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ENVIRONMENTAL IMPLEMENTATION PLAN - Chapter 5

by

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Savannah River Site

Aiken, South Carolina 29808

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Chapter 5

Chemical Management, Pollution Prevention and Other Compliance Programs

Chapter was compiled and reviewed by Greg L. Peterson.

Site Program Overview

Compliance with environmental regulations and U. S. Department of Energy Orders (DOE) relating to environmental protection is an important part of SRS's program. Demonstrating environmental excellence is a high priority embodied in DOE and Westinghouse Savannah River Company (WSRC) policy. SRS constantly is striving to improve its standing as a leader in environmental-protection activities.

All activities at SRS are overseen by one or more regulators, such as the South Carolina Department of Health and Environmental Control (SCDHEC) and the Environmental Protection Agency (EPA).

Over the past few years, the number of environmental regulations has increased. The strategy to comply with new and existing environmental regulations and DOE orders is described in chapter two.

In this chapter, the following environmental programs are described:

- Toxic Substances Control Act (TSCA):
 - TSCA, Section 5(a), requires premanufacture notification to EPA 90 days prior to commercial manufacture, and Section 5(a)(2) requires reporting to EPA significant new uses of the existing purpose.
 - TSCA, as amended in Section 6, prohibits using polychlorinated biphenyl (PCBs) except in a totally-enclosed manner. It also provides procedures required for handling, storing, and disposing of regulated PCBs and PCB-containing materials.
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA):
 - FIFRA, as amended, and the S.C. Pesticide Control Act establish procedures for handling, storing, applying and disposing of pesticides.
- Emergency Planning and Community Right-to-Know Act (EPCRA):
 - EPCRA contains four major provisions that impact site operations: planning for chemical emergencies; notifying emergency personnel of chemical accidents and releases; reporting hazardous chemical inventories; and reporting toxic-chemical releases.
- SPCC/BMP/Pollution Prevention Plans:
 - These plans provide ways to mitigate the consequences of pollutants reaching the environment and contaminating the surface waters.

- Safe Drinking Water Act (SDWA):
 - The Safe Drinking Water Act of 1974, as amended, and the South Carolina Primary Drinking Water Regulations require that applicable permits be obtained and that sample analyses and site inspections of public/industrial water supplies and drinking water sources be completed satisfactorily.
- National Environmental Policy Act (NEPA):
 - Compliance with and implementation of DOE Order 5440.1C and other DOE guidelines will evaluate potential environmental impacts of federal activities and alternatives.

Implementation

The implementation section identifies issues and those responsible to achieve defined objectives. The following programs are described in this chapter:

- Toxic Substances Control Act (page 5-6)
- Polychlorinated Biphenyls (page 5-9)
- Federal Insecticide, Fungicide, and Rodenticide Act (page 5-13)
- Emergency Planning and Community Right-to-Know Act (page 5-16)
- Spill Prevention and Control Programs (page 5-19)
- Safe Drinking Water (page 5-23)
- National Environmental Policy Act (page 5-27)

Toxic Substances Control Act

15 U.S.C. 2601, et seq.

(Compiled and reviewed by D. Steve Glover)

Site Program Overview

The Toxic Substances Control Act (TSCA) gives the U.S. Environmental Protection Agency (EPA) comprehensive authority to identify and control chemical substances that are manufactured, imported, processed or used. Reporting and record keeping is mandated for new chemicals and for chemicals that may present a substantial health or environmental risk. WSRC Environmental Protection Department (EPD) provides guidance for identifying TSCA-compliance requirements, and the Industrial Hygiene Section coordinates the process of recording allegations of significant adverse reactions to health or the environment. Managing and disposing of polychlorinated biphenyls are a major part of TSCA compliance and are described in a separate implementation program.

Five-Year Outlook

Over the next five years, emphasis will be on programs such as clean air and clean water. TSCA regulatory requirements are not expected to change substantially. The site will continue to monitor for new chemical developments and any allegations of significant chemical-related health or environmental risks.

Justification/Regulatory Requirements

TSCA of 1977, 15 U.S.C. 2604, Section 5, establishes procedures for manufacturers and importers to report new chemical substances. Chemicals not listed in TSCA's inventory are considered new chemicals and must undergo premanufacturing notification (PMN) to EPA 90 days prior to commercial manufacture or importation.

Section 5(a)(2) EPA identifies significant new uses of chemical substances and specifies procedures for manufacturers, importers and processors to report those uses.

Section 8(c) requires chemical substance manufacturers, processors, and distributors to maintain records of employee allegations claiming that a substance or chemical causes significant adverse reactions to health or the environment.

Section 8(e) requires reporting information which reasonably supports the conclusion that a chemical substance or mixture presents a substantial health or environmental risk.

TSCA Section 6, (40 CFR 761) regulates PCBs, and these requirements are identified in the PCB implementation plan.

