# Chapter 3 Compliance Summary

The Savannah River Site (SRS) implements programs to meet the requirements of applicable federal and state environmental laws and regulations, and U.S. Department of Energy (DOE) Orders, notices, directives, policies, and guidance. Our goal is to comply with regulatory requirements and eliminate or minimize any environmental impacts. SRS's exceptional compliance record demonstrates our commitment to protect human health and the environment.

## 2016 Highlights

SRS managed more than 400 operating and construction permits. SRS received one Notice of Violation (NOV) from South Carolina Department of Health and Environmental Control (SCDHEC) for exceeding the National Pollutant Discharge Elimination System (NPDES) Wastewater Permit Discharge limit in August at outfall D-01C in D Area. More information on the exceedance is on Page 3-14.

### Remediation Activities (Environmental Restoration and Cleanup)

SRS completed the cleanup of 405 of the 515 waste units containing or having contained solid or hazardous waste at the end of FY 2016. An additional 12 units are being remediated.

### Tank Closure Activities (Radioactive Liquid Waste Processing and Dispositioning)

- SRS completed operational closure of Tank 12H.
- The Defense Waste Processing Facility (DWPF) produced 136 canisters with approximately 490,000 pounds of glass waste mixture, immobilizing 2.6 million curies of high-level radioactive waste.
- The Saltstone facilities processed more than 1.5 million gallons of low-activity waste.

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

The annual reviews for the E-Area Low-Level Waste Facility Performance Assessment (PA) and the Saltstone Disposal Facility PA showed that SRS continued to operate these facilities in a safe and protective manner.

### Resource Conservation and Recovery Act (RCRA)

- TRU Pad 2 closure began in October.
- All 19 underground storage tanks containing usable petroleum fuel remained in compliance, marking 14 consecutive years without a violation.

### Air Quality and Protection

SRS achieved a 100% compliance rate in FY 2016 with the five air permits governing operating facilities.

## 2016 Highlights (continued)

### 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 mrem per year. (Chapter 5, *Radiological Environmental Monitoring Program*, provides details of the air and water discharges; Chapter 6, *Radiological Dose Assessment,* explains the public dose.)

### Water Quality and Protection

- SRS sampled drinking water monthly to ensure drinking water quality met SCDHEC and U.S. Environmental Protection Agency (EPA) standards. In December, however, SRS failed to collect 3 of the 10 required samples and self-reported this to SCDHEC. The seven samples obtained and tested that month met drinking water quality standards.
- SRS monitored 28 industrial outfalls as the NPDES permit required. Except for the exceedance associated with the NOV, all analyses results complied with the NPDES permit and contributed to a 99.9% compliance rate.
- All 35 SRS stormwater outfalls covered under a Stormwater Pollution Prevention Plan (SWPPP) were 100% compliant. The SWPPP describes how SRS prevents contamination and controls sedimentation and erosion.

### Environmental Protection and Resource Management

- SRS conducted 465 National Environmental Policy Act (NEPA) reviews to identify potential environmental impacts from proposed federal activities. Four hundred and fifteen of these were identified as categorical exclusions and did not require action from the Site under NEPA.
- SRS continued to comply with many other federal laws, including the Emergency Planning and 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 follow-up investigation revealed that the asbestos release was below the RQ limit and did not need to be reported. More information on the release is on Page 3-20.

### External Environmental Audits and Inspections

SCDHEC, EPA, and the Nuclear Regulatory Commission (NRC) conducted audits, inspections, and site visits of various SRS environmental programs to ensure regulatory compliance.

## 3.1 INTRODUCTION

Compliance with environmental regulations and DOE Orders is an integral part of SRS operations. This chapter provides a summary of SRS compliance with applicable environmental regulations and programmatic requirements.

## 3.2 FEDERAL FACILITY AGREEMENT

The 1993 *Federal Facility Agreement (FFA) for the Savannah River Site* integrates the CERCLA and RCRA requirements needed to achieve a comprehensive remediation strategy for SRS and to coordinate administrative and public participation requirements. The FFA governs the remedial action process, sets annual work priorities, and establishes milestones for cleanup and tank closure. Remediation and closure activities identified in the FFA are conducted in accordance with applicable regulations. These regulations can be either state or federal or both.

### 3.2.1 Remediation Activities (Environmental Restoration and Cleanup)

SRS has 515 waste units subject to the FFA, including RCRA/CERCLA units, Site Evaluation Areas, and facilities covered by the SRS RCRA permit. At the end of FY 2016, surface and groundwater cleanup of 405 of these units was complete, and 12 units were being remediated. All of SRS's 515 waste units are listed in FFA Appendix C, *RCRA/CERCLA Units List*; Appendix G, *Site Evaluation List*; and Appendix H, *Solid Waste Management Units Evaluation*. The *Federal Facility Agreement Annual Progress Report for Fiscal Year 2016* explains the status of FFA activities at SRS for FY 2016.

CERCLA requires reviews every five years for sites that have hazardous substances remaining at levels that do not allow for unrestricted use after a remedy is completed. Remedies are evaluated to determine if they are functioning as designed and are still protecting human health and the environment.

SCDHEC and the EPA approved the *Fifth Five-Year Remedy Review Report for Savannah River Site Operable Units with Groundwater Remedies* in August and September, respectively. DOE submitted the *Fifth Five-Year Remedy Review Report for Savannah River Site Operable Units with Engineered Cover Systems* and the *Fifth Five-Year Remedy Review Report for Savannah River Site Operable Units with Geosynthetic or Stabilization/Solidification Cover Systems* to EPA and SCDHEC in December. Regulators will review and comment on these two reports, which are expected to be issued to the public by 2018.

The FFA also governs how the Site closes the ash basins associated with the shutdown of the D-Area coal-fired powerhouse. The ash basins, which are adjacent to the powerhouse, held ash that was a byproduct of generating power at SRS.

In 2016, all construction for the installation of the multilayer protective SCDHEC Class Three landfill cover was completed for 488-4D Ash Landfill. To illustrate this progress, in February 2015, the 488-2D basin contained water and ash, and the 488-1D basin was still heavily vegetated, as Figure 3-1 shows. Both the 488-2D basin and the 488-4D landfill closures were nearing completion in October.

*The Removal Action Report for the 488-2D Ash Basin and the 488-4D Ash Landfill* (Revision 0) was under internal review at the end of 2016. This report must be submitted to SCDHEC and the EPA as part of the closure requirements.


The 488-2D basin and 488-4D landfill before and after cap installation. The 488-1D basin is still heavily wooded.

