*Chapter 3*

# Environmental Compliance

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It is the policy of the U.S. Department of Energy (DOE) that all activities at the Savannah River Site (SRS) be carried out in full compliance with applicable federal, state, and local environmental laws and regulations, and with DOE orders, notices, directives, policies, and guidance. Compliance with environmental regulations and with DOE orders related to environmental protection is a critical part of the operations at SRS. The purpose of this chapter is to report on the status of SRS compliance with these various statutes and programmatic documents. Some key regulations with which SRS must comply, and the compliance status of each, are listed in table 3–1.

This chapter also will provide information on Notices of Violation (NOVs) issued by the U.S. Environmental Protection Agency (EPA) or the South Carolina Department of Health and Environmental Control (SCDHEC). NOVs are the regulatory tool used to inform organizations when their activities do not meet expected requirements. These can include NOVs against the organization's permitted activities or against the general contents of environmental regulations, such as failing to obtain construction permits prior to construction of new air release sources.

## Compliance Activities

### Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) was passed in 1976 to address solid and hazardous waste management. The law requires that EPA regulate the management of solid and hazardous wastes, such as spent solvents, batteries, and many other discarded substances potentially harmful to human health and the environment. Amendments to RCRA regulate nonhazardous solid waste and some underground storage tanks.

Hazardous waste generators, including SRS, must follow specific requirements for handling these wastes. SRS received no RCRA-related NOVs during 2006.

#### Land Disposal Restrictions

The 1984 RCRA amendments established Land Disposal Restrictions (LDRs) to minimize the threat of hazardous constituents migrating to groundwater sources. The same restrictions apply to mixed (hazardous and radioactive) waste.

Treatability variances are an option available to waste generation facilities if alternate treatment methods are appropriate for specific waste streams. SRS has identified two mixed waste streams remaining to be treated that are candidates for treatability variances.

**Table 3–1**
**Some Key Regulations With Which SRS Must Comply**

| Legislation | What It Requires | Compliance Status |
|---|---|---|
| **RCRA** Resource Conservation and Recovery Act | The management of hazardous and nonhazardous wastes and of underground storage tanks containing hazardous substances and petroleum products | In compliance |
| **FFCAct** Federal Facility Compliance Act | The development by DOE of schedules for mixed waste treatment to meet LDR requirements | In compliance |
| **CERCLA; SARA** Comprehensive Environmental Response, Compensation, and Liability Act (1980); Superfund Amendments and Reauthorization Act (1986) | The establishment of liability compensation, cleanup, and emergency response for hazardous substances released to the environment | In compliance |
| **CERCLA/Title III (EPCRA)** Emergency Planning and Community Right-to-Know Act (1986) | The reporting of hazardous substances used on site (and their releases) to EPA, state, and local planning units | In compliance |
| **NEPA** National Environmental Policy Act (1969) | The evaluation of the potential environmental impact of federal activities and alternatives | In compliance |
| **SDWA** Safe Drinking Water Act (1974) | The protection of public drinking water systems | In compliance |
| **CWA; NPDES** Clean Water Act (1977); National Pollutant Discharge Elimination System | The regulation of liquid discharges at outfalls (e.g., drains or pipes) that carry effluents to streams | In compliance |
| **CAA; NESHAP** Clean Air Act (1970); National Emission Standards for Hazardous Air Pollutants | The establishment of air quality standards for criteria pollutants, such as sulfur dioxide and particulate matter, and hazardous air emissions, such as radionuclides and benzene | In compliance |
| **TSCA** Toxic Substances Control Act (1976) | The regulation of PCB use and disposal | In compliance |

Because of special problems associated with radioactive components, these variances have been completed and sent to EPA, where they continue to await approval.

### Federal Facility Compliance Act

The Federal Facility Compliance Act (FFCAct) was signed into law in October 1992 as an amendment to the Solid Waste Disposal Act to add provisions concerning 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 FFCAct. A Statement of Mutual Understanding (SMU) for Cleanup Credits was executed in October 2003. The SMU allows SRS to earn credits for certain accelerated cleanup actions. Credits then can be applied to the STP commitments. SRS submitted to SCDHEC an annual update to the approved STP in November 2006 that identified changes

in mixed waste treatment and inventory. Changes in the 2006 update include reclassifying Waste Stream SR–W009 (silver-coated packing material) as transuranic (TRU) waste, updating the commitment summary for the new fiscal year, listing the new treatment determination for Waste Stream SR–W091 (contaminated debris), eliminating Waste Stream SR–W080 (Charleston Naval Shipyard waste) and updating the Current Cumulative Inventory. SRS continued to make shipments of TRU waste to the Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico, and has processed additional radioactive liquid waste through the Defense Waste Processing Facility. The site also has shipped mixed waste to offsite vendors for treatment. STP updates will continue to be produced annually unless provisions of the consent order are modified.

### Underground Storage Tanks

The 19 underground storage tanks at SRS that house petroleum products and hazardous substances, as defined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), are regulated under Subtitle I of RCRA. These tanks require a compliance certificate annually from SCDHEC to continue operations. SCDHEC conducts an annual compliance inspection and records audit prior to issuing the compliance certificate. SCDHEC's 2006 inspection and audit found all 19 tanks to be in compliance.

### Liquid Radioactive Waste Tank Closure

The primary regulatory goal of SRS's waste tank closure process at the F-Area and H-Area liquid radioactive waste tank farms is to close the tank systems in a way that protects public health and the environment in accordance with SCDHEC's Regulation 61–82, "Proper Closeout of Wastewater Treatment Facilities."

Two waste storage tanks (17F and 20F) were closed in 1997. Waste heel removal was completed in 2003 for tanks 18F and 19F and the evaporator system. The residual material for these facilities has been sampled and characterized. Tanks 18F and 19F have been isolated, and require only administrative safety basis controls; however, the next action for these two tanks will depend on the outcome from testing of a new technology to determine if additional residual material can be removed safely from these two tanks. If the testing is successful, then the technology potentially can be utilized to remove portions of the remaining residual materials in these tanks.

Following evaluation and implementation of the proposed technology, a waste determination in accordance with Section 3116 of the Ronald W. Reagan National Defense Authorization Act of Fiscal Year 2005 (NDAA) will be completed prior to grouting and operational closure. The NDAA authorizes the Secretary of Energy, in consultation with the Nuclear Regulatory Commission (NRC), to determine that certain waste from reprocessing activities can be managed and disposed as low-level radioactive waste and not as high-level radioactive waste. This determination also requires state approval of the F Tank Farm Closure Plan and Closure Module for the specific tanks.

DOE had begun preparation in late 2004 of the Section 3116 documentation entitled "Draft Section 3116 Determination for Closure of Tank 19 and Tank 18 at the Savannah River Site." This draft was submitted to the NRC in 2005. DOE, the NRC, the State of South

Carolina, and the public continue to discuss tank closure determination issues, such as the evaluation of new technology for removal of additional residual waste, and the development of a new F Tank Farm Performance Assessment that would support closure of tanks 18F and 19F, as well as additional tanks in F Tank Farm.
Activities also are under way regarding revisions of the General Closure Plan and Tank Closure Modules to support closure of tanks 18F and 19F, consistent with the legislation contained in the NDDA.

