

**Floodplain and Wetland Assessment  
for the R-Area Discharge Canal CERCLA Removal Action  
on the Savannah River Site**

**Prepared for**

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

**September 2022**

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**1.0 Introduction**

Executive Order 11988-Floodplain Management (May 24, 1977) and Executive Order 11990-Protection of Wetlands (May 24, 1977) require federal agencies to evaluate, and to the extent possible minimize, the impacts of their projects on floodplains and wetlands. The U.S. Department of Energy (DOE) established policy and procedures to consider impacts on floodplains and wetlands as part of its decision-making process in 10 CFR 1022 – *Compliance with Floodplain and Wetland Environmental Review Requirements*. Under this DOE regulation, a floodplain or wetland assessment is required for any activity involving floodplains or wetlands, per 10 CFR 1022 (d) (1) – (2). Furthermore, 10 CFR 1022.11 (a) requires DOE to determine the applicability of the floodplain management and wetlands protection requirements in 10 CFR 1022, Subpart B, concurrent with its review of a proposed action to determine appropriate National Environmental Policy Act (NEPA) or Comprehensive Environmental Response, Liability, and Compensation Act (CERCLA) process requirements. Determination of the appropriate NEPA process is discussed in Section 3.0, Project Description.

This assessment has been prepared by DOE-Savannah River (DOE-SR) in accordance with the requirements of 10 CFR 1022.13 to evaluate potential impacts to floodplains and wetlands from the R-Area Discharge Canal (RDC) Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Removal Action at the Savannah River Site (SRS). The provisions of 10 CFR 1022.13 (c) permit an assessment to be prepared separately for those floodplain and wetland actions for which neither an Environmental Assessment (EA) nor Environmental Impact Statement (EIS) is required. DOE-SR has determined the need for this floodplain and wetland assessment per 10 CFR 1022.5 (e) since the proposed action will occur in wetlands associated with the RDC. This assessment also addresses requirements of Executive Order 13690<sup>1</sup> restoring the Federal Flood Risk Management Standard (FFRMS) that expanded flood elevation determination (refer to Section 3.2 for details).

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<sup>1</sup> Executive Order 14030, “Climate-Related Financial Risk (May 2021), reinstated Executive Order 13690.

## 2.0 Background

DOE-SR is engaged in numerous environmental contaminant remediation activities across the SRS under CERCLA. *Record of Decision, Remedial Alternative Selection for the Lower Three Runs Integrator Operable Unit* (SRNS-RP-2020-00542, Rev. 1, August 2021) describes ongoing CERCLA activities in R-Area, among other locations. The proposed action is the removal of contaminated sediments from the RDC.

## 3.0 Project Description

R-Reactor operations discharged a high volume of reactor cooling water into the RDC from 1961 to 1964. Discharge water contained Cesium-137 (Cs-137) and Cobalt-60 (Co-60), which is present in the sediment of RDC at certain locations. Removal of sediments contaminated with Cs-137 and Co-60 is required by CERCLA. The area proposed for contaminated sediment removal is approximately 502 square feet with a sediment removal depth of up to one foot (Figure 1).

DOE-SR plans to conduct the proposed action under its provisions for application of a categorical exclusion pursuant to 10 CFR 1021.410. DOE-SR has deemed that the proposed action is categorically excluded as it satisfies all the requirements under 10 CFR 1021.410 (b) (1) - (3):

- The proposed action fits within the class of actions listed in 10 CFR 1021, Subpart D, Appendix B, specifically Categorical Exclusion B3.1, Site Characterization and Environmental Monitoring. An SRS Environmental Evaluation Checklist (EEC) for the proposed action is provided in Appendix A.
- No extraordinary circumstances exist that may affect the significance of the environmental effects of the proposed action, and;
- The proposed action is not being segmented (i.e., is not connected to or otherwise related to other proposed actions with potentially significant or cumulatively significant impacts) to meet the definition of a categorical exclusion. The proposed action is a stand-alone activity and not part of a larger project being evaluated with an EA or EIS.

Furthermore, none of the conditions that are integral elements for Class B actions listed at 10 CFR 1021, Subpart D, Appendix B (1) - (5) exist for the proposed action that would otherwise negate qualification for categorical exclusion. While the proposed action will take place in wetlands which are considered an environmentally sensitive resource per 10 CFR 1021, Subpart D, Appendix B (4) (iii), it is not anticipated

that the proposed action has the potential to cause significant impacts on these resources. The proposed action will not result in a net loss of wetland services and does not require mitigation.

### **3.1 Description of Wetlands**

The subject site is located in the manmade RDC. Wetland vegetation observed at the project site included swamp loosestrife (*Decodon verticillatus*), rose mallow (*Hibiscus moscheutos*), water lily (*Nymphaea odorata*), and bur-reed (*Sparganium americanum*) (Photograph 1). The wetland ranking for all of these species is Obligate (OBL), which is defined as those wetland plants that always occur in standing water or in saturated soils.