**Figure 3-1 D-Area Ash Project**

### 3.2.2 Tank Closure Activities (Radioactive Liquid Waste Processing and Dispositioning)

Liquid radioactive waste is generated at SRS as a byproduct of the processing of nuclear materials (legacy liquid waste). The waste is stored in underground waste tanks grouped into two tank farms (F-Tank Farm and H-Tank Farm). The liquid waste in tank storage exists in two forms: sludge and salt. The waste removed from the tanks feeds the sludge and salt waste processing programs as depicted in Figure 3-2.

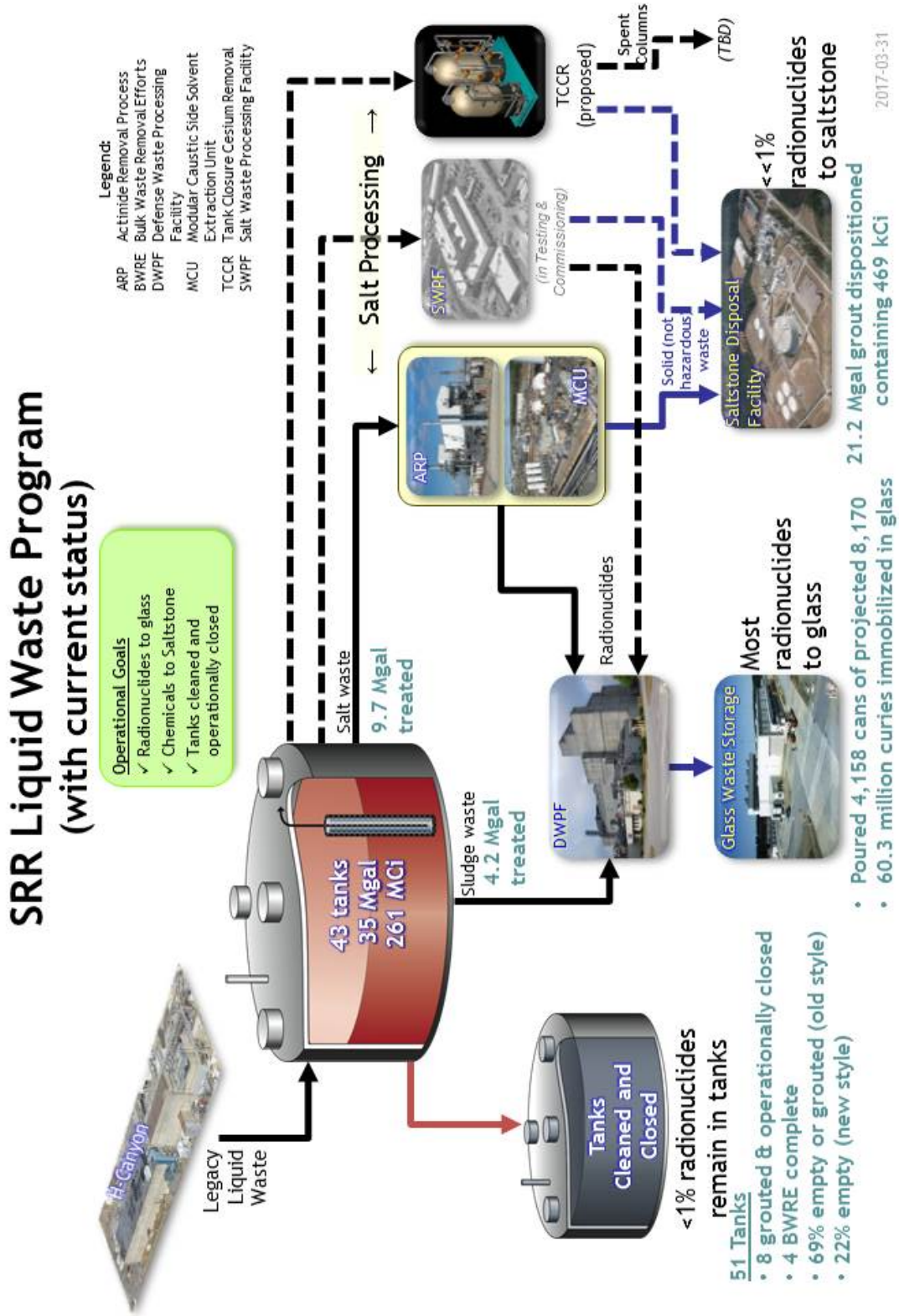


**Figure 3-2 Pathway for Processing and Dispositioning of Radioactive Liquid Waste at SRS**

### 3.2.2.1 Tank Closure

SCDHEC permits the F-Tank Farm and H-Tank Farm under the industrial wastewater regulations through the provisions of the FFA, Section IX, *High-Level Radioactive Waste Tank System(s).* The FFA contains enforceable closure schedules for the liquid waste tanks. In addition, tank closures are subject to DOE Order 435.1, *Radioactive Waste Management*; federal regulations; and the Ronald W. Reagan National Defense Authorization Act (NDAA) for Fiscal Year 2005 Section 3116.

Prior to closure, the tanks undergo an extensive waste removal process that includes specialized mechanical cleaning and isolation from the waste transfer and chemical systems. Once these activities are complete, there is regulatory confirmation that the tanks are ready for stabilization by grouting. In 2016, SRS completed the operational closure of Tank 12H.

NDAA Section 3116(a) is legislation that allows the Secretary of Energy, in consultation with the NRC, to determine that certain waste from spent fuel reprocessing is not high-level radioactive waste and does not require deep geologic disposal. The NRC in coordination with SCDHEC monitors the disposal actions taken by DOE for the purposes of assessing compliance with the performance objectives of 10 CFR Part 61, Subpart C. Additionally, EPA may participate in NRC monitoring activities. *Section 3116 Determination for Closure of F-Tank Farm at the Savannah River Site* and *Section 3116 Determination for Closure of H-Tank Farm at the Savannah River Site* demonstrate that the stabilized tanks and ancillary structures in the F-Tank Farm and H-Tank Farm meet the necessary criteria and will not require permanent isolation in a deep geologic repository.

During 2016, the NRC performed an onsite observation visit for both F- and H-Tank Farms and reviewed various documents. The NRC did not identify any issues resulting from the visit and review of the provided documentation. More information on the February 2–3 visit is available in the NRC Onsite Observation Visit Report. Ongoing communication between the NRC and SRS about the observation report is detailed on the NRC Technical Review Letter.

You will find more information on Tank Closure activities on the Tank Farms at the Savannah River Site web page.

