Finding of No Significant Impact
for the
Off-Site Volume Reduction of
Low-Level Radioactive Waste
from the Savannah River Site

Agency: U. S. Department of Energy

Action: Finding of No Significant Impact

Summary: The Department of Energy (DOE) has prepared an environmental assessment (EA) (DOE/EA-1061) for the proposed off-site volume reduction of low-level radioactive wastes (LLW) generated at the Savannah River Site (SRS), near Aiken, South Carolina. Based on the analyses in the EA, DOE has determined that the proposed action is not a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act (NEPA) of 1969. Therefore, the preparation of an environmental impact statement (EIS) is not required, and DOE is issuing this Finding of No Significant Impact (FONSI).

Public Availability:

Copies of the EA and FONSI or further information on the DOE NEPA process are available from:

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Background: The LLW generated by SRS facilities is composed of a wide variety of waste forms including job control waste, lumber, debris, and equipment which can be contaminated with fission products, activated metals, and/or Special Nuclear Materials. The Site presently generates approximately 17,900 cubic meters (630,000 cubic feet) of uncompacted LLW on an annual basis. SRS compacts as much of this waste as possible to more efficiently use the Site's remaining vault disposal capacity. However, because of radionuclide content and physical constituents, the existing Site compactor located in H Area can only accept approximately 25 percent of this waste for volume reduction. Based on the SRS waste generation forecast, it is expected that the existing E-Area Vault will reach capacity by 1997. At present, DOE does not plan to construct and operate any additional vaults for LLW disposal at SRS. Therefore, it is essential to use the remaining vault capacity as efficiently as possible. To that end, all LLW to be disposed of in the E-Area Vault needs to be volume reduced prior to disposal.

Over the next six months (i.e., mid-July 1995 through mid-January 1996), the subject 75 percent of the SRS LLW volume which could not be treated on site would encompass approximately 4,503 cubic meters (159,000 cubic feet). This represents less than three percent of the total LLW volume being considered for off-site vendor treatment within the SRS Waste Management EIS. Long-term (i.e., 30 year time frame) alternative solutions to this treatment/disposal issue are being evaluated as a component of that EIS.

The purpose of the proposed action is to provide SRS with an interim means of volume reducing the Site-generated LLW prior to finalization and issuance of the SRS Waste Management EIS and associated Record of Decision. Because of the limited vault disposal capacity for LLW at SRS, DOE needs to take action to volume reduce all of the subject waste in the most expedient and cost-effective manner over the near-term time frame prior to disposal in the E-Area Vault. Such an action would not limit the ultimate choice of reasonable alternatives under consideration in this EIS and, as such, would qualify as an interim action under both the Council on Environmental Quality regulations and DOE regulations for the implementation NEPA.

Proposed Action: The proposed action is to volume reduce approximately 4,503 cubic meters of SRS-generated LLW at an off-site vendor facility with all required Nuclear Regulatory Commission, state, and local licenses and/or permits, and then dispose of the treated LLW in the E-Area Vault. The scope of the proposed action within this EA would be implemented between mid-July 1995 through mid-January 1996 and encompasses two specific LLW treatment initiatives at SRS including: (1) Interworks Requisition; and (2) Vendor Forum. The Interworks Requisition initiative would involve transport of LLW off site by a commercial vendor, treatment by compaction and/or decontamination at the vendor's facility, and shipment back to SRS to dispose in the E-Area Vault. The Vendor Forum initiative would be accomplished by waste segregation on site, transportation off site to a vendor treatment facility, treatment, repackaging, and transportation back to SRS. Other activities would include sorting, monitoring for cross contamination, containerization, and transportation of the primary treated LLW in Department of Transportation strong-type containers back to SRS for disposal in the E-Area Vault. Decontaminated metals would be free released and become the property of the vendor. Decontamination solutions including removed radionuclides would also become the property of the vendor. The total volume of LLW encompassed by the proposed action would fill approximately 1,600 B-25 boxes. There would be an estimated 89 shipments off site. Following vendor treatment, the volume-reduced LLW would be returned to SRS. It is estimated that there would be a total of 56 return shipments to SRS, each carrying a maximum of 12 overpacks. The total cost of vendor treatment off site with on-site disposal is estimated at $1,183,000.

