Chapter 3: **Compliance Summary**

The Savannah River Site (SRS) implements programs to meet the requirements of applicable federal and state environmental laws and regulations, as well as U.S. Department of Energy (DOE) Orders, notices, directives, policies, and guidance. The Site's goal is to comply with regulatory requirements and eliminate or minimize any environmental impacts. SRS has a decades-long commitment to environmental compliance and protecting human health and the environment.

2021 Highlights

COVID-19 Pandemic

- SRS continued to be proactive in managing COVID-19 pandemic impacts.
- All environmental compliance reports and documents were submitted to the South Carolina Department of Health and Environmental Control (SCDHEC) or the U.S. Environmental Protection Agency (EPA), as required.
- SRS maintained full regulatory compliance.

Permitting

SRS managed 532 operating and construction permits. SRS did not receive any Notices of Violation (NOVs).

Remediation (Environmental Restoration and Cleanup)

As of December, SRS completed the cleanup of 412 of the 515 waste units containing or having contained solid or hazardous waste. An additional eight waste units are currently being remediated.

Radioactive Waste Management

- The annual reviews for the E-Area Low-Level Waste (LLW) Facility Performance Assessment (PA) and the Saltstone Disposal Facility (SDF) PA showed that SRS continued to operate these facilities in a safe and protective manner.
- SRS sent eight transuranic (TRU) waste shipments to the Waste Isolation Pilot Plant (WIPP) for deep geologic disposal.

Resource Conservation and Recovery Act (RCRA)

- On November 30, SCDHEC issued the Final Permit Decision for hazardous waste activities at the
  - M-Area and Metallurgical Laboratory Hazardous Waste Management Facilities (HWMFs)
  - F-Area HWMF
  - H-Area HWMF
  - Solvent Storage Tanks (SSTs) Facility

2021 Highlights (continued)

The permit also addressed the postclosure care period for the Mixed Waste Management Facility (MWMF) and two solid waste management units. This permit decision became effective on December 15.

- SCDHEC conducted the unannounced RCRA Compliance Evaluation Inspection (CEI) for fiscal year (FY) 2021 at selected RCRA facilities on July 27. The inspection did not reveal any deficiencies.
- The EPA and SCDHEC conducted the unannounced RCRA CEI for FY 2022 at select RCRA facilities on December 1-2. The inspection noted one deficiency that was corrected on the spot.
- SCDHEC performed a Comprehensive Groundwater Monitoring Evaluation on September 28, inspecting groundwater monitoring systems and corrective actions at the M-Area and Metallurgical Laboratory HWMFs, Sanitary Landfill, MWMF, and F- and H-Area HWMFs. The inspection did not note any deficiencies.
- The SCDHEC annual underground storage tank (UST) inspection on December 16 found that all 17 of the USTs were in compliance.

Air Quality and Protection

- SRS met all Clean Air Act (CAA) requirements.
- SCDHEC issued the Air Operating Permit (Title V) for Air Quality and Protection for the Site on January 19 with an effective date of April 1, 2021.

Water Quality and Protection

- All 36 SRS Industrial stormwater outfalls in the General Permit covered under the Site's Stormwater Pollution Prevention Plan (SWPPP) complied with plan requirements. The SWPPP describes how SRS prevents contamination and controls sedimentation and erosion.

Radiation Protection of the Public and the Environment

- SRS air and water discharges containing radionuclides were well below the DOE public dose limit of 100 millirem (mrem) per year. (Chapter 6, *Radiological Dose Assessment*, explains the public dose.)

Environmental Protection and Resource Management

- SRS conducted 966 National Environmental Policy Act (NEPA) reviews to identify potential environmental impacts from proposed federal activities. SRS identified 875 of these as Categorical Exclusions (CXs) that did not require action from the Site under NEPA.

2021 Highlights (continued)

- SRS continued to comply with many other federal laws, including the Emergency Planning and Community Right-to-Know Act (EPCRA); the Superfund Amendments and Reauthorization Act (SARA), Title III; the Endangered Species Act (ESA); the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); the National Historic Preservation Act (NHPA); and the Migratory Bird Treaty Act (MBTA).

Release Reporting

- SRS reported one release exceeding the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Reportable Quantity (RQ). A polyvinyl chloride (PVC) pipe valve leak led to a release of 1,773.3 pounds of sodium hydroxide; the RQ is 1,000 pounds. Absorbent pads were used at the leak site and were properly disposed. SCDHEC and the National Response Center were notified at the time as required. The regulatory agencies did not require further action. More information on the release is in Section 3.3.9.

External Environmental Audits and Inspections

- The EPA and SCDHEC conducted audits, inspections, and site visits to various SRS environmental programs to ensure regulatory compliance. The Federal Energy Regulatory Commission (FERC) performed a dam safety inspection in September.
- The third-party audit of the Environmental Management System (EMS) was performed in April. The audit results were satisfactory with DOE declaring the EMS conformant to the International Organization for Standardization (ISO) 14001:2015 Standard.

Tank Closure (Radioactive Liquid Waste Processing and Dispositioning)

- The Salt Waste Processing Facility (SWPF) treated more than 2 million gallons of salt solution.
- More than 3.14 million gallons of waste was processed into grout and disposed of in the SDF.
- The Defense Waste Processing Facility (DWPF) filled 62 canisters with 230,000 pounds of glass waste mixture, immobilizing 1.06 million curies (Ci) of high-level radioactive waste.
- The H-Area Effluent Treatment Project (ETP) processed approximately 7.25 million gallons of treated wastewater.

3.1 INTRODUCTION

Complying with environmental regulations and DOE Orders is integral to SRS operations. This chapter summarizes how SRS complies with applicable environmental regulations and programmatic requirements.

3.2 FEDERAL FACILITY AGREEMENT

The 1993 *Federal Facility Agreement (FFA) for the Savannah River Site*, a tri-party agreement between DOE, the EPA, and SCDHEC, integrates CERCLA and RCRA requirements to achieve a comprehensive remediation strategy and to coordinate administrative and public participation requirements. The FFA governs remedial actions, sets annual work priorities, and establishes milestones for cleanup and tank closure. SRS conducts remediation and closure activities as the FFA identifies and in accordance with applicable regulations, whether they are from the state, the federal government, or both. Additional information regarding FFA commitments discussed in this section can be found on the SRS and Savannah River Remediation (SRR) web pages.

3.2.1 Remediation (Environmental Restoration and Cleanup)

SRS has 515 waste units subject to the FFA, including RCRA and CERCLA units, site evaluation areas, and facilities the SRS RCRA permit covers. At the end of FY 2021, SRS had completed the surface and groundwater cleanup of 412 of these units and was in the process of remediating an additional 8 units. Appendix C, *RCRA/CERCLA Units List*; Appendix G, *Site Evaluation List*; and Appendix H, *Solid Waste Management Units* of the FFA list all of SRS's 515 waste units. The *Federal Facility Agreement Annual Progress Report for Fiscal Year 2021* explains the status of FFA activities at SRS for FY 2021.

CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan require remedy reviews every five years for sites that have hazardous substances remaining at levels that do not allow for unrestricted use of the area after a remedy is in place. Due to the rising number of SRS remedial decisions requiring five-year remedy reviews and new EPA guidance and format requirements, DOE, the EPA, and SCDHEC agreed in 2014 to submit future SRS Five-Year Remedy Review Reports in a phased approach rather than combining all operable unit (OU) reviews into a single document. The OUs are in groups of the following five remedy types: 1) native soil cover or land-use controls, or both; 2) groundwater remedies; 3) engineered cover systems; 4) geosynthetic or stabilization and solidification cover systems; and 5) operating equipment. To ensure that SRS completes reviews of all remedy types within five years, it looks at a different remedy type each year. The Site evaluates remedies to determine whether they are functioning as designed and are still protecting human health and the environment.

SRS prepared the following reports to satisfy CERCLA requirements:

- *Sixth Five-Year Remedy Review Report for Savannah River Site Operable Units with Engineered Cover Systems*: The EPA and SCDHEC approved it on July 7 and July 27, respectively. SRS issued it to the public on December 21.
- *Sixth Five-Year Remedy Review Report for Savannah River Site Operable Units with Geosynthetic or Stabilization/Solidification Cover Systems*: DOE submitted it to SCDHEC and the EPA on December 15.

SRS issued the Record of Decision (ROD) for an Integrator Operable Unit (IOU) and is conducting a treatability study to aid in remediating the D-Area groundwater.

Lower Three Runs Integrator Operable Unit

DOE, SCDHEC, and EPA signed the ROD Remedial Alternative Selection for the Lower Three Runs (LTR) IOU, and it was issued to the public on December 21. This is the first IOU ROD agreed upon between SRS, the regulators, and the public. It is significant because it is also the first ROD to outline the final closure for a

large parcel of stream systems. During 2022, SRS will submit two post-ROD documents to SCDHEC and the EPA for review and comment. These documents will be approved before scheduled Remedial Action start in April 2023.

LTR is a large stream that originates in the northeast portion of SRS (just above P and R Reactor [PAR] Pond) and winds its way along a southerly direction for approximately 25 miles, discharging into the Savannah River. The corridor consists of PAR Pond, 9 miles of canals adjacent to the pond, and the LTR stream system.

The LTR IOU is the surface water body and associated wetlands and floodplains that correspond to the LTR watershed (Figure 3-1). The LTR IOU is delineated into Upper, Middle, and Lower subunits for administrative purposes. The Upper subunit is upgradient of the PAR Pond Dam and includes PAR Pond, Pond B, and the precooler ponds and canal system that served the P- and R-Area Reactors during their operation (Figure 3-2). The Middle and Lower subunits are below the PAR Pond Dam.

The ROD agreement specifies what protective and cleanup actions are required, along with assurances of long-term monitoring to ensure the corridor remains within environmentally safe standards. This ROD acknowledges the successful completion of a comprehensive SRS cleanup strategy following the decommissioning and closure of both P and R Areas. P and R Reactor facility operations contributed to the LTR stream corridor contamination.

D-Area Groundwater Treatability Study

SRS began implementing a groundwater treatability study in D Area to reduce the acidic conditions in groundwater. The coal being stored in the former 484-17D D-Area Coal Storage Area and its runoff into the 489-D Coal Pile Runoff Basin caused the acidic conditions. The groundwater beneath and downgradient of these areas has been acidified and will continue to be so even though the coal was removed from 2012 to 2013.