Organizational Responsibility Summary

EPD provides general site guidance for TSCA compliance. EPD's TSCA coordinator is responsible for providing appropriate forms and submitting documentation for premanufacturing notification. The Industrial Hygiene Section coordinates recording allegations claiming that a chemical substance presents a health or environmental risk. EPD and the medical department have the responsibility for reviewing allegations and determining if they are significant. Allegations are submitted to Westinghouse's corporate office and may be reported to EPA if the corporate office determines the information reasonably supports the allegations and should be reported under Section 8(e).

Site Procedures and Documents

The industrial hygiene section currently is drafting a procedure, "Records and Reports of Alleged Significant Adverse Reaction to Health and Environment", to be included in the 4Q procedures manual. This procedure will formalize recording allegations and reporting substantial risks required in sections 8(c) and 8(e) of TSCA. Procedure 3Q ECM 12.3 establishes a site chemical inventory and supports the TSCA program.

Programs

Any employee, group or department that intends to manufacture or import a new chemical substance, which is not excluded by an exemption and is for a "commercial purpose", must submit PMN information to the TSCA coordinator in EPD. The requirement for a PMN review also includes certain bioengineered microorganisms which EPA regards as new chemical substances. TSCA, Section 8(c), requires maintaining records of allegations claiming that chemicals have caused previously unknown, significant adverse effects to human health or the environment. Allegations may be made by anyone, including employees, families of employees and plant neighbors. The Industrial Hygiene Section of the Safety Division has the responsibility for providing assistance in completing allegation reports and routing them to the medical department or EPD.

TSCA, Section 8(e), requires reporting to EPA information that reasonably supports the conclusion that a chemical substance presents a substantial health or environmental risk. The Industrial Hygiene Section will coordinate reporting significant risk information, following review by the medical department or EPD.

One-Year Road Map

Exemptions under TSCA eliminate some regulatory requirements for manufacturing nuclear source material and special nuclear material. These exemptions do not delineate clearly all requirements that are or are not applicable to GOCO operations, and therefore, interpreting the exemptions is an ongoing process. Industrial Hygiene has a draft procedure under review which should be completed this year.

Five-Year Road Map

No major additions or changes are expected in the TSCA program over the next five years.

Polychlorinated Biphenyls (PCBs)

(Compiled and reviewed by D. Vernon Osteen)

Site Program Overview

Since 1980, the Savannah River Site (SRS) has had an active program to remove and dispose of PCBs properly. In the past, the primary use of PCBs was in closed or semi-closed systems in electrical transformers, capacitors, heat-transfer systems, and hydraulic systems. At the present time, PCBs are found onsite in small capacitors (less than 3 pounds) used to raise and lower reactor-control rods, in ballasts in fluorescent light fixtures, and in several transformers. New purchases of hydraulic fluids, heat-transfer systems, electrical transformers, capacitors, and other dielectric fluid-containing materials are certified by the vendor to contain no PCBs.

Operations continue to remove all PCB fluids and materials from the site. SRS ships all non-radiological PCB-containing materials offsite for disposal at an approved EPA facility. As a Best Management Practice, SRS also ships unregulated small capacitors and fluorescent light ballasts that contain PCBs to EPA approved disposal facilities. At the present time, there are two onsite locations for storing PCB-containing materials: Building 741-1N for non-radiological PCB-containing materials and Building 643-29E for radioactively-contaminated PCB-containing materials. Both of these facilities meet federal regulations for storing PCBs. Currently, there is not an approved facility for disposal of radioactively-contaminated PCBs.

Five-Year Outlook

The only major change in PCB regulations is an advanced notice of proposed rulemaking that will affect disposal of PCBs. The major impact to the site will be the storing and disposing of radioactive PCBs that are onsite.

Within five years, the site should have removed all remaining PCBs onsite and have the PCB database that will confirm the concentrations in all transformers and oil-filled circuit breakers (OCB).

Regulatory Requirements

Federal Law and Regulations

Toxic Substances Control Act (TSCA) of 1977, as amended (15 U.S.C. 2601 et seq., Section 6 (40 CFR 761) – The use of polychlorinated biphenyls (PCBs) are prohibited except in a totally-enclosed manner. DOE also is required to comply with listed procedures for handling, storing, and disposing of regulated PCBs and PCB-containing materials.

Organizational Responsibilities

Materials Logistics and Inventory is responsible for the following:

- maintaining storage facilities at Building 741-1N in compliance with regulatory requirements
- maintaining storage, inventory, and inspection records for Building 741-1N
- ensuring proper packaging and labeling of PCB-containing materials in Building 741-1N
- obtaining a contract for offsite disposal of PCBs
- ensuring PCBs are shipped offsite within the regulated time limitations.

