CHAPTER 5
REGULATIONS, PERMITS, AND CONSULTATIONS

5.0 REGULATIONS, PERMITS, AND CONSULTATIONS

Surplus plutonium disposition activities must be performed in a manner that ensures the protection of public health, safety, and the environment through compliance with all applicable Federal, state, and local laws, regulations, and other requirements. Laws, regulations, Executive Orders, and U.S. Department of Energy Orders are described in Section 5.2. Other regulatory activities, environmental permits, and consultations are described in Sections 5.3, 5.4, and 5.5, respectively.

5.1 Overview

This chapter identifies the statutory requirements and environmental standards that are potentially applicable to the surplus plutonium disposition activities addressed in this *Final Surplus Plutonium Disposition Supplemental Environmental Impact Statement (SPD Supplemental EIS)*. These requirements and standards originate from a number of sources. Federal and state statutes define broad environmental and safety programs and provide authorization to agencies to carry out the mandated programs. More-specific requirements are established through regulations, at both the Federal and state level. Federal agencies, such as the U.S. Department of Energy (DOE), and the Tennessee Valley Authority (TVA), receive additional direction in complying with executive policy through Executive Orders. In addition, DOE has established regulations and management directives (DOE Orders) that are applicable to DOE activities, facilities, and contractors. Regulations often include requirements for permits and consultations, which provide an in-depth, facility-specific review of the activities proposed.

5.2 Laws, Regulations, Executive Orders, and U.S. Department of Energy Orders

The complexity of managing nuclear materials is reflected in the regulatory scheme governing these activities. Multiple Federal agencies regulate specific aspects of nuclear materials management for surplus plutonium disposition. The Mixed Oxide (MOX) Fuel Fabrication Facility (MFFF) is subject to licensing by the U.S. Nuclear Regulatory Commission (NRC) in accordance with the NRC regulations at 10 *Code of Federal Regulations* (CFR) Part 70, and NRC will regulate MFFF operations and some aspects of its nuclear materials storage, transportation, and disposal. DOE imposes its own standards on many aspects of nuclear materials management through regulations, orders and contract requirements related to facility design and operation, radioactive waste management, and health and safety, including radiation protection. The U.S. Department of Transportation (DOT) regulates commercial transportation of hazardous and radioactive materials.

The U.S. Environmental Protection Agency (EPA) regulates many aspects of surplus plutonium disposition activities, including air emissions, hazardous waste management, water quality, and emergency management. In many cases, EPA has delegated all or part of its environmental protection authorities to states, including South Carolina and New Mexico, but retains oversight authority. In this delegated role, the South Carolina Department of Health and Environmental Control (SCDHEC) and New Mexico Environment Department (NMED) regulate air emissions; discharges to surface water and groundwater; drinking water quality; and hazardous and nonhazardous waste treatment, storage, and disposal.

The National Defense Authorization Act for Fiscal Year 2002 (50 *United States Code* [U.S.C.] 2567) requires that, prior to beginning the ongoing consolidation of surplus plutonium to the Savannah River Site (SRS), DOE submit to Congress a plan identifying a disposition path for plutonium that would have been disposed of by the proposed Plutonium Immobilization Plant that DOE decided not to build. The plan was submitted to Congress on September 5, 2007 (DOE 2007c).

Section 3137 of the National Defense Authorization Act for Fiscal Year 2001 (Public Law 106-398), as amended by Section 3115 of the National Defense Authorization Act for Fiscal Year 2004

(Public Law 108-136), states "[t]he Secretary of Energy shall continue operations and maintain a high state of readiness at the H-Canyon facility at the Savannah River Site, Aiken, South Carolina, and shall provide technical staff necessary to operate and so maintain such facility."

Table 5–1 lists environmental laws, regulations, and other requirements that are potentially applicable to DOE's proposed action.

Table 5–1 Environmental Laws, Regulations, Executive Orders, and U.S. Department of Energy Orders [a]

Law, Regulation, Executive Order, DOE Order	*Description*
Environmental Quality	
National Environmental Policy Act of 1969 42 U.S.C. 4321 et seq.	Act establishes a national policy of environmental protection and directs all Federal agencies to utilize a systematic, interdisciplinary approach incorporating environmental values into decisionmaking.
Farmland Protection Policy Act of 1981, as amended 7 U.S.C. 4201 et seq. 7 CFR Part 658	Act requires the avoidance of any adverse effects on prime and unique farmlands. Its purpose is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. Would apply if the proposed plutonium disposition facilities were being built on or were projected to have an adverse impact on such farmlands.
Council on Environmental Quality, *Regulations for Implementing NEPA* 40 CFR Parts 1500–1508	Regulations defining actions that Federal agencies must take to comply with NEPA, including the development of environmental impact statements.
DOE National Environmental Policy Act Implementing Procedures 10 CFR Part 1021	DOE regulations for implementing the procedural provisions of NEPA.
Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions 10 CFR Part 51	NRC procedures for implementing the National Environmental Policy Act of 1969, as amended. Contains environmental protection regulations applicable to NRC's domestic licensing and related regulatory functions. Pertains to licensing of MFFF.
TVA Instruction IX Environmental Review - Procedures for Compliance with the National Environmental Policy Act	TVA procedures for implementing the procedural provisions of NEPA.
Executive Order 11514, *Protection and Enhancement of Environmental Quality* (03/05/70)	Executive Order requires Federal agencies to direct their policies, plans, and programs so as to meet national environmental goals established by NEPA.
Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (02/11/94)	Executive Order requires each Federal agency to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.
Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (04/21/97)	Executive Order requires each Federal agency to identify and assess environmental health risks and safety risks that may disproportionately affect children and ensure that its policies, programs, activities, and standards address these disproportionate risks.
Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance* (10/8/09)	Executive Order requires Federal agencies to increase their energy efficiency; measure, report, and decrease their greenhouse gas emissions; preserve and protect water resources; and construct, maintain, and operate high-performance sustainable buildings. Could impact construction methods and operation of proposed plutonium disposition facilities.
DOE Order 231.1B, *Environment, Safety, and Health Reporting* (06/27/11; Change 1, 11/28/12)	Requirements to ensure timely collection, reporting, analysis, and dissemination of information on environment, safety, and health issues as required by law or regulations or as needed by DOE.

Law, Regulation, Executive Order, DOE Order	***Description***
DOE Order 436.1, *Departmental Sustainability* (05/02/11)	Order defines requirements and responsibilities for managing sustainability within DOE.
DOE Policy 450.4A, *Integrated Safety Management Policy* (04/25/11)	Sets forth the framework for identifying, implementing, and complying with environmental safety and health requirements so that work is performed in the DOE complex in a manner that ensures adequate protection of workers, the public, and the environment.
DOE Order 451.1B, *National Environmental Policy Act Compliance Program* (10/26/00; Change 3, 01/19/12)	Requirements and responsibilities for applying NEPA and implementing regulations.
Environmental Audit Privilege and Voluntary Disclosure SC Code §48- 57-10, et. seq.	Environmental audit privilege is established to promote voluntary internal environmental audits of compliance programs.
Air Quality and Noise	
Clean Air Act of 1970, as amended 42 U.S.C. 7401 et seq.	Comprehensive legislation to protect and enhance the nation's air quality. Requires Federal agencies to comply with air quality regulations. EPA has delegated authority for most Clean Air Act provisions to SCDHEC for activities in South Carolina and NMED for activities in New Mexico, which would issue permits or modify permits as needed for the proposed plutonium disposition activities at SRS or LANL, as appropriate.
Title V Permitting 40 CFR Part 70 SC Regulation 61-62.70 20.2.70 NMAC 20.2.72 NMAC 20.2.74 NMAC	Permitting program for most large sources of air pollution. Defines minimum permit requirements, including air pollution control, reporting, monitoring, and compliance certification requirements. Would pertain to proposed plutonium disposition activities.
Ambient Air Quality Standards/State Implementation Plans 40 CFR Parts 51 and 58 SC Regulation 61-62.5, Standard 2 20.2.3 NMAC	Standards are divided into primary and secondary categories for the following pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, sodium dioxide, and particulate matter. Proposed plutonium disposition activities would add to site emissions, which are then compared to the standards.
New Source Performance Standards 40 CFR Part 60 SC Regulation 61-62.60 20.2.77 NMAC	Industry- and process-specific standards that may apply to any new, modified, or reconstructed sources of air pollution.
National Emission Standards for Hazardous Air Pollutants and for Source Categories 40 CFR Parts 61 and 63 SC Regulation 61-62.61 and 62.63 20.11.64 NMAC	Standards for air emissions, including hazardous air pollutants, such as radionuclides, benzene, dioxins, mercury, and asbestos. Maximum achievable control technologies are identified by industry or process. Proposed plutonium disposition activities would add to site emissions, which are then compared to the standards.
Prevention of Significant Deterioration 40 CFR 51.166 SC Regulation 61-62.5, Standard 7 20.2.74 NMAC	Program designed to maintain air quality in areas already in compliance with ambient air quality standards (attainment areas). Requires comprehensive preconstruction review and the application of best-available control technology to major stationary sources.
South Carolina Pollution Control Act (1972) SC Code §48-1-10 et seq. SC Regulation 61-62	State statute defining regulatory authority for air quality permitting and regulation, pertains to activities at SRS that are permitted by the state.
New Mexico Air Quality Control Act NMSA 1978 § 74.2 (2002) 20.2 NMAC (revised 10/31/02)	Establishes air quality standards and requires a permit prior to construction or modification of an air contaminant source. Also requires an operating permit for major producers of air pollutants and imposes emission standards for hazardous air pollutants.
Noise Control Act of 1972 42 U.S.C. 4901 et seq. as amended by the Quiet Communities Act of 1978	Statute to protect the health and safety of the public from excessive noise levels. Requires Federal agencies to comply with Federal, state, and local noise abatement requirements. Could pertain to the proposed plutonium disposition activities if the noise were projected to be excessive.