Flange on Injection Well Head

A low pH environment, which is expected to last for decades under natural groundwater conditions, has impacted the vadose zone and the groundwater in this area. The low-pH groundwater is currently outcropping into the D-Area Effluent Discharge Canal, which later converges with Beaver Dam Creek and flows through the Savannah River Floodplain to the Savannah River. If the pH of the aquifer can be raised to be more natural and less acidic, the groundwater and surface water conditions in the D-Area Effluent Discharge Canal would improve. This study is testing the viability of a two-prong remediation:

- Using injection wells to add potable water with a higher pH, sourced from production wells in D Area, into the aquifer upgradient of the plume. The injected production well water will aid in neutralizing acidic conditions currently present in the water table aquifer and will create a hydraulic head that will displace the low-pH groundwater within in the aquifer.
- Treating the low-pH surface water that outcrops into the D-Area Effluent Discharge Canal by adjusting the pH with calcium carbonate ($CaCO_3$) reactive structure(s) within the canal

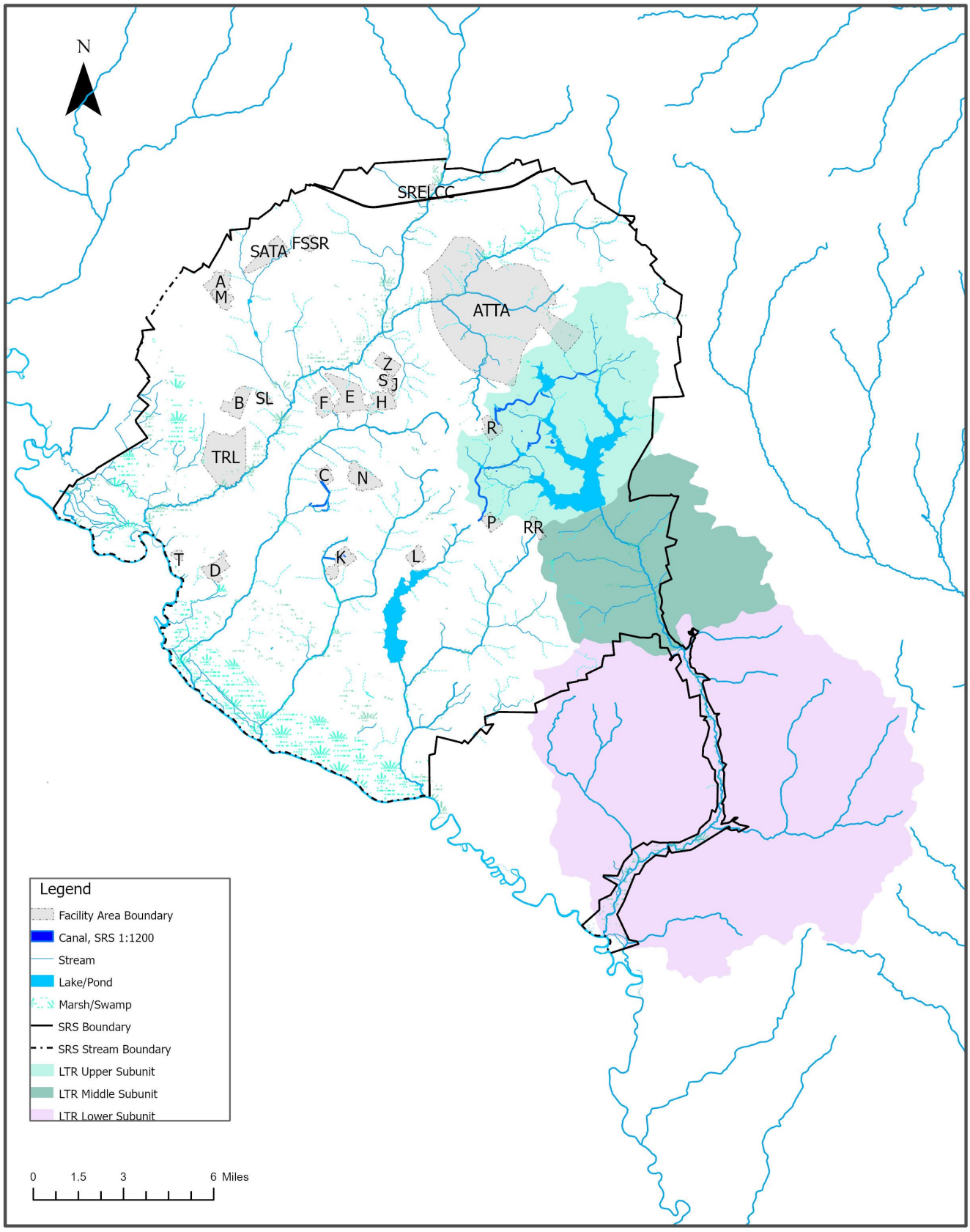

Figure 3-1 Lower Three Runs IOU (Upper, Middle, and Lower Subunits)

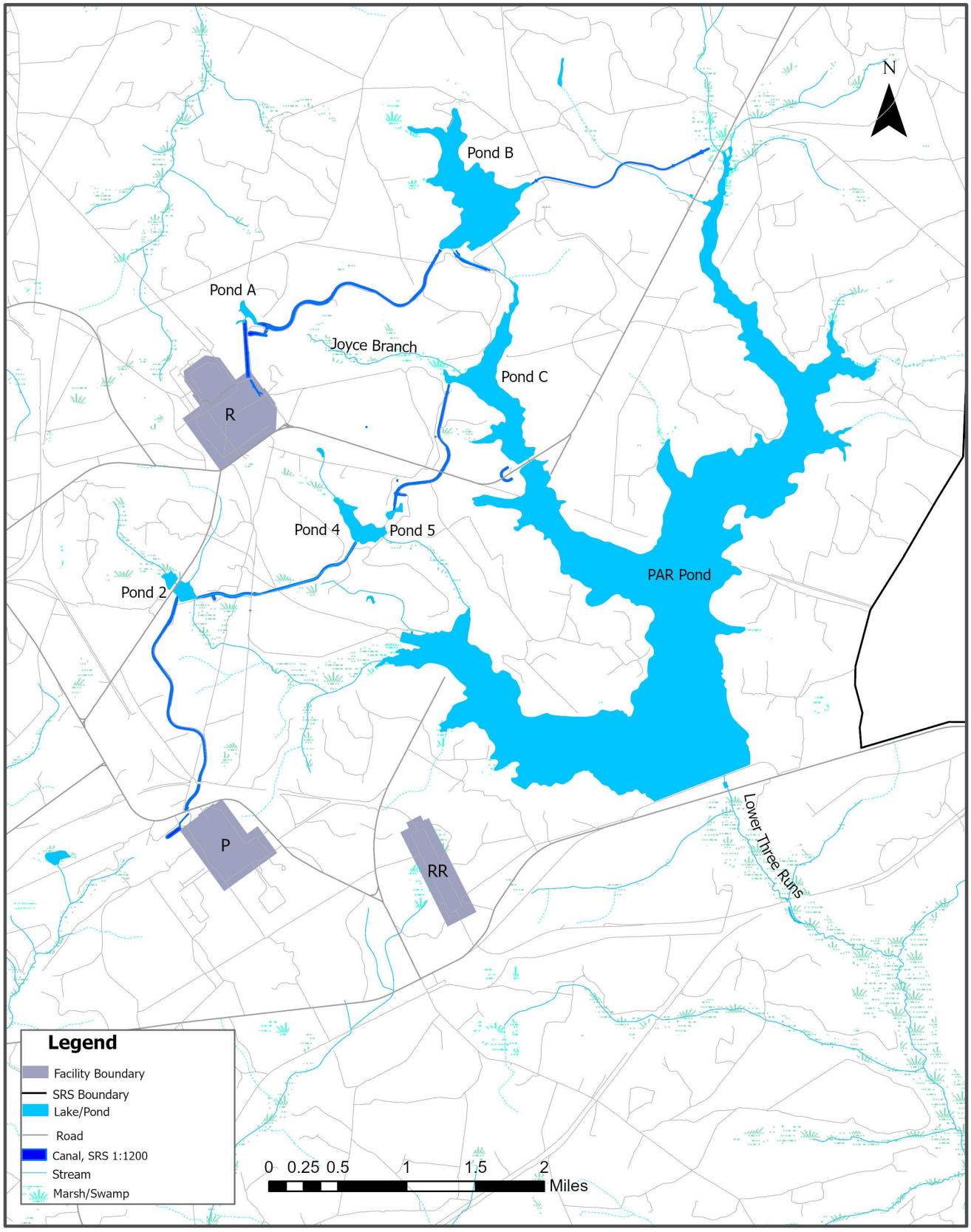

Figure 3-2 Lower Three Runs IOU (Upper Subunit)

Artesian Well

Pipe Run Looking South

To date, SRS has installed 10 injection wells, including 5 new wells during 2021. Installation of the piping network to deliver the artesian groundwater to the injection wells will be completed in 2022. SRS continues to monitor and evaluate the effects of the $CaCO_3$ reactive structures in raising the pH of the groundwater seep as it is conveyed through the D-Area Effluent Discharge Canal.

3.2.2 Tank Closure (Radioactive Liquid Waste Processing and Dispositioning)

SRS generates liquid radioactive waste as a byproduct of processing nuclear materials. The waste is stored in underground waste tanks in F Area and H Area grouped into two tank farms (F-Tank Farm and H-Tank Farm). While in the tanks, sludge settles on the bottom of the tank, and a liquid salt waste rises to the top. The waste removed from the tanks feeds the sludge and salt waste processing programs, as Figure 3-3 depicts.

3.2.2.1 Tank Closure

SRS operates F-Tank Farm and H-Tank Farm under SCDHEC industrial wastewater regulations; however, FFA Section IX, *High-Level Radioactive Waste Tank System(s)*, establishes requirements to prevent and mitigate releases from these tank systems. The FFA also contains enforceable closure schedules for the liquid waste tanks. Tank closures are subject to DOE Order 435.1, *Radioactive Waste Management*; federal regulations; and Section 3116 of the *Ronald W. Reagan National Defense Authorization Act (NDAA) for Fiscal Year 2005.*

NDAA Section 3116(a) is legislation that allows the Secretary of Energy to consult with the Nuclear Regulatory Commission (NRC) to determine that certain waste from spent fuel reprocessing is not high-level radioactive waste and does not need to be disposed of in a deep geologic repository. The NRC coordinates with SCDHEC to monitor the steps DOE takes to dispose of the waste to assess whether it is complying with the performance objectives of 10 Code of Federal Regulations (CFR) Part 61, Subpart C. Additionally, the EPA may participate in the NRC's monitoring. *Section 3116 Determination for Closure of F-Tank Farm at the Savannah River Site* (DOE 2012) and *Section 3116 Determination for Closure of H-Tank Farm at the Savannah River Site* (DOE 2014) demonstrate that the stabilized tanks and ancillary structures in F-Tank Farm and H-Tank Farm meet the necessary criteria and will not need to be permanently isolated at a deep geologic repository.