Waste Management Operations is responsible for the following:

- maintaining the storage facilities at Building 643-29E in compliance with regulatory requirements
- maintaining storage, inventory and inspection records for Building 643-29E
- ensuring proper packaging and labeling of PCB-containing materials in Building 643-29E

The Environmental Protection Department (EPD) is responsible for the following:

- serving as an onsite PCB consultant
- coordinating the PCB-removal program
- interfacing with regulatory agencies on audits

Custodial departments are responsible for the following:

- determining, by conducting a IH survey, if the potential for occupational exposure to PCBs exists
- instituting a personnel monitoring program to determine potential PCB occupational exposures
- notifying IH and EPD Spill Coordinator in the event of a spill
- notifying IH when working on PCB-containing equipment
- identifying any PCB-containing materials in the area
- ensuring proper labeling of PCB-containing materials
- transporting PCB-containing materials to proper storage facilities
- ensuring that employees are trained in handling PCBs and that training is documented

Site Procedures and Documents

DPSOP 83. Polychlorinated Biphenyl Analysis in Transformer Oils

DPSOL S-9549, DPSOP 326. Control and Disposal of Polychlorinated Biphenyls (PCBs)

Polychlorinated Biphenyl (PCB) Management Manual for Savannah River Site (Draft)

Auditing

The following audits are to be performed at SRS for PCB-containing materials:

- DOE appraisal every three years
- EPA audit at infrequent intervals (PCB survey optional)
- SRS self audit at infrequent intervals (see Chapter 10, Environmental Auditing and Appraisal Program)

Compliance Action**Material Logistics and Inventory (ML&I)**

ML&I manages the offsite disposal of all PCBs at the 741-N salvage yard. This is done by storing PCBs and making periodic shipments, per EPA regulations, to an approved offsite disposal vendor. The size of these shipments will continue to decrease as PCBs eventually are eliminated at SRS. The current storage facilities should be adequate for the next five years.

Solid Waste Operations (SWO)

SWO presently is storing, one 85-gallon drum and eight 55-gallon drums of floor sweepings contaminated with PCBs in the mixed-waste storage building, 643-29E. SWO is developing a plan for disposal of these PCBs.

Environmental Protection Department (EPD)

EPD coordinates PCB activities for the site and consults with the custodians on PCB-related issues. EPD also prepares the annual inventory report and interfaces with the regulatory agencies on audits. EPD is continuing to verify and update the equipment database as a resource for the entire site. EPD also is consulting with the PCB task force to sample/analyze selected transformers onsite and reverify that they are nonPCB. EPD is finalizing a *Polychlorinated Biphenyl Management Manual*, which will aid the site in implementing regulations and corporate policies concerning PCBs.

One-Year Road Map

In an effort to improve the PCB program at SRS, a number of items will be continued throughout the coming year. The draft *PCB Management Manual* will be finalized and distributed to the environmental coordinators to provide assistance and guidance in managing PCBs at their facilities. The sampling program to verify PCB concentrations in transformers will continue to demonstrate compliance with TSCA and SRS policies. The PCB database will continue to be updated and verified as the source for documenting PCBs at SRS. This effort will require the cooperation between all groups that have custody of transformers and oil-filled equipment.

The next year will see the beginning of negotiations of a Federal Facility Compliance Agreement (FFCA) between EPA, DOE, and WSRC on the radioactive PCB disposal issue. The waste is stored safely, but exceeds the one-year storage limit for PCBs.

Five-Year Road Map

The sampling program will continue until all the transformers and oil-filled equipment are sampled. The FFCA negotiations will be completed within this time period. Once these tasks are completed, there should be no major changes to the program.

Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA)

(Compiled and reviewed by D. Steve Glover)

Site Program Overview

SRS's pesticide program provides guidance for using pesticides. WSRC has a formalized process for evaluating pesticide programs which typically involves using insecticides, herbicides and rodenticides. Under this program's objectives, relative safety, potential effects on the environment and FIFRA regulatory requirements are assessed. The program's procedure defines responsibilities regarding pesticide selection, application and disposal.

Five-Year Outlook

No major changes are expected in regulating pesticide applications. EPA's requirement that manufacturers reregister existing products will reduce the number of different pesticides on the market, but it is not expected to have a significant effect on products used and applied by SRS.

Justification/Regulatory Requirements

The Federal Insecticide, Fungicide and Rodenticide Act, as amended (7 U.S.C. 136, et seq.) and the South Carolina Pesticide Control Act (R. 27-1072 ff)—These statutes require SRS to comply with established procedures for handling, storing, applying and disposing of pesticides.

Organizational Responsibility Summary

WSRC has a Pesticide Use Task Group (PUTG) which is responsible for evaluating pesticide program applications. The group also responds to questions and communications concerning pesticide use at SRS and prepares reports or responses concerning pesticide activities. EPD's pesticide coordinator chairs the PUTG and provides general guidance for FIFRA compliance. PUTG also has representatives from Central Services Works Engineering (CSWE), Industrial Hygiene (IH), Savannah River Forest Station (SRFS), Savannah River Ecology Laboratory (SREL), and the Savannah River Technology Center (SRTC).

WSRC pesticide programs go through the PUTG approval process to ensure compliance, and the SRFS is guided by its environmental-impact statement for the Coastal Plain/Piedmont.

WSRC applicators are required to be trained and licensed. Storage, use and disposal of pesticides is conducted according to regulatory, labeling and procedural requirements. WSRC's subcontract technical representative (STR) is responsible for contractor orientation with SRS's pesticide program. Contract specifications require site-specific training, strict adherence to pesticide label instructions, observance of WSRC's

pesticide procedures, and they specify that all unused pesticides and pesticide containers be removed from SRS daily.