The Federal Facility Agreement (FFA) dates for operational closure of these two tanks were revised in 2004 to October 31, 2006, for tank 19F and February 28, 2007, for tank 18F. In March 2006, DOE requested that these closure dates be extended by 13 months. SCDHEC did not concur with this extension request, so DOE initiated an informal dispute resolution per the FFA in April 2006.

### Waste Minimization/Pollution Prevention (WMin/P2) Program

**2006 Program Results and Highlight** The SRS Pollution Prevention (P2) Program is mature and well integrated with site operations and cleanup activities. Accomplishments in 2006 included the following:

- SRS completed 25 documented P2 projects, resulting in an annualized avoidance of 4,785 cubic meters of hazardous and radioactive waste, and exceeding its performance goal of 2,804 cubic meters by more than 70 percent. Annual cost avoidance resulting from these P2 projects was $21.4 million.
- The site's comprehensive industrial and office waste recycling programs managed more than 120,000 metric tons of materials, recycling more than 36 percent (853 metric tons) of the sanitary waste stream (e.g., routine office waste) and 32 percent (2,943 metric tons) of the industrial waste stream.
- SRS was awarded three National DOE P2 awards and was a co-winner of an additional award. Projects winning the three awards were forwarded to the next competition level and additionally won a P2 STAR award, a White House Closing the Circle (WHCTC) Award, and a WHCTC Honorable Mention Award. Winning nominations were: *Green Fleet Team – Petroleum Reduction through Alternate Fuels, Savannah River's Recycle Opportunities Expand, Lead Recycle Program Restart, and SRS Deactivation and Decommissioning Activities*.

In addition, SRS worked with DOE closure sites (Rocky Flats and Mound) to identify and receive excess supplies and waste packaging valued at about $950,000. This avoided waste cost by the closure sites and resulted in material procurement savings at SRS.

The P2 Program met all DOE and regulatory agency reporting requirements. Working through the DOE Environmental Management (EM) branch, program support was provided to the DOE Headquarters (DOE–HQ) and National Nuclear Safety Administration (NNSA) P2 Programs. SRS hosted a video conference with the DOE–HQ EH P2 Workshop, with 10 employees participating, and made a presentation highlighting best practices at the NNSA P2 Workshop.

SRS maintained its EPA Waste Wise membership by participating in the annual conference and submitting all required reports. The conference presentation entitled "Working with Your Community" highlighted the best community and employee outreach programs submitted to EPA for awards. SRS was one of only three presenters invited to participate in this session topic.

The SRS P2 Team supported the City of North Augusta (South Carolina) Kids Earth Day event, which included more than 30 exhibits to educate and share with those in attendance. The Environmental Science Educator's Cooperative (ESEC) and the SRS P2 Team joined together to host the 2006 ECOMEET, an environmental competition for middle school students. This year's event was held at the Silver Bluff Audubon Center, with 22 teams from eight counties participating.

**SRS WMin/P2 Program Management** SRS continued its commitment in 2006 to increasing P2 awareness and implementing waste management improvement opportunities. Pollution prevention is integral to the SRS Environmental Management Policy, Environmental Management System (EMS), and Integrated Safety Management System (ISMS). The WMin/P2 Program provides SRS a safe, effective, and environmentally responsible strategy for implementing specific waste reduction techniques based on current and projected information on waste generation, waste characterization, and ultimate waste disposal costs. The site embraces pollution prevention as a primary strategy to operate in a compliant, cost-effective manner that protects the environment and the safety and health of employees and the public. SRS's P2 Program establishes the environmental management preference of source reduction and recycling over treatment, storage, and disposal, and the preferred use of energy efficient and resource conservative practices and operations.

The WMin/P2 Program scope includes both infield generator and sitewide coordination programs. The generator program, responsible for implementation of facility-specific improvement initiatives, is funded through each generator's operating budget.

Sitewide program coordination, managed by the Waste Management Area Project organization, is separately funded and provides

- management support of WMin/P2 Program activities
- technical assistance for facility walkdowns, lifecycle waste cost analyses, and pollution prevention opportunity assessments
- forums for waste minimization and P2 information and technology exchanges
- employee P2 awareness and training programs
- recycling and disposition of contaminated-metal and large-equipment
- mechanisms to increase waste generator accountability through the Solid Waste Management Committee
- completion of required annual plans and reports
- implementation of sitewide initiatives such as sanitary waste recycling, "Green-Is-Clean" programs, and other cost-cutting measures
- establishment of a P2 component into the Site Communication Plan to increase public awareness and support

## Comprehensive Environmental Response, Compensation, and Liability Act

SRS was placed on the National Priority List in December 1989, under the legislative authority of CERCLA (Public Law 96–510), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA, Public Law 99–499). In accordance with Section 120 of CERCLA, DOE, EPA Region 4, and SCDHEC entered into the SRS FFA, which became effective August 16, 1993, and which directs the comprehensive environmental remediation of the site. Fifty-five FFA milestones were scheduled for completion in FY06; all were accomplished on or ahead of schedule.

SRS has 515 waste units in the Soil and Groundwater Closure Projects program. At the end of CY06, remediation was in progress, or had been completed, in 368 units and areas (334 complete and 34 in the remediation phase). Closure activities included the following:

- Ten RCRA Facility Investigation/Remedial Investigations (RFI/RIs) were initiated.
- Two remedial actions were initiated.
- One Interim Action Post-Construction Report was submitted.
- One removal action was initiated.
- Five records of decision (RODs) were submitted.
- Four RODs were approved.
- Five RODS with certification signatures were issued.
- One Remedial Site Evaluation Report was issued.

A listing of all waste units at SRS can be found in appendix C ("RCRA/CERCLA Units List") and appendix G ("Site Evaluation List") of the FFA.

## Emergency Planning and Community Right-to-Know Act

The Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 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 Toxic Chemical Release Inventory report to include source reduction and recycling activities.

### Tier II Inventory Report

Under Section 312 of EPCRA, SRS completes an annual Tier II Inventory Report for all hazardous chemicals present at the site in excess of specified quantities during the calendar year. Hazardous chemical storage information is submitted to state and local authorities by March 1 for the previous calendar year.

**Table 3–2**
**SRS Reporting Compliance with Executive Order 12856**

| EPCRA Citation | Activity Regulated | Reported per Applicable Requirement |
|---|---|---|
| 302–303 | Planning Notification | Not Required[a] |
| 304 | Extremely Hazardous Substances Release Notification | Not Required[a] |
| 311–312 | Material Safety Data Sheet/ Chemical Inventory | Yes |
| 313 | Toxic Release Inventory Reporting | Yes |

[a] Not required to report under provisions of "Executive Order 12856" and SARA Title III Reporting Requirements

### Toxic Chemical Release Inventory Report

Under Section 313 of EPCRA, SRS must file an annual Toxic Chemical Release Inventory report by July 1 for the previous year. SRS calculates chemical releases to the environment for each regulated chemical that exceeds its established threshold, and reports the release values to EPA on Form R of the report.