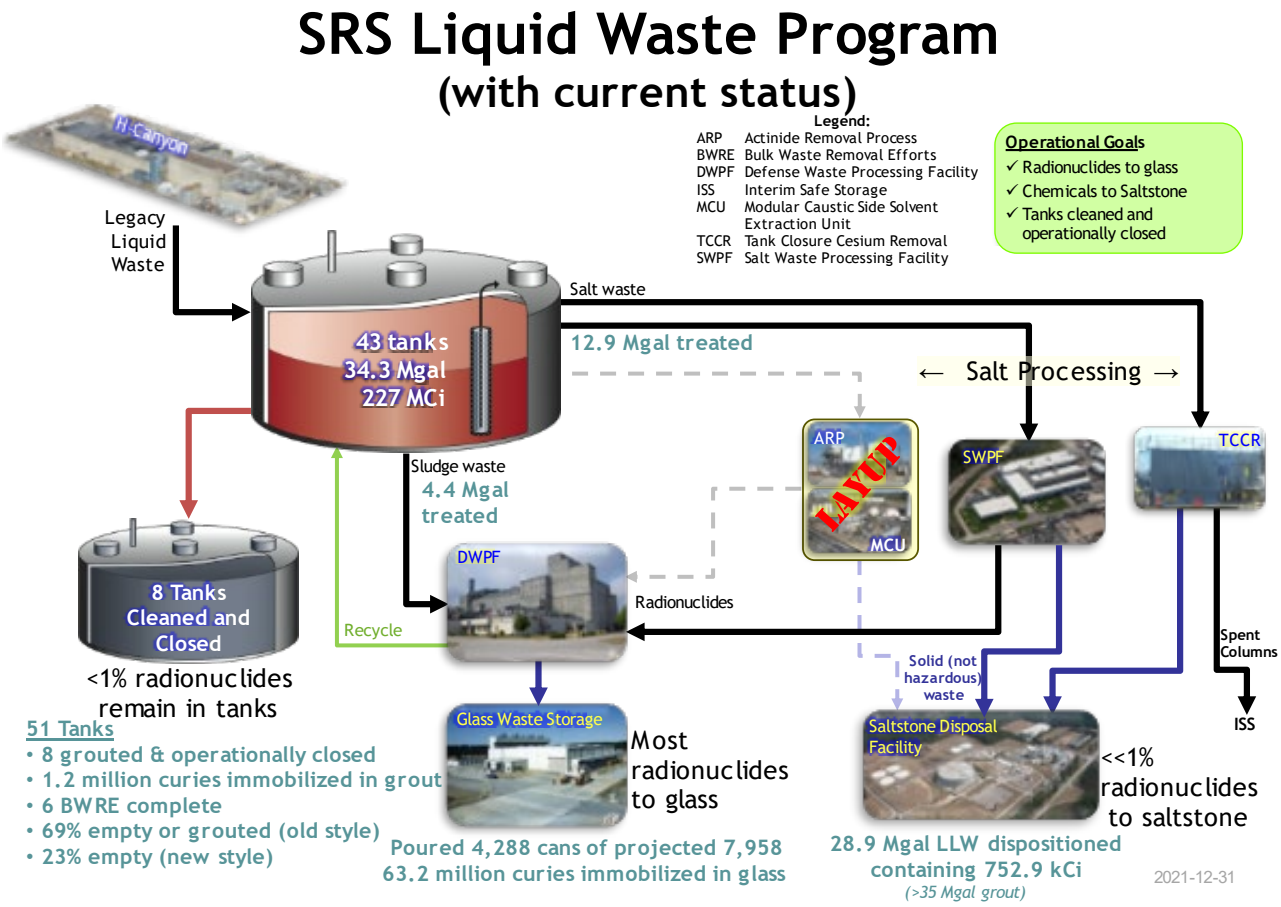

Figure 3-3 Processing and Dispositioning Radioactive Liquid Waste at SRS

During 2021, DOE supported the NRC in its monitoring role of F-Tank Farm and H-Tank Farm under Section 3116 of the NDAA by providing routine documentation (for example, groundwater monitoring reports, PA maintenance plan), as the NRC requested. The NRC did not conduct any onsite observation visits for F-Tank Farm and H-Tank Farm in 2021. Prior to SRS closing the tanks, they undergo an extensive waste removal process that includes specialized mechanical cleaning and isolation from the waste transfer and chemical systems. Once these steps are complete, DOE receives regulatory confirmation that the tanks are ready to be stabilized by grouting.

The first step in this process is Bulk Waste Removal Efforts (BWRE). Preparing for BWRE is typically a multiyear engineering and waste removal process that involves installing specialized equipment that meets strict nuclear safety standards. There were no BWRE or other FFA tank closure commitments required for 2021, and follow-up negotiations are scheduled to be completed in 2022 for additional BWRE and tank closure milestones.

Internal Grouting of FDB-6

In 2021, SRS made significant progress towards the first operational closures of ancillary structures in F-Tank Farm and H-Tank Farm. Internal grouting of F-Area Diversion Box (FDB)-5 was completed in 2021, and internal grouting of FDB-6 was initiated and will be complete in 2022. SRS has an FFA commitment to operationally close these two structures by the end of 2022.

3.2.2.2 Salt Processing

SRS is using several processes to dispose of the salt waste from the liquid waste tanks, as Figure 3-3 shows. The Actinide Removal Process and Modular Caustic Side Solvent Extraction Unit (ARP/MCU) was an interim salt waste processing system. SCDHEC permitted the ARP/MCU under South Carolina industrial wastewater regulations. The salt form of the liquid waste is 90% of the waste volume stored in the tanks and contains about half of the radioactivity. Before SWPF, the ARP/MCU process removed actinides, strontium, and cesium from the salt waste taken from F-Tank Farm and H-Tank Farm. The facilities underwent lay-up activities to be placed in a safe, stable suspended operations state in 2019, which allowed SRS to complete final SWPF tie-ins. The ARP/MCU has remained in a suspended operations state since that time.

With the construction phase of the SWPF project complete, SRS received approval to begin facility operation in 2020. Hot commissioning of SWPF was completed in January 2021, and Parsons Corporation, which designed and built the first-of-a-kind facility, began its one year of operations on January 17, 2021. SWPF processed more than 2 million gallons of salt solution in 2021.

SRS procured the Tank Closure Cesium Removal (TCCR) system to treat salt waste, increase salt processing capability, and to expedite tank closure. The Site completed TCCR design and fabrication in 2017, and installation and readiness assessments in 2018. The TCCR started operating in January 2019. It did not process any salt solution in 2021.

3.2.2.3 Salt Disposition

After ARP/MCU and TCCR interim processing, the decontaminated salt solution is processed into grout waste at the Saltstone Production Facility and disposed of in the SDF. SCDHEC permits the SDF to operate under South Carolina solid waste industrial landfill regulations. SRS disposes of treated low-level salt waste in the SDF, based on the Secretary of Energy's determination pursuant to *Section 3116 Determination for Salt Waste Disposal at the Savannah River Site* (DOE 2006). NDAA Section 3116(b) requires the NRC, in coordination with SCDHEC, to monitor the disposal actions DOE takes to assess whether it is complying with the objectives of 10 CFR Part 61.

Construction in Progress on SDU-8 and SDU-9

During 2021, DOE supported the NRC monitoring the SDF under Section 3116 of the NDAA by providing routine documentation (for example, groundwater monitoring reports, PA maintenance plan), as the NRC requested. The NRC conducted one onsite observation visit for salt waste disposal during 2021.

In 2021, SRS continued permanently disposing of waste, processing more than 3.14 million gallons into grout and disposing of it in cylindrical concrete Saltstone Disposal Units (SDUs), including SDU-6, which is a 32.8 million-gallon, 375-foot in diameter rubber-lined mega-vault. In 2021, SRS completed SDU-7, another mega-vault, and continued constructing the next two mega-vaults, SDU-8 and SDU-9.

3.2.2.4 Sludge Waste Processing—Vitrification of High-Activity Waste

SCDHEC permits DWPF to operate under South Carolina industrial wastewater regulations. The sludge waste makes up less than 10% of the waste volume stored in the tanks and contains about half of the radioactivity, as Figure 3-3 shows. At DWPF, SRS combines the high-activity portion of both the sludge and salt waste from F-Tank Farm and H-Tank Farm with frit before sending the mixture to the plant's melter. The melter heats the mixture to nearly 2,100 degrees Fahrenheit, until molten, and pours the resulting glass-waste mixture into stainless steel canisters to cool and harden. This process, called "vitrification," immobilizes the radioactive waste into a solid glass form suitable for long-term storage and disposal. SRS stores these canisters temporarily in the Glass Waste Storage Buildings to prepare for final disposal in a federal repository.

DWPF produced 62 canisters collectively containing 230,000 pounds of glass and immobilizing 1.06 million Ci of radioactivity during 2021. Since DWPF began operating in March 1996, it has produced more than 4,288 canisters, collectively containing 16.6 million pounds of glass and immobilizing 63.2 million Ci of radioactivity.

3.2.2.5 Low-Level Liquid Waste Treatment

The H-Area ETP treats low-level radioactive wastewater from F-Tank Farm and H-Tank Farm. ETP removes chemical and radioactive contaminants from the water before releasing it into Upper Three Runs Creek, an onsite stream that flows to the Savannah River. The point of discharge is a South Carolina National Pollutant Discharge Elimination System (NPDES)-permitted outfall. ETP processed approximately 7.25 million gallons of treated wastewater in 2021. SCDHEC permitted ETP under the South Carolina industrial wastewater regulations. ETP remained in compliance with the industrial wastewater permit and the NPDES permit throughout 2021.

3.3 REGULATORY COMPLIANCE

This section summarizes how SRS complies with the applicable federal and state environmental laws and regulations.

3.3.1 Atomic Energy Act/DOE Order 435.1, *Radioactive Waste Management*

SRS waste and materials management is complex and includes numerous facilities that DOE Orders and federal and state regulations govern. DOE Order 435.1 covers all radioactive waste management (LLW, high-level waste [HLW], and TRU waste) to protect the public, workers, and the environment. LLW is the only radioactive waste SRS disposes of onsite, at the E-Area LLW Facility and the SDF. LLW is radioactive waste not classified as HLW or TRU waste and not containing any RCRA hazardous waste.

DOE Manual 435.1-1, *Radioactive Waste Management Manual,* requires DOE to prepare PAs to evaluate the potential impacts of low-level radioactive waste disposal and closure activities (for example, F-Tank Farm and H-Tank Farm) to the workers, the public, and the environment. The PAs provide the technical basis and evaluation needed to demonstrate compliance with DOE Order 435.1. The order also requires a composite analysis (CA) to assess the combined impact of multiple LLW disposal facilities and other interacting sources of radioactive material after closure.

TRU Drum Ready for Characterization in Real-time Radiography Unit

SRS performs a comprehensive annual PA review for disposal facilities. This review ensures any developing information does not alter the original PA conclusions and that there is a reasonable expectation the facility will continue to meet the performance objectives of the DOE Order. In addition, SRS performs an annual CA review to evaluate the adequacy of the 2010 SRS CA and verify that SRS conducted activities within the bounds of the 2010 analysis. The FY 2020 annual reviews for the E-Area Solid Waste Management Facility, the SDF, and the SRS CA determined that SRS continues to comply with the performance objectives of DOE Order 435.1. Based on the reporting and approval cycle for the PA and CA annual reviews, there is a one-year lag in reporting this information in the annual *SRS Environmental Report*.

TRU waste is another category of radioactive waste that SRS generates. DOE Orders define TRU waste as waste containing more than 100 nanocuries of alpha-emitting TRU isotopes (elements with atomic numbers greater than uranium) per gram of waste with radiological half-lives greater than 20 years. At SRS, TRU waste consists of job waste such as clothing, tools, rags, residues, debris, and other items contaminated with trace amounts of plutonium. SRS sends its TRU waste to WIPP, a deep geologic repository located near Carlsbad, New Mexico for permanent disposal. Many different federal and state agencies (the EPA, NRC, DOE, and the State of New Mexico), along with multiple regulations, govern TRU waste management and disposal. SRS manages TRU waste under DOE Orders and federal and state hazardous waste regulations. SRS sent eight TRU shipments to WIPP for disposal in 2021.