Law, Regulation, Executive Order, DOE Order	*Description*
Water Resources	
Federal Water Pollution Control Act (Clean Water Act) 33 U.S.C. 1251 et seq.	National program to restore and maintain the chemical, physical, and biological integrity of navigable waters by prohibiting the discharge of toxic pollutants in significant amounts. Requires Federal agencies to comply with Federal, state, and local water quality requirements. EPA has delegated primary enforcement authority for the Clean Water Act to SCDHEC and NMED (except for NPDES permits in New Mexico).
National Pollutant Discharge Elimination System 40 CFR Part 122 SC Regulation 61-9.122	Permit program for point-source discharges of pollutants to waters of the United States. Permits establish effluent limits to ensure that water quality standards are met. Program pertains to permits issued at SRS.
Dredge and Fill Permits 40 CFR Part 230 33 CFR Part 320 – 330 SC Regulation 19-450	Permit program for dredging, filling, and construction activities in navigable waters and wetlands.
State Water Quality Certification 33 U.S.C. 1251 et seq. SC Regulation 61-101	State certification process provides opportunity for a state to review and certify a Federal permit or license for an activity that results in discharges to navigable waters.
South Carolina Pollution Control Act SC Code § 48-1-10 et seq.	State statute establishing wide-ranging water protection program, including some provisions not addressed by the Clean Water Act (for example, permit requirements for construction of wastewater treatment plants). SCDHEC may need to issue or modify permits related to the proposed plutonium disposition activities at SRS.
New Mexico Water Quality Act NMSA Chapter 74, Article 6, "Water Quality," and implementing regulations found in NMAC Title 20, "Environmental Protection," Chapter 6, "Water Quality" (revised 02/16/06)	Establishes water quality standards and requires a permit prior to the construction or modification of a water discharge source.
Safe Drinking Water Act of 1974 42 U.S.C. 300f et seq.	National program to ensure quality of drinking water in public water systems. EPA has delegated primary enforcement authority to SCDHEC and NMED.
South Carolina Safe Drinking Water Act SC Code § 44-55-10 et seq.	State program regulating public water systems.
New Mexico Environmental Improvement Act NMSA 1978 § 74-1	State program to ensure compliance with the Federal Safe Drinking Water Act.
Primary Drinking Water Standards 40 CFR Part 141 SC Regulation 61-58 20.7.10 NMAC	Standards for maximum contaminant levels for pollutants in drinking water. Also used as groundwater protection standards.
Oil Pollution Prevention 40 CFR Part 112	Program to prevent the discharge of oil into navigable waters. Facility owner/operator is required to prepare a Spill Prevention, Control, and Countermeasure Plan. Such plans would need to be developed for the proposed plutonium disposition facilities.
South Carolina Groundwater Use and Reporting Act of 2000, SC Code § 49-5-10 to § 49-5-150	Establishes state standards to restrict groundwater use.
Surface Water Withdrawal, Permitting Use, and Report Act of 2010 SC Code § 49-4-10 to § 49-4-180	Mandates that any person withdrawing groundwater or surface water for any purpose in excess of 3 million gallons (11 million liters) during any one month from a single or multiple wells or intakes under common ownership and within one-mile (1.6-kilometer) of an existing or proposed well or intake must register with, annually report to, and be permitted by South Carolina Department of Health and Environmental Control
New Mexico Groundwater Protection Act NMSA Chapter 74, Article 6B, "Groundwater Protection."	Establishes state standards for protection of groundwater from leaking underground storage tanks.

Law, Regulation, Executive Order, DOE Order	***Description***
DOE Compliance with Floodplain and Wetlands Environmental Review Requirements 10 CFR Part 1022	DOE regulation establishing policy and procedures for implementing responsibilities for protection of floodplains and wetlands.
Procedures for Decisionmaking (Permitting) 40 CFR Part 124	This part contains EPA procedures for issuing, modifying, revoking and reissuing, or terminating all RCRA, PSD, and NPDES permits.
Executive Order 11990, *Protection of Wetlands* (05/24/77)	Executive Order directs Federal agencies to avoid construction in wetlands and to mitigate impacts of any use of wetlands. Would apply if any of the proposed plutonium disposition facilities were built in areas that impacted wetlands.
Executive Order 11988, *Floodplain Management* (05/29/77)	Executive Order directs Federal agencies to consider the effects of flood hazards and avoid impacts on floodplains, if practicable. Would apply if any of the proposed plutonium disposition facilities were built in areas that included floodplains.
Ecological Resources	
Endangered Species Act of 1973 16 U.S.C. 1531 et seq.	Program for the conservation of threatened and endangered species and their ecosystems. Requires Federal agencies to assess whether actions could adversely affect threatened or endangered species or their habitat.
South Carolina Nongame and Endangered Species Conservation Act SC Code § 50-15-10-90 SC Regulation 123-150	State statute and regulation protecting state-listed threatened and endangered species. Could pertain to the proposed plutonium disposition activities if they were found to potentially impact state-designated endangered species or species of concern.
New Mexico Endangered Plant Species Act NMSA 1978 § 75-6-1	Requires coordination with the State of New Mexico.
Threatened and Endangered Species of New Mexico 19.33.6 NMAC (revised 12/29/06)	Establishes the list of state-designated threatened and endangered species.
New Mexico Endangered Plant Species 19.21.2 NMAC (revised 11/30/06)	Establishes plant species list and rules for collection. Could pertain to the proposed plutonium disposition activities if they were found to potentially impact state-designated endangered species or species of concern.
New Mexico Wildlife Conservation Act NMSA 1978 § 17-2-3	Requires a permit and coordination if a project may disturb habitat or otherwise affect threatened or endangered species.
Migratory Bird Treaty Act of 1918 16 U.S.C. 703 et seq.	Act implements a number of international treaties related to the protection of migratory birds. Could pertain to the proposed plutonium disposition activities if they were found to potentially impact migrating bird populations.
Bald and Golden Eagle Protection Act 16 U.S.C. 668-668d	Act imposes criminal and civil penalties for the possession or taking of bald or golden eagles. Could pertain to the proposed plutonium disposition activities if they were found to potentially impact eagle nesting areas.
Hawks, vultures and owls; taking, possessing, trapping, destroying, maiming or selling prohibited; exception by permit; penalty NMSA 1978 § 17-2-14	Makes it unlawful to take, attempt to take, possess, trap, ensnare, injure, maim, or destroy any of the species of hawks, owls, and vultures.
Fish and Wildlife Coordination Act of 1934 16 U.S.C. 661 et seq.	Act requires involvement of state and Federal wildlife agencies to evaluate impacts of proposed projects that may result in the construction, modification, or control of bodies of water in excess of 10 acres in surface area.
Anadromous Fish Conservation Act of 1965 16 U.S.C. 757	Act authorizes the Secretary of the Interior to enter into agreements with states and other non-Federal entities to protect and enhance resources of anadromous fish (fish that return to rivers from the sea to spawn).