CSWE personnel and subcontractors apply herbicides to parking areas, road beds, fence lines and power line rights-of-way. CSWE manages subcontracts for grounds maintenance and for weed control on railroad tracks. Waste Management applies herbicides to control weeds and brush in improved areas. Facilities and Services administers subcontracts for insect, termite, and rodent control. The SRES utilizes herbicides in its vegetation-management and reforestation programs.

Site Procedures and Documents

WSRC procedure 3Q ECM 8.1 establishes PUTG and program requirements including the requirement that applicators are state certified. Provisions in procedure 3Q ECM 8.1 are based on regulatory requirements under FIFRA and the need to coordinate with other site activities that may be sensitive to pesticide applications.

Programs

Prior to initiating a pesticide program, the program originator, a representative of an SRS department that needs a pest-control program, is responsible for preparing a formal, written program plan for review and approval by PUTG. The pesticide program identifies the pest and describes the area, application method, and health and safety precautions. PUTG then reviews the application and determines if a site-use permit is required. Once approved, pesticides are applied on a routine basis and a pesticide-activity report is submitted to PUTG to maintain records of pest-control activities onsite.

Technical Support

Technical support is offered by the U. S. Forest Service for vegetation control. The U. S. Forest Service has been instrumental in securing training for pest-control applicators to meet certification requirements.

One-Year Road Map

PUTG presently is undergoing change. The original committee was enlarged to include representation from DOE, SRES and SREL. DOE's Natural Resources Coordinating Committee has adopted PUTG and is broadening the program. The goal for 1993 is to modify procedure 8.1 to account for the broader scope, institute site-use permitting where appropriate and create a database for data collected from pesticide activities reports.

Five-Year Road Map

The five-year outlook included trial utilization of low-volume application methods for power line vegetation management. An informal goal in power line vegetation

management is to achieve control which will reduce herbicide applications to every other year.

Emergency Planning and Community Right-To-Know Act (EPCRA)

(Compiled and reviewed by D. Steve Glover)

Site Program Overview

The Emergency Planning and Community Right-to-Know Act (EPCRA), also known as Superfund Amendments Reauthorization Act (SARA) Title III, was devised to encourage and support emergency planning for chemical accidents and to provide local governments and the public information about possible chemical hazards in their communities. The law contains four major provisions that impact site operations: planning for chemical emergencies; notifying others of chemical accidents and releases; reporting hazardous chemical inventories; and reporting toxic chemical releases.

Five-Year Outlook

EPCRA, being a popular and pervasive regulation, will continue to exert influence on other regulatory programs such as the air and water compliance programs. There also is political pressure to increase the size and scope of information-gathering provisions under EPCRA. An example of this is the "Right to Know More" bill that was introduced into Congress. The resources required to complete EPCRA-reporting requirements are expected to increase over the next five years, but generally, the compliance programs will be conducted similarly with moderate modifications.

Justification/Regulatory Requirements

The EPCRA of 1986, Title III of SARA, has the following four major sections. Sections 301-303 provide emergency planning. Section 304 requires a facility to notify the State Emergency Response Commission (SERC) and the Local Emergency Planning Committee (LEPC) of an offsite release in excess of reportable quantities. Section 312 requires facilities to submit chemical inventory information to SERC, LEPC and local fire departments. Section 313 is the toxic-chemical release notification that is submitted to EPA and state agencies. The Pollution Prevention Act of 1990 adds reporting requirements on source reduction and recycling activities to the section 313 report.

Executive Order 12856 of August 3, 1993 requires Federal facilities to comply with Right-to-Know Laws and Pollution Prevention Requirements. In addition, the Order sets goals for the reduction in total releases of toxic chemicals by 50% by December 31, 1999.

Organizational Responsibility Summary

WSRC has the general sitewide responsibility for coordinating compliance activities under EPCRA. Section 302 requires facilities to assign a facility emergency coordinator to be a point of contact with LEPC. DOE-SR appointed the chief of the emergency management branch of the Radiation Protection and Emergency

Management Division to be SRS's point of contact and to participate in emergency planning meetings.

Section 304 requires a facility to notify SERC and LEPC of an accidental release of a hazardous substance exceeding "reportable quantities" if the release leaves plant boundaries. A facility also must provide a written report on actions taken. WSRC has a well-defined program for reporting releases. This program is described in the *Emergency Response, Environmental Occurrence Reporting and Regulatory Notifications Implementation Plan*.

Section 312, "Hazardous Chemical Reporting", requires facilities to submit hazardous-chemical inventory information to SERC, LEPC, and local fire departments. Due to overlapping requirements with OSHA's Hazard Communication Standard, the Industrial Hygiene Section (IHS) has the responsibility for sitewide inventory reporting and submitting material safety data sheets (MSDS). Hazardous chemicals stored onsite in quantities greater than threshold planning quantities are reported annually by March 1 on an EPA Tier II form. IHS directs chemical coordinators representing SRS field organizations to provide MSD inventory information. A chemical information and inventory database (CIIS) was developed by WSRC to store the data from more than 18,700 MSDSs onsite and to electronically generate the Tier II report.