3.3.2 Resource Conservation and Recovery Act (RCRA)

RCRA establishes regulatory standards to generate, transport, store, treat, and dispose of solid waste, hazardous waste (such as flammable or corrosive liquids), and USTs. SRS has a RCRA hazardous waste permit, multiple solid waste permits, and multiple UST permits, as Section 3.3.10 identifies.

3.3.2.1 Hazardous Waste Permit Activities

Under RCRA, the EPA establishes requirements for treating, storing, and disposing of hazardous waste. EPA authorizes SCDHEC to regulate hazardous waste and the hazardous components of mixed waste, and issue permits to implement RCRA.

Through the SCDHEC-issued RCRA hazardous waste permit, SRS closed the referenced SSTs S33–S36 and submitted the final certification of closure to SCDHEC in October 2019. In November 2020, SCDHEC conducted the onsite verification of the closure. SCDHEC recognized that SRS had satisfied the conditions of the approved closure plan in early 2021. The SST Facility was added to the postclosure portion of the SRS Hazardous and Mixed Waste Permit issued by SCDHEC on November 30 (effective on December 15). This section of the permit requires the SST Facility to submit a postclosure plan to SCDHEC by December 2022. Until final closure, the area surrounding the SSTs is a designated Underground Radioactive Material Area.

SRS submitted the 2013 RCRA Permit Renewal Application, M-Area and Met Lab HWMFs Post-closure (Volume III), to SCDHEC on January 14, 2020. SCDHEC reviewed the Revision 0 Permit Renewal Application and provided comments on May 22, 2020. Subsequently, SRS submitted Revision 1 of the 2013 RCRA Permit Renewal Application, M-Area and Met Lab HWMFs Postclosure (Volume III) to SCDHEC on August

Capping the SSTs

Total Covering Over Tank Tops

Final View of the SSTs

A-2 Air Stripper

25, 2020. SCDHEC reviewed the application and submitted its completeness determination on October 2, 2020. SCDHEC issued the Draft Permit Renewal for a 45-day public comment period that began on July 22, 2021 and initially ended on September 7, 2021. After two requests for a public hearing, SCDHEC extended the public comment period to end on October 22, 2021. SCDHEC conducted the public hearing on October 7, 2021. SRS submitted comments on the Draft Permit Renewal on October 21, 2021. SCDHEC did not receive any other comments on the Draft Permit Renewal. SCDHEC issued the Final Permit Decision on November 30, 2021. This decision became effective on December 15, 2021, allowing for the permanent shutdown of the A-2 Air Stripper and associated recovery wells. The Final Permit Decision also included changes to some of the Groundwater Protection Standards, extension of the postclosure care period, and updates on the planned groundwater corrective actions. To ensure consistency with the Final Permit Decision, SRS is required to submit revised application pages within 60 days of the effective date of the permit (or February 13, 2022). SRS submitted the revised pages to SCDHEC on February 7, 2022.

SRS certified the 2013 RCRA Permit Renewal Applications for both the F-Area HWMF and the H-Area HWMF in December 2020. Changes for these renewal applications include revising the corrective action goals by adding management strategy specific to the goals and creating RCRA Permit Appendix 8, which retains relevant information regarding both facilities' histories for all subsequent permit renewal applications. The F-Area HWMF (Volume IV) and H-Area HWMF (Volume V) Permit Renewal Applications were submitted on January 5, 2021. SCDHEC completed its review of Part A of the Revision 0 Permit Renewal Application (Volumes IV and V) and provided comments on February 5, 2021. SRS submitted Revision 1 pages for Volumes IV and V to SCDHEC on March 22, 2021. After receipt of the Revision 1 pages, SCDHEC completed the technical review of the two volumes and provided comments on May 5, 2021. In the May 5 letter, SCDHEC requested that the MWMF (Volume VII) be revised to extend the postclosure care period for an additional 30 years. The Revision 2 pages for the F-Area HWMF (Volume IV) and H-Area HWMF (Volume V) and Revision 3 pages for the MWMF (Volume VII) were submitted on June 7, 2021. SCDHEC reviewed these volumes of the application and submitted its conditional completeness determination on June 18, 2021. Subsequently, SCDHEC issued the Draft Permit Renewal for a 45-day public comment period that began on July 22, 2021, and initially ended on September 7, 2021. After two requests for a public hearing, SCDHEC extended the public comment period to end on October 22, 2021. SCDHEC conducted the public hearing on October 7, 2021. SRS submitted comments on the Draft Permit Renewal on October 21, 2021. SCDHEC did not receive any other comments on the Draft Permit Renewal. SCDHEC issued the Final Permit Decision on November 30, 2021. This decision became effective on December 15, 2021. To ensure consistency with the Final Permit Decision, SRS is required to submit

revised application pages within 60 days of the effective date of the permit (or February 13, 2022). SRS submitted the revised pages to SCDHEC on February 7, 2022.

3.3.2.2 Solid Waste Permit Activities

SRS has solid waste permits for the 632-G Construction and Demolition (C&D) Debris Landfill; the 288-F Industrial Solid Waste Landfill; and the SDF, identified as the Z-Area Saltstone Industrial Solid Waste Landfill in its permit (Section 3.2.2.3.). All the solid waste landfills were active and operated in compliance with their permits during 2021. SCDHEC conducted quarterly landfill inspections of the 632-G and 288-F landfills during 2021 and found no issues of noncompliance.

Infectious Waste is Treated and Disposed of in Accordance with SCDHEC Regulations.

3.3.2.3 Underground Storage Tank (UST) Permits

Subtitle I of RCRA regulates USTs containing usable petroleum products. Currently, SRS has 17 permitted USTs; they each require an annual compliance certificate from SCDHEC. On December 16, SCDHEC performed its annual inspection and found all tanks in compliance. This annual inspection also confirmed the USTs supporting emergency power generators for DWPF, H Canyon, and Utilities and Operating Services successfully completed system testing and upgrades to meet the SCDHEC UST Release Detection regulations. The SCDHEC permit required an annual Tank Release Detection System Operability Test; it was performed late at the 754-5A Diesel Generator Facility UST. SCDHEC was informed of the late test via telephone; no immediate action or concerns were stated. The UST passed its inspection.

3.3.3 Federal Facility Compliance Act (FFCA)

The FFCA was signed into law in October 1992, as an amendment to the Solid Waste Disposal Act. It adds provisions to apply certain requirements and sanctions to federal facilities. SRS obtained and implemented a Site Treatment Plan (STP) Consent Order (95-22-HW, as amended) in 1995, as required by the FFCA. The consent order required annual updates to the STP.

Personnel from SRS and SCDHEC met on June 17 to discuss the 2021 update. As an outcome of that meeting, the format for STP Volumes I and II was streamlined and updated to reflect treatment capacities and technologies associated with current and anticipated future waste streams. The 2006 update of the STP will serve as the archive reference for STP Volumes I and II. SRS submitted the Site Treatment Plan, 2021 Update to SCDHEC on November 15.

In October 2003, SCDHEC executed a Statement of Mutual Understanding for Cleanup Credits allowing SRS to earn credits for certain accelerated cleanup actions. Credits can then be applied to the STP commitment schedules. In 2021, SRS and SCDHEC held STP Cleanup Credit validation meetings in February, May, August, and November. SRS earned 883 validated Cleanup Credits during FY 2021.

3.3.4 Toxic Substances Control Act (TSCA)

SRS complies with TSCA regulations when storing and disposing of lead, asbestos, and organic chemicals, including polychlorinated biphenyl compounds (PCBs). SRS disposes of routinely generated nonradioactive PCBs at an offsite EPA-approved disposal facility within the regulatory defined period of one year from the date of generation. SRS made two shipments of PCB waste to offsite hazardous waste facilities in 2021. SRS also generates radioactive waste contaminated with PCBs. Low-level radioactive PCB bulk product waste is disposed of onsite. PCB waste that is contaminated with TRU requires disposal at WIPP. SRS made two shipments of PCB-containing TRU waste to WIPP in 2021.

As required by TSCA regulations, SRS must prepare an annual written log by July 1 covering the previous calendar year (January through December). From the written annual log, SRS prepares an annual report, which must be submitted to EPA by July 15 of each year for the preceding calendar year. For this reporting period, the 2021 annual report was submitted to EPA on July 11, 2022.

In July 2021, SRS identified a previously unknown PCB-contaminated transformer within a nonoperational switchgear during dismantling activities in H Canyon. The unit was intact, not leaking, and had no visible signs of leaks or spills. It contained about 35 gallons of liquid. SRS took immediate action to properly manage and dispose of the unit. SRS met with the EPA and voluntarily disclosed this information on July 29, 2021. SRS conducted a sitewide review, which identified no additional PCB or PCB-contaminated equipment of concern.

3.3.5 South Carolina Infectious Waste Management Regulation

SRS generates a large quantity of infectious waste registered under the SCDHEC Infectious Waste Management Program. SRS contracted with a vendor to pick up infectious waste every four weeks. In 2021, the vendor picked up 13 shipments. Once offsite, the vendor treats and disposes of the waste in accordance with the SCDHEC regulations. In 2021, SRS managed all infectious wastes in compliance with the state regulations, including waste generated by two COVID-19 testing stations and a COVID-19 vaccination station.

3.3.6 Air Quality and Protection

3.3.6.1 Clean Air Act (CAA)

The EPA has delegated regulatory authority for all types of air emissions to SCDHEC. SRS is required to comply with SCDHEC Regulation 61-62, *Air Pollution Control Regulations and Standards*. SRS facilities currently have the following air permits regulating activities on the Site:

- Part 70 Air Quality Permit (TV-0080-0041)
- 784-7A Biomass Boiler Construction Permit (TV-0080-0041a-CG-R1)
- 784-7A Oil Boiler Construction Permit (TV-0080-0041a-CF-R1)
- Building 235-F D&D Construction Permit (TV-0080-0041-C1)
- N-Area Lead Melters Construction Permit (TV-0080-0041-C2)
- Saltstone Baghouse CD-B 0017 Construction Permit (TV-0080-0041-C3)
- Ameresco Federal Solutions, Inc. (“Ameresco”) Biomass Facilities Permit (TV-0080-0144)

- Surplus Plutonium Disposition Project Construction Permit (TV-0080-0041-C4)

The CAA considers SRS a "major source" of nonradiological air emissions; therefore, the Site falls under the CAA Part 70 Operating Permit Program. The Part 70 Operating Permit regulates stationary sources with the potential to emit five tons or more per year of any criteria pollutant (six of the most common air pollutants: ozone precursors, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide, and lead). These major stationary sources are subject to operating and emission limits, as well as emissions monitoring and record-keeping requirements.

The EPA sets the National Ambient Air Quality Standards air pollution control standards, and SCDHEC regulates them. The Air Quality Permit requires SRS to demonstrate compliance through air dispersion modeling and by submitting an emissions inventory of air pollutant emissions every three years.