Law, Regulation, Executive Order, DOE Order	***Description***
Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds* (01/10/01)	Executive Order requires each Federal agency whose actions have or are likely to have a measurable negative effect on migratory birds to enter into a memorandum of understanding with the U.S. Fish and Wildlife Service defining protective measures.
Executive Order 13112, *Invasive Species* (2/3/99)	Executive Order directs each Federal agency whose actions may affect the status of invasive species to take action to prevent the introduction of invasive species and promote restoration of native species and natural habitat.
Cultural Resources	
National Historic Preservation Act of 1966 16 U.S.C. 470 et seq.	Program protecting historic properties. Act requires consultation with the State Historic Preservation Officer prior to any action that could affect historic resources. This consultation is being accomplished for the proposed plutonium disposition activities, as needed.
Protection of Historic Properties 36 CFR Part 800	Procedures for Federal agencies to meet National Historic Preservation Act obligations.
South Carolina Institute of Archaeology and Anthropology SC Code § 60-13-210	Establishes and recommends methods and standards for archaeological and anthropological research on behalf of the state, in use at SRS.
New Mexico Cultural Properties Act NMSA 18-6-1 through 18-6-23	Establishes the State Historic Preservation Office and requirements to prepare an archaeological and historic survey and consult with the State Historic Preservation Officer.
Archaeological Resources Protection Act of 1979 16 U.S.C. 470aa-mm	Act protects archaeological resources and sites on Federal and American Indian lands. Could apply if such resources were to be disturbed by activities associated with the proposed plutonium disposition facilities.
Archaeological and Historic Preservation Act of 1974, as amended 16 U.S.C. 469 et seq.	Act requires the preservation of historical and archeological data (including relics and specimens) that might otherwise be irreparably lost or destroyed as the result of Federal construction projects, such as those proposed for plutonium disposition at SRS.
American Antiquities Act of 1906 16 U.S.C. 431 et seq.	Act protects prehistoric American Indian ruins and artifacts on Federal lands and authorizes the President to designate historic areas as national monuments.
Historic Sites Act of 1935 16 U.S.C. 461	Act provides for the preservation of historic American sites, buildings, objects, and antiquities of national significance, and serves other purposes.
Manhattan Project National Historical Park Study Act Public Law 108-340	Act directs the Secretary of the Interior to conduct a study on the preservation and interpretation of the historic sites of the Manhattan Project for potential inclusion in the National Park System.
Executive Order 11593, *Protection and Enhancement of the Cultural Environment* (05/13/71)	Executive Order requires preservation of historic and archaeological information prior to construction activities such as those associated with the proposed plutonium disposition facilities.
Executive Order 13287, *Preserve America* (03/03/03)	Executive Order promotes the protection of Federal historic properties and cooperation among governmental and private entities in preserving cultural heritage.
Curation of Federally-Owned and Administered Archeological Collections 36 CFR Part 79	Establishes definitions, standards, procedures and guidelines to be followed by Federal agencies to preserve collections of prehistoric and historic material remains, and associated records, recovered under the authority of the American Antiquities Act (16 U.S.C. 431-433), the Reservoir Salvage Act (16 U.S.C. 469–469c), Section 110 of the National Historic Preservation Act (16 U.S.C. 470h-2), or the Archaeological Resources Protection Act (16 U.S.C. 470aa-mm).

Law, Regulation, Executive Order, DOE Order	***Description***
National Register of Historic Places 36 CFR Part 60	These regulations set forth the procedural requirements for listing properties on the National Register of Historic Places.
Determinations of Eligibility for Inclusion in the National Register of Historic Places 36 CFR Part 63	Regulation identifies the process for evaluating the eligibility of properties for inclusion in the National Register of Historic Places.
Protection of Archeological Resources 43 CFR Part 7	Implements provisions of the Archaeological Resources Protection Act of 1979, as amended (16 U.S.C. 470aa-mm) by establishing the uniform definitions, standards, and procedures to be followed by all Federal land managers in providing protection for archaeological resources located on public lands and American Indian lands of the United States.
American Indian Religious Freedom Act of 1978 42 U.S.C. 1996	Act protects and preserves for American Indians their inherent right of freedom to believe, express, and exercise their traditional religions, including access to sites.
Native American Graves Protection and Repatriation Act of 1990 25 U.S.C. 3001 et seq. 43 CFR Part 10	Act protects American Indian burial remains and funerary objects found on Federal or tribal land. Could apply if such resources were to be disturbed by activities associated with the proposed plutonium disposition facilities.
Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (11/06/00)	Executive Order requires consultation and coordination with American Indian tribes prior to taking actions that affect federally recognized tribal governments.
Executive Order 13007, *Indian Sacred Sites* (05/24/96)	Executive Order requires Federal agencies to accommodate, to the extent practicable, access to American Indian sacred sites and avoid adverse impacts on such sites.
Executive Order 13195, *Trails for America in the 21st Century* (01/18/01)	Executive Order requires Federal agencies to—to the extent permitted by law and where practicable, and in cooperation with tribes, states, local governments, and interested citizen groups—protect, connect, promote, and assist trails of all types throughout the United States.
DOE Policy 141.1, *Department of Energy Management of Cultural Resources* (5/2/01)	Policy ensures that DOE programs and field elements integrate cultural resources management into their mission and activities.
DOE Order 144.1, *Department of Energy American Indian Tribal Government Interactions and Policy* (01/16/09; Change 1, 11/06/09)	DOE policy committing to consultation with American Indian tribal governments to solicit input on DOE issues.
Accords with the Pueblos of Cochiti, Jemez, Santa Clara, and San Ildefonso and DOE (restated 2005 and 2006)	Set forth the specifications for maintaining a government-to-government relationship between DOE and each of the four pueblos closest to LANL.
Waste Management and Pollution Prevention	
Solid Waste Disposal Act of 1965 as amended by the Resource Conservation and Recovery Act of 1976 and the Hazardous and Solid Waste Amendments of 1984 42 U.S.C. 6901 et seq.	Act establishes comprehensive management system for hazardous wastes, addressing generation, transportation, storage, treatment, and disposal. Section 3006 of RCRA (42 U.S.C. 6926) allows states to establish and administer permit programs with EPA approval. SCDHEC administers the RCRA program in South Carolina and issues SRS's RCRA operating permit. The New Mexico Hazardous Waste Bureau administers the RCRA program in New Mexico.
New Mexico Solid Waste Act NMSA 1978 § 74-9-1 through 43 20.9 NMAC (revised November 27, 2001)	Act requires permit prior to construction or modification of a solid waste disposal facility.
Hazardous Waste Management Regulations 40 CFR Parts 260–273 SC Regulation 61-79 (revised May 28, 2010) 20.4.1 NMAC	Regulations governing the generation, transportation, treatment, storage, and disposal of hazardous waste.
South Carolina Hazardous Waste Management Act SC Code §44-56-10-840	State statute regulating the generation, transportation, treatment, storage, and disposal of hazardous waste.
New Mexico Hazardous Waste Act NMSA 1978 § 74-4	Contains requirements for an application for a permit pursuant to the New Mexico Hazardous Waste Act.