Section 313, "Toxic Chemical Release Reporting", requires facilities to submit annual reports on toxic-chemical releases to SERC and EPA. EPD's Environmental Support Section is responsible for coordinating and submitting data generated by various SRS organizations. Chemical releases into the air, on land, in water, and underground are reported by July 1 for aggregate quantities of regulated chemicals that exceed established threshold amounts. EPD organizes a task team representing WSRC field organizations and SRS contractors. Data gathering is delegated to task team members and data acquisition is aided by the CIIS inventory system. EPD's program coordinator provides training to task team members, distributes CIIS inventory information and assimilates the data. The EPA Form R is used for data submittals, and the report is signed by WSRC's vice president of ESH & QA.

Site Procedures and Documents

WSRC EPD has developed operating procedures for managing EPCRA programs. Procedure 3Q ECM 12.3 (Site Chemical Inventory) provides a chemical-substances inventory to support chemical reporting and establishes reporting requirements applicable to Section 312 of EPCRA. Procedure 3Q ECM 12.4 (MSDS Maintenance and Availability Requirements) establishes the requirements for the maintenance and availability of MSDs at SRS to comply with OSHA's Hazard Communication Standard, 29 CFR Part 1910.1200. Together these two procedures provide guidance for information gathering and Tier II reporting.

Procedure 3Q ECM 10.3 (Preparation of Annual Toxic Chemical Release Report) establishes requirements and responsibilities for preparing the annual Toxic Chemical Release Report (Form R) for SRS as required by Section 313 of EPCRA.

Programs

EPCRA, in addition to emergency planning and spill notification, mandates two separate chemical-inventory reporting programs. Both programs require participation from all contractors onsite that store or use chemicals that meet defined regulatory requirements. Chemical coordinators are assigned by each site organization to compile and maintain information on chemicals used by that organization. Chemical coordinators provide the information needed by IHS and EPD program coordinators to complete EPCRA reporting requirements. The Tier II report, completed by IHS, is submitted to the local fire departments, LEPC, and SERC by March 1. The Form R report, completed by EPD, is submitted to EPA and SCDHEC annually by July 1.

In June 1993, SRS reported that eight chemicals were released into the environment with quantities totaling 76,963 pounds. Source-reduction and recycling activities under the Pollution Prevention Act of 1990 were included in the reporting requirements.

One-Year Road Map

Improvements are continually being made to the chemical inventory and information systems database which supports EPCRA reporting requirements. DOE-HQ has instructed DOE facilities to participate in the voluntary 33/50 pollution prevention program. Executive Order 12856 requires Federal facilities to comply with Right-to-Know Laws and Pollution Prevention Requirements and sets goals for the reduction in total releases of toxic chemicals by 50% by December 31, 1999.

Five-Year Road Map

Inroads are being made to tie the chemical inventory and information system into procurement. This dramatically will improve the chemical-inventory system and also improve chemical reporting required by EPCRA. Source-reduction and recycling activities are expected to increase during this period and reporting under the Pollution Prevention Act should improve as tracking of these activities improves.

Spill Prevention and Control Programs

(Compiled and reviewed by Paul C. Carroll)

Site Program Overview

To mitigate the consequences of pollutants reaching the environment and contaminating the surface waters in South Carolina, SRS has implemented a comprehensive spill-prevention program.

In the area of spill response, SRS incorporates several levels of coverage to ensure that all spills are contained and cleaned up expeditiously. Primary, spill response lies with the individual organizations to maintain sufficient cleanup equipment and supplies to handle most small spill situations. If a facility can not cope with a spill/release, SRS's Fire Department Hazardous Material (HAZMAT) Response Team is on duty 24-hours a day. When notified of a spill, the HAZMAT team is responsible for identifying, containing, isolating and properly turning over the incident to the Central Services Works Engineering (CSWE) department to cleanup the spill residue.

Five Year Outlook

On August 18, 1990, the Oil Pollution Act of 1990 (OPA) was signed and contains significant modifications to many provisions of section 311 of the Clean Water Act (CWA). As a result, the Oil Pollution Prevention Regulation, 40CFR 112, is being revised by EPA to reflect the changes required by the act. Some of the requirements that the site can anticipate are as follows:

- a revision of the sitewide SPCC plan to reflect the changes required by the regulation
- a notification to EPA within 60 days after publishing the final regulation, of the number, size and total above ground oil storage capacity
- implementation of an annual integrity test for buried piping

Justification/Regulatory Requirements

Executive Orders

Executive Orders 11988 and 11990 - These executive orders obligate DOE to avoid, or minimize any short- and long-term adverse impacts to flood plains and wetlands.

Federal Laws

Federal Water Pollution Control Act (Clean Water Act of 1977) - The Code of Federal Registers (CFR), as authorized by Section 304 of the Clean Water Act, specifically addresses controlling runoff, spillage, and leakage of hazardous and toxic pollutants (40 CFR 125.100). Industries handling or discharging any toxic or hazardous

pollutants are subject to requirements relating to all activities which may result in significant amounts of pollutants reaching surface waters in the United States. In addition, 40 CFR 125.103 states that a best management plan (BMP) shall be incorporated into a NPDES permit.