Wetlands are defined under Section 404 of the Clean Water Act as requiring positive evidence of three criteria: 1) hydrophytic vegetation, 2) hydric soils, and 3) wetland hydrology. Hydrophytic vegetation is considered to be present when all species are ranked OBL. The subject site meets the hydrophytic vegetation criterion. Soils were not sampled because of potential radiological contamination but are conservatively assumed to meet hydric soil criteria because of long-term or permanent inundation. Likewise, the presence of long-term or permanent inundation satisfies the wetland hydrology criterion. The site is considered to be a jurisdiction wetland based on the presence of positive evidence of the three wetland criteria. Wetlands were identified using criteria specified in the U.S. Army Corps of Engineers (USACE) 1987 Wetland Delineation manual and current USACE supplemental guidance.

### **3.2 Description of Floodplains**

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) are the most authoritative information available for floodplains on SRS. Where floodplains of SRS streams are mapped by FEMA, they are classified as a Special Flood Hazard Area (SFHA) subject to inundation by the one percent annual chance flood (100-year flood). The SFHAs are further defined as Zone A (no base flood elevation determined) and Zone AE (base flood elevation determined). The SFHAs meet the definitions of base floodplain and critical action floodplain defined by 10 CFR 1022.4.

The Federal Flood Risk Management Standard (FFRMS) identifies three approaches for establishing the FFRMS elevation and flood hazard area:

1. Utilizing the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science (heretofore referred to as the “climate-informed science approach);
2. Freeboard (Base Flood Elevation (BFE) + X feet); and
3. 500-year flood elevation.

The closest mapped floodplain is located on Lower Three Runs, beginning at the downstream side of the PAR Pond dam and extending downstream until merging with the Savannah River floodplain. The elevation of the project site is approximately 110 feet higher than the end of the Lower Three Runs floodplain at the PAR Pond dam. The proposed action does not occur in a FEMA-mapped floodplain (100-year BFE). Furthermore, the subject site does not occur in a flood hazard area identified with any of the three FFRMS approaches. Lastly, by extension of this determination and pursuant to 10 CFR 1022.11, the proposed action is taking place in neither a base or critical action floodplain, nor meets criteria as a critical action per 10 CFR 1022.4.

#### **4.0 Effects of the Proposed Action on Wetlands and Floodplains**

The proposed action is the removal of contaminated sediments in the RDC. The proposed activity will have a negative and direct effect on wetland vegetation that also is both a short-term and long-term effect. However, any loss of emergent wetland vegetation resulting from excavation will be compensated for by natural revegetation. Although wetland soils will be removed as a result of the proposed action, it will not be a complete removal; uncontaminated wetland soils will remain. The effects on wetland soils will be negligible. A bottom depth increase of up to one foot is considered to be a negligible effect on the wetland hydrology of the RDC. The overall effect on wetlands is insignificant because the proposed action will not result in a significant short-term or long-term loss of wetland services and does not result in a permanent loss of wetlands. The proposed action will not occur in a floodplain or flood hazard area defined in the FFRMS.

The effects of the proposed RDC sediment removal on floodplain and wetland values was considered for conservation of existing flora and fauna, cultural resources, cultivated resources, aesthetic values, and public interest. The proposed action is considered to have an insignificant effect on conservation of existing flora and fauna because the magnitude of impact is less than 0.012 acre (502 square feet), with no significant loss of wetland services. The proposed activity will not impact cultural resources because it

will occur in the bottom of a manmade canal constructed in the early 1950s. The proposed action will not impact cultivated resources because they do not exist on SRS. The proposed activity is not considered to negatively impact aesthetic values because the proposed action will occur at a location of minimal aesthetic value. The proposed action will not affect existing public interest associated with the locations of the proposed action. The survival, function, and quality of the wetlands subject to the proposed activity are anticipated to be insignificantly affected because the magnitude of impact is 0.012 acre (502 square feet) with negligible effects to wetland-defining criteria.

## **5.0 Alternatives Evaluated**

The purpose of the proposed action is to remove contaminated sediment from the RDC as required by CERCLA regulations. The preferred alternative is to excavate the contaminated sediment for regulatory-approved disposal. The no-action alternative is to not remove the contaminated sediments. The no-action alternative is infeasible because it fails to meet CERCLA regulatory requirements. A third alternative considered was the construction of an engineered cap over the area of contaminated sediment. Regulatory authorities preferred removal and disposal over capping the sediments in-place.

The preferred alternative has an insignificant effect on wetlands because the magnitude of impact is 0.012 acre (502 square feet) with negligible effects on wetland-defining criteria and wetland services, and no loss of wetland acreage. The no-action alternative of not removing contaminated sediment has no effect on wetlands but does not meet regulatory requirements and is infeasible. The third alternative, engineered cap construction, would have permanent negative effects on wetlands because it would require covering the contaminated sediment with approximately 12-18 inches of cap materials.