For 2006, SRS reported the following chemicals that exceeded their thresholds: chlorine, chromium, formic acid, lead, manganese, mercury, nickel, nitrate, nitric acid, sodium nitrite, and zinc. Lead, nitrate, and zinc were the largest contributors to the total releases. Specific details, including release amounts and detailed information about Toxic Release Inventory reporting, can be viewed on the EPA website at www.epa.gov/tri/.

### Executive Order 12856

Executive Order 12856, "Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements," requires that all federal facilities comply with right-to-know laws and pollution prevention requirements. SRS complies with the applicable reporting requirements for EPCRA, as indicated in table 3–2, and the site incorporates the toxic chemicals on the Toxic Chemical Release Inventory report into its pollution prevention efforts.

## National Environmental Policy Act

The National Environmental Policy Act (NEPA) establishes policies and goals for the protection, maintenance, and enhancement of the human environment in the United States. NEPA provides a means to evaluate the potential environmental impact of proposed federal actions and to examine viable alternatives (including the "no action" alternative) to those proposed actions.

A total of 296 SRS-related NEPA reviews were conducted in 2006 (table 3–3); several are still in progress. Following is a listing of major 2006 NEPA reviews that impact SRS:

- *Amended Record of Decision: Savannah River Site Processing Alternatives (DOE/EIS-0082-S2)* – This amended ROD describes DOE's decision to change the processing and disposition pathway for a fraction of the salt waste currently stored in the F- and H-Area tank farms. This action is called Interim Salt Processing. When the Salt Waste Processing Facility (SWPF) becomes operational, the remaining salt waste will be processed by high-capacity salt processing through the SWPF using caustic-side solvent extraction technology. The amended ROD was issued January 17 in Washington, DC.
- *Supplement Analysis: Savannah River Site Spent Nuclear Fuel Management FEIS (DOE/EIS-0279)* – This supplement analysis (SA) reviews the proposed action to continue the use of H-Canyon to process Spent Nuclear Fuels (SNF) receipts and other highly enriched uranium material through 2019. The SA is in preparation.

**Table 3–3**
**Summary of NEPA Activities at SRS During 2006**

| Type of NEPA Documentation | Number |
|---|---|
| Categorical Exclusions | 275 |
| Actions Tiered to Previous NEPA Documentation | 14 |
| Environmental Assessments | 2 |
| Supplemental Analyses | 2 |
| Environmental Impact Statements | 2 |
| Amended Record of Decision | 1 |
| **Total NEPA Reviews** | **296** |

- *Supplement Analysis: Storage and Disposition of Weapons – Usable Fissile Materials FPEIS (DOE/EIS-0229)* – This SA reviews the proposed action to continue the consolidation of surplus nonpit plutonium material from Hanford, Lawrence Livermore National Lab, and Los Alamos National Lab at SRS. The SA is in preparation.
- *Global Nuclear Energy Partnership (GNEP) Programmatic Environmental Impact Statement (PEIS)* – The GNEP initiative would encourage expansion of domestic and international nuclear energy production while reducing nuclear proliferation risks. The project-specific impacts of constructing and operating the following facilities will be considered within this PEIS: (1) a nuclear fuel recycling center to separate SNF into its reusable and waste components; (2) an advanced recycling reactor to destroy long-lived radioactive elements in fuel while generating electricity; and (3) an advanced fuel cycle research facility to perform research into SNF recycling processes and other aspects of advanced nuclear fuel cycles. SRS is considered a potential site for one or more of these proposed facilities. The PEIS is in preparation.
- *Supplement to the Stockpile Stewardship and Management PEIS – Complex 2030 (DOE/EIS-0236-S4)* – The proposed action of this SPEIS is to continue currently planned modernization activities in the complex while selecting a site (potentially SRS) for a consolidated plutonium center for long-term research and development, surveillance, and pit manufacturing. Existing tritium operations at SRS would not be affected. As part of this NEPA review, the previously proposed SPEIS on Stockpile Stewardship and Management for a Modern Pit Facility has been cancelled. The SPEIS is in preparation.
- Draft National Pollutant Discharge Elimination System Stormwater Compliance Alternatives at the Savannah River Site Environmental Assessment (DOE/EA – 1563) – This NEPA review evaluates the potential environmental impacts associated with

proposed and alternative actions at 38 SRS stormwater outfalls designed to protect the quality of state waters. The EA is in preparation.

- *Environmental Assessment for the Replacement Source of Steam for A-Area at the Savannah River Site (DOE/EA – 1568)* – This NEPA review evaluated the potential environmental impacts associated with constructing and operating a replacement steam generation plant (wood- and oil-fired) in A-Area. The EA was completed, and a Finding of No Significant Impact was published October 6.

## Safe Drinking Water Act

The federal Safe Drinking Water Act (SDWA) was enacted in 1974 to protect public drinking water supplies. SRS domestic water is supplied by 17 separate systems, all of which utilize groundwater sources. The A-Area, D-Area, and K-Area systems are actively regulated by SCDHEC, while the remaining 14 site water systems receive a reduced level of regulatory oversight.

Samples are collected and analyzed periodically by SRS and SCDHEC to ensure that all site domestic water systems meet SCDHEC and EPA bacteriological and chemical drinking water quality standards. All samples collected in 2006 met these standards.

Although the B-Area Bottled Water Facility is not listed by SCDHEC as a public water system, SCDHEC's Division of Food Protection will continue to conduct periodic inspections of this facility. Results from routine bacteriological analyses and annual complete chemical analyses performed in 2006 met SCDHEC and FDA water quality standards.

SRS received no NOVs in 2006 under the SDWA.

## Clean Water Act

### National Pollutant Discharge Elimination System

The Clean Water Act (CWA) of 1972 created the National Pollutant Discharge Elimination System (NPDES) program, which is administered by SCDHEC under EPA authority. The program is designed to protect surface waters by limiting releases of nonradiological effluents into streams, reservoirs, and wetlands.

SRS had three NPDES permits in 2006:

- One permit for industrial wastewater discharges (SC0000175)
- Two general permits for stormwater discharges (SCR000000 for industrial and SCR100000 for construction)

More information about the NPDES permits can be found in chapter 4, "Effluent Monitoring."

The results of monitoring for compliance with the industrial wastewater discharge permit at SRS were reported to SCDHEC in the site's monthly discharge monitoring reports, as required by the permit.

During 2006, SRS received from SCDHEC a final rating of "satisfactory"—the highest rating given—for the annual (2005) 2-week audit of the site's NPDES permitted outfalls. The 2006 audit was conducted in October, and no deficiencies or issues were identified. The final 2006 audit report has not been received from SCDHEC, so the 2006 rating is not known.

The outfalls covered by the industrial stormwater permit (SCR000000) were reevaluated again in 2005. This resulted in the development of a new sampling plan, which was implemented in 2006. Additional sampling was performed to determine the level of stormwater discharge compliance with new permit requirements. Results of stormwater outfall sampling appear in an effluent monitoring data table on the CD accompanying this report.