### 3.2.2.2 Salt Processing

The Actinide Removal Process and Modular Caustic Side Solvent Extraction Unit (ARP/MCU) is an interim salt waste processing system. SCDHEC permitted ARP/MCU under South Carolina industrial wastewater regulations. The salt form of the liquid waste comprises more than 90% of the volume and contains about half of the radioactivity in the tank farms. The ARP/MCU process removes actinides, strontium, and cesium from the salt waste taken from the liquid waste tank farms. In FY 2016, MCU processed about 1.1 million gallons of salt solution. The higher activity portion of the salt waste—a very small stream—is sent to the Defense Waste Processing Facility. The remaining portion is a decontaminated salt solution sent to the Saltstone facilities. The Salt Waste Processing Facility (SWPF) will replace the ARP/MCU process, as Figure 3-2 shows. The SWPF construction was completed on April 29, 2016. This facility is currently undergoing testing and commissioning to prepare for startup and operation.

More information is available in the Liquid Waste Disposition fact sheet on the SRS web page.

### 3.2.2.3 Salt Disposition

**Figure 3-3 Salt Disposal Unit 6 (SDU-6)**

The low-activity salt solution is sent to the Saltstone Production Facility after ARP/MCU for processing into grout for disposition in the Saltstone Disposal Facility (SDF). SCDHEC permits operation of the SDF under the South Carolina solid waste 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 of the NDAA legislation. The basis for this determination is found at *Section 3116 Determination for Salt Waste Disposal at the Savannah River Site.* NDAA Section 3116(b) requires that NRC, in coordination with SCDHEC, monitor the disposal actions taken by DOE for the purposes of assessing compliance with the performance objectives of 10 CFR Part 61. Additionally, EPA may participate in NRC monitoring activities, as depicted in Figure 3-2.

In FY 2016, more than 1.5 million gallons of waste was processed and disposed of through the Saltstone facilities. In 2016, SRS continued to use cylindrical Saltstone Disposal Units (SDUs) for disposal operations. In 2016, SRS completed the construction of SDU-6, a new design for cylindrical SDUs (see Figure 3-3). The 32 million-gallon concrete rubber-lined tank completed hydro testing in December and is expected to be placed into operation in 2018.

More information on salt disposition, NDAA Section 3116(a) activities is available on the Salt Waste Disposal at the Savannah River Site web page.

### 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 comprises less than 10% of the volume of waste stored in the tanks and contains about half of the radioactivity, as shown in Figure 3-2. DWPF receives the high-activity portion of both the sludge and salt wastes, where it is combined with frit and sent to the plant's melter. In the melter, electricity is used to heat the waste/frit mixture to nearly 2,100 degrees Fahrenheit, until molten. This molten glass-waste mixture is poured into stainless steel canisters to cool and harden. This process is known as vitrification. SRS temporarily stores these canisters in the Glass Waste Storage Buildings, in preparation for final disposal in a federal repository.

In FY 2016, DWPF produced 136 canisters with more than 490,000 pounds of vitrified glass, immobilizing approximately 2.6 million curies of radioactivity. Since operations began in March 1996, more than 15.8 million pounds of vitrified glass have been produced, and 59.9 million curies have been immobilized.

More information is available in the Waste Solidification fact sheet on the SRS web page.

#### 3.2.2.5 Low-Level Liquid Waste Treatment

Low-level radioactive wastewater from the tank farms is treated in the F- and H-Area Effluent Treatment Project (ETP). ETP removes chemical and radioactive contaminants before releasing the water into Upper Three Runs Creek, an onsite stream that flows to the Savannah River. The point of discharge is a South Carolina NPDES permitted outfall. ETP processed 6.7 million gallons of treated wastewater in FY 2016. SCDHEC permitted the ETP under the South Carolina industrial wastewater regulations. ETP remained in compliance with the industrial wastewater permit and the NPDES permit throughout 2016.

## 3.3 REGULATORY COMPLIANCE

This section provides a summary of SRS compliance 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 are governed by DOE Orders and federal and state regulations. SRS manages, treats, and stores low-level, high-level, and transuranic (TRU) waste in compliance with DOE Order 435.1. Only low-level waste is disposed of at SRS, at the E-Area Low-Level Waste Facility and the Saltstone Disposal Facility. Low-level waste is radioactive waste not classified as high-level or TRU waste.

As required by DOE Manual 435.1-1, *Radioactive Waste Management Manual*, DOE prepares performance assessments (PAs) to evaluate the potential impacts of low-level radioactive waste disposal and closure activities (for example, Tank Farms) 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 completion of a composite analysis (CA) to assess the combined impact of multiple low-level waste disposal facilities and other interacting sources of radioactive material after closure.

SRS performs a comprehensive annual PA review for disposal facilities to ensure any developing information does not alter the original PA conclusions and 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 evaluating the adequacy of the 2010 SRS CA and verifying that SRS activities were conducted within the bounds of the 2010 analysis. The FY 2016 annual reviews for the disposal facilities and the CA determined that SRS continues to be in compliance with the performance objectives of DOE Order 435.1.

**Waste Removal at TRU Pad 2**

SRS generates another category of radioactive waste: transuranic (TRU) waste. DOE Orders define TRU waste as waste containing more than 100 nanocuries of alpha-emitting transuranic isotopes (elements with atomic numbers greater than uranium) per gram of waste with half-lives greater than 20 years. At SRS, examples of TRU waste include clothing, tools,

rags, residues, debris, and other items associated with trace amounts of plutonium. SRS TRU waste will be sent to the Waste Isolation Pilot Plant (WIPP), a deep geologic repository for the permanent disposal of TRU waste. Many different federal and state agencies (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 and toxic waste regulations. There were no TRU waste shipments to the WIPP in 2016, as the facility did not accept any shipments.

### 3.3.2 Resource Conservation and Recovery Act (RCRA)

RCRA establishes regulatory standards for generating, transporting, storing, treating, and disposing of hazardous waste, such as flammable or corrosive liquids. The EPA authorizes SCDHEC to regulate hazardous waste and the hazardous components of mixed waste. SCDHEC issued a RCRA hazardous waste permit to SRS. In 2016, the Site received approval for RCRA permits for the operational TRU pads and the Solvent Storage Tanks S33-S36 Facilities.

In 2016, SRS operated active treatment, storage and disposal facilities, and maintained closed facilities in compliance with SRS RCRA permit requirements. Subtitle I of RCRA regulates 19 underground storage tanks (USTs) containing usable petroleum products. These tanks require an annual compliance certificate from SCDHEC. A SCDHEC inspection and audit on October 25 found all 19 tanks to be in compliance, marking 14 consecutive years without a violation.

