



Environmental Bulletin

Volume 11, Number 1
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from the Savannah River Site

FONSI for Mixed Waste Management Facility Interim Action Signed by DOE-SR Manager

A Finding of No Significant (FONSI) was signed on December 8, 1999 for the environmental assessment (EA) (DOE/EA-1302) to analyze the potential environmental impacts associated with the proposed interim measures for the Mixed Waste Management Facility (MWMF) groundwater at the Burial Ground Complex (BGC) at the Savannah River Site (SRS), located near Aiken, South Carolina. The EA evaluated the potential environmental impacts associated with the proposed interim measures for the MWMF groundwater at the BGC where four distinct groundwater contaminant plumes were detected and are now emanating from beneath the MWMF, located in the central part of SRS, and the adjacent Old Radioactive Waste Burial Ground (ORWBG).

Elevated tritium levels, the primary contaminant of concern in the Southwest Plume Area (SWPA) were discovered at areas where groundwater is surfacing (seeping) along areas of the Old F-Area Effluent Ditch (OFED). DOE proposes to install a small metal sheet pile dam to impound water around and over the BGC groundwater seepage line. In addition, a drip irrigation system would be installed. Interim measures will also address the reduction of volatile organic compounds (VOCs) from "hot-spot" regions associated with the SWPA. This action is taken as an interim measure for the MWMF in cooperation with the South Carolina Department of Health and Environmental Control (SCDHEC) to reduce the amount of tritium seeping from the BGC southwest groundwater plume. As an interim measure, the actions described in the EA would manage the release of tritium from the Southwest Plume Area (SWPA) until the final actions under the Corrective Action Plan (CAP) can be implemented. This proposed action is expected to reduce the release of tritium from the SWPA to Fourmile Branch between 25 to 35 percent. If this proposed action is undertaken and its effectiveness is demonstrated, it may become a component of the final action in the CAP.

After a review of 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). As a result of this determination, the preparation of an environmental impact statement (EIS) is not required. Therefore, DOE has issued the FONSI. If you wish to request a copy of the final EA and FONSI, please contact:

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DOE selects SRS for Plutonium Facilities

The Secretary of Energy (DOE) signed a Record of Decision (ROD) on January 4, 2000, which identifies the SRS as the location for building three key plutonium disposition facilities. DOE's strategy for disposing of surplus plutonium involves approximately 17 metric tons that will be immobilized in ceramic material surrounded by vitrified high-level waste and up to 33 metric tons that will be irradiated as mixed oxide (MOX) fuel in existing domestic, commercial reactors. The planned facilities are: (1) Pit Disassembly and Conversion Facility to disassemble plutonium pits and convert the resulting metal to an oxide powder; (2) MOX Fuel Fabrication Facility to fabricate plutonium oxide into mixed oxide fuel; and (3) Immobilization Facility to immobilize plutonium oxide with ceramic material. The Department has estimated total cost at about \$1.32 billion to design and build the new facilities and \$1.5 billion to operate and dismantle them in about 2020. Construction is expected to peak in 2003.

Plug-in ROD Addresses Radioactivity in Soil

DOE, the United States Environmental Protection Agency (EPA), and the South Carolina Department of Health and Environmental Control (SCDHEC) have issued the Plug-In Record of Decision (ROD) for In Situ Stabilization with a Low Permeability Soil Cover System for Radiological Contaminants in Soil. A 45-day public comment period for the Statement of Basis/Proposed Plan was held from June 12, 1999 to July 26, 1999. The remedial decision is documented in the ROD document. This document includes a responsiveness summary that addresses public comments. DOE has worked with SCDHEC and EPA to ensure the remedial approach is consistent with all applicable environmental requirements.