## **6.0 Mitigation**

The proposed action will require excavation of up to 502 square feet of submerged sediment to a depth of up to one foot. There will be no net loss of wetland acreage. Any loss of emergent wetland vegetation resulting from excavation will be compensated for by natural revegetation. A bottom depth increase of up to one foot is considered to be a negligible effect on the wetland hydrology of the RDC. Wetland soils will remain after sediment removal. The proposed action will not result in a net loss of wetland services and does not require mitigation.

## **7.0 Summary and Conclusions**

DOE-SR is proposing the removal of contaminated sediment from the RDC to meet CERCLA regulatory requirements. Sediment removal would occur in a 502-square-foot (0.012 acre) area down to a depth of up to one foot. The removal action would not result in a permanent wetland loss. The subject site is not located in a floodplain. Effects on wetlands were determined to be insignificant because the magnitude of impact is only 0.012 acre with negligible impacts to wetland services and wetland-defining criteria; this impact does not require mitigation. The no-action alternative of not conducting the sediment removal does not meet CERCLA regulatory requirements and is infeasible. The third alternative, construction of an engineered cap over the contaminated sediments, was not preferred by the regulatory authorities; capping also has greater wetland impacts than the preferred alternative.

The project site is not located in a floodplain. There are no cumulative impacts.

DOE-SR will publish, in accordance with 10 CFR Part 1022.12, a Notice of Proposed Wetland Action based on the information in this document; the Notice of Proposed Wetland Action will also be sent to the FEMA regional office, appropriate Native American tribes, the South Carolina Department of Health and Environmental Control, as well as persons or groups known to be interested in or potentially affected by the Proposed Action and offered an opportunity to review and comment for 15 days, pursuant to 10 CFR 1022.12(b). The Notice will include a brief description of the proposed action and project location. The Notice will be published so that it provides an opportunity for a 15-day public review and comment period. DOE-SR will consider substantive comments for reevaluating the practicability of alternatives and mitigation.

## **8.0 References**

10 CFR 1021, U.S. Department of Energy, *National Environmental Policy Act Implementing Procedures*, Subpart D, Appendix B.

10 CFR 1022, U.S. Department of Energy, *Compliance With Floodplain and Wetland Environmental Review Requirements*.

33 CFR 328, U.S. Army Corps of Engineers, *Definition of Waters of the United States*.

Environmental Evaluation Checklist CBU-G-2022-0013, Lower Three Runs Integrator Operable Unit Sampling and Remediation, Rev. 0, May 2022.

Executive Order 11988. *Floodplain Management.*

Executive Order 11990. *Protection of Wetlands.*

Executive Order 13690. *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input of Wetlands.*

Executive Order 14030. *Climate-Related Financial Risk.*

FEMA 2010. FIRM, Barnwell County, SC. Panel 150 of 500 (panel not printed by FEMA), Map Number 45011C0150D.