SRS began a RCRA closure and waste removal from TRU Pad 2 in 2016. The RCRA Closure Plan was submitted to SCDHEC on May 16 and was approved on September 15. SRS notified the regulators that the last waste on the pad had been removed on September 9. Closure began in early October and is projected to continue into 2017.

### 3.3.3 Federal Facility Compliance Act (FFCA)

The Federal Facility Compliance Act (FFCA) was signed into law in October 1992 as an amendment to the Solid Waste Disposal Act. It adds provisions for the application of certain requirements and sanctions to federal facilities. A Site Treatment Plan (STP) Consent Order (95-22-HW, as amended) was obtained and implemented in 1995, as required by the FFCA. SCDHEC executed *A Statement of Mutual Understanding for Cleanup Credits in October 2003*, allowing SRS to earn credits for certain accelerated cleanup actions. Credits can then be applied to the STP commitment schedules. In 2011, DOE requested a revision to the annual frequency for updating the STP. SCDHEC agreed that DOE must submit an annual STP update to SCDHEC for 2011 and prepare updates every five years.

SRS and SCDHEC held STP Cleanup Credit validation meetings in May, August, and October. A total of 2,546 Cleanup Credits were earned and validated during FY 2016.

In November, SRS submitted the *Savannah River Site Approved Site Treatment Plan, 2016 Update,* the first STP on the five-year update frequency, to SCDHEC. The STP 2016 update documents the storage of 135,113 cubic meters ($m^3$) of mixed waste as of July 1, 2016 versus 146,262 $m^3$ stored in 2011. Numerous waste streams originally contained in the STP have been treated or disposed offsite, or both. SRS does not anticipate generating additional waste that meets the criteria of these former waste streams. Therefore, SRS eliminated them from the STP 2016 update.

### 3.3.4 Toxic Substances Control Act (TSCA)

SRS complies with Toxic Substances Control Act (TSCA) regulations for the storage and disposal 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 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 the WIPP, located in New Mexico. SRS did not send any PCB TRU waste to WIPP in 2016.

SRS completed the 2016 annual PCB document log on March 20, 2017 and submitted the 2016 annual report of onsite PCB disposal activities to EPA on June 14, 2017, meeting applicable requirements.

### 3.3.5 South Carolina Infectious Waste Management Regulation

SRS is a large-quantity generator of infectious waste registered under the SCDHEC Infectious Waste Management program. SRS contracts with a vendor for monthly pickup of infectious waste. Once offsite, the waste is then treated and disposed of in accordance with the SCDHEC regulations. In 2016, SRS managed all infectious wastes in compliance with the requirements for treatment, storage, transportation, and disposal or destruction. In 2016, SCDHEC did not perform an inspection of the SRS Infectious Waste Management Program.

### 3.3.6 Air Quality and Protection

#### 3.3.6.1 Clean Air Act (CAA)

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 currently has the following five 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)
- Ameresco Federal Solutions, Inc. (“Ameresco”) Biomass Facilities Permit (TV-0080-0144)
- Mixed Oxide Fuel Fabrication Facility (MFFF) (TV-0080-0139-CA-R1)

Under the CAA, SRS is considered a “major source” of nonradiological air emissions and, therefore, 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 Part 70 Operating Permit requires SRS to demonstrate compliance through air dispersion modeling and submitting an emissions inventory of air pollutant emissions every three years.

The current CAA Permit expired on March 31, 2008. SRS submitted a complete renewal application of the current permit prior to the expiration date. SCDHEC granted an application shield, effective on September

21, 2007, allowing the Site to continue operating under the expired permit. In 2016, the Site continued to operate under the expired Part 70 Air Quality Permit.

#### 3.3.6.2 Accidental Release Prevention Program

The CAA Amendments of 1990, Section 112(r) requires 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 the threshold value; therefore, SRS has not been required to develop a risk management plan. Additionally, no reportable 112(r)-related hazardous or extremely hazardous chemical releases occurred at SRS in 2016.

#### 3.3.6.3 Ozone-Depleting Substance (ODS)

The CAA mandates air quality standards to protect the stratospheric ozone. Releases of chemical gases widely used as refrigerants, insulating foams, solvents, and fire extinguishers cause ozone depletion. Some of these ODSs include chlorofluorocarbons, hydrofluorocarbons, and halons. SRS complies with the standards for emissions reduction and the systematic reduction of ODSs to ensure no ODS is knowingly or willfully released into the atmosphere. SRS reported no exceedances in 2016.

#### 3.3.6.4 Air Emissions Inventory

SCDHEC Regulation 61-62.1, Section III (*Emissions Inventory*), requires compiling an air emissions inventory in order 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 on the emission thresholds the regulations establish.

SRS submitted the 2015 electronic emissions inventory on March 31, 2016. SCDHEC confirmed, based on the maximum potential controlled values in the SRS permit, that SRS is not required to submit an annual emissions inventory for 2016. SRS will submit the next inventory for 2017 before March 31, 2018. The most recent information on the EPA National Emission Inventories is available on the website.

#### 3.3.6.5 National Emission Standard for Hazardous Air Pollutants (NESHAP)

The National Emission Standards for Hazardous Air Pollutants (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 maintains compliance with the NESHAP Radionuclide Program by performing all required inspections and maintaining monitoring systems. Subpart H of the NESHAP regulations requires SRS to determine and report annually (by June 30) the highest effective dose from airborne emissions to any member of the public at an offsite point. SRS transmitted the *SRS Radionuclide Air Emissions Annual Report for 2015* on June 23, 2016 to EPA, SCDHEC, and DOE Headquarters.

During 2016, the maximally exposed individual (MEI) effective dose equivalent, calculated using the NESHAP-required CAP88 computer code, was estimated to be less than 1% of the EPA standard of 10 millirem (mrem) per year. Chapter 6, *Radiological Dose Assessment*, contains details on this dose calculation.

#### 3.3.6.5.2 NESHAP Nonradionuclide Program

In 2013, NESHAP emission standards applicable to stationary Reciprocating Internal Combustion Engine (RICE) equipment—such as portable generators, emergency generators, and compressors—became effective. These regulations impact numerous pieces of SRS's RICE equipment. RICE equipment must also comply with the New Source Performance Standards. In January and July 2016, SRS submitted the semiannual compliance reports demonstrating compliance with the regulations.