The vendor will be responsible for providing all vehicles, containers, equipment, security and health and safety requirements to return the waste to SRS. The vendor is responsible for all Federal, state, and local licenses, permits, and other required documentation to treat LLW and for ensuring that all Department of Transportation, and DOE regulations and orders are met for LLW shipments. DOE will ensure that external contamination to the containers leaving SRS does not exceed Department of Transportation limits or those documented in DOE Radiological Control Manual and the Site radiological control manual. Wastes shipped off site by the vendor will be certified in accordance with Site requirements and have sufficient certification documentation and radioisotopic information to comply with the Waste Acceptance Criteria for the E-Area Vault and the vendor's facility operation. Site personnel will be responsible for loading the waste into the B-25 boxes and the vendor will take custody of the packaged LLW at the waste staging area in E Area and transport the waste shipments to the vendor's off-site facility. DOE will take custody of the treated waste from the vendor at SRS's waste receiving area.

Alternatives: In addition to the proposed action, DOE considered the following alternatives: (1) No Action (i.e., continue to use existing H-Area compactor and store in E-Area Vault); (2) modify and expand the capacity of the H-Area compactor; and, (3) construct a new waste preparation facility at SRS. The no-action alternative would continue to fill the E-Area Vault during the near-term at an economically unattractive

rate. The no-action alternative is therefore not a reasonable alternative, but was analyzed for baseline purposes. The impacts of the two reasonable alternatives that will meet the need for DOE action were analyzed. These alternatives were not selected for the following stated reasons. The alternative to modify the existing H-Area compactor was estimated to cost $750,000 and would still result in the use of outdated low-force compaction technology, would not allow volume reduction of all waste streams, and would not provide the full range of capabilities of the off-site commercial facilities. In addition, this alternative could not be implemented within the subject time frame associated with the proposed action. This alternative was judged to be both economically and logistically unfeasible. The third alternative, to construct a new waste preparation facility to provide volume reduction capacity for the site, would not match the capabilities available at off-site commercial facilities. Furthermore, this alternative is estimated to cost approximately $54 million dollars and would not be operational within the near-term time frame being considered for the proposed action. As with the previous alternative, this alternative was determined to be both economically and logistically unfeasible.

Environmental: The potential consequences of the proposed off-site volume reduction of SRS-generated LLW were assessed to determine whether there will be significant impact to the following: water, air, and land resources; floodplains and wetlands; ecological and cultural resources; health and safety; socioeconomic conditions; and transportation. The proposed action would not result in the loss of any lands on SRS. There are no impacts expected to occur to wetlands or sensitive ecological habitats, threatened or endangered species, or cultural resources. Aside from the existing impacts associated with ongoing operations at the Solid Waste Management Facility, no additional impacts are projected for surface water, ground water or air resources. Once implemented, the on-site operations would be staffed of personnel who are already employed in the Solid Waste Management Facility. Workers engaged in this proposed project would not be expected to incur any harmful health effects from radiation exposures received during normal operations. The transportation impacts were determined for the off-site shipment of the SRS generated LLW to Oak Ridge, Tennessee, for treatment/volume reduction and return to SRS. Both incident-free and accident radiological impacts for the LLW shipments were analyzed. No latent fatal cancers would be expected to result from the implementation of the proposed action.

Determination: Based on the information and analyses in the EA, DOE has determined that the proposed off-site volume reduction by means of supercompaction, metal melt and/or decontamination of LLW generated at SRS does not constitute a major Federal action significantly affecting the quality of the human environment with the meaning of NEPA. Therefore, an EIS is not required and DOE is issuing this FONSI.

Signed in Aiken, South Carolina, this 28 day of July, 1995.

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