

CHAPTER 5. ENVIRONMENTAL PERMITS AND REGULATIONS

This chapter summarizes major regulatory requirements applicable to this environmental impact statement (EIS) and the actions the U.S. Department of Energy (DOE) is considering. The requirements come from Federal and State of South Carolina statutes, regulations, Execu-

tive Orders, and compliance agreements. This chapter also summarizes the status of compliance with these requirements, emphasizing issues of greatest potential concern to the decisionmaker.

5.1 National Environmental Policy Act

5.1.1 REQUIREMENTS

The National Environmental Policy Act (NEPA) of 1969 (42 USC 4321 *et seq.*) requires Federal agencies to evaluate the effect their proposed actions would have on the quality of the human environment and to document that effect in a detailed statement. Further, NEPA requires agencies to consider the environmental impacts of an alternative during the planning and decisionmaking stages.

The Council on Environmental Quality (CEQ) has issued regulations that Federal agencies must follow (40 CFR 1500-1508). CEQ also directed the agencies to develop their own regulations to ensure compliance with NEPA requirements (see the DOE regulations at 10 CFR 1021). An agency must prepare an EIS if it proposes a major action that could significantly affect the environment.

5.1.2 STATUS

The analyses in this EIS that address the environmental impacts of alternative actions comply with applicable NEPA requirements.

In March 1991 a routine inspection noted a depression on the slope of Par Pond Dam. Based on the inspection report, DOE initiated a precautionary drawdown of Par Pond. After consulting with CEQ, DOE prepared a Special Environmental Analysis (SEA; DOE 1992) that covered this emergency action in accordance with the CEQ regulations for implementing NEPA (40 CFR 1506.11). The special analysis assessed environmental impacts on the aquatic and terrestrial ecosystem during drawdown, dam repair, and refill to full pool [200 feet (61 meters) above sea level, plus or minus 1 foot (0.3 meter)].

DOE then prepared an environmental assessment (EA; DOE 1995a) that evaluated the consequences of the proposal to allow the water level in Par Pond to fluctuate naturally. Section 5.5.2.3 discusses the actions in detail.

As a cost-saving initiative, DOE replaced the last operating 28,000-gallon-per-minute River Water System pump with a 5,000-gallon-per-minute pump. This project was categorically excluded under NEPA and forms the basis for the No-Action Alternative.

5.2 Atomic Energy Act

5.2.1 REQUIREMENTS

The Atomic Energy Act of 1954 (42 USC 201 *et seq.*) makes the Federal government responsible for regulatory control of the production, possession, and use of three types of radioactive material: source material, special nuclear material, and by-product material. This Act re-

quires DOE to establish standards that protect human health and the environment to minimize dangers from activities under DOE jurisdiction. DOE established an extensive system of standards and requirements, called DOE Orders, to ensure compliance with the Atomic Energy Act. In addition to the DOE requirements, this Act,

Reorganization Plan No. 3 of 1970 [5 USC (app. at 1343)], and other statutes give the U.S. Environmental Protection Agency (EPA) responsibility and authority for developing generally applicable standards for the protection of the environment from releases of radioactive materials. EPA has promulgated several regulations under this authority.

5.3 Resource Conservation and Recovery Act

5.3.1 REQUIREMENTS

The Resource Conservation and Recovery Act (RCRA) regulates the treatment, storage, and disposal of hazardous and solid waste. RCRA and Executive Order 12088, "Federal Compliance with Pollution Control Standards," require Federal facilities to comply with RCRA requirements. A state that wants to administer and enforce a hazardous waste program under RCRA can apply to EPA for authorization. The South Carolina Department of Health and Environmental Control (SCDHEC) has received authorization to implement a hazardous waste program in the State of South Carolina. The EPA and SCDHEC regulations implementing RCRA (40 CFR 260-280; R.61-79.260-280) define hazardous wastes and establish requirements for the transportation, treatment, storage, and disposal of such wastes.

