
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission

 Date 9/21/06
Mark Williams, Director
Regulatory Authority Office
Office of Civilian Radioactive Waste
Management
U.S. Department of Energy