



UNITED STATES
NUCLEAR REGULATORY COMMISSION

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August 17, 1999

Dr. Narasi Sridhar, Manager
Center for Nuclear Waste Regulatory Analyses
Southwest Research Institute
6220 Culebra Road, Building 189
San Antonio, Texas 78238-5166

SUBJECT: SAVANNAH RIVER SITE ALUMINUM-BASED SPENT FUEL (SRSASF)
INTERMEDIATE MILESTONE 20-1407-001-930: REVIEW OF U.S.
DEPARTMENT OF ENERGY EVALUATION OF THE DISPOSABILITY OF
ALUMINUM-BASED SPENT NUCLEAR FUEL-FINAL REPORT; NRC
CONTRACT NO. NRC-02-97-009

Reference: Letter of August 3, 1999, from N. Sridhar of Center for Nuclear Waste
Regulatory Analysis to C.A. Greene of NRC Transmitting the IM Deliverable

Dear Dr. Sridhar:

The subject report on "Review of the U.S. Department of Energy Evaluation of the Disposability of Aluminum-Based Spent Nuclear Fuel Final Report," submitted as a deliverable for Intermediate Milestone 20-1407-001-930, has been reviewed. The scope of work presented in the report and the submittal date are in accordance with the provisions in the Center for Nuclear Waste Regulatory Analyses (CNWRA) FY99 Operations Plan. The submittal date was three days ahead of schedule. The NRC staff has identified a programmatic point that needs clarification before the document can be placed in the Public Document Room (PDR). Editorial changes will also be provided separately to the author.

There is language in several sections of the deliverable (2.3, 3, 3.1, and 3.2) that refers to Part 63 and requirements therein. The way the author phrases certain points could be misconstrued. For instance, in Section 3.1.1, the "postclosure requirements in the proposed NRC regulation in 10 CFR 63.113 do not specifically require criticality control. However, to meet the system performance requirements stated in Part 63.113 and to demonstrate the efficacy of multiple barriers, the U.S. Department of Energy (DOE) should evaluate the adverse consequences due to criticality events." The second sentence in this quote seems to require that DOE has to do more than what is actually required in proposed Part 63. According to 63.114 (e) and (f) Features, Events, and Processes (FEPs; such as criticality) "must be evaluated in detail if the magnitude and time of the resulting expected annual dose would be significantly changed by their omission." Also FEPs can be excluded from the performance assessment based on probability arguments (63.114 (d)). Finally, the author should provide a reference (Federal Register) for the proposed Part 63 rule.

The NRC staff does agree with the CNWRA's conclusion that "DOE should evaluate the adverse consequences due to criticality." However, the reasons are not Part 63.113 and to demonstrate the efficacy of multiple barriers. In reality, the reasons are to determine whether criticality would cause "the magnitude and time of the resulting expected annual dose would [to] be significantly changed by their omission."

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N. Sridhar

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Based on the NRC staff technical and programmatic review, the report is accepted as a deliverable for IM 20-1407-001-930. The decision on placing this report in the PDR will be made after the programmatic change is completed. The action taken by this letter is within the scope of the current contract.

Please contact me at (301) 415-6177, if you have any questions regarding this matter.

Sincerely,

Charles A. Greene
SRSAF Program Element Manager
High-Level Waste and Performance
Assessment Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguards

TICKET: CNWRA-990091

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