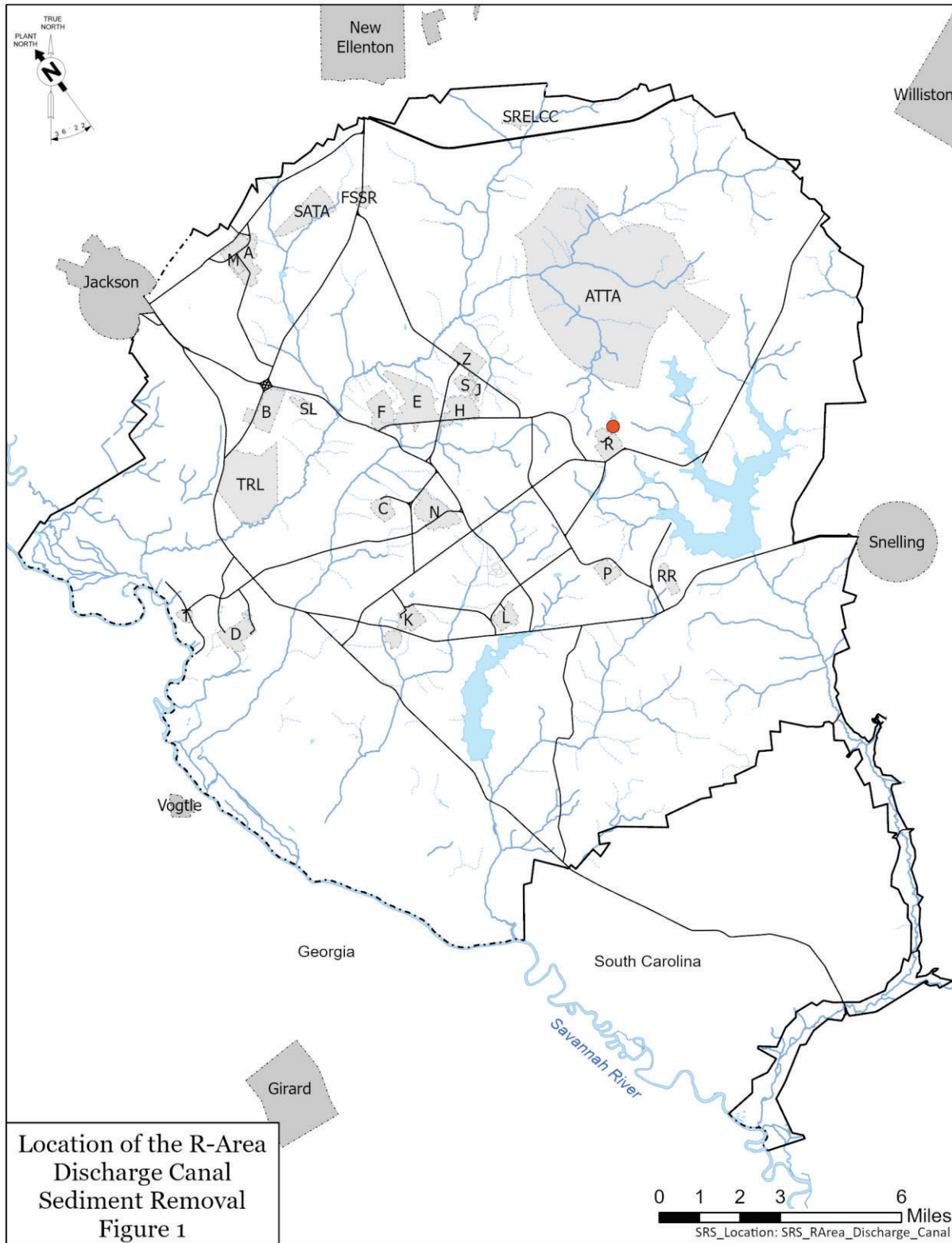
FEMA 2018. FIRM, Barnwell County, SC. Panel 300 of 500, Map Number 45011C0300D.

Savannah River Nuclear Solutions. *Record of Decision, Remedial Alternative Selection for the Lower Three Runs Integrator Operable Unit (SRNS-RP-2020-00542, Rev. 1, August 2021)*

U.S. Army Corps of Engineers. Wetlands Research Program Technical Report Y-87-1, *Corps of Engineers Wetland Delineation Manual.*

U.S. Army Corps of Engineers. *Regional Supplemental to the Corps of Engineers Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region.*







Photograph 1. Wetland vegetation at area of proposed sediment removal.

## Appendix A




Environmental Evaluation Checklist No. CBU-G-2022-0013, Revision 0

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OSR 14-347 Rev. 11-01-2010 Proc. Ref 3Q, 5.1  Entered by Monique Rabin Entered on 05/16/2022	<b>Savannah River Site          Environmental Evaluation Checklist (EEC)          NEPA Review / Environmental Permits</b>  Status Approved	EEC No. CBU-G-2022-0013  Rev No. 0
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**Instructions**

- Fill in both the NEPA and Permits portion of the checklist.
- Submit one copy of the completed Checklist with supplemental information to the Department NEPA Coordinator(DNC). The DNC will distribute to the Site NEPA Coordinator for NEPA level approval by DOE
- Submit one copy of the completed Checklist with supplemental information to the Environmental Compliance Authority(ECA).
- Additional Guidance/points-of-contact may be viewed at the Environmental Knowledge Portal

<b>Activity Title</b>		<b>Project No.</b>		<b>Date</b>
Lower Three Runs Integrator Operable Unit Sampling and Remediation				05/16/2022 09:32 AM
<b>Project Contact (Name)</b>	<b>Phone No.</b>	<b>ECA Name</b>	<b>Phone No.</b>	
Monique Rabin	(803) 952-6695	Joseph Burch	(803) 952-6660	
<b>06/20/2022</b>	<b>06/19/2025</b>	<b>\$200K</b>	<b>R-Area Discharge Canal and general</b>	
<b>Activity Start</b>	<b>Activity End</b>	<b>Est. Cost</b>	<b>site locations</b>	
<b>Activity Location</b>				
<b>Activity Description :</b> This should be a brief but thorough description of the proposed activity . Be very specific in explaining the purpose and location (a developed/non-developed area , outside/inside/adjacent to existing building no .,etc.). Description should include details on regulatory /permitting needs and /or potential environmental impacts of the proposed activity . Attach a copy of Functional Performance Requirements , conceptual scope of work , maps, charts, or other equivalent supporting documentation .				
<b>Summary</b> This EEC addresses three general activities associated with the remediation of the Lower Three Runs(LTR) Integrator Operable Unit (IOU): 1) Sediment sampling in the R-Area Discharge Canal; 2) Excavation of radiologically contaminated (primarily Cs-137) sediments from the R-Area Discharge Canal; and 3) Installation of Access control Features including two access control gates on roads leading to Joyce Branch and Land Use Control (LUC) access warning signs in various areas leading to the ponds, waterbodies and wetlands associated with the LTR IOU.				
<b>Reference Documents (e.g., CDR, FDR, Task Plans, etc.)</b>		Enter reference information here: Record of Decision Remedial Alternative Selection for the Lower Three Runs Integrator Operable Unit (SRNS-RP-2020-00542)  Remedial Action Implementation Plan for the Lower Three Runs Integrator Operable Unit Upper Subunit (SRNS-RP-2022-00011)  Land Use Control Implementation Plan for the Lower Three Runs Integrator Operable Unit (Upper Subunit) (SRNS-RP-2022-00017)  Attach PDF files below:   srns-rp-2020-00542.pdf SRNS-RP-2022-00017.pdf   SRNS-RP-2022-00011-RAIP.pdf		
<b>Detailed Description:</b>				
The remedial action for the Lower Three Runs IOU, requires three separate types of work scope: 1. R-Area Discharge Canal Sediment Sampling				

