



U.S. DEPARTMENT OF  
**ENERGY**



# Federal Facility Agreement

## Appendix E

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*Facilities Disposition & Site Remediation Committee*  
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# Purpose

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- Provide information discussed in responses to Citizens Advisory Board Recommendation #279 Federal Facility Agreement Update Provided Annually
  - Information briefing on the approved Revision 1 Fiscal Year 2017 Appendix E
- Meet Citizens Advisory Board Facilities Disposition and Site Remediation Committee Annual Work Plan Commitment

# Federal Facility Agreement

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- **Established August 1993**
  - A legally binding agreement among Department of Energy, Environmental Protection Agency – Region 4, and South Carolina Department of Health and Environmental Control
  - Includes administrative requirements, enforceable schedules, and milestones for actions and documents
  - Lists the Resource Conservation and Recovery Act/Comprehensive Environmental Response, Compensation and Liability Act “waste units” and other potential releases that must be addressed, and describes a process for any additional ones
  - Includes requirements for Removal from Service of some of the Savannah River Site Liquid Waste tanks
  - Spells out authorities and responsibilities of the three agencies, and procedures for resolving disputes

# Federal Facility Agreement - Appendix E

- Provides a lifecycle list of cleanup milestones for Savannah River Site Waste Sites
  - Made up of Appendices E.1, E.2, and E.3
    - *Appendix E.1 contains Enforceable Milestones for the current Fiscal Year +1*
    - *Appendix E.2 contains Enforceable Milestones for current Fiscal Year +2*
    - *Appendix E.3 contains Planning Milestones for current Fiscal Year +3 and beyond*
- Department of Energy **updates Appendix E annually** and submits for approval to South Carolina Department of Health and Environmental Control and Environmental Protection Agency – Region 4 in November.



# Federal Facility Agreement - Milestones

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## Documents

- **Remedial Investigation Work Plan**
  - Plan used as the basis to determine the extent of contamination
- **Remedial Investigation Report with Baseline Risk Assessment**
  - Report that determines the nature and extent of contamination and the associated health and environmental risks
- **Feasibility Study**
  - Report that develops and analyzes the range of cleanup alternatives for the unit
- **Proposed Plan**
  - Plan that identifies the cleanup alternative preferred by Department of Energy, South Carolina Department of Health and Environmental Control, and Environmental Protection Agency for the unit
    - *30 day public comment period for Comprehensive Environmental Response, Compensation and Liability Act units*
    - *45 day public comment period for Resource Conservation and Record Act/Comprehensive Environmental Response, Compensation and Liability Act units*

# Federal Facility Agreement - Milestones (Continued)

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## Documents (Continued)

- **Record of Decision**
  - Official report that documents the selected remedy, after consideration of public comments; commits Department of Energy to implement it
- **Remedial Action Implementation Plan**
  - Plan that describes how the selected remedy will be implemented: design summary, permitting, construction & operation, maintenance, etc.
- **Land Use Control Implementation Plan**
  - Plan that describes how the land use controls selected in the Record of Decision will be implemented, maintained, monitored, enforced, and reported
- **Removal Site Evaluation Report/Engineering Evaluation/Cost Analysis**
  - Report that describes removal alternatives and objectives, and selects the preferred removal action alternative to address the potential threat to human health and/or the environment; 30-day public comment period

# Federal Facility Agreement - Milestones (Continued)

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## Work Activities

- “Field Start” – beginning of remedial investigation (typically sampling or well construction) after approval of Remedial Investigation Work Plan
- “Remedial Action Start” – beginning of construction or site preparation activities after approval of Remedial Action Implementation Plan

## For Liquid Waste Tanks

- “Complete Bulk Waste Removal Efforts” – completing efforts to removal bulk (most) of the waste (including salt cake, sludge solids, and contaminated liquids) from a tank, leaving only a residual heel
- “Complete Operational Closure” – isolated and filled with grout, in accordance with Industrial Wastewater Closure Module

# Fiscal Year 2017 Appendix E - Major Changes

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## C-Area Groundwater

- Characterization activities found trichloroethylene (TCE) and tritium in the groundwater above their respective contaminant levels (MCLs) of 5 micrograms per liter ( $\mu\text{g/L}$ ) and 200 picoCuries per milliliter (pCi/mL).
- TCE and tritium plumes extend south and west from the C-Area Reactor Building to Castor Creek and to Fourmile Branch. TCE exceeds the MCL in the unnamed tributary to Castor Creek.
- A removal action is proposed to reduce the TCE moving into surface water so that the MCL is no longer exceeded in the unnamed tributary to Castor Creek. The removal action will also support the final remedial action for the remaining tritium and TCE plumes in C-Area Groundwater.
- The removal action will be discussed in Removal Site Evaluation Report/Engineering Evaluation/Cost Analysis (RSER/EE/CA) scheduled for submittal to the regulators for their review in September 2017.
- The final action for the C-Area Groundwater will be delayed. The dates for the final action will be updated in the Revision 0 Fiscal Year 2018 Appendix E submittal.

## Fiscal Year 2017 Appendix E – Major Changes (Continued)

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### P-Area Groundwater

- Characterization activities found chlorinated volatile organic compounds (cVOCs) (e.g., TCE and tetrachloroethylene) and tritium in the groundwater above their respective MCLs of 5 µg/L and 20 pCi/mL.
- cVOC plumes originating from the northwest side of the P-Area Reactor Building Complex are migrating westward and are intersecting Steel Creek.
- A removal action is proposed to address the cVOC plumes that are discharging into Steel Creek. Tritium plume and related surface water exceedances will be addressed as part of the final action.
- The removal action will be discussed in a report scheduled for submittal to the regulators for their review in October 2017.
- The final action for the P-Area Groundwater will be delayed. The dates for the final action will be updated in the Revision 0 Fiscal Year 2018 Appendix E submittal.