In August 2016, SCDHEC inspected SRS and identified items at the 784-7A Biomass Steam Plant that it referred to its Enforcement Office for review related to NESHAP Boiler Maximum Achievable Control Technology (MACT) compliance. The results of the Enforcement Office review will be discussed in the 2017 annual report.

#### 3.3.6.5.3 NESHAP Asbestos Abatement Program

Asbestos activities at SRS fall under SCDHEC and federal regulations. These activities—operation and maintenance repairs, removing asbestos, and demolishing buildings—require an asbestos notification, a renovation permit, or a demolition permit.

SRS issued 132 asbestos notifications and conducted 110 permitted renovations and demolitions involving asbestos in 2016. Table 3-1 summarizes these removals. Certified personnel removed and disposed of friable (easily crumbled or pulverized) and nonfriable asbestos. Both disposal sites for nonradiological asbestos waste are SCDHEC-approved landfills for the disposal of 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 activities and minor and small projects. Additionally, SRS maintains a SCDHEC Asbestos Group License that allows SRNS and SRR to operate as a long-term, in-house asbestos abatement contractor for DOE-Savannah River.

**Table 3-1 Summary of Quantities of Asbestos Materials Removed in 2016**

| Asbestos Type | Nonradiological, Friable | Nonradiological, Nonfriable | Radiologically Contaminated Asbestos |
|---|---|---|---|
| **Linear Feet Disposed** | 244 | 147 | 101 |
| **Square Feet Disposed** | 93 | 8499 | 539 |
| **Cubic Feet Disposed** | 29 | 148 | 0 |
| **Disposal Site** | Three Rivers Solid Waste Authority Landfill | SRS Construction and Demolition Landfill | SRS E-Area Low-Level Waste Facility |

### 3.3.7 Water Quality and Protection

#### 3.3.7.1 Clean Water Act (CWA)

With the exception of Ameresco, which has its own CWA National Pollutant Discharge Elimination System (NPDES) permit, SRS operated pursuant to the following CWA permits in 2016:

- Land Application Permit (ND0072125)
- General Permit for Storm Water Discharges Associated with Industrial Activities (Except Construction) (SCR000000)
- Permit for Discharge to Surface Waters (SC0000175)
- Permit for Discharge to Surface Waters (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)
- General Permit for Vehicle Wash Water Discharges (SCG750000)
- General Wastewater Construction Permit (SCG580000)
- General Construction Permit for Water Supply Distribution Systems (151218)
- General Permit for Land Disturbing Activities at SRS.

Information on these permits is available at the EPA's Enforcement and Compliance History Online (ECHO) database.

##### 3.3.7.1.1 National Pollutant Discharge Elimination System (NPDES)

SCDHEC administers the NPDES program. The program protects surface waters by limiting releases of pollutants into streams, reservoirs, and wetlands. As shown in the previous section, multiple permits issued to SRS 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 storm water to protect the quality of our nation's water. To achieve this goal, SRS is required to prepare a Best Management Plan to identify and control the discharge of hazardous and toxic substances, a Storm Water Pollution Prevention Plan (SWPPP) to address the potential discharge of pollutants in stormwater, and a Spill Prevention, Control, and Countermeasure (SPCC) 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 (Permit No. SC0047431 NPDES Permit for Discharge to Surface Waters) and the other for the remainder of the Site (Permit No. SC0000175 NPDES Permit for Discharge to Surface Waters). Throughout the year, SRS monitors 28 NPDES-permitted industrial wastewater outfalls across SRS on a frequency specified by the permits. 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, physical, chemical, and biological parameters are determined and reported to SCDHEC in SRS monthly discharge monitoring reports, as required by the permit. Chapter 4, *Nonradiological Environmental Program*, provides additional information about sampling as required to remain compliant with SRS's NPDES permits.

The following are highlights under the NPDES program in 2016:

- In August, the SRS D-Area NPDES program had a permit exceedance at the D-01C outfall. SCDHEC issued a Notice of Violation (NOV) in December to SRS for the exceedance of the Total Suspended Solids (TSS) permit limit for the D-01C outfall.
- Heavy rains in September caused a flow limit exceedance at K-12 outfall, which did not result in an NOV.
- In September, SCDHEC conducted the annual compliance evaluation inspection and issued a satisfactory rating, the highest grade possible. The inspection included records and procedures reviews; personnel interviews; and outfall, treatment facility, and land application site inspections.
- In October, DOE mailed an outline plan for the submittal of the NPDES Industrial Wastewater renewal application identifying which outfalls will not require updates and listing outfalls that will require updates. In December, SRS and DOE submitted revised NPDES Wastewater 2C applications to renew three outfalls and create one new industrial wastewater outfall.
- SRS SWPPP contains information on all SRS outfalls and outfall facilities. SRS currently has 35 outfalls that this SWPPP covers.
- SCDHEC did not require construction stormwater monitoring of the eight active construction projects underway at SRS.
- The construction, operation, and closure of industrial wastewater treatment facilities are permitted under the NPDES program. Facilities permitted are broad in scope and include those involved with groundwater remediation, radioactive liquid waste processing, and nuclear nonproliferation. In November, SCDHEC inspected the Waste Solidification Building and Tank 26, both permitted industrial wastewater treatment facilities.
- SRNS submitted a Notice of Intent for the NPDES General Permit for Discharges from the Application of Pesticides in 2015 for woody vegetation control of approximately 35 acres at various ponds and lakes at SRS. The state issued a certificate of coverage SCG160155 under the existing NPDES General Permit. The State of South Carolina then issued a new NPDES General Permit for Discharges from the Application of Pesticides effective April 1, 2016 through March 31, 2021. SRS pesticide application activities are now covered under this new general permit.

You will find the results from sampling of both industrial and stormwater outfalls in the 2016 Environmental Monitoring Program Data Report (SRNS 2017a).

#### 3.3.7.1.2 Section 404(e) Dredge and Fill Permits

Wetlands comprise 48,973 acres on SRS, which is 25% of the total SRS area. SRS wetlands account for over 80% of the wetlands across the entire DOE complex. Permits under Section 404 are required when work will be conducted in a wetland area. The Nationwide Permits (NWPs) program (general permits under Section 404[e]) are within the jurisdiction of the U.S. Army Corps of Engineers. Permits issued under the NWPs program are for projects that have minimal impact on the aquatic environment. In 2016, SRS had five open permits under the NWPs program, as follows:

- SRS completed dam construction on an unnamed tributary to Fourmile Branch for the Mixed Waste Management Facility Groundwater Interim Measures project in 2000 under NWP 38, *Hazardous Waste Cleanup*. However, mitigation for the impact to wetlands was pending in 2016.

