



Savannah River Site Citizens Advisory Board

Recommendation 197 Yucca Mountain Waste Acceptance Criteria

Background

The U.S. Department of Energy began studying Yucca Mountain, Nevada, in 1978 to determine whether it would be suitable for the nation's first long-term geologic repository for spent nuclear fuel and high-level radioactive waste. Currently stored at 131 sites at or near the surface around the nation, these materials are a result of nuclear power generation and national defense programs. On July 23, 2002, President Bush signed House Joint Resolution 87, allowing the DOE to take the next step in establishing a safe repository in which to store our nation's nuclear waste. The next step in the repository's development is for the Department of Energy to submit a license application to the U.S. Nuclear Regulatory Commission (NRC). The NRC is the licensing and regulatory agency that will make the final decision on whether the DOE is allowed to proceed with construction and subsequent licensing to operate the repository. The license application is the formal document an applicant submits to the NRC to present proposed activities. It also documents the safety analyses. The NRC evaluates an applicant's proposed activities and safety analyses by reviewing the license application.

Waste forms resulting from immobilization of high-level nuclear wastes must be qualified for disposal in the federal high-level waste repository to ensure that the disposal system will meet regulatory requirements. Guidance for qualification requirements is from the Waste Acceptance System Requirement Document (WASRD), which provides requirements that address the chemical, physical, and radiological properties of the waste form and packaging materials. The WASRD was developed to define the interface between the U.S. Department of Energy (DOE) Office of Civilian Radioactive Waste Management (OCRWM), which is responsible for construction and operation of the federal high-level waste disposal system, and the DOE Offices of Environmental Management and Nuclear Energy, Science, and Technology, which are responsible for waste form production. The WASRD specifies limits on the radionuclide contents, dimensions, and weights of waste packages, the need to monitor product consistency, the required production records, package labeling, etc. For the most part, the WASRD requirements are met by performing specific tests and analyses and by conforming waste package designs under DOE's Office of Environmental Management's Waste Acceptance Product Specifications (Ref. 1).

The Savannah River Site (SRS) has successfully produced 1,672 vitrified glass waste canisters of the planned 5,100 under the waste acceptance process. These waste canisters demonstrated compliance with package requirements during the cold test runs of the Defense Waste Processing Facility (DWPF). SRS has completed its Waste Form Compliance Plan and the Waste Form Qualification Report. Production records are currently being compiled and storage and shipping records will be maintained when SRS ships waste to Yucca Mountain beginning in FY10 and continuing through FY20.

Comment

The Savannah River Site (SRS) Citizens Advisory Board (CAB) has been a proponent of Yucca Mountain (Ref. 2) and is very interested in seeing it open on schedule (Ref. 3 & 4). The current schedule calls for Yucca Mountain to open in 2010. The SRS CAB is very interested in the progress toward authorizing the license application to meet this schedule and would prefer that the schedule be accelerated. The CAB is pleased to see the progress SRS is making toward getting the DWPF waste ready for shipment. However, it is the handling and shipping process that concerns the SRS CAB. To meet the needs of SRS, approximately 460 shipping casks will be required between 2010 and 2020. If proper priority is not given to the completion of shipping facilities and the availability of shipping casks, then potentially serious schedule

problems could occur and significant delays in SRS waste going to the repository could be expected. The SRS CAB believes that the historical data compiled on each canister should be specific enough to cover its chemistry, production, and storage history and that these data records should be kept in both electronic and hard copy form. In the future, periodic updates to the SRS CAB on the canister data will be expected.

Recommendation

In order to facilitate the effective, timely, and responsive shipment of waste from SRS to Yucca Mountain, the SRS CAB recommends the following:

1. DOE-HQ work diligently with NRC and EPA to meet the 2010 opening date for Yucca Mountain and take all appropriate steps to accelerate the schedule where ever possible.
2. DOE-HQ assure the SRS CAB on or before July 1, 2005, that the required shipping casks will be designed and tested by OCRWM, and then licensed by NRC to support the projected start shipping date in FY10.
3. DOE-HQ assure the SRS CAB on or before January 31, 2005, that the SRS shipping facility is identified as a priority and sufficient funds are made available to begin design in FY07 and construction is completed by FY10.
4. DOE-HQ assure the SRS CAB that the interface between the SRS shipping facility and the Yucca Mountain Receiving facility is sized appropriately to meet the integrated shipping/receiving schedule for the Accelerated Clean-up Plan and both are being addressed.
5. DOE present a status update to the SRS CAB by November 30, 2005, and annually thereafter.
6. DOE make timely arrangements for a core group of SRS CAB members to tour and receive onsite briefings at Yucca Mountain.

References

1. Waste Acceptance Criteria and Interfaces with Yucca Mountain, presentation to the WM Committee by Joe Carter, August 31, 2004.
2. Citizens Advisory Board Recommendation No. 85 (adopted May 25, 1999), "Public Hearings on Geologic Repository for the Disposal of Spent Nuclear Fuel and High Level Waste at Yucca Mountain Environmental Impact Statement".
3. Citizens Advisory Board Recommendation No. 108 (adopted January 25, 2000), "Yucca Mountain Draft Environmental Impact Statement".
4. Citizens Advisory Board Recommendation No. 139 (adopted July 24, 2001), "Supplemental to Yucca Mountain Draft Environmental Impact Statement".

Agency Responses

[Department of Energy-SR](#)