The Savannah River Site
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Savannah River Site Seeks RCRA Hazardous Waste Permit Renewal for the M-Area and Metallurgical Laboratory Hazardous Waste Management Facilities

Current Permit Expires July 12, 2020

The U. S. Department of Energy (DOE) - Savannah River Operations Office has requested that its Resource Conservation and Recovery Act (RCRA) permit be renewed for the M-Area and Metallurgical Laboratory (Met Lab) Hazardous Waste Management Facilities (HWMFs). The current permit for the M-Area and Met Lab HWMFs expires on July 12, 2020. Per South Carolina regulations, a renewal request must be submitted 180-days prior to the expiration date of the effective permit. This request was made by the submittal of the Savannah River Site (SRS) 2013 RCRA Permit Renewal Application, Revision 0 on January 14, 2020.

The M-Area HWMF consists of an unlined settling basin (surface impoundment), abandoned process sewer line, overflow ditch, seep area, and a Carolina Bay (Lost Lake). Between 1958 and 1985, these areas received liquid effluent from the M-Area fuel fabrication operations. This effluent contained solvents and degreasers which are considered hazardous under the South Carolina Hazardous Waste Management Regulations (SCHWMR). The M-Area HWMF was certified closed in accordance with the approved closure plan on April 26, 1991.

The Met Lab HWMF consists of a closed, unlined settling basin (surface impoundment), the process sewer line leading to the basin, a drainage outfall to an adjacent Carolina Bay and the Carolina Bay itself. Between 1956 and 1985, these areas received effluent from the then Savannah River Technology Center (now Savannah River National Laboratory) Equipment Engineering Section Met Lab. The effluent from the Met Lab contained solvents and degreasers which are considered hazardous under the SCHWMR. The Met Lab HWMF was certified closed in accordance with the approved closure plan on June 18, 1992. The Carolina Bay was also closed and required no further action.

The SRS is in the process of remediating the contaminated groundwater associated with the M-Area and Met Lab HWMFs. The M-Area HWMF is divided into four sectors based on geography, subsurface conditions, and ongoing activities. Several corrective actions are in place or have been used at these HWMFs. These include pump and treat, dynamic underground stripping using steam, soil vapor extraction (active, MicroBlowers™, and barometric pumping) in the vadose zone, bioremediation along the former process sewer lines, in situ air stripping using airlift recirculation wells, and others. In addition, SRS has implemented field deployments of potential corrective actions such as humate addition for enhancing attenuation in the Southern Sector and in-situ chemical oxidation for the destruction of volatile organic compounds in Western Sector.

Some of the more significant changes from the previous 2000 application include replacing references to CUSUM (or cumulative sum) control chart statistical method and stating that future statistical methods will meet regulatory guidelines, updating the corrective action programs for the A-2 Air Stripper to propose permanent shutdown, the M-1 Air Stripper to include the existing stannous chloride system for mercury, recovery wells, airlift

recirculation wells and other monitoring well networks throughout M-Area and Met Lab HWMFs, Northern and Southern Sectors characterization programs, operation of the corrective action programs throughout M-Area and Met Lab HWMFs, etc.

More information, including the actual volume of the permit renewal application, is available for review and copying at the DOE Public Reading Room located in the University of South Carolina-Aiken Library, or by contacting personnel identified in this notice. The Permittee's compliance history during the life of the permit that is expiring is available from South Carolina Department of Health and Environmental Control.

Written comments may be sent to SCDHEC. All comments will be considered in the final decision.

Please send your comments to:

Stacey French, P.E., Director
Division of Waste Management
South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

DOE Requests Temporary Authorization for Additional Field-Scale Testing of Advanced Oxidation Processes in Western Sector of the M-Area Hazardous Waste Management Facility at the Savannah River Site

The U. S. Department of Energy at the Savannah River Site (SRS) has requested from the South Carolina Department of Health and Environmental Control (SCDHEC) a temporary authorization to implement in-situ chemical oxidation (ISCO) in the Western Sector of the M-Area Hazardous Waste Management Facility (HWMF).

The M-Area HWMF corrective action program addresses four sectors of the contaminant plume based on geography, subsurface conditions, and ongoing activities. SRS is proposing this temporary authorization, consistent with SCDHEC regulations, for the destruction of volatile organic compounds (VOCs) in the Western Sector using potassium permanganate solution and a sodium persulfate and sodium hydroxide solution via four injection wells. A groundwater recovery well, RWM018, will provide hydraulic control for the Western Sector ISCO.

The Western Sector has elevated trichloroethylene and tetrachloroethylene concentrations in the Lost Lake Aquifer Zone (LLAZ). To determine if the ISCO might be a viable option as a recommended corrective action, a field scale study will be implemented to test the performance of the technology and to learn and refine potential deployment options. A previous campaign of ISCO in 2018 was only able to distribute oxidant solution into two of four permeable zones of the LLAZ. Therefore, a second campaign of ISCO injections, targeting the two zones not impacted during the first injections, is needed.

Fifteen existing groundwater monitoring wells will be used to monitor the effects of the injection activities. Monitoring will be conducted after completion of the oxidant injection.

At the end of the field campaign, performance status reports will be submitted to SCDHEC. The results will be used to support the final corrective action recommendations for Western Sector and could also have applicability to other portions of the overall A/M Area VOC plume.

For information, contact:

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South Carolina Department of Health and Environmental Control
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The SRS Environmental Bulletin

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