Additional regulatory correspondence is ongoing to provide updated NWP 38 compliance information.

- SRS installed wells for attenuation-based sampling for I-129 and Tc-99 at four locations in wetlands along Four Mile Branch. This activity was permitted by rule under NWP 5—*Scientific Measurement Devices* in January.
- The U.S. Forest Service installed exclusions in wetlands at research plots for quantifying insect contribution to wood decomposition. This activity was permitted by rule under NWP 5—*Scientific Measurement Devices* in January.
- SRS installed a wooden deck in wetlands and aluminum dock ladder in Steel Creek at the SC-2A environmental sampling station. This activity was permitted by rule under NWP 5—*Scientific Measurement Devices* in April.
- The U.S. Forest Service replaced a wooden boat dock on L-Lake with a prefabricated plastic floating dock. This activity was permitted by rule under NWP 18—*Minor Discharges* in May.

#### 3.3.7.2 Safe Drinking Water Act (SDWA)

SCDHEC regulates drinking water facilities under the SDWA. SRS uses groundwater sources to supply onsite drinking water facilities. The A-Area drinking water system supplies most Site areas. Remote facilities, such as field laboratories, barricades, and pump houses, use small drinking water systems or bottled water.

SCDHEC requires SRS to collect 10 bacteriological samples each month from the domestic water system that supplies drinking water to most areas at SRS. SRS exceeds this requirement by collecting 15 samples each month from various areas. Bacteriological analyses are performed on all samples. The sample results consistently meet SCDHEC and EPA drinking water quality standards, confirming the absence of harmful bacteria. In December, SRS collected 7 samples instead of the required 10. SRS notified SCDHEC of this failure to collect the required number of samples. SRS has identified corrective actions to prevent a reoccurrence. Results for the seven bacteriological samples taken met drinking water quality standards.

SRS samples domestic water systems for lead and copper on a three-year, rotating cycle. In 2016, SRS sampled the A-Area water system for lead and copper. The results did not exceed action levels for lead and copper.

### 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 to support informed environmentally sound decision-making regarding the design and implementation of the proposed activities.

The NEPA program complies with DOE Order 451.1B. SRS initiates the evaluation NEPA requires by completing an Environmental Evaluation Checklist (EEC) for new projects or changes to existing projects. 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 465 NEPA reviews in 2016 (Table 3-2). Categorical exclusion (CX) determinations accounted for 89% of completed reviews. Additional information on SRS NEPA activities is on the SRS NEPA web page.

**Table 3-2 Summary of 2016 NEPA Reviews**

| Type of NEPA Review | Number |
|---|---|
| CX Determinations [a] | 415 |
| "All No" Environmental Evaluation Checklist (EEC) | 35 |
| Actions Tiered to Previous NEPA Reviews | 10 |
| Environmental Impact Statement (EIS) | 1 |
| Supplement Analysis (SA) | 2 |
| Interim Action | 0 |
| Revised Finding of No Significant Impact (FONSI) | 0 |
| Environmental Assessment (EA) | 2 |
| **Total** | **465** |

Note:
[a] Proposed actions that require no further NEPA action

SRS completed the following major NEPA reviews in 2016:

- Final Environmental Impact Statement for the Disposal of Greater-than-Class-C (GTCC) Low-Level Radioactive Waste and GTCC-Like Waste *(DOE/EIS-0375) (In progress).* DOE is evaluating disposal of GTCC low-level radioactive waste (LLRW) and GTCC-like LLRW in a geologic repository, in intermediate-depth boreholes, and in enhanced near-surface disposal facilities. SRS is an alternative location for these disposal facilities.
- Supplement Analysis of the Mark-18A Target Material Recovery Program at the Savannah River Site *(DOE/EIS-0220-SA-02, DOE/EIS-0279-SA-06)(In progress).* This SA evaluates whether the proposed action requires supplementing the existing *Final Environmental Impact Statement: Interim Management of Nuclear Materials at the Savannah River Site (IMNM EIS)* (DOE/EIS-0220) and the *Savannah River Site Spent Nuclear Fuel Management Environmental Impact Statement (SRS SNF EIS)* (DOE/EIS-0279).
- Supplemental Analysis for the Uranium Lease and Take-Back Program for Irradiation for Production of Molybdenum-99 for Medical Use *(DOE/EIS-0279-SA-05, DOE/EIS-0387-SA-02)* DOE determined that 1) no supplemental or new EIS's are required to establish and implement the ULTB Program, and 2) no further NEPA documentation is required to establish and implement the ULTB Program. The SA was signed on February 11, 2016.

An *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) and the *Draft Environmental Assessment for the Acceptance and Disposition of Spent Nuclear Fuel Containing U.S.-Origin Highly Enriched Uranium From The Federal Republic Of Germany (DOE/EA-1977)* are both in progress.

### 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 activities. 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 in excess of specified quantities present at SRS during the calendar year. SRS submitted the 2016 hazardous chemical storage information to state and local authorities electronically via the Homeland Security E-Plan on February 14, 2017. The report included 58 reportable chemical categories, down from 63 in the previous year.

As required by Section 313, *Toxic Chemical Release Inventory*, of EPCRA, SRS must file an annual TRI 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 the threshold value to EPA. For 2016, SRS submitted the Toxic Release Inventory Report on June 12, 2017 for each of the following regulated chemicals: ammonia, chromium compounds, copper, formic acid, lead compounds, manganese, mercury compounds, naphthalene, nickel compounds, nitrate compounds, nitric acid, sodium nitrite, and sulfuric acid. Details are on the EPA Toxic Release Inventory 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. The EPA must register all pesticides used in the United States. Use of each registered pesticide must be consistent with use 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 the application of pesticides to surface water in accordance to limitations set forth in the NPDES general permit.

SRS procedures implement the FIFRA requirements for pesticide application, application record keeping, storage, and disposal 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 very limited basis per their label requirements using state-certified pesticide applicators. Application records for general use and restricted use pesticides are generated and maintained for each application.

### 3.3.8.4 Endangered Species Act (ESA)

The ESA designates and protects wildlife, fish, and plants in danger of becoming extinct. This federal law also protects and conserves their critical habitats. 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.

In addition, SRS is home to the gopher tortoise, a candidate for protection under the ESA. SRS is one of the first sites to conduct experimental translocations of gopher tortoises. Conservation organizations widely use protocols developed during the translocation to establish viable populations elsewhere in the species' range.