SCDHEC and EPA Region IV issued the original Savannah River Site (SRS) RCRA Part B

5.4 Comprehensive Environmental Response, Compensation, and Liability Act

5.4.1 REQUIREMENTS

EPA administers CERCLA (42 USC 9601 *et seq.*), also called Superfund, which provides a statutory framework for responding to releases or threats of releases of hazardous substances and for cleaning up waste sites that contain hazardous substances (i.e., remedial response). CERCLA and Executive Order 12580, "Superfund Implementation," require Federal

5.2.2 STATUS

Actions proposed in this EIS that involve the management of radioactive materials would comply with Atomic Energy Act requirements set forth in DOE Orders and other applicable regulations.

permit in 1987 and renewed it in 1995. The permit includes requirements for the remediation of releases from solid waste management units. The SRS Federal Facility Agreement (FFA; EPA 1993a) establishes an integrated approach to address both Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) remedial action requirements and corrective action for releases from solid waste management units under RCRA. Section 5.5 discusses remedial activities under the FFA.

5.3.2 STATUS

The actions considered in this EIS would comply with the hazardous waste management requirements imposed by RCRA. Section 5.5 discusses compliance with RCRA corrective action requirements.

facilities to comply with the Act. DOE is the CERCLA lead response agency for releases or threats of releases at the SRS.

Section 107(f) of CERCLA and Executive Order 12580 require Federal officials to act on behalf of the public as trustees for natural resources. Because DOE is the SRS land manager, it is also the primary Federal trustee. Natural Resource Trustees are responsible for

evaluating natural resource injuries and for assessing damages related to such an injury. If there is a release or threat of a release from the SRS, DOE must notify and coordinate its trustee activities with other state and Federal "co-trustees." As a CERCLA lead response agency, DOE must conduct a natural resource damage assessment to determine the ecological threat posed by an actual or possible release of a hazardous substance (43 CFR 11).

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In accordance with Section 120 of CERCLA, DOE has entered into an interagency agreement with EPA and SCDHEC (EPA 1993a). The *Federal Facility Agreement for the Savannah*

River Site directs the comprehensive remediation of the SRS in accordance with CERCLA and RCRA, and thus integrates the CERCLA response action process and the corrective measures provisions of RCRA Sections 3004(u) and 3004(v). The FFA also provides specific direction for the implementation of the CERCLA natural resource damage assessment provisions at the SRS (see Section 5.5).

5.4.2 STATUS

Section 5.5 discusses SRS compliance with remedial response and natural resource damage assessment requirements.

5.5 Federal Facility Agreement

5.5.1 REQUIREMENTS

The FFA, which became effective on August 16, 1993, directs the comprehensive remediation of the SRS. It contains requirements for site investigation and remediation of releases and potential releases of hazardous substances under CERCLA, and for corrective action for releases of hazardous wastes or hazardous constituents under RCRA (EPA 1993a). As such, it integrates the CERCLA response action process with the corrective measures provisions of RCRA Sections 3004(u) and 3004(v). The following paragraphs describe the overall response action process in the FFA.

The first step in the response action process is the evaluation of newly discovered releases and potential releases of hazardous substances to determine if they should be included in Appendix G.1 of the FFA, the Site Evaluation List. Site evaluations, which are described in Section X of the FFA, are preliminary analyses of potential and known releases to determine the need for further investigation under the provisions for a RCRA Facility Investigation/Remedial Investigation (RFI/RI), removal action, or no further action. Removal actions consist of near-term actions to abate, minimize, stabilize, mitigate, or eliminate a release or the threat of release. These actions, which are conducted in accor-

dance with Section XIV of the FFA, can result in the listing of areas in Appendix G.2 (No Further Action) or they can be a preliminary step in the remedial action process.