SRS received a renewal to its CAA Air Quality Operating Permit (TV-0080-0041), which became effective April 1, 2021. The Site had previously been operating under an application shield SCDHEC granted in September 2007, as its previous Title V operating permit expired March 31, 2008. After the Title V permit became effective on April 1, the conditions contained in the construction permits were no longer pertinent except for those in the Surplus Plutonium Disposition Project 0080-0041-C4, which is still in effect.

3.3.6.2 Accidental Release Prevention Program

The CAA Amendments of 1990, Section 112(r) require any facility that maintains specific hazardous or extremely hazardous chemicals in quantities above-specified threshold values to develop a risk management plan. SRS has maintained hazardous and extremely hazardous chemical inventories below each threshold value; therefore, the CAA does not require SRS to develop a risk management plan. Additionally, no reportable 112(r)-related hazardous or extremely hazardous chemical releases occurred at SRS in 2021.

3.3.6.3 Ozone-Depleting Substances

Section 608 of the CAA prohibits knowingly releasing refrigerant during maintenance, service, repair, or disposal of air-conditioning and refrigeration equipment. Refrigerants include ozone-depleting substances and substitute refrigerants such as hydrofluorocarbons (HFCs). Releases of chemical gases widely used as refrigerants, insulating foams, solvents, and fire extinguishers cause ozone depletion or contribute to greenhouse gas emissions. SRS complied with 40 CFR Part 82 in 2021 to ensure it did not knowingly or willfully release refrigerants into the atmosphere.

EPA issued 40 CFR 84 on October 5, 2021, to implement certain provisions of the American Innovation and Manufacturing (AIM) Act, as enacted on December 27, 2020. The AIM Act mandated phasing down HFCs, which are potent greenhouse gases, by 85% over a period ending 2036. The requirements of 40 CFR 84 focus on reducing HFC manufacturing and importing. SRS does not manufacture or import HFCs; however, refrigerant-containing appliances and fire-suppression systems contain HFCs, thereby affecting the Site.

The Savannah River Tritium Enterprise (SRTE) established a relationship with the Department of Defense (DoD) to identify a pathway to request a Mission-Critical Military End Use (MCMEU) application-specific allowance from the DoD. An MCMEU is the use of a regulated HFC, which has a direct impact on mission capability, by a federal agency responsible for national defense. Under the regulation, the DoD has the authority to issue, manage, and assign MCMEU-specific allowances. MCMEU allowance requests are made

annually for the following calendar year and do not guarantee the availability of the regulated HFC covered. They allow only for the quantity to be manufactured and imported under EPA regulations.

SRS initiated efforts to review and revise procedures used in designing new systems and equipment to ensure it incorporated the impacts of the AIM Act into the design process.

3.3.6.4 Air Emissions Inventory

SCDHEC Regulation 61-62.1, Section III (*Emissions Inventory*), requires SRS to compile an air emissions inventory to locate all sources of air pollution and to define and characterize the various types and amounts of pollutants.

The schedule for submitting the inventory is either every year or every three years, depending upon the emission thresholds in the regulations. SRS emissions have dropped below the threshold that requires an annual air emissions inventory; therefore, SRS reports on a three-year cycle for permit TV-0080-0041. SRS submitted the inventory for 2020 on March 29. The next required inventory for 2023 will be submitted before March 31, 2024.

3.3.6.5 National Emission Standard for Hazardous Air Pollutants (NESHAP)

NESHAP is a CAA-implementing program that sets air quality standards for hazardous air pollutants, such as radionuclides, benzene, reciprocating internal combustion engines (RICE) emissions, and asbestos.

3.3.6.5.1 NESHAP Radionuclide Program

SRS complies with the NESHAP Radionuclide Program by performing all required inspections and maintaining monitoring systems. Additionally, Subpart H of NESHAP regulations requires SRS to determine and report annually the highest effective radiological dose from airborne emissions to any member of the public at an offsite point. The report is due by June 30 each year. The 2021 annual report will be submitted in June 2022. SRS transmitted the *SRS Radionuclide Air Emissions Annual Report for 2020* on June 22, 2021, to EPA, SCDHEC, and DOE Headquarters.

There were no unplanned radiological releases to the atmosphere during 2021.

SRS estimated the maximally exposed individual effective dose equivalent during 2021 to be less than 1% of the EPA standard of 10 mrem per year. Chapter 6, *Radiological Dose Assessment*, contains details on this dose calculation.

3.3.6.5.2 NESHAP Nonradionuclide Program

In 2013, New Source Performance Standards (NSPS) under NESHAP were added (or became effective) for RICE equipment such as portable generators, emergency generators, and compressors. In 2021, SRS continued to operate in compliance with NSPS and NESHAP standards.

3.3.6.5.3 NESHAP Asbestos Abatement Program

Work involving asbestos at SRS falls under SCDHEC and federal regulations. These activities—which include operation and maintenance repairs, removing asbestos, and demolishing buildings—require an asbestos notification, a renovation permit, or a demolition permit.

SRS issued 181 asbestos notifications and conducted 12 permitted renovations and demolitions involving asbestos in 2021. Table 3-1 summarizes these removals. Certified personnel removed and disposed of friable (easily crumbled or pulverized) and nonfriable asbestos. All disposal sites for nonradiological asbestos waste are SCDHEC-approved landfills for disposing regulated and nonregulated asbestos.

SRS maintains a SCDHEC Temporary Storage Containment Area License that facilitates removing and disposing of waste generated from nonradiological operations and maintenance, as well as smaller projects. Additionally, SRS maintains a SCDHEC Asbestos Group License that allows SRNS and SRR to operate as long-term, in-house asbestos abatement contractors for DOE-Savannah River.

Table 3-1 Summary of Quantities of Asbestos Materials Removed in 2021

Asbestos Type	Nonradiological, Friable	Nonradiological, Nonfriable	Radiologically Contaminated Asbestos
Linear Feet Disposed	301	1,253	178
Square Feet Disposed	87	11,065	19
Cubic Feet Disposed	3	21	0
Disposal Site	Three Rivers Solid Waste Authority Landfill	632-G Construction and Demolition Debris Landfill	SRS E-Area LLW Facility

3.3.7 Water Quality and Protection

3.3.7.1 Clean Water Act (CWA)

Except for Ameresco, which has its own CWA NPDES permit, SRS operated pursuant to the following CWA permits in 2021:

- Land Application Permit (ND0072125)
- General Permit for Stormwater Discharges Associated with Industrial Activities (except construction) (SCR000000)
- Permit for Discharge to Surface Waters (SC0000175 and SC0047431)
- General Permit for Stormwater Discharges from Construction Activities (SCR100000)
- General Permit for Utility Water Discharges (SCG250000)
- General Permit for Discharges from Application of Pesticides (SCG160000, SCG160118, and SCG160155)
- General Permit for Vehicle Wash Water Discharges (SCG750000)

3.3.7.1.1 National Pollutant Discharge Elimination System (NPDES)

SCDHEC administers the NPDES program, which protects surface waters by limiting releases of pollutants into streams, reservoirs, and wetlands. As the previous section explains, SCDHEC issued multiple NPDES permits to SRS to govern different types of discharges to surface water. A major goal of the NPDES program is to control or eliminate discharges of toxic pollutants, oil, hazardous substances, sediment, and contaminated stormwater to protect the quality of the nation's water. To achieve this goal, SCDHEC requires SRS to prepare the following plans:

- Best Management Practices Plan to identify and control the discharge of hazardous and toxic substances
- Industrial Stormwater Pollution Prevention Plan (SWPPP) to address the potential discharge of pollutants in stormwater
- Spill Prevention, Control, and Countermeasures Plan to minimize the potential for discharges of oil, including petroleum, fuel oil, sludge, and oily wastewater

SRS has two NPDES permits for industrial activities that discharge to surface water: one covering D Area (SC0047431) and the other for the remainder of the Site (SC0000175). Throughout the year, SRS monitors 16 of 28 NPDES-permitted industrial wastewater outfalls across the Site on a frequency the permits specify. The remaining 12 industrial wastewater outfalls have no current flow and will be removed when the next permit is issued. Monitoring requirements vary from as much as once a day at some locations to once a quarter at others, although typically they are conducted once a month. For each outfall, SRS measures physical, chemical, and biological parameters and reports them to SCDHEC in SRS monthly discharge monitoring reports, as the permits require. Chapter 4, *Nonradiological Environmental Program,* provides additional information about NPDES permit-required sampling at SRS to remain compliant.

The following are highlights of the NPDES program at SRS:

- The SRS SWPPP for the 36 SRS industrial stormwater outfalls and related facilities will be updated in 2022, following issuance of the new general permit.
- SCDHEC did not require construction stormwater monitoring on any of the active construction projects underway at SRS during 2021.
- SRS undertook permitting actions for industrial wastewater treatment facilities pursuant to the CWA and the South Carolina Pollution Control Act. Facilities permitted are broad in scope and include those involved with groundwater remediation, radioactive liquid waste processing, and nuclear nonproliferation. In 2021, SCDHEC approved SRS closure plans for the A-2 Air Stripper System and the D-Area Sanitary Wastewater Treatment Plant and closed the permit for the Cooling Water Treatment Facility in D Area.
- In April 2021, SRS submitted a Discharge Monitoring Report for Industrial Stormwater Outfall H-07B, indicating no discharge during the previous year.

Chapter 4 of this report summarizes the sampling results of both industrial and stormwater outfalls.

3.3.7.1.2 Section 404(e) Dredge and Fill Permits

Wetlands make up 25% of the total SRS area, or 48,973 acres. SRS wetlands account for more than 80% of the wetlands across the entire DOE complex nationwide. CWA Section 404 requires SRS to obtain a permit when it will conduct work in a wetland area. The U.S. Army Corps of Engineers (USACE) authorizes development in wetlands through a Nationwide Permit (NWP) program. The program is for projects that have minimal impact on the aquatic environment.

SRS wetlands staff reviewed 63 site use applications for potential wetland impacts and helped review pertinent Environmental Evaluation Checklists (EECs) in 2021. During this time, SRS permitted the following actions under the NWP program:

- Abandonment in place of certain outfall sampling platforms under NWP 5—Scientific Measurement Devices

- Maintaining a domestic water line access road under NWP 58—Utility Line Activities for Water and Other Substances
- Erosion studies under NWP 5—Scientific Measurement Devices

3.3.7.2 Safe Drinking Water Act (SDWA)

SCDHEC regulates drinking water facilities under the SDWA. SRS uses groundwater sources to supply drinking water to onsite facilities. The A-Area drinking water system supplies most Site areas. Remote facilities, such as field laboratories, barricades, and fire stations, use small drinking water systems or bottled water. All 2021 bacteriological samples for the A-Area drinking water system that SRS collected met state and federal drinking water quality standards. During November 2021, SCDHEC collected a sample from the Advanced Tactical Training Academy (ATTA) drinking water system that tested positive for total coliform. The well and distribution system were disinfected, and all subsequent samples have shown no indication of the presence of coliform bacteria. An assessment of the system was performed in December 2021. The assessment showed that the system is well operated and maintained with no obvious sources for the introduction of total coliform bacteria. Bacteriological sampling on this system will increase from annually to quarterly for 2022.