## Fiscal Year 2017 Appendix E – Major Changes (Continued)

### Wetland Area at Dunbarton Bay in Support of Steel Creek Integrator Operable Unit

- The Issue Record of Decision and Remedial Action Start dates for the Wetland Area at Dunbarton Bay were moved from June 30, 2017 and September 30, 2018 to June 30, 2023 and September 30, 2024, respectively.
- This move allows Savannah River Site to accomplish the near-term removal actions for C-Area Groundwater and P-Area Groundwater.
  - These actions to improve groundwater quality and protect affected streams have a high value for SCDHEC, EPA, and DOE, so they are being prioritized
- Wetland Area at Dunbarton Bay has been characterized; it is stable, poses no threat of migration, and is in an isolated and inactive area of the Site (P-Area) with little or no potential for exposure.
- The remedial action for the Wetland Area at Dunbarton Bay will be conducted after the currently planned interim remedial action for the A-Area Ash Pile (788-A), A-Area Coal Pile Runoff Basin (788-3A), and Stormwater Outfall A-013 (i.e., Issue Interim Record of Decision date of November 28, 2021 and Interim Remedial Action Start date of March 5, 2023).

# Fiscal Year 2017 Appendix E – Milestone Timeline

	2017	2018	2019	2020	2021	2022	2023	2024	
<b>CAGW</b>		AM Submittal 3/2018	RA Start 1/2019						
<b>PAGW</b>		AM Submittal 5/2018	RA Start 4/2019						
<b>GOSB</b>			Issue ROD 9/2019	RA Start 9/2020					
<b>WADB</b>	Issue ROD 6/2017	Original Dates RA Start 9/2018	----->					New Dates Issue ROD 6/2023	RA Start 9/2024
<b>DAGW</b>				Field Start 6/2020				Issue ROD 6/2023	
<b>AAP/ CPRB</b>					Issue Interim ROD 11/2021	Interim RA Start 3/2023			

**Acronyms**

- AAP/CPRB – A-Area Ash Pile (788-A), A-Area Coal Pile Runoff Basin (788-3A), and Stormwater Outfall A-013
- AM – Action Memorandum
- CAGW – C-Area Groundwater
- DAGW – D-Area Groundwater
- GOSB – G-Area Oil Seepage Basin
- PAGW – P-Area Groundwater
- RA – Removal Action
- ROD – Record of Decision
- WADB – Wetland Area at Dunbarton Bay

# Other Key Milestones – FY 2018 - 2019

- **Fifth Five Year Remedy Review Reports for:**
  - Operating Equipment (Revision 0) 12/2017
  - Engineered Cover Systems (Issuance) 2/2018
  - Geosynthetic or Stabilization/Solidification Cover Systems (Issuance) 2/2018
  - Operating Equipment (Issuance) 2/2019
- **Sixth Five Year Remedy Review Report for**
  - Native Soil Covers and/or Land Use Controls (Revision 0) 12/2018
- **D-Area Operable Unit**
  - Early Action Statement of Basis/Proposed Plan (Revision 0) 2/2018
  - Second Early Action Record of Decision (Revision 0) 10/2018
  - Second Early Action Record of Decision (Issuance) 6/2019
- **G-Area Oil Seepage Basin (761-13G) Operable Unit**
  - Statement of Basis/Proposed Plan (Revision 0) 6/2018
  - Record of Decision (Revision 0) 1/2019
  - Record of Decision (Issuance) 9/2019
- **Lower Three Runs Integrator Operable Unit**
  - Feasibility Study Report (Revision 0) 4/2018
  - Proposed Plan (Revision 0)\* 11/2018
  - Record of Decision (Revision 0) 7/2019
- **Liquid Waste Tanks**
  - Complete Bulk Waste Removal Efforts for One (1) Tank (15H) 10/2017
  - Complete Bulk Waste Removal Efforts for One (1) Tank (10H) 8/2018
  - Complete Bulk Waste Removal Efforts for Six (6) Tanks 9/2018
  - Complete Operational Closure of Two (2) Tanks 9/2019

(\* will be available for public review & comment around 5/2019)

## Fiscal Year 2017 Appendix E – Approval Actions

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- In response to a South Carolina Department of Health and Environmental Control comment on the Revision 0 Fiscal Year 2017 Appendix E, the Department of Energy agreed to schedule a meeting to discuss the ash and cinders along the Beaver Dam Creek and additional ash located downgradient of the 488-1D Ash Basin and 488-2D Ash Basin.
- The South Carolina Department of Health and Environmental Control and Environmental Protection Agency approved the Revision 1 Appendix E for Fiscal Year 2017 on May 24, 2017.

# Upcoming Remedial/Removal Decisions Documents

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- **Submit Revision 0 C-Area Groundwater RSER/EE/CA to regulators for review and comment in September 2017**
  - Projected to be made available for 30-day public comment period starting in February 2018
- **Submit Revision 0 P-Area Groundwater RSER/EE/CA to regulators for review and comment in October 2017**
  - Projected to be made available for a 30-day public comment period starting in February 2018
- **Availability of these documents for review and comment will be public noticed.**

# Summary

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The Federal Facility Agreement and Supporting Documentation, including Federal Facility Annual Progress Report for Fiscal Year 2016, Land Use Control Assurance Plan, Savannah River Site Community Involvement Plan, etc. is available online at:

<http://www.srs.gov/general/programs/soil/ffa/ffa.html>

The Federal Facility Agreement for the Savannah River Site is available at:

<http://www.srs.gov/general/programs/soil/ffa/ffa.pdf>

# Questions and Answers