In 2005, SCDHEC issued a new stormwater general permit that required SRS stormwater discharges to meet more stringent guidelines. The site expanded the stormwater sampling program in 2006 to evaluate its stormwater outfalls against the more stringent requirements of the new permit. Several stormwater outfalls exceeded EPA benchmarks for iron, copper, zinc, and other trace metals. Nine outfalls had problems that prompted SCDHEC to request that SRS submit a permit application for each of those outfalls. Ten outfalls exceeded EPA benchmarks but were not of sufficient concern to require individual permits. These 10 outfalls will require some best management practices to meet EPA benchmarks. The remaining outfalls required no action. Based on an October 2005 agreement with SCDHEC, SRS remains in compliance with the industrial stormwater general permit.

As a result of heavy rain events in June 2006, sediment deposits escaped the approved control measures in place for construction activities at the MOX site in F-Area, and at sites located in D-Area and T-Area. The deposits impacted the wetlands adjacent to these areas. Repairs were made to the existing control measures, and additional measures were installed to bolster the impacted areas. Upon inspection of the impacted areas, SCDHEC and U.S. Army Corps of Engineers representatives determined that the sediments could remain in place, and that no further actions were necessary.

Under the Code of Federal Regulations (CFR) Oil Pollution Prevention regulation (40 CFR 112), SRS must report petroleum product discharges of 1,000 gallons or more into or upon the navigable waters of the United States, or petroleum product discharges in harmful quantities that result in oil sheens. No such incidents occurred at the site during 2006.

SRS has an agreement with SCDHEC to report petroleum product discharges of 25 gallons or more to the environment. Two such incidents occurred in 2006—the first when a vendor tractor-trailer dump truck overturned at the C&D Landfill due to shifting of its load. (Thirty-five gallons of diesel fuel and hydraulic fluid spilled onto the ground.) The second incident occurred after inadequate repairs to a leaking fuel line. (Thirty-nine gallons of diesel fuel spilled onto the ground.) In each case, the spill was cleaned up, and contaminated soil was disposed of at the Three Rivers Landfill.

### Notices of Violation (NPDES)

SRS's 2006 compliance rate for the NPDES program under the CWA was 99.94 percent.

Three exceedances occurred at SRS NPDES outfalls in 2006. Two exceedances for ammonia occurred at Outfall G–10 when one of two oxidation ditches was removed from service for valve repairs. The ditch was left out of service after the repairs then placed back into service; subsequent samples were within permit limits. An exceedance for lead occurred at Outfall F–08 when a deactivated instrument air system was restarted. The system was removed from service, and subsequent samples were within permit limits. A table showing outfall location, probable cause, and corrective actions for 2006 exceedances can be found in chapter 4 (table 4–4).

The site received two NOVs from SCDHEC under the NPDES program in 2006. The NOVs were issued in response to the G–10 and F–08 exceedances discussed above. No fines were issued and no responses required because SCDHEC was satisfied with SRS's documentation in the monthly discharge monitoring reports.

### Dredge and Fill; Rivers and Harbors

The CWA, Section 404, "Dredge and Fill Permitting," as amended, and the Rivers and Harbors Act, Section 9 and 10, "Construction Over and Obstruction of Navigable Waters of the United States," protect U.S. waters from dredging and filling and construction activities by the permitting of such projects. Dredge-and-fill operations in U.S. waters are defined, permitted, and controlled through implementation of federal regulations in 33 CFR and 40 CFR.

SRS conducted activities under four Nationwide Permits (NWPs) in 2006 as part of the NWP program (general permits under Section 404), but none under an individual Section 404 permit. The 2006 activities were as follows:

- Dam construction on an unnamed tributary to Fourmile Branch for the Mixed Waste Management Facility Groundwater Interim Measures project was completed in 2000 under NWP–38, "Hazardous Waste Cleanup." However, mitigation for the impact to wetlands is still pending and must be addressed before the permit can be considered closed.
- Construction of the Mixed Waste Management Facility dam intake structure modification continued under NWP–38, "Hazardous Waste Cleanup." The modification will improve the efficiency of the treatment system for tritium. The approved permit was received in 2004. The intake structure modification to dam was completed in February, and the permit was closed in March.
- Installation of a well by Soil and Groundwater Closure Projects in a wetland adjacent to Tims Branch was covered under NWP–5, "Scientific Measurement Devices." The installation was completed in March, and the permit was considered closed.
- Installation of a sampling platform downstream of the SC Highway 125 bridge crossing Steel Creek was covered under NWP–5, "Scientific Measurement Devices." The installation is scheduled for 2007.

- Installation of a sampling platform upstream of the Road C bridge crossing Fourmile Branch was covered under NWP–5, "Scientific Measurement Devices." The platform was completed in November.

### Construction in Navigable Waters

SCDHEC Regulation 19–450, "Permit for Construction in Navigable Waters," protects the state's navigable waters. The only state navigable waters at SRS are Upper Three Runs Creek (through the entire site) and Lower Three Runs Creek (upstream to the base of the PAR Pond Dam).

No Construction in Navigable Waters permit activities occurred in 2006.

## Federal Insecticide, Fungicide, and Rodenticide Act

The Federal Insecticide, Fungicide, and Rodenticide Act controls the application of restricted-use pesticides at SRS through a state-administered certification program. The site complies with these requirements through Procedure 8.1, "Federal Insecticide, Fungicide, and Rodenticide Act Compliance for Use of Pesticides," of the Environmental Compliance Manual (WSRC 3Q).

The SRS pesticide procedure provides guidelines for pesticide use and requires that applicators of restricted-use pesticides be state certified. Extensive revisions of the procedure, begun in 2004, were completed in 2005 to improve the efficiency of the site pesticide-application approval process. The most significant changes involved (1) dropping the requirement for a formal pesticide program plan for the application of unrestricted pesticides and (2) renewing emphasis on the importance of completing a Pesticide Activity Report (PAR) within 14 days (formerly 15) of any site pesticide application.

Additional changes in the procedure—some involving expansion of the site's restricted-use pesticide list to include three pesticides formerly on the unrestricted list, but most editorial in nature—were set in motion late in 2006 and are expected to be implemented during 2007.

## Clean Air Act

### Regulation and Delegation

The Clean Air Act (CAA) and the Clean Air Act Amendments (CAAA) of 1990 provide the basis for protecting and maintaining air quality. Though EPA still maintains overall authority for the control of air pollution, regulatory authority for all types of emission sources has been delegated to SCDHEC. Therefore, SCDHEC must ensure that its air pollution regulations are at least as stringent as the federal requirements. This is accomplished through SCDHEC Regulation 61–62, "Air Pollution Control Regulations and Standards." The various CAAA Titles covered by these SCDHEC regulations are discussed below.