Law, Regulation, Executive Order, DOE Order	***Description***
New Mexico Hazardous Waste Management 20.4.1.500 NMAC	Incorporates the requirements of the regulations of the EPA set forth in 40 CFR Part 264 except as otherwise provided in the section.
Federal Facility Compliance Act of 1992 42 U.S.C. 6961 et seq.	Act waives sovereign immunity for Federal facilities under RCRA and requires DOE to conduct an inventory and develop a treatment plan for mixed wastes.
Federal Facility Compliance Act Consent Order October 1995 (issued to both DOE and LANL)	Order used by NMED to enforce the Federal Facility Compliance Act. It requires compliance with the approved LANL Site Treatment Plan, which documents the development and use of treatment capacities and technologies, as well as use of offsite facilities for treating mixed radioactive waste stored at LANL.
Compliance Order on Consent, March 1, 2005 [a]	Order was entered into by the State of New Mexico, DOE, and the University of California. Order requires site investigations of known or potentially contaminated sites at LANL and cleanup in accordance with a specified process and schedule.
Byproduct Material 10 CFR Part 962	Regulation defines byproduct material as identified in the Atomic Energy Act, and clarifies that the hazardous portion of mixed radioactive waste is subject to RCRA.
Comprehensive Environmental Response, Compensation, and Liability Act of 1980 42 U.S.C. 9601 et seq.	Act provides broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment.
Toxic Substances Control Act of 1976 15 U.S.C. 2601 et seq.	Act gives EPA the authority to screen and regulate new and existing chemicals to protect the public from the risks of exposure to chemicals. Specific provisions address polychlorinated biphenyls, asbestos, radon, and lead-based paint.
Pollution Prevention Act of 1990 42 U.S.C. 13101 et seq.	Act establishes requirement to prevent pollution by emphasizing source reduction and recycling. EPA is charged with developing measures for source reduction and evaluating regulations to promote source reduction.
Nuclear Waste Policy Act of 1982 42 U.S.C. 10101 et seq.	Act establishes national program for the disposal of high-level radioactive waste and used nuclear fuel.
Waste Isolation Pilot Plant Land Withdrawal Act of 1992 Public Law 102-579, as amended by Public Law 104-201	Act establishes national program for the disposal of TRU waste at WIPP in New Mexico. Prior to sending any TRU waste from SRS to WIPP, DOE must determine whether the waste meets all statutory and regulatory requirements for disposal at WIPP.
DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980 Public Law 96-164, 93 Stat. 1259	Act includes information related to the authorization basis of WIPP for the disposal of contact-handled and remote-handled TRU waste.
Low-Level Radioactive Waste Policy Act of 1980 42 U.S.C. 2021 et seq.	Act specifies that the Federal Government is responsible for the disposal of certain low-level radioactive waste including low-level radioactive waste owned or generated by the DOE, and that states are responsible for the disposal of commercially generated low-level radioactive waste. Pertains to waste that could be generated by the proposed plutonium disposition activities.
Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level, and Transuranic Radioactive Wastes 40 CFR Part 191	Applies to radiation doses received by members of the public as a result of the management (except for transportation) and storage of used nuclear fuel or TRU or high-level radioactive wastes. Pertains to storage of TRU waste at WIPP.
Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations 40 CFR Part 194	This part specifies criteria for the certification or any re-certification, or subsequent actions relating to the terms or conditions of certification of WIPP's compliance with the disposal regulations found at 40 CFR Part 191 and pursuant to Section 8(d)(1) and Section 8(f) of the Waste Isolation Pilot Plant Land Withdrawal Act.

Law, Regulation, Executive Order, DOE Order	***Description***
Executive Order 12580, *Superfund Implementation* (01/23/87)	Executive Order delegates responsibility to a Federal agency for hazardous substance response activities when the release is from, or the sole source of the release is located in, any facility or vessel under the control of that agency.
Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (01/24/07)	Executive Order promoting environmentally and economically efficient and continuously improving manner for all environment-, energy-, and transportation-related activities of executive agencies. Requires agencies to reduce greenhouse gas emissions and water consumption. Could impact how the proposed plutonium disposition facilities would be constructed and operated.
DOE Order 435.1, *Radioactive Waste Management* (07/09/99; Change 1, 08/28/01)	Requirements to ensure that all DOE radioactive waste is managed in a manner that is protective of worker and public health and safety and the environment.
Management of Nuclear Materials	
Atomic Energy Act of 1954, as amended 42 U.S.C. 2011 et seq.	Act provides fundamental jurisdictional authority to DOE and NRC over governmental and commercial use, respectively, of nuclear materials. Authorizes DOE to establish standards to protect health or minimize dangers to life or property for activities under DOE jurisdiction, such as the proposed plutonium disposition activities at SRS. DOE has issued a series of orders to establish a system of standards and requirements to ensure safe operation of DOE facilities.
Standards for Protection Against Radiation 10 CFR Part 20	Standards for protection against ionizing radiation from NRC-licensed activities, covering both workers and the public.
Rules of General Applicability to Domestic Licensing of Byproduct Material 10 CFR Part 30	Rules governing domestic licensing of byproduct material under the Atomic Energy Act of 1954.
Domestic Licensing of Source Material 10 CFR Part 40	Procedures and criteria for the issuance of licenses to receive title to, deliver, receive, possess, use, or transfer source materials.
Domestic Licensing of Production and Utilization Facilities 10 CFR Part 50	Procedures and criteria provide for the licensing of production and utilization facilities. Nuclear reactors are licensed under this regulation.
Licenses, Certifications, and Approvals For Nuclear Power Plants 10 CFR Part 52	Procedures for issuance of early site permits, standard design certifications, combined licenses, standard design approvals, and manufacturing licenses for nuclear power facilities licensed under Section 103 of the Atomic Energy Act of 1954, as amended (68 Stat. 919), and Title II of the Energy Reorganization Act of 1974 (88 Stat. 1242).
Domestic Licensing of Special Nuclear Material 10 CFR Part 70	Procedures and criteria for the issuance of licenses to receive title to, own, acquire, deliver, receive, possess, use, or transfer special nuclear material, such as plutonium. MFFF will be licensed under this regulation.
Strom Thurmond National Defense Authorization Act for Fiscal Year 1999 Public Law 105–261, 112 Stat. 2247	Act amends the Energy Reorganization Act (42 U.S.C. 5842) to provide NRC with regulatory and licensing authority over MFFF.
Price-Anderson Amendments Act 42 U.S.C. 2210	Act allows DOE to indemnify its contractors if the contract involves the risk of public liability from a nuclear incident. Applies to operation of the proposed plutonium disposition activities at SRS and to nuclear reactor operators.
Energy Policy Act of 2005 Public Law 109-58	Among other provisions, this act extended the Price-Anderson Nuclear Industries Indemnity Act through 2025.

Law, Regulation, Executive Order, DOE Order	***Description***
National Defense Authorization Act for Fiscal Year 2002 Public Law 107-107, 50 U.S.C. 2567	Establishes requirements for consultation regarding any decisions or plans of DOE related to the disposition of surplus defense plutonium and defense plutonium materials located at the Savannah River Site, Aiken, South Carolina.
Procedural Rules for DOE Nuclear Facilities 10 CFR Part 820	Procedures to govern the conduct of persons involved in DOE nuclear activities and, in particular, to achieve compliance with DOE nuclear safety requirements.
Nuclear Safety Management 10 CFR Part 830	Requirements governing the conduct of DOE contractors, DOE personnel, and other persons conducting activities (including providing items and services) that affect, or may affect, the safety of DOE nuclear facilities, such as the proposed plutonium disposition facilities.
DOE Order 410.2, *Management of Nuclear Materials* (08/17/09)	Requirements and procedures for the lifecycle management of nuclear materials within DOE.
DOE Order 425.1D, *Verification of Readiness to Start Up or Restart Nuclear Facilities* (04/16/10; Change 1, 04/02/13)	Requirements for DOE/NNSA for verifying readiness for startup of new nuclear facilities and for the restart of existing nuclear facilities that have been shut down.
DOE Order 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities* (04/21/10)	Selection, qualification, and training requirements for management and operating contractor personnel involved in the operation, maintenance, and technical support of DOE/NNSA reactors and nonreactor nuclear facilities.
DOE Order 433.1B, *Maintenance Management Program for DOE Nuclear Facilities* (04/21/10; Change 1, 03/12/13)	Safety management program required by 10 CFR Part 830 for maintenance and the reliable performance of structures, systems, and components that are part of the safety basis at Hazard Category 1, 2, and 3 DOE nuclear facilities.
DOE Order 458.1, *Radiation Protection of the Public and the Environment* (02/11/11; Change 3, 01/15/13)	Establishes requirements to protect the public and the environment against undue risk from radiation associated with radiological activities conducted under the control of DOE pursuant to the Atomic Energy Act of 1954, as amended.
DOE Policy 470.1A, *Safeguards and Security Program* (12/29/10)	Ensures that DOE efficiently and effectively meets all its obligations to protect special nuclear material, other nuclear materials, classified matter, sensitive information, government property, and the safety and security of employees, contractors, and the general public.
DOE Order 470.4B, *Safeguards and Security Program* (07/26/11; Change 1, 02/15/13)	Identifies roles and responsibilities for the DOE Safeguards and Security Program.
Worker Safety and Health	
Occupational Safety and Health Act of 1970 29 U.S.C. 651 et seq.	Act ensures worker and workplace safety, including a workplace free from recognized hazards, such as exposure to toxic chemicals, excessive noise levels, and mechanical dangers.
Occupational Safety and Health Standards 29 CFR Part 1910 29 CFR Part 1926	Standards to protect workers from hazards encountered in the workplace (Part 1910) and construction site (Part 1926).
Worker Safety and Health Program 10 CFR Part 851	DOE's health and safety program to control and monitor hazardous materials to ensure that workers are not being exposed to health hazards, such as toxic chemicals, excessive noise, and ergonomic stressors.
Occupational Radiation Protection 10 CFR Part 835	Radiation protection standards, limits, and program requirements for protecting workers from ionizing radiation resulting from DOE activities.
New Mexico Radiation Protection Act NMSA 1978 § 74-3 20.3 NMAC (revised April 30, 2009)	Establishes state requirements for worker protection.
DOE Policy 420.1, *Department of Energy Nuclear Safety Policy* (02/08/11)	Documents DOE's nuclear safety policy.