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2. R-Area Discharge Canal Sediment Excavation  
 3. Installation of Access Control Features

**R-Area Discharge Canal Sediment Sampling:**  
 For the R-Area Discharge Canal, the planned activity entails sediment sampling in a localized area within the canal to determine the excavation limits for a remedial action where radioactive contaminated (primarily Cs-137) sediment is known to be located. The sediment sampling will occur within the middle portion of the R-Area Discharge Canal (see Figures 7, B1, and B2 of SRNS-RP-2022-00011). An approximate 400 sq ft area surrounding the location of the known contamination has been demarked as the minimum excavation area. Sediment sampling will be performed by SRNS. Samples will be collected by a hand auger through the water (maximum water depth estimated to be 4 ft). The maximum number of sediment samples is not expected to exceed 30. Radiological Protection personnel will be present during sampling to monitor personnel and equipment. The SRNS wetlands subject matter expert is aware of the planned activity.

**R-Area Discharge Canal Sediment Excavation:**  
 Once the excavation boundary is established, an excavation contractor will remove the sediment as necessary. Excavated sediments will be placed in lined waste containers to ensure compliance to the 1S Manual for disposal at the E-Area Low Level Waste Facility. The type (roll-off or skid pans) and number of containers will be determined once the total expected volume of sediments has been determined.

**Installation of Access Control Features:**  
 To implement the land control requirements of the remedial decision, both gates and signs will be installed at various upgradient locations around the perimeter of PAR Pond Area and associated wetlands. The features are as follows:  
 - Two gates will be installed across tertiary roads leading to Joyce Branch northeast of R-Area (see Figure 9 of SRNS-RP-2022-00011). The gates will not be locked but will include an access warning sign regarding prohibited entry into the wetlands without authorization. A site clearance permit will be obtained prior to installation of the gates.  
 - Approximately 55 access control warning signs will be placed along access points leading to the LTR IOU wetlands. The proposed locations and sign wording are provided in the Land Use Control Implementation plan (SRNS-RP-2022-00017).

## NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) CHECKLIST

Questions to Answer: \* An EEC is required to be submitted, evaluated, and approved for all proposed site actions and projects that have the potential to:

1. Result in a change in emissions, generation rates, or new discharge of hazardous, mixed, radioactive, asbestos, PCB, sanitary/industrial solid or liquid waste, petroleum substance, wastewater, or any other pollutants from a facility or process.  Yes  No

2. Be located outside of a previously developed area.  Yes  No

3. Involve siting, construction, modification, renovation, closure, relocation, or D&D of facilities or processes.  Yes  No

4. Affect environmentally sensitive areas/resources such as floodplain/wetlands, archaeologically or historically significant areas, threatened or endangered species, and / or their habitat, special water sources (e.g. aquifers)  Yes  No

Floodplain/wetlands  Threatened or endangered species' habitat  
 Archeologically or historically significant areas  Special water sources (e.g. aquifers)  
 Threatened or endangered species

5. Involve site characterization, environmental monitoring, or R&D programs  Yes  No

6. Involve any type of land disturbance, underground storage tank (UST), or subsurface injection/extraction  Yes  No

7. Involve a Site Evaluation (SE) area, RCRA/CERCLA area/facility, or associated 200 ft. Buffer Zone  Yes  No

ECA Approval:  Approved  Not Approved

**\*Note:** - If any are unknown, call Department NEPA Coordinator (DNC) or ECA for consultation.  
 - Consult with DNC to verify; file with project & complete PERMITS CHECKLIST.  
 - If any are "Yes", complete remainder of NEPA CHECKLIST & the PERMITS CHECKLIST

**Environmental Impacts Evaluation:** (Note: If any are "Yes", provide specifics/supplemental information.)

**Air**  
 • Will there be a new air emission or a change in the quantity or quality of an existing air emission?  Yes  No

**Surface Water**



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As noted by the SNC in the Comments section of the EEC, the Wetlands SME has determined that a Floodplain & Wetland Assessment (FPWA) pursuant to 10 CFR 1022 is not required for the sampling portion of the proposed activity. A FPWA is required prior to initiation of the R-Area Discharge Canal Sediment Excavation portions of the work scope noted in the Detailed Section of the EEC.