The remedial action process is conducted for units listed in Appendix C, RCRA/CERCLA Units, of the FFA. DOE has designated some of these as Operable Units, which generally include contaminated surface water, soils, or groundwater in designated geographical portions of the Site (i.e., an Operable Unit is a geographical location or area). The topography and hydrology of the Site enable its division into six larger units, which represent the watersheds of the primary stream systems. This process designates the stream systems as Integrator Operable Units (IOUs). SRS streams and tributaries defined as IOUs were moved from Appendix G of the FFA to Appendix C, making them subject to the development of an RFI/RI work plan rather than the site evaluation process.

The remedial action process for the units listed in Appendix C includes the development of an RFI/RI Work Plan that describes the investigation strategy for the collection of data to assess the nature and extent of the release based on the Conceptual Site Release Model. RFI/RI studies are conducted in accordance with the work plan to determine the nature and extent of contami-

nation. A Baseline Risk Assessment addresses the current or potential future impact to human health and the environment. Next, an evaluation of various remedial alternatives is performed using the nine CERCLA criteria contained in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP; 40 CFR Part 300). The corrective measures study/feasibility study (CMS/FS) report presents the results of this analysis. Next, a Statement of Basis/Proposed Plan is prepared and made available for public review of the preferred alternative. The RCRA permit modification and Record of Decision (ROD) provide the final documentation of the selection of the remedial alternative and the response to public input.

An interim remedial action can be taken to address a threat in the short term while a permanent remedial solution is being developed. The implementation of interim remedial actions often achieves a quick reduction of risk or the stabilization of an ongoing migration of releases of hazardous substances. In general, the interim nature of these actions makes it appropriate to proceed with the remedy selection process.

Appendixes C and G.1 of the FFA identify components of the River Water System as RCRA/CERCLA units or Site Evaluation areas, respectively. Table 5-1 lists these components.

Table 5-1. River Water System components subject to remedial action under the Federal Facility Agreement.

Unit	Status
Par Pond (including the precooler ponds and canals)	RCRA/CERCLA unit ^a
L-Lake	Site Evaluation area ^b
Fourmile Branch IOU ^c (including unnamed tributary south of C-Area)	RCRA/CERCLA unit
Lower Three Runs IOU	RCRA/CERCLA unit
Pen Branch IOU (including Indian Grave Branch)	RCRA/CERCLA unit
Steel Creek IOU	RCRA/CERCLA unit

a. RCRA/CERCLA units are listed in Appendix C of the Federal Facility Agreement.
b. Site Evaluation areas are listed in Appendix G of the Federal Facility Agreement.
c. IOU = Integrator Operable Unit.

Section XLV of the FFA affirms DOE responsibilities as Natural Resource Trustee at the SRS. As a trustee, DOE follows established procedures to assess damages to natural resources (43 CFR 11). Further, in accordance with CERCLA, DOE must devise and implement a plan to restore, replace, or acquire the equivalent of such resources.

5.5.2 STATUS

The following paragraphs provide information on the compliance of the alternatives presented in this EIS to the FFA, in relation to the units described above.

5.5.2.1 L-Lake

Under the No-Action Alternative, the River Water System would continue to supply water to the K- and L-Reactor areas and L-Lake would remain at full pool; under the other two alternatives, DOE would shut down the system and would pump no water to L-Lake, resulting in the gradual lowering of the water level to the historic stream channel exposing contaminated sediments. Section 4.1 discusses the affected environment and impacts to L-Lake.

DOE is conducting the site evaluation for the L-Lake unit under the requirements set forth in Section X of the FFA, and has prepared an internal draft site evaluation report. Appendix A discusses the preliminary characterization and other remedial activities under the FFA for L-Lake.

5.5.2.2 SRS Streams

DOE would conduct the remedial action process for the SRS streams listed as IOUs in Appendix C of the FFA. Ongoing monitoring and characterization (summarized in the SRS Annual Environmental Report) would continue for each area. DOE will evaluate each IOU as part of the ongoing FFA-driven environmental restoration process. Impacts at SRS streams would not vary significantly among the alternatives.