### Title V Operating Permit Program

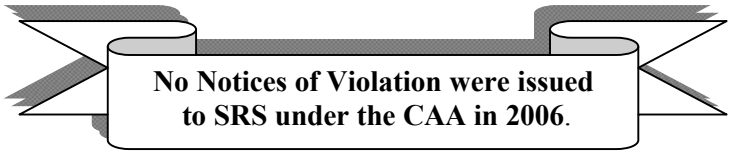
Under the CAA, and as defined in federal regulations, SRS is classified as a "major source" and, as such, falls under the CAAA Part 70 Operating Permit Program. On February 19, 2003, SCDHEC's Bureau of Air Quality issued SRS its Part 70 Air Quality Permit, TV–0080–0041, which had an effective date of April 1, 2003, and an expiration date of March 31, 2008. As issued, the Part 70 Air Quality Permit regulates both radioactive and nonradioactive toxic and criteria pollutant emissions from approximately 30 nonexempt emission units, with each emission unit having specific emission limits, operating conditions, and monitoring and reporting requirements. The permit also contains a listing, known as the Insignificant-Activities List, identifying approximately 1,200 SRS sources that are exempt based on insignificant emission levels, or on equipment size or type. Two air construction permit applications were submitted to SCDHEC in 2006. The applications were for SRS plans to (1) install and operate a biomass boiler and an oil-fired boiler to provide steam to A-Area and (2) discontinue operation of the two aging 784–A coal-fired boilers.

Also, on February 1, 2006, WSRC assumed operational responsibility for the 484–D Powerhouse facility from South Carolina Electric and Gas (SCE&G), which had operated the facility for DOE under a separate contract since 1995. The 484–D Powerhouse had an SCDHEC Part 70 Air Quality Permit (TV–080–0044), effective May 1, 2001, with an expiration date of April 30, 2006. Leading up to the February 2006 transition, WSRC conducted a due-diligence assessment to ensure that the facility was in compliance with all South Carolina and federal air regulations. No air compliance issues were identified. Beginning in late 2006, SRS personnel have worked with SCDHEC's Bureau of Air Quality representatives to finalize a new 484–D Part 70 Air Quality Permit that will replace the existing permit, which expired April 30, 2006.

During 2006, SCDHEC issued two revisions to the SRS Part 70 Air Quality Permit (TV–0080–0041) that incorporated several minor modifications and one administrative change. No revisions were issued by SCDHEC to the 484–D Powerhouse Part 70 Air Quality Permit (TV–0080–0044).

Compliance with the SRS Part 70 Air Quality Permit conditions was evaluated by SCDHEC during 2006 as part of the Annual Air Compliance Inspection conducted the week of June 19. It was determined that SRS air emission sources were operating in compliance with their respective permit conditions and limitations.

### Notices of Violation (CAA)




### National Emission Standards for Hazardous Air Pollutants

The National Emission Standards for Hazardous Air Pollutants (NESHAP) is a CAA-implementing regulation that sets air quality standards for air emissions containing hazardous air pollutants, such as radionuclides, benzene, and asbestos.

**NESHAP Radionuclide Program** The current list of 189 air pollutants includes all radionuclides as a single item. Regulation of these pollutants has been delegated to SCDHEC; however, EPA Region 4 continues to regulate some aspects of NESHAP radionuclides.

NESHAP Radionuclide Program Subpart H of 40 CFR 61 was issued December 15, 1989, after which an evaluation of all air emission sources was performed to determine compliance status. DOE's Savannah River Operations Office (DOE–SR) and EPA Region 4 signed a Federal Facility Compliance Agreement (FFCA) October 31, 1991, providing a schedule to bring SRS's emissions monitoring into compliance with regulatory requirements. The FFCA was officially closed—and the site declared compliant—by EPA Region 4 May 10, 1995. Subpart H was revised by EPA September 9, 2002, with an effective date of January 1, 2003. This revision added inspection requirements for existing SRS sources and allowed the use of ANSI N13.1–1999 for establishing monitoring requirements. SRS is performing all required inspections, has monitoring systems compliant with the regulation, and remains in compliance with Subpart H of 40 CFR 61.

During 2006, the maximally exposed individual effective dose equivalent, calculated using the NESHAP-required CAP88 computer code, was estimated to be 0.06 mrem (0.0006 mSv), which is 0.6 percent of the 10 mrem per year (0.10 mSv per year) EPA standard (chapter 6, "Potential Radiation Doses").

**NESHAP Nonradionuclide Program** SRS uses many chemicals identified as toxic or hazardous air pollutants, but most of them are not regulated under the CAA or under federal NESHAP regulations. Except for asbestos, SRS facilities and operations do not fall into any of the "categories" listed in the original subparts. Under Title III of the federal Clean Air Act Amendments (CAAA) of 1990, EPA in December 1993 issued a final list of hazardous air pollutant-emitting source categories potentially subject to maximum achievable control technology (MACT) standards.

During 2005, EPA revised one MACT rule that applies to the SRS Consolidated Incineration Facility (CIF). The rule, "Final Standards for Hazardous Air Pollutants for Hazardous Waste Combustor (Phase I Final Replacement Standards and Phase II)," became effective September 14, 2005, and had a compliance date of October 14, 2008. Because CIF operations were suspended in November 2000, with no plans to restart the facility, SRS submitted a permit modification to SCDHEC's Bureau of Air Quality, requesting that the CIF be removed from the SRS Part 70 Air Quality permit. SCDHEC subsequently issued a revision to the permit October 17, 2006.

On September 13, 2004, EPA finalized a MACT rule that applies to the coal-fired steam boilers at the 784–A and 484–D powerhouse facilities. The rule, "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters," has a compliance date of September 13, 2007, and requires facilities to meet more stringent emissions limits dealing with particulate matter (PM), mercury (Hg), and hydrogen chloride (HCL) emissions. During 2006, 484–D Powerhouse Facility personnel made preparations to conduct the necessary testing during the 2007–2008 timeframe to demonstrate compliance with the new emission limits without the significant expenditure of capital funds. In June 2006, a MACT extension request was submitted to SCDHEC's Bureau of Air Quality requesting a one-year extension from the September 2007 compliance date so SRS could replace the aging A-Area boilers with a

smaller wood-fired boiler and an oil-fired boiler capable of meeting the lower MACT emission limits. That compliance extension request was approved by SCDHEC September 5.

**NESHAP Asbestos Abatement Program** SRS began its asbestos abatement program in 1988 and continues to manage asbestos-containing material by "best management practices." Site compliance in asbestos abatement, as well as demolitions, falls under South Carolina and federal regulations, including SCDHEC Regulation R.61–86.1 ("Standards of Performance for Asbestos Projects") and 40 CFR 61, Subpart M ("National Emission Standards for Hazardous Air Pollutants – Asbestos").

During 2006, SRS personnel removed and disposed of an estimated 429 square feet, 14,017 linear feet, and 54 cubic feet of regulated asbestos-containing material. SRS personnel also removed 254,761 square feet and 10,768 linear feet, and 270 cubic feet of nonregulated asbestos-containing material.
Radiological asbestos waste was disposed of at the SRS E-Area low-level vaults, engineered trench, and slit trench, which are permitted by SCDHEC as asbestos waste disposal sites. Nonradiological asbestos waste was disposed of at the Three Rivers Solid Waste Authority Landfill and the C&D Landfill (Building 632–G), which also are SCDHEC-approved asbestos waste landfills.