Not Approved - Alternate NEPA Action Required

CX applied for by DNC (Must meet all requirements of 10 CFR 1021.410(b)); B3.1

NCO Name Tracy Williams	Phone No. (803) 952-8278
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### ENVIRONMENTAL PERMITS CHECKLIST

**General**

Does this activity involve any land disturbance which may potentially result in erosion or sedimentation? (If yes, what is the approximate disturbance?) <input checked="" type="radio"/> Less than 1/2 acre <input type="radio"/> 1/2 acre to 1 acre <input type="radio"/> 1 to 2 acres <input type="radio"/> Greater than 2 acres	<input type="radio"/> Yes <input checked="" type="radio"/> No
Will the proposed activity install, modify(including tie-in to), or remove an Underground Storage Tank?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Will the proposed activity consist of a Renovation or Demolition to an existing building/structure? (If yes, please Specify): <input type="radio"/> Renovation <input type="radio"/> Demolition Explanation:  Are potential asbestos containing materials present? <input type="radio"/> Yes <input type="radio"/> No  *If No, Inspector signature and license number required  Inspector Signature: _____ License Number: _____  Select Asbestos Inspector _____ Date: _____	<input type="radio"/> Yes <input checked="" type="radio"/> No
Will you import or manufacture a new chemical substance?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Will the proposed activity impact a Site Evaluation Area or RCRA/CERCLA Area or an associated 200 ft. Buffer Zone?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Will the proposed activity involve construction or modification to a facility or process where the potential exists for a radioactive emission?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Will pesticides/herbicides be applied?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Environmental Management System (EMS): Is the proposed activity an addition to/revision of the aspects contained in the Environmental Aspects List? (Link to EMS Webpage, "Useful EMS Links". Select "SRS Environmental Aspects List" on this webpage.)	<input type="radio"/> Yes <input checked="" type="radio"/> No
<b>Air:</b> Explanation: No dust will be generated from sampling or excavation of the saturated sediments in the R-Area Discharge Canal	
<b>RAD</b> Will the proposed activity impact / create a radionuclide air emission source?	<input type="radio"/> Yes <input checked="" type="radio"/> No
<b>NON-RAD</b> Will the proposed activity impact a non-radionuclide air emission source? (answer "yes" if any of the following apply)  <ul style="list-style-type: none"> <li>• Will the project install or modify a piece of equipment which will emit or have the potential to emit, an air emission?</li> <li>• Will the project modify (including demolition) an existing permitted facility or process, which emits an air emission?</li> <li>• Will the project modify (including demolition) an existing facility or process, not already permitted by SCDHEC, which emits, or has the potential to emit an air emission?</li> <li>• Will the project be a demonstration (short term or long term) of a new technology which will emit an air emission?</li> <li>• Will the project install or modify a piece of equipment that is used to sample or monitor air emission?</li> </ul> Air emissions include regulated criteria pollutants (i.e. particulate matter, lead, nitrogen oxides, carbon monoxide, sulfur dioxide, volatile organic compounds (VOC's) etc.) and hazardous and toxic pollutants identified in SCDHEC R61-62.5 Standard 8 and Section 112(b) of the Clean Air Act.  Examples of typical permitted equipment or process air emission sources include, but are not limited to the following:	<input type="radio"/> Yes <input checked="" type="radio"/> No