Law, Regulation, Executive Order, DOE Order	***Description***
DOE Order 420.1C, *Facility Safety* (12/13/12)	Establishes facility and programmatic safety requirements for DOE facilities, including nuclear and explosives safety design criteria, fire protection, criticality safety, natural phenomena hazards mitigation, and the System Engineer Program.
DOE Order 430.1B, *Real Property Asset Management* (9/24/03; Change 2, 04/25/11)	Establish a corporate, holistic, and performance-based approach to real property life-cycle asset management that links real property asset planning, programming, budgeting, and evaluation to program mission projections and performance outcomes. To accomplish the objective, this Order identifies requirements and establishes reporting mechanisms and responsibilities for real property asset management.
DOE Order 440.1B, *Worker Protection Program for DOE (including the National Nuclear Security Administration) Federal Employees* (05/17/07; Change 1, 03/14/13)	Program to protect workers and reduce accidents and losses; adopts occupational safety and health standards.
Transportation	
Hazardous Materials Transportation Act of 1975 49 U.S.C. 5101 et seq.	Act provides DOT with authority to protect against the risks associated with transportation of hazardous materials, including radioactive materials, in commerce.
Hazardous Materials Regulations 49 CFR Parts 171–180	DOT requirements for classification, packaging, hazard communication, incident reporting, handling, and transportation of hazardous materials.
Packaging and Transportation of Radioactive Material 10 CFR Part 71	NRC requirements for packaging, preparation for shipment, and transportation of licensed materials, including reactor fuel.
DOE Order 460.1C, *Packaging and Transportation Safety* (05/14/10)	Safety requirements for the proper packaging and transportation of DOE/NNSA offsite shipments and onsite transfers of radioactive and other hazardous materials.
DOE Order 460.2A, *Departmental Materials Transportation and Packaging Management* (12/22/04)	Requirements and responsibilities for management of DOE/NNSA materials transportation and packaging to ensure the safe, secure, and efficient packaging and transportation of materials, both hazardous and nonhazardous.
DOE Order 461.1B, *Packaging and Transportation for Offsite Shipment of Materials of National Security Interest* (12/16/10)	Makes clear that the packaging and transportation of all offsite shipments of materials of national security interest for DOE, including plutonium and pits, must be conducted in accordance with DOT and NRC regulations that would be applicable to comparable commercial shipments, except where an alternative course of action is identified in the Order.
DOE Order 461.2, *Onsite Packaging and Transfer of Materials of National Security Interest* (11/01/10)	Establishes safety requirements and responsibilities for onsite packaging and transfers of materials of national security interest to ensure safe use of Transportation Safeguards System (TSS), non-TSS Government- and contractor-owned and/or leased resources.
Emergency Management	
Emergency Planning and Community Right-to-Know Act of 1986 42 U.S.C. 11001 et seq. 40 CFR Parts 350–372	Act establishes an emergency response system to help local communities protect public health and safety and the environment from unplanned releases of hazardous materials. SRS and LANL are required to provide the needed information to local and state emergency response planning authorities regarding operations at SRS and LANL. Would need to include the proposed plutonium disposition facilities, once operational or additional activities that may take place in existing facilities, as appropriate.

Law, Regulation, Executive Order, DOE Order	***Description***
New Mexico Hazardous Chemicals Information Act NMSA Chapter 74, Article 4E-1	Implements the hazardous chemical information and toxic release reporting requirements of the Emergency Planning and Community Right-to-Know Act of 1986 (Superfund Amendments and Reauthorization Act Title III) for covered facilities.
Radiological Emergency Planning and Preparedness 44 CFR Part 351	Requires emergency plans for DOE nuclear facilities; additional DOE responsibilities defined for assisting the Federal Emergency Management Agency. Emergency plans for SRS would need to include the proposed plutonium disposition facilities, once operational.
Emergency Planning and Notification 40 CFR Part 355	Emergency planning provisions for facilities in possession of an extremely hazardous substance in a quantity exceeding a specified threshold quantity. Could apply to substances to be used in the proposed plutonium disposition capabilities.
Hazardous Chemical Reporting: Community Right-To-Know 40 CFR Part 370	Establishes reporting requirements for providing the public with important information on the hazardous chemical inventories in their communities.
Toxic Chemical Release Reporting: Community Right-To-Know 40 CFR Part 372	Establishes reporting requirements for providing the public with important information on the release of toxic chemicals in their communities.
Executive Order 12656, *Assignment of Emergency Preparedness Responsibilities* (11/18/88)	Executive Order to have sufficient capabilities to meet defense and civilian needs during national emergency. DOE is the lead agency responsible for energy-related emergency preparedness and for assuring the security of DOE nuclear materials and facilities.
Environmental Oversight and Monitoring Agreement Agreement in Principle Between DOE and the State of New Mexico, November 2000	Provides DOE support for state activities in environmental oversight, monitoring, access, and emergency response.
DOE Order 151.1C, *Comprehensive Emergency Management System* (11/02/05)	Order establishes policy and assigns and describes roles and responsibilities for the DOE Emergency Management System. The Emergency Management System provides the framework for development, coordination, control, and direction of all emergency planning, preparedness, readiness assurance, response, and recovery actions.
DOE Order 153.1, *Departmental Radiological Emergency Response Assets* (06/27/07)	Requirements and responsibilities for the DOE/NNSA national radiological emergency response assets and capabilities and Nuclear Emergency Support Team assets.

CFR = *Code of Federal Regulations*; DOT = U.S. Department of Transportation; EPA = U.S. Environmental Protection Agency; LANL = Los Alamos National Laboratory; MFFF = Mixed Oxide Fuel Fabrication Facility; NEPA = National Environmental Policy Act; NMAC = New Mexico Administrative Code; NMED = New Mexico Environment Department; NMSA = New Mexico Statutes Annotated; NNSA = National Nuclear Security Administration; NPDES = National Pollutant Discharge Elimination System; NRC = U.S. Nuclear Regulatory Commission; PSD = prevention of significant deterioration; RCRA = Resource Conservation and Recovery Act; SCDHEC = South Carolina Department of Health and Environmental Control; SRS = Savannah River Site; TSS = Transportation Safeguards System; TRU = transuranic; TVA = Tennessee Valley Authority; U.S.C. = *United States Code*; WIPP = Waste Isolation Pilot Plant.

[a] The DOE directives included in this table include the latest changes to these directives. Certain contracts may require compliance with prior versions of the directives. Issuance of a new or revised directive does not alleviate the DOE contractors from compliance with their contractual requirements.

Source: NMED 2005.

5.3 Regulatory Activities

The proposed surplus plutonium disposition facilities must be designed, constructed and operated in accordance with a variety of applicable laws and regulations. Below is a brief discussion of the major laws and regulations that would apply to the proposed facilities.

5.3.1 Pit Disassembly and Conversion, and Plutonium Disposition Capabilities

Any new pit disassembly and conversion, and plutonium disposition capabilities would be designed, constructed, and operated in accordance with DOE regulations and requirements, although the capability may, as a matter of policy, take into account any appropriate NRC standards. These capabilities are categorized as nonreactor nuclear facilities. The major DOE design criteria may be found in DOE Order 6430.1A, *General Design Criteria*, and its successive Orders 420.C, *Facility Safety*, and 430.1B, Change 2, *Real Property Asset Management*, which delineate applicable regulatory and industrial codes and standards for both conventional facilities designed to industrial standards and "special facilities," defined as nonreactor nuclear facilities and explosive facilities. The facilities would also comply with all the requirements of 10 CFR Part 830, "Nuclear Safety Management." Part 830 provides both quality assurance requirements and safety basis requirements that would be imposed on both the design and operations of the facility. These would include a Documented Safety Analysis and Technical Safety Requirements that would provide the safety basis and controls for design and operation of the facility. The design of the facilities would be accomplished in stages that allow for adequate review and assurance that all required standards are met. Prior to operation, the facilities would undergo cold and hot startup testing and an operational readiness review in accordance with the requirements of DOE Order 425.1D, Change 1, *Verification of Readiness to Start Up or Restart Nuclear Facilities*. Prior to startup, DOE would prepare a Safety Evaluation Report to evaluate the proposed safety basis and controls for the new facility. Once these conditions of operation were found to be acceptable, startup and operation would require the approval of the Program Secretarial Officer or designee.