- 1) Institutional controls will consist of near and long-term actions. Those actions will be consistent with industrial land use and the SRS Land Use Control Assurance Plan. For the near term, signs and existing SRS access controls will be used to prevent disturbance of the soil cover system. In the long term, if the property is ever transferred to nonfederal ownership, the U.S. government will take those actions necessary, which will likely include deed restrictions precluding residential use or excavation within the boundaries of the unit.
- 2) Consolidation of contaminated soil outside the basins exceeding principal threat source material (PTSM) criteria, leachability remedial goals (RG) or surficial exposure RGs will occur. The soils will be excavated and placed into the primary discharge basin. Consolidated PTSM soil will be stabilized with the rest of the soil in that basin.
- 3) A low permeability soil cover system will be provided over the in situ stabilized soil to reduce water infiltration and to provide shielding to potential receptors on the surface. For basins that contain non-PTSM soil, but may leach contaminants to groundwater, a low permeability soil cover system will be placed over the soil. The soil cover system will be designed with permeability low enough to prevent migration of contaminants to groundwater for 1000 years at concentrations that will exceed maximum contaminant level (MCL).

- 4) In situ stabilization through grouting will be used to address PTSM soil in the basins. Stabilization treatment for this principal threat material is selected to meet the Comprehensive Environmental Response, Compensation, and Liabilities Act (CERCLA) preference for treatment. Stabilization treatment will provide for greater long-term effectiveness in protecting groundwater, and will also serve to augment prevention of potential direct exposure to the principal threat source material by converting the waste into a form less susceptible to uptake by human intruders.
- 5) Grouting will be used to stabilize any potential contamination left inside the pipeline and prevent access by small animals.

The remedial action is intended to be permanent and effective in both the long and near terms.

Copies of the ROD are available in the Administrative Record. The Administrative Record is available in the information repositories listed below:

- DOE Public Reading Room at the Gregg-Graniteville Library at the University of South Carolina-Aiken campus, Aiken, SC;
- Thomas Cooper Library Government Documents Department, University of South Carolina, Columbia, SC.

Hard copies of the ROD are available at the following:

- Reese Library, Augusta State University, Augusta, GA;
- Asa H. Gordon Library at Savannah State University in Savannah, GA.

The Record of Decision is also available on the Internet in the SRS Home Page (<http://www.srs.gov>), under "Happening Now," (<http://www.srs.gov/general/srs-home.htm>) and on the SRS Environmental Restoration Home Page, under "Public Involvement," (<http://www.srs.gov/general/srenviro/erdpub/pubinv.html>). For additional information, contact Jim Moore at the address listed on the back of the bulletin.

RCRA public meeting planned

SRS is in the process of preparing the required 2000 Resource Conservation and Recovery Act (RCRA) Part B Renewal application for submittal to the regulators at the end of March 2000. To support expanded RCRA public participation promulgated by EPA, a public meeting will be held on February 1, 4 p.m. at the North Augusta Community Center to inform the public of facility operations and any proposed changes. Exhibits will be on display with staff available to answer questions. Any concerns or questions from the public will be forwarded to SCDHEC.

The public may review the current SRS 1992 RCRA Part B Permit Renewal Application at the DOE Reading Room at the University of South Carolina Aiken, at the SCDHEC Aiken office, or at the SCDHEC office in Columbia, SC.

Calendar Year 2000 NEPA Planning Summary Available to the Public

The NEPA Planning Summary for 2000 will be available to the public for review after January 31. According to the summary, SRS is currently preparing four environmental assessments (EA) and anticipates preparation of two or more additional EAs over the next 12 months. SRS is in the process of preparing three environmental impact statements (EIS) and does not anticipate initiating any additional EISs in the next 24 months. Copies of this summary are available to the public by calling 1-800-881-7292 or email to nepa@srs.gov.

Current NEPA actions affecting SRS

• **Construction and Operation of the Low Enriched Uranium Loading Station and Modification to the Existing Highly Enriched Uranium Blending Facilities at the Savannah River Site (DOE/EA-1322)**, The EA will analyze the potential environmental consequences associated with construction and operation of a low enriched uranium (LEU) loading station and with modifications to existing facilities at SRS. The proposed action would support delivery of LEU (converted from off-specification highly enriched uranium) to the Tennessee Valley Authority. The draft EA is expected in January 2000.

• **Transportation of Offsite Shipments of Certain Low-Level and Mixed Radioactive Waste from SRS for Treatment and Disposal at Commercial Facilities (DOE/EA-1308)**, The EA will analyze the potential environmental consequences associated with shipping low-level and mixed low-level waste to treatment facilities in Texas and/or Envirocare of Utah for disposal. This EA is on hold pending other DOE waste management decisions.