5.5.2.3 Par Pond

In March 1991 a routine inspection of the Par Pond Dam noted a small surface depression on the downstream face. Based on the inspection report, DOE conducted a detailed structural investigation and initiated a simultaneous precautionary drawdown of the Par Pond reservoir. On July 17, 1991 DOE notified EPA Region IV that possible dam failure at Par Pond could be an imminent and substantial endangerment to public health, safety, and the environment under CERCLA, Section 104. DOE and EPA viewed the drawdown of Par Pond as a removal action under Section 300.415(d)(3) of the National Contingency Plan. From June through September 1991 DOE lowered the level from 200 feet (61.0 meters) to 181 feet (55.2 meters) to reduce risk and consequences of potential flooding in downstream communities in the event of a catastrophic dam failure. The dam repair was approved under a CERCLA 106 Abatement Action Letter (WSRC 1995e). By July 1, 1994 the repairs were complete and the Par Pond Dam was structurally sound to restore the reservoir to predrawdown water levels.

Lowering the elevation of the surface water level at Par Pond resulted in the exposure of approximately 1,340 acres (5.4 square kilometers) of sediments contaminated with cesium and mercury. DOE conducted a limited, qualitative human health risk assessment on the exposed sediments. The assessment identified a potential for additional exposure and the need to evaluate alternatives for reducing that exposure (WSRC 1992). In addition, DOE performed an assessment of environmental risks based on existing information (DOE 1993c). Remedial alternatives were developed for the Par Pond operable unit to reduce the human health and environment risk from cesium-137 contamination in the exposed sediments. The selected interim remedy consisted of restoring and maintaining the water level in Par Pond to the 200-foot (61.0-meter) level after the repair of the dam (WSRC 1995e).

Based on public comments on the interim action proposed plan, DOE conducted an environmental assessment (EA; DOE 1995a) to evaluate potential environmental impacts of allowing the water level in Par Pond to fluctuate naturally. The model indicated that the water level would not be likely to fall below 196.2 feet (59.8 meters); therefore, 195 feet (59.4 meters) became the lower limit for bounding the assessment of the potential environmental impacts of the natural fluctuation of the water level. The final EA process ended with a Finding of No Significant Impact (DOE 1995b). Beyond what the EA addressed, likely impacts at Par Pond would not vary among the alternatives considered in this EIS. A review of Par Pond and the interim action continue through the implementation of the Remedial Investigation/Feasibility Study process, which is required in accordance with the terms of the FFA, with field activities scheduled to begin during the first quarter of Fiscal Year 2004 (FFA, Appendix E). Section 4.3 describes the affected environment and impacts to Par Pond.

5.5.2.4 Natural Resource Damages

NEPA requires Federal agencies to consider the environmental impacts of an action during the planning and decisionmaking stages of a project. The RCRA/CERCLA process that DOE has implemented at the SRS specifically requires an ecological assessment during the baseline and alternatives risk assessment phase. This assessment can be a constructive link to the natural resource trustee process because the data generated for the RCRA/CERCLA study is also useful for determining injury and quantifying resource service reductions.

In addition to the NEPA requirement to identify any irreversible and irretrievable commitment of resources, DOE intends to identify such re-

sources within the meaning of CERCLA [Section 107(f)(1)]. Timely considerations of Natural Resource Damage Assessment issues during the NEPA process can be important because Section 107 of CERCLA excludes liability for damages that result from a discharge or release "when the damages are specifically identified as an irreversible and irretrievable commitment of a natural resource in an environmental impact statement or other comparable environmental analysis."

The analyses in this EIS address the environmental impacts of alternative actions in accordance with CERCLA and NEPA. Section 4.8 identifies the irreversible and irretrievable commitments of resources that would occur under implementation of the Proposed Action.

5.6 Emergency Planning and Community Right-to-Know Act

5.6.1 REQUIREMENTS

The Emergency Planning and Community Right-to-Know Act of 1986 (42 USC 11001 *et seq.*) requires emergency planning including notification to communities and government agencies of the presence and release of specific chemicals. EPA implements the Act (40 CFR 355, 370, and 372). Under Subtitle A, Federal facilities, including those that DOE owns, must provide a variety of information (such as inventories of specific chemicals used or stored and releases that occur from these facilities) to state emergency response commissions and local emergency planning committees to ensure that emergency plans are ready to respond to accidental releases of hazardous substances.

