

**Floodplain Statement of Findings
for the
Effects of Proposed Herbicide Application
to DOE-SR 115-kV Electricity Transmission Line Rights-of-way
on the Savannah River Site**

**Prepared for

U.S. Department of Energy
Savannah River Operations Office
Aiken, South Carolina**

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1.0 Project Description

The Department of Energy (DOE) prepared the *Floodplain and Wetland Assessment of the Effects of Proposed Herbicide Application to DOE-SR 115-kV Electricity Transmission Line Rights-of-way on the Savannah River Site* (SRNS-J2000-2019-00100, Revision 0, December 2019) to evaluate potential impacts to floodplains and wetlands from the application of herbicide treatments at certain locations on DOE-SR 115-kV electricity transmission line rights-of-way (r/w) on the Savannah River Site (SRS) to effectively control vegetation growth.

Herbicide application to effectively control vegetation growth was proposed at selected DOE-SR 115-kV r/w locations in wetlands and floodplains (Figure 1). An herbicide mix will be applied using backpack sprayers to conduct spot treatments of tree species growing in the sapling and shrub strata. Herbicides selected for application on DOE-SR r/w's have been approved for use on SRS.

A surfactant may be mixed with the herbicide to increase its effectiveness. Polyethoxylated tallow amine, a commonly used surfactant, is not used on SRS because of its recognized high toxicity to amphibian larvae. Further mention of herbicide in this assessment references the herbicide-surfactant mixture.

Selection and application of herbicides to be used for this proposed action will be compliant with the U.S. Environmental Protection Agency (EPA) and South Carolina Department of Health and Environmental Control (SCDHEC) Pesticide National Pollutant Discharge and Elimination System (NPDES) Group Permit for wetland and over water applications and herbicide label directions. Under the proposed action, DOE-SR has compliance responsibilities as the "Owner-Operator," as defined in Appendix A of NPDES Permit No. SCG160000.

Herbicide application will occur annually on an as-needed basis during the growing season, typically April through October, but could begin earlier or extend later in the year. The necessity of repeat applications will be determined based on visual inspections of the environmental sampling locations by appropriate personnel in accordance with owner-operator internal procedures or other guidelines.

2.0 Floodplain Location Explanation

Vegetation in the DOE-SR 115-kV transmission line corridors must be controlled to ensure safe and reliable transmission of electricity to SRS facilities, and to meet regulatory requirements. Locations where 115-kV rights-of-way cross floodplains and wetlands are difficult to manage because the plant species composition and water and nutrient availability combine to promote rapid vegetation growth.

3.0 Alternatives Evaluated

The preferred alternative for vegetation management in wetlands and floodplains is herbicide application using backpack sprayers to spot treat tree species growing in the sapling and shrub strata. The no-action alternative is to continue the previous and more costly management regime of mowing or broadcast herbicide application to achieve vegetation control adequate for regulatory compliance. A third alternative is the spot application of herbicide with mechanized equipment.

The preferred alternative has the least amount of wetland impact because only tree species growing in the sapling and shrub strata are adversely affected, and once control is achieved, r/w wetlands will require much less disturbance than when mowing was used to manage r/w vegetation. The no-action alternative, continuing to mow or broadcast application of herbicides, resulted in substantial impacts to wetland vegetation at the time of mowing, and likely caused minor negative impacts to wetland hydrology from mowing debris and soil rutting by mowing equipment. Broadcast herbicide application negatively affected the entire plant community over the entire r/w. The third alternative, spot application of herbicide with mechanized equipment, would have greater non-target plant impacts because this herbicide application method lacks the precision associated with backpack sprayer herbicide application. The mechanized equipment also would negatively affect wetland soils and hydrology with equipment rutting in wetlands. None of the alternatives affect floodplain functions.

4.0 Statement on Conformance to Applicable Floodplain Protection Standards

The project does not change flood storage volume or base flood elevations; therefore, the project is considered to conform to applicable floodplain protection standards.

5.0 Description of Minimization of Potential Floodplain Harm

The floodplains associated with the project are owned by DOE-SR, are uninhabited by people, and are undeveloped; therefore, the project, which does not change base flood elevations or flood storage volume, is not anticipated to cause floodplain harm.