### Accidental Release Prevention Program

Under Title III of the CAAA, EPA established a program for the prevention of accidental releases of large quantities of hazardous chemicals. As outlined in Section 112(r), any facility that maintains specific hazardous or extremely hazardous chemicals in quantities above specified thresholds must develop a risk management program (RMP). The RMP establishes methods that will be used for the containment and mitigation of large chemical spills. No such accidental releases occurred at SRS during 2006.

SRS's RMP maintains hazardous and extremely hazardous chemical inventories below the threshold quantity. This cost-effective approach minimizes the regulatory burden of 112(r) but does not eliminate any liability associated with the general duty clause, as stated in 112(r)(1). No hazardous or extremely hazardous chemical releases have been required to be reported by SRS.

EPA issued a revision to its RMP final rule in 2004, changing reporting requirements of its chemical accident prevention regulations. Chemical facilities subject to these regulations now are required to submit significant-chemical-accident information and emergency contact information. These changes seek to improve and assist federal, state, and local risk management programs in implementing the new homeland security measures.

### Ozone-Depleting Substances

Title VI of the CAAA of 1990 addresses stratospheric ozone protection. This law requires that EPA establish regulations to phase out the production and consumption of ozone-depleting substances (ODSs).

Several sections of Title VI of the CAAA of 1990, along with recently established EPA regulations found in 40 CFR 82, apply to the site. The ODSs are regulated in three general categories, as follows:

- *Class I substances* – chlorofluorocarbons (CFCs), Halons, carbon tetrachloride, methyl chloroform, methyl bromide, and hydrobromofluorocarbons (HBFCs)
- *Class II substances* – hydrochlorofluorocarbons (HCFCs)
- *Substitute substances*

The "Savannah River Site Refrigerant Management Plan," completed and issued in September 1994, provides guidance to assist SRS and DOE in the phaseout of CFC refrigerants and equipment.

SRS has reduced CFC refrigerant usage in large ODS emission sources more than 99 percent compared to 1993 baseline data.

The SRS CAAA of 1990 Title V operating air permit application includes ODS emission sources. All large (greater than or equal to 50-pound charge) heating, ventilation, and air conditioning/chiller systems for which there are recordkeeping requirements are included as fugitive emission sources.

SRS is phasing out its use of Halon as part of a goal to eliminate the use of Class I ODSs by 2010 "to the extent economically practicable." A Halon 1301 management plan (F–ESR–G–00120, November 16, 2005) and schedule have been developed by Fire Protection Services to help meet DOE's goal. The plan includes an SRS Halon 1301 fire suppression system inventory that identifies systems in operation, systems abandoned in place, and systems that have been dismantled and taken to the DOE complex's Halon repository, located at SRS.

Halon 1301 total inventory on site decreased from 73,800 pounds in 2005 to 71,290 pounds in 2006. The site had an inventory of 51,717 pounds of stored Halon 1301 at the end of 2006. In addition, 19,573 pounds were contained in the 86 operating systems at the end of 2006 (down from 111 in 2002).

### Air Emissions Inventory

SCDHEC Regulation 61–62.1, Section III ("Emissions Inventory"), requires compilation of an air emissions inventory to locate all sources of air pollution and to define and characterize the various types and amounts of pollutants. To demonstrate compliance, SRS personnel in 1993 conducted the initial comprehensive air emissions inventory, which identified approximately 5,300 radiological and nonradiological air emission sources. Source operating data and calculated emissions from 1990 were used to establish the SRS baseline emissions and to provide data for air dispersion modeling. This modeling was required to demonstrate sitewide compliance with Regulation 61–62.5, Standards No. 2 ("Ambient Air Quality Standards") and No. 8 ("Toxic Air Pollutants").

Regulation 61–62.1, Section III, which was revised August 26, 2005, requires that inventory data be updated and recorded annually but reported to SCDHEC on a reporting frequency (formerly every even year)—either an annual cycle for "Type A" sources or a 3-year cycle for "Type B" and "Nonattainment Area" sources—based on "minimum

reporting thresholds." The thresholds depend on the actual tons per year of specific criteria pollutants.

SRS is classified as a Type B source, and now is required to report only every third year, reducing the cost burden associated with annual emission inventories. However, the acquired D-Area Powerhouse is a Type A source and will report an emission inventory every year. The site is required to compile and report D-Area Powerhouse's CY 2006 emissions by March 31, 2007, to SCDHEC. SRS is not required to compile or report any other CY 2006 emissions data to SCDHEC. During 2006, the site collected CY 2005 operating data for permitted and other significant sources in accordance with SRS procedures and guidelines. Because data collection for all SRS sources begins in January and requires up to 6 months to complete, this (2006) site environmental report provides emissions data for CY 2005. Compilation of 2008 data will be completed in 2009, submitted to SCDHEC, and reported in the *SRS Environmental Report for 2009*.

## Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) gives EPA comprehensive authority to identify and control chemical substances manufactured, imported, processed, used, or distributed in commerce in the United States. Reporting and record keeping are mandated for new chemicals and for any chemical that may present a substantial risk of injury to human health or the environment.

Polychlorinated biphenyls (PCBs) have been used in various SRS processes. The use, storage, and disposal of these organic chemicals are specifically regulated under 40 CFR 761, which is administered by EPA. SRS has a well-structured PCB program that complies with this TSCA regulation, with DOE orders, and with WSRC policies.

No NOVs were issued to SRS in connection with its 2006 PCB compliance program activities. The site did, however, determine that one container of legacy remediation waste containing PCBs had not been properly labeled and identified as PBC waste. The error was discovered during preparations to ship the container off site for disposal. SRS immediately took corrective actions, and the waste subsequently was disposed in an appropriately permitted facility. The site disclosed this matter to EPA Region IV promptly after discovery of the error.

The site's 2005 PCB document log was completed in full compliance with 40 CFR 761, and the 2005 annual report of onsite PCB disposal activities was submitted to EPA Region 4 in July 2006. The disposal of nonradioactive PCBs routinely generated at SRS is conducted at EPA-approved facilities within the regulatory period. For some forms of radioactive PCB wastes, disposal capacity is not yet available, and the wastes must remain in long-term storage. Such wastes are held in TSCA-compliant storage facilities in accordance with 40 CFR 761.

## Endangered Species Act

The Endangered Species Act of 1973, as amended, provides for the designation and protection of wildlife, fish, and plants in danger of becoming extinct. The act also protects and conserves the critical habitats on which such species depend.

Several threatened and endangered species exist at SRS, including the wood stork, the red-cockaded woodpecker, the bald eagle, the shortnose sturgeon, the pondberry, and the smooth purple coneflower. Programs designed to enhance the habitat and survival of such species are in place.