Executive Order 12856, "Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements," requires Federal facilities to comply with the Act.

5.6.2 STATUS

Each year, DOE submits hazardous chemical inventory and toxic release inventory reports to SCDHEC and to local emergency planning committees in Aiken, Allendale, and Barnwell Counties. The alternatives in this EIS would not result in changes to chemical inventories or the use of toxic chemicals; therefore, DOE anticipates no changes in the hazardous chemical inventory and toxic release inventory reports.

5.7 Clean Water Act

5.7.1 REQUIREMENTS

The objectives of the Clean Water Act are to restore and maintain the chemical, physical, and biological integrity of the nation's waterways. This Act prohibits the "discharge of toxic pollutants in toxic amounts" to navigable waters of the United States. Section 313 requires the

branches of the Federal government to comply with Federal, state, interstate, and local requirements. In addition to setting water quality standards for the nation's waterways, the Act establishes guidelines and limitations for discharges from point sources, and a permitting program for these sources known as the

National Pollutant Discharge Elimination System (NPDES; 40 CFR 122 *et seq.*).

EPA has overall responsibility for enforcing the Clean Water Act but has delegated to SCDHEC primary enforcement authority for waters in South Carolina. Under the South Carolina Pollution Control Act, SCDHEC operates a permitting program (R.61-9, "The National Pollutant Discharge Elimination System"). The Clean Water Act and implementing regulations apply to naturally occurring and accelerator-produced radioisotopes. However, they do not apply to source, by-product, or special nuclear material as defined by the Atomic Energy Act. DOE discharges containing radioactive materials that are not source, by-product, or special nuclear material would be regulated by Clean Water Act programs.

South Carolina classifies all SRS waters as "freshwaters" (R.61-68). Water quality standards for this classification [R.61-68.G(3)] indicate that these waters are "suitable for fishing and the survival and propagation of a balanced indigenous aquatic community." In addition, SCDHEC antidegradation rules (R.61-68.D) state that "the stream flows necessary to protect classified and existing uses and water quality supporting these uses shall be maintained consistent with riparian rights to reasonable use of water."

Lower Three Runs Creek is a State-designated navigable water below Par Pond Dam. The U.S. Army Corps of Engineers (USACE) and SCDHEC administer permits for construction in such waters. USACE also issues permits under Section 404 of the Clean Water Act for the discharge of dredged or fill material into navigable waters. Under Section 401 of the Clean Water Act, applicants for a permit for an activity that may result in a discharge to navigable waters must receive certification from SCDHEC that applicable State water quality standards will not be violated.

DOE has sought the assistance of the Federal Energy Regulatory Commission (FERC) in the

implementation of the Federal Guidelines for Dam Safety. FERC performs inspections on dam structures at DOE facilities, including the Par Pond and L-Lake Dams, to fulfill the Department's responsibility for dam safety.

In 1996 SCDHEC issued NPDES permit Number SC0000175 (SCDHEC 1996c), which addresses the outfalls associated with the River Water System (Table 5-2).

Table 5-2. National Pollutant Discharge Elimination System Permit Number SC0000175 outfalls.

Reactor	Outfall	Receiving water body
C-Reactor	C-4	Fourmile Branch
K-Reactor	K-18	Indian Grave Branch of Pen Branch
L-Reactor	L-07	L-Lake
P-Reactor	P-19	Par Pond

These outfalls accept discharges, if any, from the River Water System. The K- and L-Area outfalls also receive sanitary wastewater effluents from the reactor areas. DOE can divert the flow from outfall P-19 to outfall P-13, which also receives the sanitary wastewater effluent from P-Area, and discharge to the headwaters of Steel Creek above L-Lake. The SRS is in compliance with NPDES permit requirements for these outfalls.