SCDHEC requires SRS to collect 10 bacteriological samples each month from the domestic water system that supplies drinking water to most areas at SRS. The Site exceeds this requirement by collecting and analyzing approximately 15 samples each month throughout the system. The sample results consistently meet SCDHEC and EPA drinking water quality standards, confirming the absence of harmful bacteria.

The most recent lead and copper sampling event was in 2019; the results met all state and federal drinking water standards. SRS samples domestic water systems for lead and copper on a three-year, rotating cycle. Based on this cycle, SRS will sample 30 locations across the Site in 2022.

SCDHEC conducted an inspection of the SRS A-Area drinking water systems in 2021. The system received SCDHEC's highest rating of "Satisfactory." No sanitary surveys of the SRS drinking water systems are expected in 2022. It is expected that the A-Area and ATTA drinking water systems will be the next to be inspected in 2023.

3.3.7.3 Water Withdrawal

The South Carolina Groundwater Use and Reporting Act protects and conserves groundwater resources of the state. The act allows SCDHEC to designate certain geographic areas of the state as Capacity Use Areas, requiring that a groundwater withdrawal permit be in place to withdraw or use groundwater equal to or greater than 3 million gallons in any month in these areas. The Western Capacity Use Area comprises all of Aiken, Allendale, Bamberg, Barnwell, Calhoun, Lexington, and Orangeburg counties. As the Site is within the Western Capacity Use Area, SRS has groundwater withdrawal permits from SCDHEC for systems (water supply, process, and remedial) located in A, B, D, H, S, T, and Z Areas. The act and permits require SRS to report annual water use to SCDHEC. In 2021, SRS groundwater use was within permitted limits.

The South Carolina Surface Water Withdrawal, Permitting Use, and Reporting Act regulates surface water withdrawals. This act applies to anyone withdrawing surface water more than 3 million gallons during any one month. SRS has a surface water withdrawal permit and reports annual water use to SCDHEC. In 2021, SRS surface water use was within permitted limits.

3.3.8 Environmental Protection and Resource Management

3.3.8.1 National Environmental Policy Act (NEPA)

The NEPA process identifies the potential environmental consequences of proposed federal activities and the alternatives that support informed and environmentally sound decision-making regarding designing and implementing the proposed activities.

The SRS NEPA program complies with 10 CFR 1021, DOE regulations for compliance with NEPA. SRS initiates the required NEPA evaluation by completing an EEC for new projects or changes to existing ones. SRS uses the EEC to review the proposed action, identify any potential environmental concerns, and determine the appropriate level of NEPA review required for the proposed activity.

SRS conducted 966 NEPA reviews of proposed activities in 2021 (Table 3-2). Categorical Exclusion (CX) determinations accounted for more than 90% of completed reviews. The SRS NEPA web page contains additional information on SRS NEPA activities.

The following major NEPA reviews were either completed or in progress in 2021:

- *Supplement Analysis for the Disposition of Fast Critical Assembly Plutonium (DOE/EIS-0283-S2-SA-02*). On January 12, the National Nuclear Security Administration (NNSA), a semiautonomous agency within DOE, prepared *Supplement Analysis for the Disposition of Fast Critical Assembly Plutonium (DOE/EIS-0283-S2-SA-02)* for a proposed change in the disposition method for up to 350 kilograms of stainless-steel clad plutonium from Japan's Fast Critical Assembly (FCA) reactor. Instead of using the WIPP alternative analyzed in *Surplus Plutonium Disposition Supplemental EIS (DOE/EIS-0283-S2, 2015),* the NNSA proposes to use the H-Canyon/HB-Line to DWPF alternative. Based on the supplement analysis, the NNSA determined that there are no substantial differences in environmental impacts and that no additional NEPA review is required to dispose of FCA fuel via electrolytic dissolution in H Canyon, subsequent immobilization at DWPF, and storage at the Glass Waste Storage Building pending shipment to a geologic repository.
- *Amended Record of Decision for the Disposition of Fast Critical Assembly Plutonium (DOE-EIS-0283-S2).* On March 8, NNSA amended its decision to dispose of up to 350 kilograms of stainless-steel clad plutonium from Japan's FCA reactor. Instead of preparing this material for emplacement in WIPP as analyzed in *Surplus Plutonium Disposition Supplemental EIS (DOE/EIS-0283-S2, 2015),* the NNSA decided on disposition by electrolytic dissolution in H Canyon, vitrification with high-level radioactive waste at DWPF, and storage at SRS until a geologic repository is available. The NNSA prepared *Supplement Analysis for the Disposition of Fast Critical Assembly Plutonium (DOE/EIS-0283-S2-SA-02, January 2021)* to inform this amended decision and determined that no additional NEPA review is required.
- *Final Environmental Assessment for the Tritium Finishing Facility at the Savannah River Site (DOE/EA-2151).* On March 1, NNSA prepared this final environmental assessment (DOE/EA-2151) to analyze the potential environmental impacts from constructing and operating the Tritium Finishing Facility (TFF) at SRS. The TFF would be used to inspect, store, finish, assemble, and package the gas transfer systems, which contain the tritium reservoirs used in a nuclear weapon. The NNSA's Proposed Action is to construct and operate the TFF at SRS. On March 24, a Finding of No Significant Impact was issued for a proposal to construct and operate the TFF at SRS.

- *Draft Environmental Assessment for the Commercial Disposal of Savannah River Site Contaminated Process Equipment (DOE/EA-2154).* On December 21, DOE published the *Draft Environmental Assessment for the Commercial Disposal of Savannah River Site Contaminated Process Equipment*. The draft environmental assessment evaluates the potential impacts from a proposed action to dispose of certain SRS-contaminated process equipment at a commercial LLW disposal facility outside of South Carolina, licensed by either the NRC or an Agreement State pursuant to NRC's regulations for land disposal of radioactive waste.

The following drafts are in progress and not included in Table 3-2:

- The *Draft Environmental Assessment for the South Carolina Army National Guard Proposal to Construct and Operate Training Facilities and Infrastructure on 750 Acres at the Department of Energy Savannah River Site (DOE/EA-1999)*
- The *Draft Supplement Analysis for the Spent Nuclear Fuel Accelerated Basin Deinventory Mission for H-Canyon at the Savannah River Site (DOE/EIS-0279-SA-07*)

Table 3-2 Summary of 2021 NEPA Reviews

Type of National Environmental Policy Act (NEPA) Review	Number
Categorical Exclusion (CX) Determinations[a]	875
"All No" Environmental Evaluation Checklist (EEC) Determinations[a]	46
Previous NEPA Review[a]	42
Environmental Impact Statement (EIS)	0
Supplement Analysis (SA)	1
Interim Action	0
Revised Finding of No Significant Impact	0
Environmental Assessment	2
Total	**966**

[a] Proposed action that requires no further NEPA action

3.3.8.2 Emergency Planning and Community Right-to-Know (EPCRA)/Superfund Amendment Reauthorization Act (SARA) Title III

EPCRA requires facilities to notify state and local emergency planning entities about their hazardous chemical inventories and to report releases of hazardous chemicals. The Pollution Prevention Act of 1990 expanded the EPCRA-mandated Toxic Release Inventory (TRI) report to include waste management. SRS complies with the applicable EPCRA reporting requirements and incorporates the applicable TRI chemicals into its pollution prevention programs.

As required by Section 312, Chemical Inventory Reporting of EPCRA, SRS completes an annual Tier II Chemical Inventory Report for all hazardous chemicals exceeding specified quantities present at SRS during the calendar year. The inventory is due by March 1 each year. The 2021 report was submitted on February

23, 2022. SRS submitted the 2020 hazardous chemical storage information to state and local authorities on February 18, 2021. The 2020 report included 53 reportable chemical categories.

As required by Section 313, Toxic Chemical Release Inventory, of EPCRA, SRS must file an annual TRI facility report each year by July 1 for the previous year. SRS calculates chemical releases to the environment for each regulated chemical and reports those above each threshold value to EPA. SRS submitted the annual report for this reporting period on June 23, 2022. SRS submitted the 2020 annual report on June 28, 2021, for each of the following regulated chemicals: ammonia, chromium compounds, lead compounds, manganese compounds, mercury compounds, naphthalene, nitrate compounds, nitric acid, and sodium nitrite. Details are on the EPA TRI Program website.

3.3.8.3 Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

The objective of FIFRA is to provide federal control of pesticide distribution, sale, and use. EPA must register all pesticides used in the United States. Use of each registered pesticide must be consistent with directions contained on the package's label. SRS must comply with FIFRA and, on a state level, the South Carolina Pesticide Control Act.

SRS must also comply with the South Carolina NPDES General Permit for discharges from the application of pesticides. This permit authorizes applying pesticides to surface water according to limitations set forth in the NPDES general permit.

SRS procedures implement the FIFRA requirements for pesticide application, application recordkeeping, storage, and disposing of empty containers and excess pesticides. General-use pesticides (ready-to-use products that are available for public use) are applied at SRS per the label instructions. SRS applies restricted-use pesticides on a limited basis, following label requirements and using state-certified pesticide applicators. SRS generates and maintains application records for general use and restricted use pesticides for each application.

3.3.8.4 Endangered Species Act (ESA)

Since 1973, ESA has protected fish, wildlife, and plant species in danger of, or threatened with, extinction and strives to conserve the ecosystems upon which they depend. Several federally listed animal species exist at SRS, including the wood stork, the red-cockaded woodpecker, the shortnose sturgeon, and the Atlantic sturgeon, as well as plant species, including the pondberry and the smooth coneflower. Additionally, SRS is home to the gopher tortoise, a candidate for listing under ESA and listed as endangered by the state of South Carolina.

SRS is the only DOE site to conduct experimental translocations of gopher tortoises. Tortoises are captured, transported, and released to other locations. A study on SRS by the Savannah River Ecology Laboratory (SREL) demonstrated that long-term (12 months) penning was an effective way to promote site fidelity, dramatically increasing the number of tortoises that settled into the release site. Conservation organizations use protocols developed from these SRS translocation studies to establish viable populations elsewhere in the species' range.

South Carolina's State Wildlife Action Plan of 2015 recognizes additional plants and animals not on the federal list to encourage conservation of these species. Those found on SRS include the Carolina gopher frog and the southern hognose snake, as well as numerous other animals and plants considered species of conservation concern. South Carolina lists gopher frogs as endangered, with SRS being one of two population strongholds in the state. The United States Forest Service-Savannah River (USFS-SR) considers these species sensitive (some the U.S. Fish and Wildlife Service [USFWS] lists as at-risk species) and considers them when developing forest management plans. SREL is collaboratively head-starting efforts to increase survival of captive-bred gopher frogs released into the wild and conducting wetland assessments to define ideal habitats for the frogs and informing management of findings.

Adult Carolina Gopher Frog

While the bald eagle is no longer federally listed, the Bald and Golden Eagle Protection Act protects nesting bald eagles and wintering golden eagles. Bald eagles nest on SRS and are considered year-round residents; golden eagles use SRS as wintering habitat. In 2021, two golden eagles were recorded scavenging at SRS. The 2021 mid-winter bald eagle survey reported 13 bald eagles with 1 active nest and 2 golden eagles on SRS.