While there are a number of areas or buildings that would be designed to conventional codes and standards, plutonium processing and storage areas, and other areas where quantities of plutonium or other special nuclear materials in excess of a minimum quantity could be present, would be required to meet the more stringent requirements for facility integrity and safeguards and security. Applicable regulations include 10 CFR Part 820, "Procedural Rules for DOE Nuclear Facilities." Other applicable regulations and standards are related to worker health and safety and environmental protection, including DOE's radiation protection standard (10 CFR Part 835, "Occupational Radiation Protection") and 10 CFR Part 851, "Worker Safety and Health Program." The industrial safety aspects of chemical risks to workers are regulated by the Occupational Safety and Health Administration and the protection of the environment from chemical risks is regulated by EPA, SCDHEC, and NMED.

5.3.2 MOX Fuel Fabrication Facility

The following discussion is presented for completeness and to provide the reader with an understanding of the regulations that will be followed by MFFF. The decision made by DOE, documented in a January 2000 Record of Decision (ROD), to build MFFF at SRS (65 FR 1608) is not being reconsidered or reevaluated in this *SPD Supplemental EIS*.

MFFF will be licensed by NRC under its regulations in 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material." Construction of MFFF is ongoing pursuant to a construction authorization from NRC, and the National Nuclear Security Administration's (NNSA's) contractor has filed an application for a Part 70 license to possess and use special nuclear material, which is needed to bring plutonium to the MFFF and subsequently operate the facility. Any need to operate the facility beyond the initial operating license would also be subject to the appropriate NRC licensing process. Because the facility would be located at a DOE site and operated by a NNSA contractor, certain DOE requirements affecting site interfaces and infrastructure would also be applicable. In addition, certain Federal or state regulations implementing the Clean Water Act and the Clean Air Act would also be applicable. These regulations are implemented through permits, mainly through SCDHEC. Prior to MFFF operations, an evaluation would

be required to determine whether MFFF emissions and activities require modification to its existing permits and the acquisition of additional air and water permits. A full discussion of MFFF permits is presented in Chapter 6 of NRC's *Environmental Impact Statement on the Construction and Operation of a Mixed Oxide Fuel Fabrication Facility at the Savannah River Site, South Carolina* (NUREG-1767) (NRC 2005a).

Safety and environmental analyses, documented in the MFFF Integrated Safety Analysis, support the license application for MFFF. The NRC regulations also afford opportunities for public hearings before NRC's Atomic Safety Licensing Board prior to issuance of a construction authorization and an operating license.

5.3.3 Commercial Nuclear Power Reactors

Revisions to each reactor's operating license would be required prior to MOX fuel being brought to the reactor sites and loaded into the reactors. Nuclear power reactors undergo a rigorous NRC licensing process under 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," or 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants" beginning before facility construction and operation. This process includes preparation of safety analysis and environmental reports, including the appropriate National Environmental Policy Act (NEPA) reviews under 10 CFR Part 51. The final safety analysis report remains a living document that serves as the licensing basis for the facility and is updated throughout the life of the facility. Public meetings are regularly held in conjunction with facility construction and operation, and opportunities are available for public hearings before NRC's Atomic Safety Licensing Board prior to any license being issued. Once issued, operating licenses may be amended only after evaluation, review, and approval as specified in 10 CFR 50.90. This process requires demonstration that a proposed change does not involve an unreviewed environmental or safety question and provides for public notice and opportunity to comment before issuance of the license amendment. Minor license amendments can be processed fairly expeditiously, but more-involved amendments can require multiple submittals to NRC before NRC is confident that the proposed action would not reduce the margin of safety of the facility. These license amendment requests also provide an opportunity for public hearings. All submittals, except the very limited portion that contain proprietary information, are available to the public.

The regulatory process for requesting reactor license amendments to use MOX fuel would be the same as that for any 10 CFR Part 50 or Part 52 operating license amendment request. This process is initiated by the reactor licensee submitting an operating license amendment request in accordance with 10 CFR 50.90. The license amendment request would need to include a discussion of all potential impacts and changes in reactor operation that could be important to safety or the environment. The need for modifications to site permits would be evaluated by the individual facilities.

5.3.4 Waste Isolation Pilot Plant

In 1992, President G. H. W. Bush signed into law the Waste Isolation Pilot Plant Land Withdrawal Act (Public Law 102-579, 106 Stat. 4777, 1992 [as amended by Public Law 104-201, 1996]), which transferred jurisdiction of the land upon which the Waste Isolation Pilot Plant (WIPP) was built to DOE and included a number of other provisions, including a prohibition on the disposal of high-level radioactive waste and used nuclear fuel there and giving EPA responsibility for determining compliance with Federal radioactive waste disposal regulations. The Waste Isolation Pilot Plant Land Withdrawal Act required EPA to certify WIPP's compliance with the long-term disposal regulations of 40 CFR Part 191, "Environmental Radiation Protection for Management and Disposal of Spent Nuclear Fuel, High-Level, and Transuranic Radioactive Wastes," Subparts B and C, prior to the commencement of disposal operations. To comply with this requirement, DOE submitted the Compliance Certification Application in October 1996 demonstrating compliance with the disposal standards and the criteria for compliance established at 40 CFR Part 194, "Criteria for the Certification and Re-Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations." The Compliance Certification Application demonstrated how the geological, hydrological, physical, chemical,

and environmental characteristics of the site, along with engineered features of the facility, would safely contain radioactive waste for the 10,000-year regulatory time period. After a thorough review of the Compliance Certification Application, EPA certified WIPP's compliance with these regulations in May 1998, paving the way for waste disposal operations, which began on March 26, 1999. The submittal of a recertification application for WIPP is required by Section 8(f) of the Waste Isolation Pilot Plant Land Withdrawal Act to occur not later than 5 years after initial receipt of transuranic (TRU) waste for disposal at the repository, and every 5 years thereafter until the decommissioning of the facility is completed. EPA recertified WIPP's continuing compliance with the disposal regulations on March 29, 2006. DOE's second recertification application was submitted in March 2009 and was approved by EPA on November 18, 2010.

Congress passed the Resource Conservation and Recovery Act (RCRA) in 1976 to establish requirements for the management of hazardous waste. Much of the waste that is disposed of at WIPP is mixed waste, meaning that it contains both hazardous and radioactive components. Therefore, WIPP must comply with RCRA to dispose of mixed waste. Under RCRA, which amended the Solid Waste Disposal Act of 1965, EPA defines and identifies hazardous waste; establishes standards for its transportation, treatment, storage, and disposal; and requires permits for persons engaged in hazardous waste activities. Section 3006 of RCRA allows states to establish and administer these permit programs with EPA approval. NMED is authorized by EPA to implement the hazardous waste program in New Mexico pursuant to the New Mexico Hazardous Waste Act (New Mexico Statutes Annotated [NMSA] 1978 §74-4-1, et seq.). The technical standards for hazardous waste treatment, storage, and disposal facilities in New Mexico are outlined in 20.4.1.500 *New Mexico Administrative Code* (NMAC), which adopts, by reference, 40 CFR Part 264, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities." The hazardous waste management permitting program is administered through 20.4.1.900 NMAC, which adopts, by reference, 40 CFR Part 270, "EPA Administered Permit Programs: The Hazardous Waste Permit Program." NMED issued the initial WIPP Hazardous Waste Facility Permit on October 27, 1999, and it became effective November 26, 1999, for a 10-year term. The Hazardous Waste Facility Permit authorized the WIPP facility to receive, store, and dispose of contact-handled TRU mixed waste. NMED modified the Hazardous Waste Facility Permit on October 16, 2006, to also allow receipt, storage, and disposal of remote-handled TRU mixed waste. NMED issued the first renewal of the WIPP Hazardous Waste Facility Permit on November 30, 2010, to become effective on December 30, 2010.

The authorization basis of WIPP for the disposal of contact-handled and remote-handled TRU waste includes the DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980 (Public Law 96-164, 93 Stat. 1259), and the Waste Isolation Pilot Plant Land Withdrawal Act. DOE has established a set of waste acceptance criteria for WIPP that meets the requirements and associated criteria imposed by these acts and RCRA, as amended, for the TRU waste destined for disposal at WIPP. These criteria are laid out in a DOE report, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (DOE 2013c), which is periodically updated. The latest revision is Revision 7.4, which became effective on April 22, 2013.