Oil Pollution Prevention Regulation (40 CFR 112) – The regulation establishes spill-prevention procedures, methods, and equipment requirements for non-transportation-related facilities with above-ground (non-buried) oil-storage capacity greater than 1,320 gallons (or greater than 660 gallons above ground in a single tank) or buried underground oil-storage capacity greater than 42,000 gallons.

The Oil Pollution Act of 1990 (OPA) – As a result of the Ashland Oil Company's 4 million-gallon diesel fuel spill January 2, 1988 in Floreffe, Pa. EPA amended the OPA requiring facilities to implement regulations to prevent discharges of oil or hazardous substances. In addition, OPA increases the type of damages facilities can be expected to incur and increases the penalties for violations resulting from discharges of oil or hazardous substances.

Organizational Responsibilities Summary

In response to the regulatory requirements and the NPDES permit, the site has prepared documentation that satisfies SPCC and BMP requirements. Each SRS facility custodian is responsible for implementing the requirements reflected in the *Environmental Compliance Manual 3Q*, procedures ECM 2.3 and ECM 2.4. How each facility custodian meets those requirements is described in the SPCC and BMP plans, either through documented administrative controls or via projects. In addition, each facility is responsible for the following:

- ensuring adequate containment systems are in place for areas handling hazardous, toxic, oil or oil-related products
- achieving immediate spill response by storing spill-cleanup equipment and materials in strategic locations close to identified SPCC and BMP facilities
- providing spill/reporting training to pertinent personnel
- ensuring that spills are reported immediately through facility-specific administrative procedures

EPD is responsible for maintaining the SPCC and BMP plan manuals for the site and ensuring that the manuals are updated periodically as new facilities become operational. In addition, EPD serves as the primary point of contact, through the Emergency Operating Center, to ensure that timely notifications of significant spills are made to DOE, and any other outside regulatory authority (i.e., SCDHEC, EPA, National Response Center, Georgia Department of Natural Resources, etc.).

Site Procedures and Documents

Environmental Compliance Manual 3Q, ECM 2.4, "Spill Prevention Control and Countermeasures Plan" – This is a Level 1 procedure that establishes the practices, procedures and identifies the resources necessary to prevent oil discharges into the

environment. The procedure provides the guidance necessary to comply with the federal oil-pollution prevention regulation.

Environmental Compliance Manual 3Q, ECM 2.3, Best Management Practices Plan. This is a Level 1 procedure that establishes the practices, procedures and resources necessary to comply with SRS's NPDES permit, to identify sources of hazardous and toxic substances, and to prevent their discharge into the environment.

WSRC-IM-90-48, "Spill Prevention Control and Countermeasures (SPCC) Plan" – This identifies SRS's procedures, methods, equipment, and other requirements to prevent the discharge of petroleum products from site facilities into or upon navigable waters of the United States.

WSRC-IM-90-49, "Best Management Practices (BMP) Plan" – This identifies SRS's actions and procedures to prevent or minimize the potential releases of toxic or hazardous pollutants in significant amounts into surface waters. Sources identified in the plan include, but are not limited to, material storage areas; in-plant transfer, process and materials handling areas; loading and unloading operations; plant site runoff; and sludge and waste disposal areas. The BMP plan is an integral part of SRS's National Pollutant Discharge Elimination System (NPDES) permit.

MRP 4.08, WSRC Management Requirements and Procedures, "Events, Conditions, and Concerns Determinations" – This is a Level 1 procedure that establishes a consistent reporting process sitewide, for reportability determination with respect to events, conditions, and concerns that may have safety, health, quality-assurance, security, operational or environmental implications.

Programs

Environmental Monitoring Section (EMS).

In the event of a radioactive or hazardous-material spill that would result in exposure to onsite personnel or have offsite consequences, EMS would collect samples from routine monitoring stations. These samples, along with special samples, would be analyzed to assess the impact of the spill or release on people and the environment.

Spill Response Capability

Each SRS facility custodian has placed supplies and/or hand tools in strategic locations near potential sources of spills and/or releases to minimize, control, and contain any release. These strategic supplies can include such items as shovels, buckets, sandbags, absorbent materials, and other materials necessary to contain any spill at that location. In addition, in the SPCC & BMP plans, area sketches indicate facility locations and potential spill-flow pathways.

The Fire Department Spill Response Team and Central Services Works Engineering (CSWE) are two completely trained and equipped SRS teams that respond to environmental spills. Their role is to contain and cleanup accidental spills that have the

potential to significantly impact the environment. Also, each facility or organization custodian is responsible for the cleanup of minor spills that occur within his respective areas.