South Carolina has enacted legislation that lists additional plants and animals not on the federal list to encourage management of populations of those species of conservation concern. Those found on SRS include the Carolina gopher frog and the swallow-tailed kite. While the bald eagle is no longer on the federally listed endangered or threatened species list, nesting bald eagles and wintering golden eagles remain protected by the Bald and Golden Eagle Protection Act. Bald eagles nest on SRS and are considered year-round residents. Golden eagles use SRS as a wintering habitat. The U.S. Forest Service-Savannah River (USFS-SR) manages programs onsite to enhance the habitat and survival of these species.

**Golden Eagle**

The USFS-SR actively manages more than 65,000 acres in the red-cockaded woodpecker habitat management area using mechanical and chemical removal and prescribed fires to effectively create and improve habitat by restoring the natural fire regime, improving native plant diversity in the understory and enhancing native pine stands. Additionally, the USFS-SR inserts artificial cavities into living pine trees to supplement the available cavities for roosting and nesting. From 1985 through FY 2016, the number of active red-cockaded woodpecker clusters increased from 3 to 93 due to successful habitat restoration. As of 2016, the USFS-SR manages 111 cluster sites for the red-cockaded woodpecker with an average population growth rate of 5% each year.

**Southern Hognose Snake**
**(photo courtesy of JD Wilson, SREL)**

During FY 2016, while implementing the *United States Department of Energy Natural Resources Management Plan for SRS*, USFS-SR developed two SRS watershed management plans resulting in three biological evaluation reviews for timber, research, and wildlife-related management. Two were for standard USFS-SR project plans, and one was for research of herbicide use in forest remnants. Two biological evaluations determined that forest implementation plans are not likely to adversely affect federally listed endangered or threatened species due to beneficial, insignificant, or discountable effects. One biological evaluation determined a potential to negatively impact the southern hognose snake, a species at risk. As a result, mitigation measures will be exercised.

#### 3.3.8.5 National Historic Preservation Act (NHPA)

The NHPA requires that all federal agencies consider the impacts to historic properties in all their undertakings. SRS ensures compliance with the NHPA through several processes. SRS uses the Site Use Program, the *Cold War Programmatic Agreement,* and *SRS's Cold War Built Environment Cultural Resource Management Plan* to ensure compliance with NHPA. The Savannah River Archaeological Research Program (SRARP) provides cultural resource management guidance to DOE to ensure fulfillment of compliance commitments. SRARP also serves as a primary facility to investigate archaeological research problems associated with cultural development within the Savannah River valley. The results are used to help DOE manage more than 1,900 known archaeological sites at SRS.

SRARP evaluates and documents all locations being considered for activities, such as construction, to ensure that archaeological or historic sites are not impacted. In FY 2016, 443 acres of land on SRS were investigated for cultural resource management, including 31 field surveys and testing. Thirty-six newly discovered sites were recorded, and nine previously recorded sites were revisited.

#### 3.3.8.6 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 authorized by the U.S. Department of the Interior under a valid permit. To support migratory bird monitoring, a Christmas Bird Count is conducted annually for one day in December. The 2016 count found 104 species. A bald eagle survey is conducted every year on one day in January. The 2016 eagle survey found 11 eagles.

In 2016, two northern mockingbird (*Mimus polyglottos*) nests, protected under the MBTA, were found in large mobile equipment around the Site. The equipment was barricaded until the hatchlings fledged or the nests were determined to be no longer in use.

Also in 2016, USFR-SR staff found an osprey (*Pandion haliaetus*) nest on a platform they built in 2014. This marked the second year that ospreys nested on the platform after their nest had been moved from a power pole at the L-Lake Dam.

### 3.3.9 Release Reporting

Federally permitted releases 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 the CAA require notification be sent to the National Response Center and applicable state agencies.

SRS had one reportable CERCLA release in 2016. On May 19, six corrugated panels containing asbestos detached from a building and fell. The initial estimates indicated that 1.4 pounds of asbestos could have been released. A call was made to the National Response Center to report the release as required. On June 13, the incident was downgraded to a worst-case release of 0.5 pounds.

### 3.3.10 Permits

SRS had 424 construction and operating permits in 2016 that specified operating levels to each permitted source. Table 3-3 identifies the number of permit by the permit type. These numbers reflect permits for all organizations at SRS, with the exception of Ameresco.

**Table 3-3 SRS Permits**

| Type of Permit | Number of Permits |
|---|---|
| Air | 5 |
| U.S. Army Corps of Engineers (USACE—Nationwide Permits) | 5 |
| Asbestos Demolition/Abatement/Temporary Storage of Asbestos Waste | 110 |
| Asbestos Abatement Group Permit | 1 |
| Asbestos Temporary Storage of Waste | 1 |
| Domestic Water | 94 |
| GA Department of Natural Resources Scientific Collecting Permit | 1 |
| Industrial Wastewater | 77 |
| NPDES Permits | 11 |
| Construction Stormwater Grading Permit | 8 |
| RCRA Hazardous Waste | 1 |
| RCRA Solid Waste | 4 |
| RCRA Underground Storage Tank | 7 |
| Sanitary Wastewater | 88 |
| SC Department of Natural Resources Scientific Collecting Permit | 2 |
| SCDHEC 401 | 0 |
| SCDHEC Navigable Waters | 0 |
| Underground Injection Control | 9 |
| **Total** | **424** |

## 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 451.1B, *Administrative Change 3, National Environmental Policy Act Compliance Program*. See the NEPA section of this chapter.
- DOE Order 436.1*, Departmental Sustainability*. See Chapter 2, *Environmental Management Systems.*
- DOE Order 458.1, *Administrative Change 3, Radiation Protection of the Public and the Environment*. See Chapter 5, *Radiological Environmental Monitoring Program*; and Chapter 6, *Radiological Dose Assessment,* of this report.
- DOE Order 435.1, *Change 1, Radioactive Waste Management*. See Radioactive Waste Management Section in this chapter.
- DOE Order 231.1B, *Environment, Safety and Health Reporting*, requires the preparation of this Annual 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 National Nuclear Security Administration are informed of events that could adversely affect the health and safety of

the public and workers, the environment, DOE missions, or the credibility of the Department. In 2016, there were no environmental ORPS reportable events from all contractors at SRS.

- 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.

## 3.5 REGULATORY SELF-DISCLOSURES

SRS made one regulatory self-disclosure in 2016. SRS failed to collect 3 of the 10 samples of drinking water in December and self-reported the oversight to SCDHEC.