• **Interim Measures for the Mixed Waste Management Facility Groundwater at the Burial Ground Complex at SRS (DOE/EA-1302)**, The final EA and FONSI were issued in December 1999. As an interim measure, a small dam will be built to impound water around and over the complex seep line to reduce the amount of tritium seeping from the area's southwest plume.

• **Revised FONSI for the EA for Centralization and Upgrading of the Sanitary Wastewater System at SRS (DOE-EA-0878)**, In 1993 DOE-SR prepared an EA and issued a FONSI for the centralization and upgrading of the sanitary wastewater treatment system at SRS. In a recent effort to reduce costs, DOE considered a modification to allow SRS to discharge small quantities of radionuclides into site sanitary sewage. Modifications using NRC and SCDHEC guidelines were used. No changes in existing permits are needed. The Revised FONSI is expected first quarter, 2000.

• **Evaluate an Alternate Approach for the Defense Waste Processing Facility (DWPF) Glass Waste Canister Storage Facility at SRS (DOE-EA-1327)** The EA will analyze the potential environmental consequences associated with building and operating an onsite above-ground concrete pad for casks containing DWPF canisters. The storage casks would be made using SRS's inventory of depleted uranium trioxide powder.

• **SRS High Level Waste Tank Closure (DOE/EIS-0303)**, The proposed action is to close the SRS High Level Waste Tanks in accordance with applicable laws, regulations, DOE Orders and SCDHEC permit requirements. The draft EIS is expected first quarter, 2000.

• **Surplus Plutonium Disposition EIS (DOE/EIS-0283)**, The ROD has been issued. Please see the article on the front of the *Bulletin*.

• **SRS Spent Nuclear Fuel Management (DOE/EIS-0279)**, This EIS evaluates management strategies using existing, modified and new facilities or processes for spent nuclear fuel assigned to SRSs. The final EIS is expected in first quarter, 2000.

• **DOE Waste Management (DOE/EIS-0200)**, This EIS recommends the types of wastes DOE sites would ship to other DOE sites for storage, treatment, and disposal. Transuranic, hazardous, high level, low level and low-level mixed waste RODs have been issued.

• **SRS Salt Disposition Alternative SEIS (DOE/EIS-0082-S2)**, The proposed action is to construct and operate a process to replace In-Tank Precipitation as part of the SRS High Level Waste Management System. This SEIS is on hold pending other decisions.

EA -- Environmental Assessment
EIS -- Environmental Impact Statement
FONSI -- Finding of No Significant Impact
NOI -- Notice of Intent
ROD -- Record of Decision

Agencies agree on interim remedial action for CMP Pits

DOE, EPA and SCDHEC have selected an interim remedial action for SRS's Chemicals, Metals, and Pesticides (CMP) Pits. A 30-day public comment period for the Interim Action/Proposed Plan was held from March 15 to April 13, 1999. The interim remedial decision is documented in the Interim Record of Decision document. This document includes a responsiveness summary that addresses any public comments submitted to SRS on the action. The DOE has worked with SCDHEC and EPA to ensure the interim remedial action is consistent with all applicable environmental requirements.

DOE, EPA, and SCDHEC determined that an interim remedial action is necessary for this unit. The interim remedial action selected is:

- 1) Ballast Area – Excavate the ballast area soils, dispose offsite and backfill to grade
- 2) Vadose Zone – Conduct soil vapor extraction (SVE) in subsurface soils and install an asphalt cover to provide infiltration control; and

- 3) Groundwater Hot Spot – Conduct air sparging (AS) in the groundwater hot spot coupled with SVE.

The CMP Pits were placed in operation in 1971 and were designated to receive ballasts, chemicals, pesticides and metals. These seven pits were backfilled and closed in 1979. SRS initiated a remedial action in 1984 with the concurrence of SCDHEC and excavated the contents of all of the pits.

The pits were lined with Typar™ filter fabric, backfilled with clean fill and a low infiltration cap was installed and covered with clean soil fill and topsoil. The CMP Pits' early closure was not formally performed under any regulatory program, however, SCDHEC inspections occurred routinely throughout the entire closure. The operable unit was identified as a RCRA/CERCLA unit in 1989.

Copies of the Interim Record of Decision are available at the information repositories listed on page 2.

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