The emergency-response personnel have received the training required by federal regulations. At a minimum, depending on the level of spill-response involvement, personnel receive the following:

- initial 40-hour hazardous materials management response training required by SARA
- twenty-four hours of training in hazardous materials emergency-response duties
- a monthly four-hour training session on specific spill-response activities dealing with such topics as cleanup techniques, safety, communications, equipment operation etc.
- eight hours of annual refresher training
- three-days of actual field cleanup experience under the supervision of trained personnel

The CSWE Spill Response Team is equipped with two trailers that contain oil booms, absorbent pads, Scott-air packs, rope, hand tools, Class A-response protective clothing, and various other specialized equipment. They also have one boat for access to spills that reach waterways and backup heavy equipment such as backhoes and dump trucks.

The Fire Department has support from its fire trucks and a special response van and trailer that is equipped with the same type of gear that the Spill Response Team has. Additionally, the Fire Department is supported by a computer system that gives it on-the-spot guidance for any type of chemical spill.

Technical Support Programs

SRTC - Environmental Technology Section (ETS)

The SRTC-ETS has an aqueous model to assist in determining the consequences of a spill at SRS. The model is able to determine the primary pathway of a pollutant (down into the ground or surface runoff) and to which stream. Advanced models now are under development to take into account sediment transport involving radionuclides and subsequent depositions downstream and into the Savannah River.

One-Year Road Map

On October 22, 1991, EPA issued a proposed revision to the Oil Pollution Prevention Regulation, 40 CFR 112. It is anticipated that the final rule will not be issued before 1995 by EPA. In addition, by January 1994, plans will be due for the three-year update, as required by regulation. Plans are to coordinate the SPCC and BMP plan updates with the final version of the Oil Pollution Prevention Regulation.

Safe Drinking Water Act (SDWA)

(Compiled and reviewed by Jeffry A. Lintern)

Site Program Overview and Summary

SRS has domestic water-treatment facilities which are independent of the water systems in surrounding communities. The construction, modification, and operation of the site's domestic water supplies and wells are regulated by SCDHEC under the State Primary Drinking Water Regulations. SCDHEC has regulatory authority from EPA, and the state regulations meet federal requirements established under the Safe Drinking Water Act of 1974 (amended 1986). The regulations require the following:

- construction and operation permits for new systems or modifications to existing systems
- operation of existing facilities by certified operators of the proper grade
- periodic samples of finished water to verify proper treatment and portability
- monthly reports of certain water quality parameters to SCDHEC

In many cases, SRS goes beyond SCDHEC'S requirements to ensure the quality of the domestic water supplies. Annual chemical analyses are performed to verify compliance with SCDHEC contaminant limits for community water systems, even though SRS's systems qualify as less-regulated, non-transient, non-community systems.

Existing Conditions

SRS has 27 separate domestic water systems which supply drinking water to site personnel. These systems supply water to facilities that range in size from the security barricades, with a small number of users, to the 300-M/700-A Area system, which supplies water to more than 7000 users. Groundwater supplies all of these systems.

All domestic water supplies are chlorinated for bacteriological control. In the larger systems, the finished water is pH adjusted, and polyphosphate may be added to control water discoloration and piping corrosion.

Many of these systems were constructed in the 1950's, long before SCDHEC regulatory design standards were issued. A program to upgrade and consolidate site domestic water systems is underway, with completion in 1997. (See Construction Projects section.)

Five-Year Outlook

The drinking water program will be impacted by new State Primary Drinking Water Regulations, currently out for public comment and due for release in late 1993.

Lead/Copper Rule compliance monitoring for the twelve (12) SRS small public water systems began in 1993. A reduced monitoring schedule for the A/M Area system (medium size) was approved by EPA, after satisfying the lead/copper action level criteria for two consecutive monitoring periods..

SDWA Proposed/Anticipated Final Rules through 1996 include requirements for Radionuclides - 10/93, Disinfection / Disinfection By-Products (Phase VIA) - 6/95, the balance of 25 contaminants from the Drinking Water Priority List (Phase VIB) - 6/95, and Groundwater Disinfection - 8/96.

Developing methods to further improve permitting processes through "HOW" Manual and implementing material and construction standards will continue.

SRS plans to consolidate eleven (11) of the large domestic water systems to 3 systems. (See Construction Projects section.)

Regulatory Requirements

Federal/State Laws and Regulations

The Safe Drinking Water Act of 1974, as amended (42 U.S.C. 300f et seq.), and the South Carolina Primary Drinking Water Regulations (SCDHEC R.61-58) — These acts and regulations require DOE to obtain applicable permits meet design standards for new construction, and satisfactorily complete required sample analyses and site inspections of public water supplies and drinking water sources. EPA has authorized South Carolina to regulate both public water supplies and drinking water sources.

Organizational Responsibilities

Environmental Protection Department (EPD)

EPD evaluates regulatory requirements and compliance issues, reviews projects, assists with facility permitting and provides assistance with regulatory agency's facility audits and reporting. EPD also ensures that operator-certification requirements are met. EPD keeps the operating organization apprised of regulatory requirements and compliance issues related to the Safe Drinking Water Act and facilitates information exchanges between SRS operating groups, DOE and outside regulatory groups.