## 3.6 ENVIRONMENTAL AUDITS

SCDHEC, EPA, and the United States Army Corps of Engineers (USACE) inspected and audited the SRS environmental program for regulatory compliance. Table 3-4 summarizes the results of the 2016 audits and inspections.

**Table 3-4 Summary of 2016 External Agency Audits/Inspections of the SRS Environmental Program and Results**

| Audit/Inspection | Action | Results |
|---|---|---|
| **632-G C&D Landfill, 288-F Ash Landfill, 488-4D Ash Landfill Inspections** | SCDHEC conducted four quarterly inspections of the landfills. | No issues were identified. |
| **Federal Energy Regulatory Commission (FERC) Inspection** | FERC evaluated PAR Pond Dam; Steel Creek Dam (L Lake); and Ponds B, C, 2, 4, and 5 in May. | FERC has not sent the final report. FERC inspects SRS dams annually. |
| **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 April 20–21. | A records review of groundwater-related files was also completed. Inspectors identified two damaged groundwater monitoring well signs. SRS replaced the signs on April 27 and noted no other issues. |
| **Industrial Wastewater Construction Permit Inspections** | SCDHEC inspected the operation or closure of a variety of industrial wastewater treatment projects, including the Waste Solidification Building and Tank 16 in H Area. | No issues were identified. |

**Table 3-4 Summary of 2016 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. | No issues were identified. |
| **NPDES Industrial Wastewater 3560 Compliance Inspections** | SCDHEC conducted an unannounced Compliance Evaluation Inspection and Compliance Sample Inspection of industrial wastewater outfalls beginning on September 12. | SCDHEC issued a satisfactory rating, the highest grade possible. |
| **Air Compliance Inspection** | SCDHEC conducted an unannounced inspection of SRS on August 1–2. It included the first-time review of Reciprocating Internal Combustion Engine and Boiler Maximum Achievable Control Technology standards. | SCDHEC identified items related to NESHAP Boiler Maximum Achievable Control Technology (MACT) compliance. |
| **RCRA Compliance Evaluation Inspection (CEI)** | SCDHEC inspected four facilities and reviewed hazardous waste program requirements (that is, notifications and reports to SCDHEC, plans, training records, internal inspections, and waste documentation) during its April 12–14 CEI. | SCDHEC and EPA identified deficiencies that were corrected before the end of the inspection.<br>SCDHEC and EPA also noted potential deficiencies on one container on TRU Pad 15 and two containers on TRU Pad 17. SRS overpacked the three drums, and SCDHEC concurred that all cited deficiencies from the CEI were corrected. |
| **Underground Storage Tank (UST) CEI** | SCDHEC inspected 19 USTs. | No issues were identified. |
| **Z-Area Saltstone Solid Waste Landfill Inspections** | SCDHEC performed monthly inspections of the Saltstone Disposal Facility. | SCDHEC reviewed facility procedures and performed a walkdown of the SDF. No issues were noted. |

## 3.7 KEY FEDERAL LAWS COMPLIANCE SUMMARY

Federal laws are implemented by regulations contained in the Code of Federal Regulations or state regulations if the program has been delegated to the state by the federal agency. You can find additional information online at epa.gov. Table 3-5 summarizes SRS's 2016 compliance status with applicable key federal environmental laws.

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

| Regulatory Program Description | 2016 Status |
|---|---|
| The Atomic Energy Act/DOE Order 435.1 grants authority to DOE to develop applicable standards (documented in DOE Orders) for protecting the public and environment from radioactive materials. | The 2016 Performance Assessment review showed that radioactive low-level waste operations were within the required performance envelope, and the facilities continued to protect the public and environment. |
| 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 continues to operate under a CAA Permit that expired on March 31, 2008. SRS continues to operate in accordance with all permit requirements of the CAA. |
| The Clean Water Act regulates liquid discharges at outfalls (e.g., drains or pipes) that carry effluent to streams (NPDES, Section 402); and 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 maintained a 99.9% compliance rate. SCDHEC issued a Notice of Violation (NOV) for a TSS exceedance at D-01C. |
| 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 FFA. |
| The Emergency Planning and Community Right-to-Know Act (EPCRA), also referred to as SARA, Title III, requires reporting of hazardous substances and their releases to EPA, state emergency response commissions, and local planning units. | SRS complied with all reporting and emergency planning requirements. |

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

| Regulatory Program Description | 2016 Status |
|---|---|
| The Endangered Species Act (ESA) prevents the extinction of federally listed endangered or threatened species and conserves critical habitats. | SRS continued to protect these species and their habitats as outlined in the Natural Resource Management Plan for SRS. |
| The Federal Facility Agreement (FFA) for the Savannah River Site between the EPA, DOE, and SCDHEC integrates CERCLA and RCRA requirements to achieve a comprehensive remediation of high-level radioactive waste tanks at SRS. | SRS met all the commitments contained within the FFA. |
| The Federal Facility Compliance Act (FFCA) requires federal agencies to comply with all requirements of federal, state, and local solid and hazardous waste laws. | SRS continues to be in compliance with the FFCA. |
| The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) regulates restricted-use pesticides through a state-administered certification program. | SRS continues to operate in compliance with FIFRA requirements. |
| The Migratory Bird Treaty Act (MBTA) provides for the protection of migratory birds, including their eggs and nests. | SRS continues to comply with the MBTA. |
| National Defense Authorization Act, Section 3116(a) (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. | NRC continues to monitor SRS facilities in accordance with NDAA 3116(a) and visited the Site twice. |

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

| Regulatory Program Description | 2016 Status |
|---|---|
| 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 is in full compliance with NEPA. |
| The National Historic Preservation Act (NHPA) protects historical and archaeological sites. | The Savannah River Archaeological Research Program (SRARP) provides cultural resource management guidance to DOE to ensure continued compliance with the NHPA. |
| The Resource Conservation and Recovery Act (RCRA) governs the management of hazardous and non-hazardous solid waste 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, nonhazardous solid waste and USTs in compliance with RCRA. |
| The Safe Drinking Water Act (SDWA) protects drinking water and public drinking water resources. | In December, SRS collected 7 samples instead of the required 10. SRS self-reported this occurrence to SCDHEC. All of the 7 drinking water samples taken in December met drinking water quality standards. |
| The Toxic Substances Control Act (TSCA) regulates polychlorinated biphenyls (PCBs), radon, asbestos and lead and requires users to evaluate and notify EPA when new chemicals are used and significant new uses of existing chemicals occur. | SRS managed all TSCA-regulated materials in compliance with all requirements. |