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<ul style="list-style-type: none"> <li>• coal or fuel oil fired boilers</li> <li>• diesel generators</li> <li>• diesel powered equipment</li> <li>• process feed chemical storage tanks</li> <li>• fuel oil storage tanks</li> <li>• waste combustion incinerators</li> <li>• paint booths</li> <li>• lead melters</li> <li>• air strippers, etc.</li> <li>• degreasing operations</li> <li>• HVAC and chiller equipment</li> </ul>	
<b>Groundwater:</b> Explanation: Excavation of contaminated sediments will impact surface water of the R-Area Discharge Canal. Although the discharge canal is fed by groundwater, no groundwater will be impacted by the excavation.	
<b>Will the proposed activity:</b>	
Install or abandon a monitoring well or piezometer(s)?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Involve subsurface penetration for a hydrogeological investigation, geotechnical data collection, or characterization?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Involve the injection of a fluid, gas, or air mixture into the subsurface?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Involve the extraction of a fluid or air mixture from the subsurface?	<input type="radio"/> Yes <input checked="" type="radio"/> No
<b>Wastewater:</b> Explanation: This project does not impact wastewater systems. There are no wastewater lines in the vicinity of the sediment excavation.	
<b>Will the proposed activity install, construct, modify, demolish, or impact:</b>	
A sanitary/industrial process wastewater treatment system?	<input type="radio"/> Yes <input checked="" type="radio"/> No
A sanitary/industrial process wastewater collection system?	<input type="radio"/> Yes <input checked="" type="radio"/> No
A pump station(s) to transfer sanitary/industrial waste?	<input type="radio"/> Yes <input checked="" type="radio"/> No
A septic tank/tile field system?	<input type="radio"/> Yes <input checked="" type="radio"/> No
A storm water management system?	<input type="radio"/> Yes <input checked="" type="radio"/> No
<b>Domestic Water</b> Explanation: This project does not impact domestic water systems. There are no domestic water lines in the vicinity of the sediment excavation.	
<b>Will the proposed activity install, construct, modify, or demolish:</b>	
A domestic water distribution/treatment system?	<input type="radio"/> Yes <input checked="" type="radio"/> No
A domestic or process water well?	<input type="radio"/> Yes <input checked="" type="radio"/> No
<h2>ENVIRONMENTAL PERMITS CHECKLIST</h2>	
<b>Wastes</b> Explanation: The sampling and excavation of Cs-137 sediments in the R-Area Discharge Canal will not result in any mixed waste. The proposed activities will be performed within the Lower Three Runs Integrated Operable Unit.	
Will the proposed activity install, construct, modify, demolish, close, or otherwise impact a RCRA permitted facility?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Will the proposed activity generate a mixed waste? If yes, does a wastestream with similar characteristics currently exist at SRS? <div style="text-align: center;"><input type="radio"/> Yes <input checked="" type="radio"/> No</div> (Consult the facility Environmental Coordinator if assistance is needed)	<input type="radio"/> Yes <input checked="" type="radio"/> No
Will the proposed activity generate a hazardous waste?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Will you be sending hazardous/mixed waste to other on-site Treatment/Storage/Disposal (TSD) facilities? Is the TSD permitted to accept this waste? <div style="text-align: center;"><input type="radio"/> Yes <input checked="" type="radio"/> No</div> If yes, provide the following: Name of Receiving Facility:  Source used to confirm facility can accept waste:	<input type="radio"/> Yes <input checked="" type="radio"/> No
Is this activity to take place at an existing TSD (including groundwater unit, vadose zone, process sewer, Carolina Bay, secondary	<input type="radio"/> Yes <input checked="" type="radio"/> No