Before any TRU waste from the proposed plutonium disposition activities at SRS or Los Alamos National Laboratory (LANL) can be sent to WIPP for disposal, SRS and LANL must prepare or modify Waste Certification Plans, Quality Assurance Plans, Transuranic Waste Authorized Methods for Payload Control, and quality assurance project plans, as applicable. Methods of compliance with each requirement and associated criterion to be implemented at the site shall be described or specifically referenced and shall include procedural and administrative controls consistent with the Carlsbad Field Office Quality Assurance Program Document. TRU waste sites, such as SRS, are required to submit these program documents to the Carlsbad Field Office for review and approval prior to their implementation. SRS would then certify that each TRU waste payload container meets the waste acceptance criteria contained in DOE 2013c.

DOE is considering the possibility of disposing of surplus plutonium and other TRU wastes in the DOE Type B certified Hanford Unirradiated Fuel Packages (HUFPs) and criticality control overpacks (CCOs) at the WIPP facility. A modification to the current Hazardous Waste Facility Permit would be required to handle and emplace waste in the HUFPs, but may not be required to handle and emplace waste in the CCOs. Three classes of permit modifications are identified in the RCRA regulations. Class 1, the least significant of the permit modifications, covers minor modifications, such as the correction of typographical errors, changes to conform to agency guidelines or regulations, or procedural changes. Class 1 modifications may require approval of NMED prior to implementation, or may only require notification to NMED within 7 days after the change has been made. Class 2 modifications are more extensive and significant and apply to changes needed to allow timely response to common variations in the types and quantities of wastes managed, technological advancements, and changes in the regulations. Class 2 modifications require submittal of a permit modification request to NMED, which has up to 120 days to act on the modification request. Class 3 modifications are the most significant and potentially impactful and substantially alter the facility or its operation. Similar to a Class 2 modification, a Class 3 modification requires submittal of a permit modification request to NMED; however, for a Class 3 modification request there is no specified regulatory timeframe by which the agency must issue its decision.

DOE would prepare the required planned change requests and permit modification requests for shipping, receipt, handling, and emplacement of the HUFPs and possibly the CCOs. Based on past WIPP experience regarding requests for the use of new shipping and waste containers, DOE anticipates that these proposed changes would not significantly impact the facility or its operation, would not require an EPA rulemaking, and would be appropriately addressed in Class 2 modifications to WIPP's Hazardous Waste Facility Permit.

The effort to develop and license the CCOs for WIPP disposal is not dependent on a ROD for this *SPD Supplemental EIS*. In June 2013, NRC issued revised certificates of compliance for the Transuranic Package Transporter Model 2 (TRUPACT-II) and HalfPACT packagings that authorized their use for transporting CCOs (NRC 2013). Acceptance of CCOs for disposal at WIPP was subsequently approved. Waste receipt and handling and emplacement of a CCO would be essentially identical to that employed at WIPP currently for typical 55-gallon drums of contact-handled TRU waste.

Conversely, the effort to obtain an NRC license for the HUFPs is dependent on reaching a decision to dispose of them at WIPP. If a decision is made to dispose of TRU waste in the HUFPs at WIPP, the process for identifying required facility modifications, and for preparation, submittal, and agency action on the planned change/modification requests is estimated to take up to 1 year to complete. Waste receipt and handling and emplacement of a HUFP would be significantly different than other contact-handled waste containers. In consideration of safeguards guidelines, special measures may be needed that would result in new handling equipment and emplacement methods. A fully loaded HUFP would fit onto the WIPP waste hoist conveyance without modification; however, specialized fixtures would likely be required for safe and secure operations. These handling equipment and emplacement modifications would be addressed in a Class 2 permit modification request to NMED and a planned change request to EPA.

5.4 Permits

Permits regulate many aspects of facility construction and operations, including the quality of construction, treatment and storage of hazardous waste, and discharges of effluents to the environment, and may need to be issued, extended, or modified. The need for modifications to reactor site permits would be evaluated by the individual sites. The changes are expected to result in minimal changes in effluents, emissions, and wastes if MOX fuel is used in either the Browns Ferry or Sequoyah Nuclear Plants.

Many of the activities addressed by this *SPD Supplemental EIS* would be performed within existing structures in developed areas of SRS, would utilize existing infrastructure, and would operate under

existing permits. SRS complies with over 400 environmental permits covering air quality, water quality and wetlands, hazardous waste, sanitary waste, and underground storage tanks. The *Savannah River Site Environmental Report for 2010* contains a compilation of permits for the site (SRNS 2011).

Drinking water at SRS is regulated by SCDHEC under the Safe Drinking Water Act of 1974 (42 USC 300f et. seq.). Permits for domestic water supplies cover 17 separate systems across SRS; new permits would be required for tie-ins to the existing domestic water supplies for the Pit Disassembly and Conversion Facility (PDCF) in F-Area and for modifications that may be required related to the pit disassembly and conversion capability or immobilization capability in K-Area.

Drinking water at LANL is regulated by NMED under the Safe Drinking Water Act of 1974. Modification to an existing permit may be required related to the proposed pit disassembly and conversion activities at the Technical Area 55 (TA-55) Plutonium Facility (PF-4).

Wastewater discharges at SRS are regulated by four permits under the National Pollutant Discharge Elimination System (NPDES) Program, a Clean Water Act (33 U.S.C. 1251 et. seq.) program administered by SCDHEC under authority delegated by EPA. The NPDES permits include two permits for industrial wastewater (SC0000175 and SC0047431) and two permits for general stormwater discharges (SCR000000 for industrial site discharges and SCR100000 for construction sites) (WSRC 2008a). In addition to these permits, there is a "no discharge" water pollution control land application permit (ND0072125) that regulates land application of sludge, and related sampling at onsite sanitary wastewater treatment facilities. Wastewaters (i.e., stormwater, sanitary wastewaters, cooling water, and production effluents) from existing facilities are covered under permits already in place. During construction of the proposed plutonium disposition facilities and associated buildings, stormwater is managed under the SRS general stormwater permit. A Notice of Intent and Storm Water Pollution Prevention Plan address facility-specific stormwater measures. Sanitary and industrial wastewater treatment and disposal are regulated under a number of permits for facilities across SRS. For sanitary wastewaters, the proposed facilities and associated buildings would tie in to existing SRS systems; permits are required for both the construction and operations phases for these tie-ins. Due to its function as a wastewater treatment facility, the Waste Solidification Building (WSB) has been permitted by SCDHEC as an Industrial Wastewater Treatment Plant (WSRC 2008a). The MFFF also has been permitted as an Industrial Wastewater Treatment Plant for the three waste transfer lines coming out of the facility.

Wastewater discharges at LANL are also regulated under the NPDES Program; however, in this instance, the program is administered by EPA. The LANL NPDES permit includes 15 permitted outfalls consisting of 1 sanitary outfall (for the Sanitary Wastewater Systems Plant) and 14 industrial outfalls (including 1 at PF-4). Should any construction be required in support of the proposed plutonium disposition activities at LANL, stormwater would be managed under the LANL NPDES construction general permit program. A Notice of Intent and Storm Water Pollution Prevention Plan would address facility-specific stormwater control measures. The NPDES Industrial Storm Water Permit Program at LANL regulates stormwater discharges from identified regulated industrial activities and their associated facilities, including PF-4.

Air emissions from SRS facilities, including both radioactive and nonradioactive criteria and toxic air pollutant emissions, are regulated under the SRS air quality operating permit, issued under Title V of the Clean Air Act (42 U.S.C. 7401 et. seq.) and administered by SCDHEC. Changes resulting from surplus plutonium disposition activities would necessitate modifications to the Title V permit. For MFFF and WSB, now under construction, all air quality permit requirements have been met for the construction phase. Permit revisions will be made as required prior to startup of operations. If an alternative using K-Area for pit disassembly and conversion, or immobilization is selected or the alternative to add PDCF in F-Area is retained, consultations would be initiated with SCDHEC to determine what air quality permit changes are needed to address a new source of radioactive emissions. If an alternative involving the MFFF oxidation furnace is selected, consultations would be initiated with SCDHEC to revise the Bureau

of Air Quality construction permit, and with EPA to obtain a revision to the Alternate Calculation Methodology for 40 CFR 61 Subpart H, NESHAP compliance.

Air emissions from LANL facilities, including both radioactive and nonradioactive criteria and toxic air pollutant emissions, are regulated under the LANL air quality operating permit, issued under Title V of the Clean Air Act and administered by NMED. Changes resulting from surplus plutonium disposition activities at LANL could necessitate modifications to the Title V permit. Permit revisions, if needed, would be made as required based on consultations with NMED prior to startup of operations.

Hazardous waste management activities at SRS and LANL are regulated under RCRA Part A/Part B permits. In the case of TRU waste being shipped to WIPP for disposal, the waste would need to meet the waste acceptance criteria and waste permit requirements for WIPP.