SREL Researcher Recording Tortoise Location after Release on SRS

The USFS-SR actively manages more than 65,000 acres in the red-cockaded woodpecker habitat management areas. It further improved red-cockaded woodpecker habitat in 2021 by prescribe burning 16,600 acres and removing brush and small hardwood vegetation from more than 288 acres by mechanical or chemical treatments to control vegetation. By restoring the natural fire regime, native plant diversity is improved in the understory, enhancing the native longleaf pine and wiregrass communities. Additionally, USFS-SR inserts artificial cavities into living pine trees to increase the number of available cavities for roosting and nesting. From 1985 through 2021, active red-cockaded woodpecker clusters increased from 5 to 150 due to successful habitat restoration. As of 2021, USFS-SR managed 180 cluster sites for the red-cockaded woodpecker, with an average expected population growth rate of 5% each year. The growth rate over the past 5 years at SRS has been an outstanding average of 12%. In addition to

managing endangered wildlife species, USFS-SR actively manages six endangered plant populations: four smooth coneflower and two pondberry.

The USFS-SR continues to perform biological evaluations to determine whether forest implementation plans are likely to affect federally listed endangered or threatened species due to beneficial, insignificant, or discountable effects.

3.3.8.5 Migratory Bird Treaty Act (MBTA)

The MBTA prohibits taking, possessing, importing, exporting, transporting, selling, purchasing, bartering, or offering for sale any migratory bird or its eggs, parts, and nests, except as the U.S. Department of the Interior authorizes under a valid permit. To support migratory bird monitoring, a one-day Christmas Bird Count is conducted annually in December. The 2021 SRS count found 84 species, which is down from the number of species normally observed. A one-day bald eagle survey is conducted every year in January; the 2021 bald eagle survey found 13 bald eagles.

A Killdeer (*Charadrius vociferus*) with a Nest and Eggs in front of Building 730-4B

In 2021, SRS conducted walkdowns of 66 bird nests at 41 locations for MBTA compliance. The walkdowns identified 52 active nests with incubating eggs or chicks and 12 nests without eggs or chicks. The active nests were being used by Northern mockingbirds (*Mimus polyglottos*), barn swallows (*Hirundo rustica*), house finches (*Haemorhous mexicanus*), common grackles (*Quiscalus quiscula*), Mourning Doves (*Zenaida macroura*), Killdeer (*Charadrius vociferus*), Northern Rough-winged Swallow (*Stelgidopteryx serripennis*), and Eastern Bluebird (*Sialis sialis*).

SRS allowed active nests to complete the nesting cycle and barricaded them when deemed appropriate. SREL relocated one active nest in an active work area under permit authorization from the USFWS.

Also in 2021, the USFS-SR found an osprey (*Pandion haliaetus*) nest on a platform staff built in 2014. This marked the sixth year that ospreys nested on the platform after their nest had been moved from a power pole at the L-Lake Dam.

3.3.8.6 Invasive Species Management

The purpose of Executive Order 13751, *Safeguarding the Nation from the Impacts of Invasive Species,* is to prevent introducing and spreading invasive species, and to support efforts to eradicate and control established invasive species. The Site is surveying invasive plant and animal species and taking steps to control their populations.

Many of the former home and community sites that area residents left nearly 70 years ago to allow for the government to construct SRS have since become primary sources of non-native invasive plant species (NNIPS). Escaping cultivation and containment for decades, aggressive plant species such as Chinese privet (*Ligustrum sinensis*), wisteria (*Wisteria sinensis*), chinaberry (*Melia azedarach*), and kudzu (*Pueraria montana*) now threaten native species onsite. Invasive species such as these are a major threat to National Forests in the 21st century. NNIPS contribute to long-term ecosystem degradation due to the loss of

diversity and their direct competition with native species. They also provide unwanted ladder fuels that can increase fire intensity during prescribed burning or wildfire.

Before 2012, there had been no sitewide effort to document NNIPS as part of the watershed prescription process. However, recently conducted plant surveys include recording observations and locations for NNIPS. This information is now being captured geospatially to include in compartment stand maps and geographic information system layers for management planning. Historical records and image interpretations from photos and maps, compartment folders, and stand exam data helped identify developed openings, old home sites, and community places (churches, schools, cemeteries) that may contain robust sources of introduced NNIPS communities.

The USFS-SR contracts botanical surveys annually of 5,000 to 7,000 acres, which include 40-50 species of plants considered to be non-native and invasive. The USFS-SR chemically treats an average of 57 acres each year to control across target areas that either contain former homesites and community areas or that are in proximity to red-cockaded woodpecker colony sites. When a forest stand is cut and regenerated, The USFS-SR treats NNIPS populations discovered as part of the site preparation for replanting. In 2021, the USFS-SR treated approximately 40 acres of NNIPS for control, eradication, or both. This included 10 acres of treatment in proximity to an endangered plant population and 20 acres of NNIPS infestations into endangered red-cockaded woodpecker habitat.

Wild pigs are considered an invasive species in the United States and abroad. As of 2016, the U.S. Department of Agriculture estimated that in the United States alone, these animals cost $1.5 billion each year in damages and control costs. On SRS, wild pigs present safety hazards due to vehicle collisions and disease transmission, and ecological impacts by negatively affecting water quality, disturbing soil, and constantly threatening rare and endangered plant populations. The USFS-SR has two dedicated wildlife technicians who oversee two wildlife contractors who trap and remove wild pigs on SRS. In 2021, the USFS-SR removed 1,523 pigs primarily through baiting and trapping. Additionally, the USFS-SR and the Southern Research Station, part of the U.S. Forest Service Research and Development organization, are collaborating with SREL to research ways to control the wild pig population.

Wild Pigs at SRS

3.3.8.7 National Historic Preservation Act (NHPA)

The NHPA requires all federal agencies to consider the impacts to historic properties in all their undertakings. SRS ensures it complies with the NHPA through several processes. For example, SRS uses the

Site Use Program, the *Cold War Programmatic Agreement,* and *SRS's Cold War Built Environment Cultural Resource Management Plan* to ensure it is complying with the NHPA. The Savannah River Archaeological Research Program (SRARP) guides DOE in managing its cultural resources to ensure it fulfills its compliance commitments. SRARP also serves as a primary organization to investigate archaeological research problems associated with cultural development within the Savannah River valley. DOE uses the results to manage more than 2,000 known archaeological sites at SRS.

SRARP evaluates and documents all locations DOE is considering for activities, such as construction, to ensure that they do not affect archaeological or historic sites. In 2021, SRARP investigated 387 acres of land on SRS for cultural resource management, including conducting 26 field surveys and testing. It recorded 24 newly discovered sites and revisited 6 previously recorded sites.

3.3.9 Release Reporting

Federally permitted releases to the air, water, and land must comply with legally enforceable licenses, permits, regulations, or orders. If an unpermitted release to the environment of an amount greater than or equal to a Reportable Quantity (RQ) of a hazardous substance (including radionuclides) occurs, EPCRA, CERCLA, CWA, and CAA require SRS to send a notice to the National Response Center and applicable state agencies.

In 2021, SRS reported one release exceeding a CERCLA RQ. On March 13, a PVC pipe valve leak at the bottom of a container on a skid pan led to a release of 1,773.3 pounds of sodium hydroxide (25% solution); the RQ is 1,000 pounds. SRS Operations Center was notified, and the Fire Department Hazmat Team responded. Absorbent pads were used at the leak site and were properly disposed. SCDHEC and the National Response Center were notified as required. No further action was required by regulatory agencies.

3.3.10 Permits

SRS had 532 construction and operating permits in 2021 that specified operating levels to each permitted source. Table 3-3 identifies the number of permits by the permit type.

Table 3-3 SRS Permits

Type of Permit	Number of Permits
Air	8[a]
U.S. Army Corps of Engineers (USACE—Nationwide Permits)	3
Asbestos Demolition Licenses/Abatement Licenses/Temporary Storage of Asbestos Waste Notices	217
Asbestos Abatement Group License	1
Asbestos Temporary Storage of Waste License	1
Domestic Water	97
Industrial Wastewater Treatment	56
National Pollutant Discharge Elimination System (NPDES) Permits	10
Construction Stormwater Grading Permit	7
Resource Conservation and Recovery Act (RCRA) Hazardous Waste	1
Solid Waste	3
Underground Storage Tank	7
Sanitary Wastewater	91
South Carolina Department of Health and Environmental Control (SCDHEC) 401	0
SCDHEC Infectious Waste Registration	1
SCDHEC Bureau of Drug Control Controlled Substances Registration	4
Nondispensing Drug Outlet License	4
SCDHEC Navigable Waters	0
Underground Injection Control	10
U.S. Fish and Wildlife Service (USFS) Scientific Collecting Permit	1
Groundwater Withdrawal	9
Surface Water Withdrawal	1
Total	**532**

[a] This count includes the CAA permits for Ameresco (TV-00800-144), the Part 70 Air Quality Operating Permit (TV-0080-0041), and construction permits.

Additional information on SRS permitting and compliance can be found in the EPA's Enforcement and Compliance History Online (ECHO) database. The following SRS facilities are identified on ECHO:

Enforcement and Compliance History Online (ECHO) Facility Identification	Facility Registry Service (FRS) Identification	Program Area
DOE AMERESCO Savannah River Site Biomass Cogen	110046328693	Air/Water
DOE/Westinghouse Savannah River Company (WSRC) Savannah River Site	110001120000	RCRA
Savannah River Site	110013700904	Air/Water
U.S. DOE Savannah River Site	110006909248	Air/Water

3.4 MAJOR DOE ORDERS FOR ENVIRONMENTAL COMPLIANCE

SRS complies with the following major DOE Orders in addition to state and federal regulations for environmental compliance:

- DOE Order 226.1B, *Implementation of Department of Energy Oversight Policy*. This order requires DOE to provide oversight related to protecting the public, workers, environment, and national security assets effectively through continuous improvement.
- DOE Order 231.1B, *Environment, Safety and Health Reporting*, requires the Site to prepare this *SRS Environmental Report*.
- DOE Order 232.2, *Administrative Change 1, Occurrence Reporting and Processing of Operations Information*. This order requires DOE to use the designated system called Occurrence Reporting and Processing System (ORPS). The ORPS ensures that the DOE complex and the NNSA are informed of events that could adversely affect the health and safety of the public and workers, the environment, DOE missions, or DOE's credibility.
- DOE Order 414.1D, *Quality Assurance*. See Chapter 8, *Quality Assurance,* of this report.
- DOE Order 435.1, *Change 2, Radioactive Waste Management*. See Section 3.3.1 in this chapter of this report.
- DOE Order 436.1*, Departmental Sustainability*. See Chapter 2, *Environmental Management Systems,* of this report.
- DOE Order 458.1, *Administrative Change 4, Radiation Protection of the Public and the Environment*. See Chapter 5, *Radiological Environmental Monitoring Program*, and Chapter 6, *Radiological Dose Assessment,* of this report.

3.5 REGULATORY SELF-DISCLOSURES

SRS made one regulatory self-disclosure in 2021 to EPA regarding the previously unknown PCB-contaminated transformer as discussed in Section 3.3.4 and one regarding a UST test performed late as discussed in Section 3.3.2.3; no further action was required.