5.7.2 STATUS

The following sections present pertinent information on the compliance status of the alternatives considered in this EIS.

5.7.2.1 No Action

Small sanitary wastewater treatment plants in K- and P-Areas discharge through NPDES outfalls to the headwaters of Indian Grave Branch and Steel Creek, respectively. DOE has evaluated alternatives to resolve the compliance issues, if any, that would occur at these NPDES-permitted outfalls if DOE selected the No-Action Alternative (the small pump would continue to supply river water to L-Area, but the

pumping of river water to K- and P-Areas would stop).

5.7.2.2 Shut Down and Deactivate

Navigable Waters Requirements

DOE has consulted with the USACE on the proposed shutdown of the River Water System and potential impacts from the drawdown of L-Lake. USACE solicited comments on the DOE proposal from relevant State and Federal permitting and natural resource agencies, and received none. Therefore, USACE concluded that no restoration or other remedial action in relation to L-Lake would be necessary (Veal 1996).

DOE also consulted with the FERC on requirements related to the L-Lake Dam as a result of the proposed shutdown of the River Water System. FERC indicated that DOE must continue to maintain the dam after the drawdown in the same manner as if the lake was still in place; therefore, this alternative includes these activities. Ongoing maintenance activities would include ensuring that the dam gates do not become obstructed with debris in a way that could cause refill of the reservoir (Jones 1996b).

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L-Lake. Preliminary calculations indicate that the effluent from the L-Area sanitary wastewater treatment plant would not be able to meet the SCDHEC standards for water quality without blending from other area effluents such as river water flows. DOE has prepared a study that presents three options (using septic tanks and tile fields, using spray fields, and tying into the existing central system) and an approximate cost for treating the L-Area sanitary wastewater (Huffines 1996b). If DOE selected a shutdown alternative, it would evaluate in detail the cost impacts of alternative methods to address compliance for the L-Area sanitary wastewater treatment effluent (see Section 4.1.2.2.2).

DOE would obtain any required permits (e.g., for septic tank installation) to implement the selected method for treating the L-Area sanitary wastewater.

5.7.2.3 Shut Down and Maintain

Compliance status and issues under this alternative would be the same as those described in Section 5.7.2.2, assuming the layup scheme selected does not include continued operation of the small pump.

NPDES Permit Requirements

A small sanitary wastewater treatment plant in L-Area discharges through an NPDES outfall to

5.8 Safe Drinking Water Act

5.8.1 REQUIREMENTS

The Safe Drinking Water Act protects the quality of public water supplies and other sources of drinking water. It establishes drinking water quality standards that must be met. The Act and Executive Order 12088 direct Federal facilities to comply with the Safe Drinking Water Act. EPA has promulgated regulations implementing the Safe Drinking Water Act (40 CFR 100-149), and has delegated primary enforcement authority to SCDHEC for public water systems in South Carolina. Under the authority of the

South Carolina Safe Drinking Water Act, SCDHEC has established a drinking water regulatory program.

The regulations specify that the average annual concentration of manmade radionuclides in drinking water delivered to the user shall not produce a dose equivalent greater than 4 millirem per year of beta-gamma radioactivity.

5.8.2 STATUS

DOE does not expect impacts from radiological releases to downstream water users or SRS

drinking water systems under the alternatives it considers in this EIS. These water supplies would continue to conform to Federal drinking water standards.

5.9 Clean Air Act

5.9.1 REQUIREMENTS

The Clean Air Act establishes a national program to protect air quality and regulates sources of air pollution. Requirements include permits, emissions and operating standards, and monitoring. The Act is intended to "protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population." Section 118 of the Act and Executive Order 12088 require each Federal agency with jurisdiction over property or facility that might result in the discharge of air pollutants to comply with "all federal, state, interstate, and local requirements" with regard to the control and abatement of air pollution.