A biological evaluation was prepared for SRS in 2006 to support activities addressed in the draft "Environmental Assessment for the Safeguard and Security Upgrades for storage of Plutonium Materials at Savannah River Site," (DOE/AE–1563), and in the "Selected National Discharge Elimination System Stormwater Permit Compliance Alternatives at the Savannah River Site." In 2006, no biological assessments or biological evaluations were necessary for forestry related activities. None of these activities were found to have had any significant potential impact on threatened and endangered species.

## National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966, Section 106, governs the archaeological and historical resources. SRS ensures that it is in compliance with the NHPA through several processes. The Cold War Programmatic Agreement and the SRS Cold War Built Environment Cultural Resource Management Plan are in place and being implemented. The Artifact Selection team—which includes DOE, WSRC, and the University of South Carolina Savannah River Archaeological Research Program (SRARP)—meets monthly and is responsible for overseeing the selection, collection, and curation of Cold War-era artifacts from buildings prior to decommissioning and demolition activities.

In addition, the site helps ensure that it remains in compliance with NHPA through its Site Use Program. All sites being considered for activities such as construction are evaluated by SRARP personnel to ensure that archaeological or historic sites are not impacted. Reviews of timber compartment prescriptions include surveying for archaeological resources and documenting areas of importance with regard to historic and prehistoric significance.

Savannah River Archaeological Research Program

SRARP personnel reviewed 30 site-use packages during 2006, of which 12 proposed land modifications resulted in the need to survey 701 acres. The remaining site-use packages were found to have no activities of significant impact in terms of the NHPA. SRARP personnel also surveyed 182 acres in 2006 in support of onsite forestry activities.

The surveys of the 883 total acres resulted in 48 site investigations—38 of which involved new archaeological sites—and in revisits to 10 previously recorded sites for cultural resources management.

In compliance with NHPA, artifacts recovered through daily compliance activities and the analysis of artifacts recovered during Phase III investigations of site 38AK155 must be curated. A total of 11,279 artifacts were curated during FY 2006 by SRARP.

## Floodplains and Wetlands

Under 10 CFR, Part 1022 ("Compliance with Floodplains and Wetlands Environmental Review Requirements"), DOE establishes policies and procedures for implementing its responsibilities in terms of compliance with Executive Orders 11988 ("Floodplain Management") and 11990 ("Protection of Wetlands"). Part 1022 includes DOE policies regarding the consideration of floodplains/wetlands factors in planning and decision making. It also includes DOE procedures for identifying proposed actions involving floodplains/wetlands, providing early public reviews of such proposed actions, preparing floodplains/wetlands assessments, and issuing statements of findings for actions in floodplains.

In 2006, two floodplains/wetlands assessments were completed to ensure compliance with 10 CFR, Part 1022. The first assessment, entitled "Floodplain/Wetland Assessment for National Pollutant Discharge Elimination System (NPDES) Stormwater Compliance Alternatives at the Savannah River Site," was conducted to support the SRS's efforts to comply with NPDES limits at various stormwater outfalls. It was determined that no activities would be conducted in wetlands or floodplains. However, depending on the alternative selected to resolve the compliance issue, the hydrology of the some of the wetlands below the outfalls could be affected.

The second assessment, entitled "Floodplain/Wetland Assessment for the Replacement Source of Steam for A-Area at the Savannah River Site," was conducted in support of a proposed steam generation facility in A-Area. It was determined that no activities would be conducted in wetlands or floodplains. Depending on the specific location selected, there could be a slight impact on area wetlands due to elimination of water discharged to the outfall going to the wetland.

### Executive Order 11988

Executive Order 11988 ("Floodplain Management") was established to avoid long- and short-term impacts associated with the occupancy and modification of floodplains. The evaluation of impacts to SRS floodplains is ensured through the NEPA Evaluation Checklist and the site-use system. Site-use applications are reviewed for potential impacts by WSRC, DOE–SR, the USDA Forest Service–Savannah River and the Savannah River Ecology Laboratory (SREL), as well as by professionals from other organizations.

### Executive Order 11990

Executive Order 11990 ("Protection of Wetlands") was established to mitigate adverse impacts to wetlands caused by the destruction and modification of wetlands, and to avoid new construction in wetlands wherever possible. Avoidance of impact to SRS wetlands is ensured through the site-use process, various departmental procedures and checklists, and project reviews by the SRS Wetlands Task Group. Many groups and individuals—including scientists from SRNL, SREL, and the Environmental Services Section—review site-use applications to ensure that proposed projects do not impact wetlands.

# Environmental Release Response and Reporting

## Response to Unplanned Releases

Environmental Permitting and Monitoring (EPM) personnel respond to unplanned environmental releases, both radiological and nonradiological, upon request by area operations personnel. No unplanned environmental releases occurred at SRS in 2006 that required the sampling and analysis services of EPM.

## Occurrences Reported to Regulatory Agencies

Federally permitted releases comply with legally enforceable licenses, permits, regulations, or orders. If a nonpermitted release to the environment of a reportable quantity or more of a hazardous substance (including radionuclides) occurs, CERCLA requires notification of the National Response Center. Also, the CWA requires that the National Response Center be notified if an oil spill causes a "sheen" on navigable waters, such as rivers, lakes, or streams. Oil spill reporting has been reinforced with liability provisions in the CERCLA National Contingency Plan.

SRS has had no CERCLA-reportable releases since 1999.

No notifications required by CERCLA or SCDHEC memoranda of understanding had to be made by SRS during 2006. The site recorded and cleaned up the following nonreportable spills; six chemical, eight sewage, five motor oil, 25 hydraulic oil, 13 diesel fuel, three gasoline, and two E–85 gas/ethanol blend.

EPCRA (40 CFR 355.40) requires that reportable releases of extremely hazardous substances or CERCLA hazardous substances be reported to any local emergency planning committees and state emergency response commissions likely to be affected by the release. No EPCRA-reportable releases occurred at SRS in 2006.

## Site Item Reportability and Issues Management Program

The Site Item Reportability and Issues Management (SIRIM) program, mandated by DOE Order 232.1A ("Occurrence Reporting and Processing of Operations Information"), is designed to ". . . establish a system for reporting of operations information related to DOE-owned or operated facilities and processing of that information to provide for appropriate corrective action . . . ." It is the intent of the order that DOE be ". . . kept fully and currently informed of all events which could (1) affect the health and safety of the public; (2) seriously impact the intended purpose of DOE facilities; (3) have a noticeable adverse effect on the environment; or (4) endanger the health and safety of workers."

Of the 149 SIRIM-reportable events in 2006, the following were categorized as environmental:

- *NOV, Outfall F–08* – On November 7, SRS received an NOV from SCDHEC that the monthly average concentration limit for lead at Outfall F–08 had been exceeded in August.
- *Small Liquid Spill Inside SeaLand Waste Container at 400–D* – On June 15, a small amount of liquid was found where a tank had been loaded into an open-top SeaLand storage container on a waste storage pad in 400–D area. The tank, from 420–D, was

staged in a Radioactive Materials Area awaiting disposal. The spill was discovered when the tank was removed from the SeaLand to allow adjustment of the support cribbing.

