



SRS Citizen's Advisory Board

Savannah River Site Citizens Advisory Board

Recommendation 195 Receipt of Spent Nuclear Fuel at SRS

Background

The Savannah River Site (SRS) provides for safe receipt and interim storage of irradiated spent nuclear fuel (SNF) assemblies from SRS reactors and from test and research reactors, domestic and foreign. These assemblies are presently stored on site in L-Reactor basins until a treatment and interim storage facility is available. The SRS SNF Management Environmental Impact Statement considered alternative ways of managing SNF at SRS (Ref. 1). In the Record of Decision for SRS SNF Management Final EIS, DOE decided to implement the preferred alternative of Melt and Dilute with Direct Disposal as a backup technology (Ref. 2). In melt-dilute, furnaces would melt SNF and dilute the uranium enrichment, while reducing the volume needed for storage and disposal. The direct disposal process would dry the fuel and package it in special containers with no further stabilization required prior to final disposition. A SNF Corporate Project Team was created by DOE-HQ to develop an integrated national program for DOE SNF activities that focuses on risk reduction and opportunities to streamline and optimize EM activities. The SNF Project Team re-evaluated the SRS SNF disposition technologies. In addition to the melt and dilute, direct disposal, and conventional processing, the team evaluated a new ship "as is" alternative. They also reevaluated the proposed transfer of fuels between SRS and INEEL, and a reduction in domestic fuel receipts at SRS. All of this effort took place to accelerate the SNF program (Ref. 3). DOE has decided that direct disposal is the most efficient and cost-effective method of handling the SNF and will proceed with this option to dispose of SNF. The SNF program is facing several uncertainties that could significantly affect the program. Additional fuel may be received due to the extension of the FRR (Foreign Research Reactor) and DRR (Domestic Research Reactor) fuel receipt programs. The new Global Threat Reduction Initiative could bring substantially more SNF material to SRS. As before, the number of SNF shipments could increase (or decrease) as the number of participating countries fluctuate. It is possible that some SNF, identified for return to the United States under the extended FRR program or the Global Threat Reduction Initiative, would not be suitable for direct disposal in the Federal Repository (Ref. 4). Although DOE has selected direct disposal for disposition of spent nuclear fuel, this method has not been approved by the NRC, which is responsible for receipt at the federal repository. Should NRC not approve direct disposal, SNF could remain at SRS for the foreseeable future.

Comments

The SRS Citizens Advisory Board (CAB) has always been in favor of accelerating the SNF program so that the material can be shipped to the federal repository expeditiously (Ref. 5). The SRS CAB will not support the receipt of SNF that cannot ultimately be disposed in the federal repository.

Recommendation

In an effort to improve the SRS SNF program, the SRS CAB recommends the following:

1. DOE-HQ continue to investigate and implement an SNF disposition strategy that will accelerate the SNF program at SRS.
2. DOE-SR provide an update on the SNF program uncertainties on or before January 15, 2005.
3. DOE-HQ identify SNF that can not be directly disposed into the Federal Repository prior to its shipment to SRS, and establish and document an alternative disposition prior to accepting it for shipment to SRS.
4. DOE-HQ present the direct disposal form of spent fuel to NRC immediately and obtain a binding determination that it can actually be disposed in the federal repository.

5. DOE-HQ keep H Canyon operable until there is certainty that spent fuel, which could be processed there can be disposed in the federal repository.

References

1. SRS SNF Management EIS, DOE/EIS -0279, March 2000.
2. Record of Decision for the SRS SNF Management Final EIS, Federal Register, Volume 65, No. 152, pp. 48224-48228, August 7, 2000.
3. Spent Fuel Disposition Planning Status, presentation to the NM Committee by Randall Ponik, October 27, 2003.
4. SRS Spent Nuclear Fuel Program Status, presentation to the NM Committee by Bill Swift, June 28, 2004.
5. Citizens Advisory Board Recommendation No. 74 (adopted January 26, 1999), "SRS Spent Nuclear Fuel Management Draft Environmental Impact Statement" and Recommendation No. 100 (adopted September 28, 1999), "Canyon Utilization and Spent Nuclear Fuel Melt and Dilute Technology".

Minority Report

Submitted by Mel Galin: "I am unwilling to support Recommendation #5 without having an idea of the potential costs of carrying out this recommendation."

Agency Responses

[Department of Energy-SR](#)