The Act requires EPA to:

- Establish National Ambient Air Quality Standards as necessary to protect public health, with an adequate margin of safety, from any known or anticipated effect of a regulated pollutant
- Establish national standards of performance for new or modified stationary sources or air pollutants (42 USC 7411)
- Evaluate specific emissions increases to prevent significant deterioration in air quality

The Government regulates hazardous air pollutants, including radionuclides, separately. Air emissions are regulated in 40 CFR 50-99, and radionuclide emissions are regulated under the National Emission Standards for Hazardous Air Pollutants program (40 CFR 61).

EPA has overall authority for the Clean Air Act, but it can delegate primary authority to the

states. In South Carolina, EPA has retained authority over DOE radionuclide emissions (40 CFR 61) and has delegated to SCDHEC the responsibility for the rest of the regulated pollutants and other requirements. Under the authority of the South Carolina Pollution Control Act, SCDHEC established the State's air pollution control program.

5.9.2 STATUS

The SCDHEC Bureau of Air Quality Control issues operating permits and performs Prevention of Significant Deterioration reviews. None of the alternatives in this EIS would require new SCDHEC operating permits or modifications to existing permits for facilities associated with the River Water System. No EPA approvals for radionuclide emissions would be required.

The Clean Air Act, as amended in 1990, requires Federal actions to conform to any State implementation plan approved or promulgated under Section 110 of the Act. The Final Rule (40 CFR 51 Subpart W) provides regulatory guidelines and *de minimis* levels. The guidelines specify requirements for conformity analyses. However, Federal actions that do not contribute pollutants above the specified *de minimis* levels are exempt from conformity analysis requirements. Emissions resulting from the alternatives considered in this EIS would be less than the *de minimis* levels. Therefore, these actions would be exempt from conformity analysis.

Toxic air pollutant emissions resulting from the alternatives in this EIS would remain in compliance with the South Carolina Standard 8 regulations (R.61-62).

The SRS operates within the EPA limits for the regulation of airborne radionuclides (40 CFR 61). Airborne releases from contami-

nated sediments exposed as a result of the alternatives in this EIS would remain in compliance with these limits.

5.10 Endangered Species Act and Related Statutes

5.10.1 REQUIREMENTS

The Endangered Species Act is intended to prevent the further decline of endangered and threatened species and to restore such species and their habitats. This Act also promotes biodiversity of genes, communities, and ecosystems. The U.S. Department of Commerce (National Marine Fisheries Service) and U.S. Department of the Interior (Fish and Wildlife Service) administer the Act jointly. Section 7 of the Act requires Federal agencies to consult with the National Marine Fisheries Service or the Fish and Wildlife Service, as appropriate, to ensure that any action they authorize, fund, or perform is not likely to jeopardize the continued existence of an endangered species or to result in the destruction or adverse modification of critical habitat of such species unless the agency receives an exemption in accordance with Section 7(h).

TC The Migratory Bird Treaty Act, as amended, is intended to protect birds that have common migration patterns between the United States and Canada, Mexico, Japan, and Russia. It regulates the harvest of migratory birds by specifying things such as the mode of harvest, hunting seasons, and bag limits. The Act stipulates that it is unlawful at any time, by any means, or in any

manner to "kill...any migratory bird." Although no permit for this project is required under the Act, DOE is required to consult with the Fish and Wildlife Service regarding impacts to migratory birds to evaluate ways to avoid or minimize these effects in accordance with the Fish and Wildlife Service Mitigation Policy (DOI 1981).

TC Several other statutes (Fish and Wildlife Coordination Act, Anadromous Fish Conservation Act, Bald Eagle Protection Act, and South Carolina Nongame and Endangered Species Conservation Act) require Federal and state agencies to consider the impacts of their actions on biological resources.

5.10.2 STATUS

TC DOE directed the preparation of a biological assessment (LeMaster 1996) to evaluate the effects of the proposed actions related to the River Water System on several Federally protected species (bald eagle, wood stork, American alligator, and the shortnose sturgeon). DOE has initiated formal consultation with the Fish and Wildlife Service and National Marine Fisheries Service concerning the impacts of the Proposed Action.