3.6 ENVIRONMENTAL AUDITS

The Federal Energy Regulatory Commission (FERC), SCDHEC, and the EPA inspected and audited the SRS environmental program for regulatory compliance. Table 3-4 summarizes the results of the 2021 audits and inspections.

SCDHEC performed recertification inspections of the Domestic Water Lab, Environmental Analysis Lab, and the Environmental Bioassay Lab in May. All inspected laboratories were recertified for three years. See Chapter 8 for details about laboratory recertification.

The third-party audit of the Environmental Management System (EMS) was performed in April. The audit results were satisfactory with DOE declaring the EMS conformant to the ISO 14001:2015 Standard. Chapter 2 explains the details about this audit.

During 2021, multiple internal audits were conducted for various programs at facilities throughout SRS. As part of continuous improvement efforts, these reviews help identify opportunities for improvement.

Table 3-4 Summary of 2021 External Agency Audits/Inspections of the SRS Environmental Program and Results

Audit/Inspection	Action	Results
632-G Construction and Demolition (C&D) Debris Landfill and 288-F Ash Landfill Inspections	South Carolina Department of Health and Environmental Control (SCDHEC) conducted four quarterly inspections of the 632-G and 288-F landfills.	No compliance issues or violations resulted from the quarterly inspections.
Federal Energy Regulatory Commission (FERC) Inspection	FERC performed the annual inspection of PAR Pond Dam and Steel Creek Dam, and Ponds 2, 4, and 5 in September.	FERC visually inspected the dams and found no conditions indicating a concern for the immediate safety and permanence of the structures. FERC noted SRS adequately operates and maintains the facility, and the dams were in satisfactory condition based on visual inspection. It also noted improvements in routine maintenance.
Environmental Management System (EMS) Audit	The third-party audit of the EMS was performed in April.	The audit results were satisfactory with DOE declaring the EMS conformant to the International Organization for Standardization (ISO) 14001:2015 standard.
Environmental Laboratory Certification Onsite Evaluations	SCDHEC performed recertification inspections of the Domestic Water Lab, Environmental Analysis Lab, and the Environmental Bioassay Lab on May 13.	All inspected laboratories were recertified for three years.
Comprehensive Groundwater Monitoring Evaluation	SCDHEC inspected groundwater facilities associated with the F- and H-Area Seepage Basins, M-Area Settling Basin, Metallurgical Laboratory Basin, Mixed Waste Management Facility, and Sanitary Landfill on September 28. SCDHEC also completed a records review of groundwater-related files.	The inspection noted no problems or concerns.
SCDHEC Sanitary Survey of SRS Drinking Water Systems	SCDHEC inspects the wells, tanks, and treatment systems supporting the primary SRS A-Area Drinking Water system biannually. SCDHEC also inspects four of the smaller SRS Drinking Water systems (ATTA Range, Central Sanitary Wastewater Treatment Plant, PAR Pond Lab, and L-Area Fire Station) on either a three- or a five-year rotation, depending on the classification of the system. SCDHEC conducted a Sanitary Survey of the A-Area SRS Drinking Water system in April 2021.	Each Drinking Water system received a “Satisfactory” rating.

Table 3-4 Summary of 2021 External Agency Audits/Inspections of the SRS Environmental Program and Results (continued)

Audit/Inspection	Action	Results
Interim Sanitary Landfill and the F-Area Railroad Crosstie Pile Landfill Post-Closure Inspection	SCDHEC conducted an annual review of the landfills in September.	SCDHEC identified no compliance issues.
Air Compliance Inspection	SCDHEC did not conduct any onsite inspections in 2021.	Not applicable
Resource Conservation and Recovery Act (RCRA) Compliance Evaluation Inspection (CEI)	SCDHEC conducted the unannounced RCRA CEI for FY 2021 on July 27.	SCDHEC did not observe any deficiencies during the FY 2021 inspection.
	The Environmental Protection Agency and SCDHEC conducted the unannounced RCRA CEI for FY 2022 on December 1-2.	The inspectors identified one labeling deficiency during the FY 2022 inspection. The CEI labeling deficiency was corrected on the spot.
Underground Storage Tank (UST) CEI	SCDHEC inspected 17 USTs on December 16.	No issues were identified.
Saltstone Disposal Facility (SDF), identified in the permit as Z-Area Saltstone Solid Waste Landfill, Inspections	SCDHEC performed monthly inspections of the SDF. This included reviewing facility procedures and performing walkdowns of the SDF.	No issues were noted.
National Pollutant Discharge Elimination System (NPDES) CEI (3560)	SCDHEC did not conduct a Compliance Sampling Inspection (3560) in 2021 covering permits SC0000175, ND0072125, and SC0047431.	Not applicable

3.7 KEY FEDERAL LAWS COMPLIANCE SUMMARY

The CFR implements Federal laws and state regulations that a federal agency has delegated to the state. Additional information is on the EPA website. Table 3-5 summarizes SRS's 2021 compliance status with applicable key federal environmental laws.

Table 3-5 Status of Key Federal Environmental Laws Applicable to SRS

Regulatory Program Description	2021 Status
The Atomic Energy Act/DOE Order 435.1 grants DOE the authority to develop applicable standards (documented in DOE Orders) to protect the public, workers, and environment from radioactive materials.	The FY 2020 Performance Assessment (PA) and Composite Analysis (CA) annual reviews for SRS showed that radioactive low-level waste (LLW) operations were within the required performance envelope, and the facilities continued to comply with performance objectives.
The Clean Air Act (CAA) establishes air quality standards for criteria pollutants, such as sulfur dioxide and particulate matter, and for hazardous air emissions, such as radionuclides and benzene.	SRS received a renewal to its CAA Air Quality Operating Permit (TV-0080-0041), which became effective April 1. The Site previously operated under an application shield granted by South Carolina Department of Health and Environmental Control (SCDHEC) in September 2007 as its previous Title V operating permit expired March 31, 2008.
The Clean Water Act (CWA) regulates liquid discharges at outfalls (for example, drains or pipes) that carry effluent to streams (National Pollutant Discharge Elimination System [NPDES], Section 402). It also regulates dredge and fill operations in Waters of the United States (Section 404) and water quality for those activities (Water Quality Criteria, Section 401).	The SRS NPDES program complies with all NPDES Permits.
The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) establishes criteria for liability and compensation, cleanup, and emergency response requirements for hazardous substances released to the environment.	SRS continues to comply with CERCLA and the requirements of the Federal Facility Agreement (FFA).
The Emergency Planning and Community Right-to-Know Act (EPCRA), also referred to as Superfund Amendments and Reauthorization Act (SARA), Title III, requires SRS to report hazardous substances and their releases to the Environmental Protection Agency (EPA), state emergency response commissions, and local planning units.	SRS continues to comply with all reporting and emergency planning requirements.
The Endangered Species Act (ESA) prevents the extinction of federally listed endangered or threatened species and conserves critical habitats.	SRS continues to protect these species and their habitats as outlined in the Natural Resource Management Plan for SRS.
The FFA for SRS between the EPA, DOE, and SCDHEC integrates CERCLA and Resource Conservation and Recovery Act (RCRA) requirements to achieve a comprehensive remediation strategy and sets annual work priorities and establishes milestones to clean up and close the high-level radioactive waste tanks at SRS.	SRS continues to meet all the commitments contained within the FFA (54 commitments met on or ahead of schedule in FY 2021).

Table 3-5 Status of Key Federal Environmental Laws Applicable to SRS (continued)

Regulatory Program Description	2021 Status
The Federal Facility Compliance Act (FFCA) requires federal agencies to comply with federal, state, and local solid and hazardous waste laws.	SRS continues to comply with the FFCA.
The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) regulates restricted-use pesticides through a state-administered certification program.	SRS continues to comply with FIFRA requirements.
The Migratory Bird Treaty Act (MBTA) protects migratory birds, including their eggs and nests.	SRS continues to comply with the MBTA.
The National Defense Authorization Act (NDAA) allows the Secretary of Energy, in consultation with the Nuclear Regulatory Commission (NRC), to determine that certain waste from reprocessing is not high-level radioactive waste requiring deep geologic disposal if it meets the criteria set forth in Section 3116. Section 3116(b) addresses monitoring by NRC and SCDHEC.	SRS provided routine documents as requested by the NRC to support monitoring of SRS facilities in accordance with NDAA 3116(b). The NRC did not conduct any onsite monitoring observation visits to F-Tank Farm or H-Tank Farm and conducted one visit to Saltstone Disposal Facility.
The National Environmental Policy Act (NEPA) requires federal agencies to identify potential environmental consequences of proposed federal actions and alternatives to ensure informed, environmentally sound decision-making regarding design and implementing programs and projects.	SRS continues to comply with NEPA.
The National Historic Preservation Act (NHPA) protects historical and archaeological sites.	The Savannah River Archaeological Research Program provides cultural resource management guidance to DOE to ensure continued compliance with the NHPA.
RCRA governs hazardous and nonhazardous solid waste management and underground storage tanks (USTs) containing petroleum products, hazardous materials, and wastes. RCRA also regulates universal waste and recyclable used oil.	SRS continues to manage hazardous waste, nonhazardous solid waste, and USTs in compliance with RCRA. SRS is performing groundwater monitoring and corrective actions at the F- and H-Area Hazardous Waste Management Facilities (HWMFs), the M-Area and Metallurgical Laboratory HWMFs, the Sanitary Landfill and the Mixed Waste Management Facility, and performs surveillance and maintenance at closed HWMFs in accordance with the SRS RCRA Permit Renewal.

Table 3-5 Status of Key Federal Environmental Laws Applicable to SRS (continued)

Regulatory Program Description	2021 Status
The Safe Drinking Water Act (SDWA) protects drinking water and public drinking water resources.	All drinking water samples of the A-Area Drinking Water System taken in 2021 met drinking water quality standards. SCDHEC collected a sample from the ATTA Drinking Water System in November, which was positive for total coliform. After disinfection of the system and two confirmed negative samples, the system was placed back into normal operation. SCDHEC increased bacteriological sampling of this system by from annually to quarterly for 2022.
The Toxic Substances Control Act (TSCA) regulates polychlorinated biphenyls (PCBs), radon, asbestos, and lead, and requires users to evaluate and notify the EPA when they use new chemicals and when significant new uses of existing chemicals occur.	SRS manages all regulated materials in compliance with TSCA requirements.

3.8 ENVIRONMENTAL COMPLIANCE SUMMARY

SRS was not involved in any environmental lawsuits during 2021. No Notices of Violation (NOVs) were issued in 2021. Table 3-6 summarizes the NOVs/Notices of Alleged Violation (NOAVs) SRS received from 2017–2021.

Table 3-6 NOV/NOAV Summaries, 2017 to 2021

Program Area	Notice of Violation (NOV)/Notice of Alleged Violation (NOAV)				
	2017	2018	2019	2020	2021
Clean Air Act (CAA)	3	1[a]	0	0	0
Clean Water Act (CWA)	2	0	1	1	0
Resource Conservation and Recovery Act (RCRA)	0	1[b]	0	0	0
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)	0	0	0	0	0
Others	0	0	0	0	0
Total	**5**	**2**	**1**	**1**	**0**

[a]This NOV was issued to Ameresco, a direct contractor to DOE.
[b]NOAV