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containment system, etc.)													
Would this activity impact an existing TSD (including changing or improving storm water run offrun on drainage, security, communications, electrical, etc)?	<input type="radio"/> Yes <input checked="" type="radio"/> No												
Does this activity Involve Research and Development (R&D)?	<input type="radio"/> Yes <input checked="" type="radio"/> No												
<p>If yes, answer the following questions:</p> <ul style="list-style-type: none"> <li>• Does it involve hazardous / mixed waste? <input type="radio"/> Yes <input checked="" type="radio"/> No</li> <li>• Does it treat more than 1,000 kg of hazardous waste? <input type="radio"/> Yes <input checked="" type="radio"/> No</li> <li>• Does it involve polychlorinated biphenyls(PCBs)? <input type="radio"/> Yes <input checked="" type="radio"/> No</li> <li>• Will the activity continue for more than 30 days? <input type="radio"/> Yes <input checked="" type="radio"/> No</li> <li>• Will more than 250 kg of hazardous waste be introduced into treatment in a single day? <input type="radio"/> Yes <input checked="" type="radio"/> No</li> <li>• Does it treat more than 1 kg of acute hazardous waste or more than 500 kg of soil, water, or debris contaminated with acute hazardous? <input type="radio"/> Yes <input checked="" type="radio"/> No</li> <li>• Does it involve the placement of hazardous waste on the land or open burning of hazardous waste?</li> </ul> <p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>													
<b>Waste Identification , Generation and Management :</b>													
Explanation:													
Will the proposed activity include the purchase of lead or lead components? If yes, complete OSR 29-6 for each item and submit with checklist.	<input type="radio"/> Yes <input checked="" type="radio"/> No												
Will the proposed activity disturb soil, sludge or water at or near a RCRA/CERCLA Unit or Site Evaluation Area?	<input checked="" type="radio"/> Yes <input type="radio"/> No												
<p>If yes, were any listed wastes disposed of at this facility (Consult with Facility ECA if assistance is needed)</p> <p><input type="radio"/> Yes <input checked="" type="radio"/> No</p> <p>If yes, please contact ESS for guidance regarding the Investigation-Derived Waste Management Plan.</p>													
Does this activity result in a new liquid and/or solid waste generation (one-time or continuous), or a change in the quantity or the characteristic of an existing waste stream?	<input checked="" type="radio"/> Yes <input type="radio"/> No												
<p>If yes, check all that apply:</p> <table border="0"> <tr> <td><input type="checkbox"/> TRU</td> <td><input type="checkbox"/> Hazardous</td> <td><input type="checkbox"/> TSCA (PCB)</td> </tr> <tr> <td><input type="checkbox"/> Mixed - Covered by LDR FFCA</td> <td><input type="checkbox"/> Suspect Hazardous</td> <td><input type="checkbox"/> Wastewater</td> </tr> <tr> <td><input checked="" type="checkbox"/> Low-Level</td> <td><input type="checkbox"/> Sanitary/Industrial</td> <td><input type="checkbox"/> Acute Hazardous</td> </tr> <tr> <td><input type="checkbox"/> High-Level</td> <td><input type="checkbox"/> Used/Waste Oil</td> <td><input type="checkbox"/> Other</td> </tr> </table> <p>If Other Please Specify:</p>	<input type="checkbox"/> TRU	<input type="checkbox"/> Hazardous	<input type="checkbox"/> TSCA (PCB)	<input type="checkbox"/> Mixed - Covered by LDR FFCA	<input type="checkbox"/> Suspect Hazardous	<input type="checkbox"/> Wastewater	<input checked="" type="checkbox"/> Low-Level	<input type="checkbox"/> Sanitary/Industrial	<input type="checkbox"/> Acute Hazardous	<input type="checkbox"/> High-Level	<input type="checkbox"/> Used/Waste Oil	<input type="checkbox"/> Other	
<input type="checkbox"/> TRU	<input type="checkbox"/> Hazardous	<input type="checkbox"/> TSCA (PCB)											
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<input type="checkbox"/> High-Level	<input type="checkbox"/> Used/Waste Oil	<input type="checkbox"/> Other											
Where will waste be stored/disposed/treated.	<input checked="" type="radio"/> Yes <input type="radio"/> No												
<p>The contaminated sediments will be placed in lined rolloffs or skid pans and transported to E-Area for disposal in the Low Level Waste Facility</p>													
Is the facility permitted to manage this waste?													
<p>Complete the following items for each waste category applied above and submit with the checklist</p> <ul style="list-style-type: none"> <li>• Waste Category low level radioactive waste</li> <li>• Source utilized to confirm facility is permitted to accept the waste samples will be collected and compared to the 1S Manual waste acceptance criteria</li> <li>• Description of generated waste Cs-137 contaminated sediment. Sediment will be treated with Waste Lock 770 to ensure no free liquids prior to shipment. Some contaminated vegetation may also require disposal as low-level waste.</li> <li>• Dates generation is to begin and end January -Sept 2024</li> <li>• Estimate of waste generation for each category 50 cubic yards</li> <li>• Description of activity/process generating waste Excavation of contaminated sediments from the R-Area Discharge Canal</li> <li>• How the waste will be staged in the facility awaiting disposition and disposition route Waste will be stored in lined rolloffs or skid pans near the R-Area Discharge Canal</li> <li>• Description of waste reduction principles (reducing the volume, mass, or toxicity) for this activity</li> </ul>													

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Sampling will be conducted prior to excavation to limit the amount of sediments requiring disposal	
Has the proposed activity been evaluated for waste minimization/pollution prevention?	<input checked="" type="radio"/> Yes <input type="radio"/> No
<b>For Department ECA use only :</b>	
Per Wetland SME, a Floodplain & Wetland Assessment (FPWA) is not required for sampling portion of activity. A FPWA is required prior to R-Area Discharge Canal Sediment Excavation. -19May2022, K. Davis, SNC	

**Environmental Evaluation Checklist - NCO: Approved on 05/24/2022**

Approvers	Assigned	Notified	Received	Status Changed	Status
Tracy Williams	05/19/2022 04:21:02 PM	05/19/2022 04:21:02 PM	05/20/2022 07:12:23 AM	05/24/2022 08:45:54 AM	Approved

**Previous Process - Environmental Evaluation Checklist - SNC: Approved on 05/19/2022**

Approvers	Assigned	Notified	Received	Status Changed	Status
Katie Davis	05/18/2022 09:02:00 AM	05/18/2022 09:02:00 AM	05/19/2022 04:12:38 PM	05/19/2022 04:21:01 PM	Approved

**Previous Process - Environmental Evaluation Checklist - DNC: Approved on 05/18/2022**

Approvers	Assigned	Notified	Received	Status Changed	Status
Casey Feldt	05/17/2022 03:21:55 PM	05/17/2022 03:21:55 PM	05/18/2022 08:39:16 AM	05/18/2022 09:01:59 AM	Approved

**Previous Process - Environmental Evaluation Checklist - ECA: Approved on 05/17/2022**

Approvers	Assigned	Notified	Received	Status Changed	Status
Joseph Burch	05/17/2022 01:14:49 PM	05/17/2022 01:14:49 PM	05/17/2022 03:09:09 PM	05/17/2022 03:21:54 PM	Approved

Approver Comments

Approval Cycle Settings