5.11 Executive Orders 11990 and 11988

5.11.1 REQUIREMENTS

Executive Order 11990, "Protection of Wetlands," requires Federal agencies to avoid short- and long-term adverse impacts to wetlands if a practicable alternative exists. Executive Order 11988, "Floodplain Management," directs Federal agencies to establish procedures to ensure that they consider potential effects of flood hazards and floodplain management for any action

undertaken. Agencies are to avoid impacts to floodplains to the extent practicable. DOE regulations (10 CFR 1022) establish procedures for compliance with these Executive Orders.

5.11.2 STATUS

Sections 4.1.5, 4.2.5, and 4.3.5 contain the floodplain/wetland assessment required by DOE regulations (10 CFR 1022.12). In addition, these regulations require DOE to design or modify its actions to minimize potential harm to

wetlands or in floodplains (10 CFR 1022.15). DOE policy is to preserve and protect SRS wetland resources in accordance with the national goal of "no net loss" of wetlands. DOE would implement the necessary mitigation measures to achieve this goal under the alternatives considered in this EIS.

5.12 Executive Order 12898

5.12.1 REQUIREMENTS

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority and Low-Income Populations," requires each Federal agency to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health and environmental

effects of its programs, policies, or activities on minority populations and low-income populations."

5.12.2 STATUS

This EIS incorporates environmental justice in its analyses of the alternatives.

5.13 Cultural Resource Statutes

5.13.1 REQUIREMENTS

Cultural resources on the SRS are subject to the American Indian Religious Freedom Act (AIRFA) of 1978 (42 USC 1996), the Native American Graves Protection and Repatriation Act (25 USC 3001), and the National Historic Preservation Act (16 USC 470 *et seq.*). AIRFA reaffirms Native American religious freedom under the First Amendment and protects and preserves the right of American Indians to believe, express, and exercise their traditional religions. The Act requires that Federal actions avoid interfering with access to sacred locations and traditional resources that are integral to the practice of those religions. The Native American Graves Protection and Repatriation Act of 1990 directs the Secretary of the Interior to promote repatriation of Federal archaeological collections that are culturally affiliated with Native American tribes and such collections held by museums that receive Federal funds. These Acts require DOE to notify affected tribes of the discovery of sites or items of religious

importance or human remains and other objects belonging to Native Americans. DOE has committed to provide copies of environmental impact documents related to its activities in the Central Savannah River Valley to the Yuchi Tribal Organization, Inc., the National Council of the Muskogee Creek, and the Indian People's Muskogee Tribal Town Confederacy.

The National Historic Preservation Act, as amended, enables the placement of sites with significant historic value on the National Register of Historic Places. The Act requires no permits or certifications. However, if a Federal activity could impact a historic property, consultation with the Advisory Council on Historic Preservation must take place and will usually lead to a Memorandum of Agreement with stipulations that the agency must follow to minimize adverse impacts. Coordination with the State Historic Preservation Officer ensures the proper identification of potentially significant resources and the implementation of appropriate mitigation actions.

5.13.2 STATUS

A February 1981 archeological and historic survey of the Steel Creek terrace and floodplain system revealed five sites that were nominated to the National Register of Historic Places (i.e., important and worthy of preservation from adverse effects). DOE submitted the survey report to the South Carolina State Historic Preservation Officer, which conducted a site visit in March 1982 and subsequently concurred with DOE that the proposed L-Reactor restart would not affect the sites. DOE developed and implemented a monitoring plan to protect the sites,

and initiated reconsultation with the State Historic Preservation Officer on the mitigation of new sites of historic significance that L-Lake might inundate or that additional surveys of the lake might discover (DOE 1984).

DOE does not expect activities performed under the alternatives in this EIS to cause impacts to cultural resources because initial construction in the affected areas would have destroyed important resources. DOE would mitigate impacts to cultural resources that might be discovered through avoidance or data recovery.