- *NOV, Outfall G–10* – On June 6, SRS received an NOV from SCDHEC related to the exceedance of maximum and daily NPDES ammonia limits at outfall G-10 for March 2006.
- *Tropical Storm Alberto Rainfall Erosion* – The rainfall experienced from tropical storm Alberto June 14 caused sediment to travel beyond erosion control measures and impact three SRS wetland locations (the site of the future MOX facility, the 488–D Ash Basin CERCLA remediation site, and the TNX discharge gully remediation site).
- *Small Liquid Spill at 211–F* – Site D&D reported that a small liquid leak occurred November 30 during a tap-and-drain evolution of a sump water line originating from the 221–F Canyon, and exited from the canyon to a basin. The leak (approximately 8"x8") occurred in a radiologically clean area. The maximum activity was 45,000 dpm/100cm$^2$ beta-gamma, <200 dpm/100cm$^2$ alpha.

## Assessments/Inspections

The SRS environmental program is overseen by a number of organizations, both outside and within the DOE complex. In 2006, the WSRC environmental appraisal program consisted of self and independent assessments. The program ensures the recognition of noteworthy practices, the identification of performance deficiencies, and the initiation and tracking of associated corrective actions until they are satisfactorily completed. The primary objectives of the WSRC assessment program are to ensure compliance with regulatory requirements and to foster continuous improvement. The program is an integral part of the site's Safety Management System and supports the SRS Environmental Management System, which continues to meet the standards of International Organization for Standardization (ISO) 14001. (ISO 14000 is a family of voluntary environmental management standards and guidelines.)

WSRC conducted several environmental program-level assessments in 2006. The topics included

- Waste Management (Offsite Waste Management Facilities)
- Inactive Waste Sites and Releases (Closure and Post Closure)
- Laboratory Information Management System (LIMS)
- Surface Water Quality (Floodplain Management and Wetlands Protection)
- Environmental, Emergency, and Regulatory Notifications (Toxic Chemical Management and Release Reporting)
- Air Quality Protection (Ozone-Depleting Substances/Refrigerant Management)
- Waste Management (Public Involvement)

During 2006, DOE–SR Environmental Quality and Management Division personnel continued to perform direct oversight and evaluation of WSRC's self-assessment program. Completed DOE assessments have met with positive results; routine assessments have

promoted improvement and helped ensure the adequacy of environmental programs and operations at SRS.

SCDHEC and EPA personnel conducted external inspections of the SRS environmental program for regulatory compliance. Agency representatives performed several comprehensive compliance inspections in 2006, as follows:

- *RCRA Compliance Evaluation Inspection* – The 2006 compliance evaluation inspection was conducted by EPA and SCDHEC. An October 16, 2006, letter from SCHEC noted, "No deficiencies were cited as a result of the inspection. You are to be commended for your excellent hazardous waste management program."
- *Annual Air Compliance Inspection* – SCDHEC conducted the annual air compliance inspection of operating SRS permitted sources. The site was found to be in compliance with each source's respective permit condition and requirement.
- *Annual Underground Storage Tank Inspection* – SCDHEC inspected the site's underground storage tanks. All were found to be in compliance with applicable regulations.
- *Annual NPDES 3560 Compliance Audit* – SCDHEC conducted the annual 3560 environmental audit of the site's NPDES-permitted outfalls. As of December 31, SRS had not received the final audit report, so the final rating for the site was not known.
- *Quarterly Inspections of SRS Bottled Water Facility* – SCDHEC conducted quarterly inspections of the SRS Bottled Water Facility. The facility was found to be in compliance.
- *632–G C&D Landfill, 288–F Industrial Waste Landfill, and Saltstone Inspection* – SCDHEC conducted quarterly inspections, and all the sites were found to be satisfactory, with no observed deficiencies.
- *Interim Sanitary Landfill* – SCDHEC personnel conducted an annual postclosure inspection, and the site was found to be satisfactory, with no observed deficiencies.
- *Groundwater Comprehensive Monitoring Evaluation* – SCDHEC conducted an unannounced RCRA inspection of SRS's groundwater program. No deficiencies or permit violations were cited.
- *488–4D, Ash Landfill* – A permit application was filed in February 2006 for the disposal of D-Area Powerhouse ash at the 488–4D Ash Landfill.

## Environmental Training

The site's environmental training program identifies training activities to teach job-specific skills that protect the employee and the environment, in addition to satisfying regulatory training requirements. Regularly scheduled classes in this program at SRS include such topics as Environmental Laws and Regulations, Hazardous Waste Worker, Hazardous and Radiological Waste Characterization, and the Environmental Compliance Authority course. A self-taught Environmental Laws and Regulations course is available for technical personnel and is updated annually by the Environmental Services Section. More than 60 environmental program-related training courses are listed in the site training database, and individual organizations schedule and perform other facility-specific, environment-related training to ensure that operations and maintenance personnel, as well as environmental

professionals, have the knowledge and skills to perform work safely and in a manner that protects the environment.

## Environmental Permits

SRS had 420 construction and operating permits in 2006 that specified operating levels for each permitted source. Table 3–4 summarizes the permits held by the site during the past 5 years. These numbers reflect only permits obtained by WSRC for itself and for other SRS contractors that requested assistance in obtaining permits. It also should be noted that these numbers include some permits that were voided or closed some time during the calendar year (2006).

**Table 3–4**
**SRS Construction and Operating Permits, 2002–2006**

| Type of Permit | Number of Permits | | | | |
|---|---|---|---|---|---|
| | 2002 | 2003 | 2004 | 2005 | 2006 |
| Air | 150 | 2[a] | 3 | 1 | 2 |
| Army Corps of Engineers Nationwide Permit | 5 | 5 | 3 | 4 | 5 |
| Domestic Water | 203 | 202 | 203 | 207 | 207 |
| Industrial Wastewater | 66 | 60 | 56 | 63 | 70 |
| NPDES Discharge | 1 | 1 | 1 | 1 | 2 |
| NPDES No Discharge | 1 | 1 | 1 | 0 | 1 |
| NPDES Stormwater | 2 | 2 | 2 | 2 | 2 |
| RCRA | 1 | 1 | 1 | 1 | 1 |
| Sanitary Wastewater | 133 | 109 | 104 | 106 | 106 |
| SCDHEC 401 | 0 | 0 | 0 | 0 | 0 |
| SCDHEC Navigable Waters | 1 | 0 | 0 | 0 | 0 |
| Solid Waste | 2 | 3 | 4 | 4 | 3 |
| Underground Injection Control | 18 | 19 | 18 | 21 | 14 |
| Totals | 590 | 412 | 403 | 417 | 420 |

[a] This number was revised to include the Title V Operating Permit, which includes all SRS air emission sources and one construction permit.

**Editor's note:** The "Environmental Compliance" chapter is unique in that its number of contributing authors is far greater than the number for any other chapter in this report. Space/layout constraints prevent us from listing all of them and their organizations on the chapter's first page, so we list them here instead. Their contributions, along with those of the report's other authors, continue to play a critical role in helping us produce a quality document—and are very much appreciated.

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