Although most DOE activities are conducted under the authority of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et. seq.), Congress, through enactment of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999 (Public Law 105-261), assigned responsibility for licensing MFFF at SRS to NRC. MFFF received a construction authorization from NRC in March 2005, completing the first phase of the licensing process (NRC 2005b). NRC also issued an environmental impact statement in 2005, *Environmental Impact Statement on the Construction and Operation of a Proposed Mixed Oxide Fuel Fabrication Facility at the Savannah River Site, South Carolina* (NRC 2005a). The second phase of the two-step NRC licensing process, issuance of an operating license, is under way.

The need for new permits or modifications to existing permits would depend on the alternative selected. Prior to project implementation of any of the alternatives, required environmental permits would be obtained in accordance with Federal, state, and local requirements.

5.5 Consultations

Consultations with other Federal, state, and local agencies and federally recognized American Indian groups are usually conducted prior to the disturbance of any land and are usually related to biotic, cultural, and American Indian resources.

5.5.1 Consultations Related to Proposed Activities at the Savannah River Site

Consultations were initiated in 1998 during preparation of the *Surplus Plutonium Disposition Environmental Impact Statement (SPD EIS)*. These consultations included affected parties in South Carolina and addressed tribal, cultural resource, and endangered species concerns (DOE 1999b). Additional consultations were undertaken during the NRC environmental review for MFFF (NRC 2005a). Consultations were undertaken with the U.S. Fish and Wildlife Service and the South Carolina Department of Natural Resources to evaluate impacts on threatened and endangered species under their respective jurisdictions. Both agencies issued declarations indicating they anticipated no impacts on threatened and endangered species as a result of construction and operation of MFFF and associated F-Area facilities, which included the site of WSB and the stand-alone PDCF (NRC 2005a, USFWS 2001). As discussed in Chapter 4, establishing and operating the pit disassembly and conversion capability or immobilization capability in K-Area are not expected to have any impact on threatened and endangered species because none are known to forage, breed, nest, or occur on any of the land required. If it is determined that any activities associated with the implementation of these alternatives could impact threatened or endangered species, consultations would be reinitiated.

In consultation with the South Carolina State Historic Preservation Office (SHPO), archaeological surveys of F-Area in the vicinity of the stand-alone PDCF, MFFF, and WSB were undertaken prior to construction. Fifteen prehistoric sites were identified that could be affected by facility construction and seven were deemed eligible for listing on the National Register of Historic Places (NRHP). As discussed in Chapter 4, Section 4.1.7.6.1, two of the sites would be directly affected by construction activities in F-Area, so a data recovery plan was submitted and approved by the South Carolina SHPO. Subsequently, the Savannah River Archaeological Research Program (SRARP) excavated the sites to mitigate impacts

caused by the construction of MFFF and WSB, and potential construction of PDCF (NRC 2005a). Additional consultations would be conducted, as necessary, prior to any additional activity that might affect cultural resources in F-Area should DOE decide to build the stand-alone PDCF there.

Potential construction of the pit disassembly and conversion capability or immobilization capability in K-Area, under the various alternatives being considered in this *SPD Supplemental EIS*, would take place within existing facilities or in the built-up portion of the area. Previous archeological reviews did not reveal any identified sites of interest in the areas where land disturbance would occur. As a result, impacts on cultural resources are unlikely. As discussed in Chapter 4, Section 4.1.7.6.2, the K-Reactor building is an NRHP-eligible structure. There are also supporting structures in the K-Area Complex that were determined to be eligible for listing on the NRHP as contributing members of the Cold War Historic District (DOE 2005b). As such, proposed changes to the historic fabric of these buildings and structures, or to any intact historically significant equipment, would be studied, discussed with the South Carolina SHPO, and avoided, mitigated, or minimized should DOE decide to place any of the proposed plutonium disposition activities in K-Area (DOE 2005b).

Six American Indian groups with ties to the SRS vicinity were consulted during preparation of the *SPD EIS* (DOE 1999b). These groups included the National Council of the Muskogee Creek; the Ma Chis Lower Alabama Creek Indian Tribe; the Indian People's Muskogee Tribal Town Confederacy; the Pee Dee Indian Association; the Yuchi Tribal Organization, Inc.; and the United Keetoowah Band. American Indian representatives have identified concerns related to the Native American Religious Freedom Act within the central Savannah River Valley, specifically with respect to some sensitive American Indian resources and plants traditionally used in ceremonies and as medicinal plants. However, no significant concerns were raised by American Indian groups through the *SPD EIS* consultation process (DOE 1999b). Preliminary consultations were conducted concerning MFFF construction. During these consultations, it was decided that impacts on American Indian resources from MFFF are considered unlikely. Inadvertent discoveries of American Indian resources would be handled in accordance with the requirements of 43 CFR Part 10, "Native American Graves Protection and Repatriation Regulations," regarding American Indian human remains, funerary objects, objects of cultural patrimony, and sacred objects (DCS 2002).

5.5.2 Consultations Related to Proposed Activities at Los Alamos National Laboratory

LANL has its own plans and guidelines for biotic, cultural, and Native American resources. Should any adverse impacts be identified as a result of the proposed surplus plutonium disposition activities at LANL, consultations would occur with the appropriate Federal agencies and tribal governments.

Habitat that is either occupied by federally-protected species or potentially suitable for use by these species in the future has been delineated within LANL and is protected by the *Threatened and Endangered Species Habitat Management Plan for Los Alamos National Laboratory* (*Habitat Management Plan*) (LANL 2011a). The *Habitat Management Plan* facilitates DOE compliance with the Endangered Species Act and related Federal regulations. Site plans and monitoring plans are defined in the *Habitat Management Plan* to provide guidance to ensure that LANL operations do not adversely affect threatened or endangered species or their habitats. The updated plan includes habitat boundary changes implemented in 2005 and removed species that are no longer federally listed as threatened or endangered. Should any adverse effects on threatened and endangered species habitat be identified, a biological assessment would be prepared and submitted for consultation with U.S. Fish and Wildlife for concurrence, following provisions of 50 CFR Part 402 (Section 7), "Interagency Cooperation – Endangered Species Act of 1973, as amended."

A Plan for the Management of the Cultural Heritage at Los Alamos National Laboratory, New Mexico (Cultural Resources Management Plan) (LANL 2006c) is a comprehensive institutional plan that defines the responsibilities, requirements, and methods for managing cultural resources at LANL. It provides an overview of the cultural resources program and establishes procedures for effective compliance with the National Historic Preservation Act, as well as with other historic preservation laws specific to the cultural

heritage of LANL. The *Cultural Resources Management Plan* provides a framework for consultation with and visitation of resources by local pueblos and tribes. The *Cultural Resources Management Plan* and its associated implementing Programmatic Agreement were approved by the Los Alamos Site Office, the New Mexico State Historic Preservation Officer, and the Advisory Council on Historic Preservation in 2000. An updated *Cultural Resources Management Plan* was approved and a new Programmatic Agreement was signed in 2006. Should any adverse impacts at LANL be identified as a result of activities evaluated in this *SPD Supplemental EIS*, NNSA would work with the SHPO, as well as any of the culturally affiliated pueblos and tribes, to resolve any adverse effects. In accordance with the *Cultural Resources Management Plan*, a cultural resource assessment would be made of areas, if any occur, that may be disturbed by the proposed activities. In addition, the pueblos and tribes that are culturally affiliated with the affected area now occupied by LANL would be notified, as discussed below.

DOE is in compliance with Executive Order 13175, which requires all Federal agencies to engage in consultation and coordination with tribal governments on matters of mutual concern. Consistent with that order, DOE promulgated DOE Order 144.1, *Department of Energy American Indian Tribal Government Interactions and Policy*, to provide further amplifying guidance. Acting under that order, the Los Alamos Site Office continues its long-standing practice of engaging area tribal authorities through several mechanisms. These mechanisms include specific accords between DOE and four pueblo governments (Cochiti, San Ildefonso, Jemez, and Santa Clara) whose lands are adjacent to or near LANL. The accords set forth the specifications for maintaining a government-to-government relationship between DOE and each of the four pueblos. These accords have been in place since 1992, and are renewed periodically. Beyond engagement with these four pueblos, continuous liaison is maintained with member tribes of the Eight Northern Indian Pueblos Council, the All Indian Pueblo Council, and others as relevant to the programs and activities of the site. In addition to addressing environmental and other concerns, these formal interactions have led to mutually beneficial economic engagements. In fiscal year 2010, LANL awarded over $100 million in contracts to Native American and tribally owned businesses and additional, substantial contracts have been awarded in fiscal year 2011.