Power Operations

Power Operations has supervisors and operators that are certified by the South Carolina Environmental Certification Board to operate domestic-water facilities. While on the job, certified operators adjust chemical-feed rates, analyze water samples to verify proper pH and chlorine residuals, and collect bacteriological samples which are analyzed at the 772-D laboratory. Operators visit each facility at least once a day to perform these duties.

Water Services Department (WSD)

WSD provides operational guidance for site domestic water systems through a Lead Operator-In-Charge. WSD conducts maintenance for A-, D-, and G-Area domestic water systems.

Site Services Engineering (SSE)

SSE provides Power Operations with technical and operational support, oversight for project upgrades, and guidance for regulatory compliance.

Defense Waste Processing Facility (DWPF)

DWPF has supervisors and operators that are certified by the South Carolina Environmental Certification Board to operate the DWPF domestic water facility. The facility includes two domestic water wells, one Back-Up Well, and treatment and neutralization. Operators are trained to adjust feed rates, sample water quality, and verify proper equipment operation daily. Facility operation on the Back-Up Well began in March 1987. The Primary Domestic Water Deep Wells began in June 1989 following SCDHEC approval.

SRTC - TNX Operations

The TNX Domestic Water Facility is operated jointly by TNX Operations and Power. TNX Operations take water samples every shift to check pH and residual chlorine. If the readings are outside the appropriate range, Power is called to make the necessary chemical adjustments. Power also takes daily samples to check pH and residual chlorine and makes chemical adjustments based on its results.

Site Procedures and Documents

WSRC-IM-91-69, SRS Environmental Permitting "HOW" Manual Environmental Compliance Manual (3Q)

Reference: R61-58, State of South Carolina Primary Drinking Water Regulations

Programs

Modified Permitting Program (MPP) –EPD has the authority to issue construction and operating permits for domestic water-line installations up to 2500 feet in length. MPP is described in detail in WSRC-IM-91-69, *SRS Environmental Permitting "HOW" Manual*, Section 1.1.

Water Services Department (WSD) Cross-Connection Control Program. WSD and SSE provide support and guidance to identify and resolve site domestic water system cross connections.

Technical Support Programs

Site Services Engineering and the Water Services Department provide technical support for continued program development and improvement.

Construction Projects

SRS plans to consolidate eleven (11) of the large domestic water systems to 3 systems according to the following schedule. The anticipated completion date is September 1997. Milestones for construction completion are:

<u>A-Area Elevated Storage Tank</u>	<u>03/94</u>
<u>C/CS Elevated Storage Tank</u>	<u>08/96</u>
<u>Area Distribution Piping Systems;</u> <u>(Looped Piping Systems for A, B, CS, D, & Forestry,</u> <u>Complete TNX Piping System)</u>	<u>11/96</u>
<u>F/H/CS/S Connected to Elevated Tank</u>	<u>12/96</u>
<u>C-Area Looped Piping System</u>	<u>12/96</u>
<u>A/B Area Elevated Storage Tank</u>	<u>07/97</u>
<u>D/TNX Tie Line</u>	<u>09/97</u>
<u>A-Area Water Treatment Plant, Completion of Piping</u> <u>Loop Connecting 9 Systems, Complete K-Area Loop</u>	<u>09/97</u>

National Environmental Policy Act (NEPA)

(Compiled and reviewed by John J. Mayer)

Site Program Overview and Summary

The National Environmental Policy Act of 1969 (NEPA) established the national environmental policy and goals for protecting, understanding, and enhancing the human environment of the United States. SRS's NEPA program was initiated in August 1982 at the request of DOE-SR to ensure that the NEPA requirements were met. This program is administered and coordinated for SRS by the WSRC NEPA Group within EPD of the Environment, Safety, Health and Quality Assurance Division. The program reflects the Council on Environmental Quality (CEQ) regulations, DOE orders and regulations which require considering environmental factors during the planning process for all major federal activities that significantly affect the quality of the environment.

The NEPA Group works with various SRS organizations in gathering information and preparing documentation necessary for NEPA compliance. The group also has an active NEPA training program for the department NEPA coordinators in implementing NEPA for site projects/activities and to inform employees of their obligations under the act.

Five-Year Outlook

Over the next five years, NEPA compliance is expected to result in two changes over the previous process. These changes include increased coverage of proposed SRS actions with Environmental Assessments (EA); and more participation by line organizations (i.e., department NEPA coordinators) in the NEPA review and documentation process.

Regulatory Requirements

Federal Law

National Environmental Policy Act (42 USC 4321-4327) - The purpose of NEPA is to establish a national policy to protect the environment and to promote a better understanding of the ecological systems and natural resources important to the nation. NEPA and CEQ regulations implementing NEPA (40 CFR 1500-1508) contain action-forcing provisions to ensure that federal agencies consider environmental information prior to making decisions on proposed actions. The NEPA process includes decision points at which the significance of environmental effects is assessed, project alternatives are evaluated, public input is obtained, and a Record of Decision is prepared publicly stating the alternative selected.

DOE Orders/Regulations

Implementation of the National Environmental Policy Act (DOE Order 5440.1E)
-This order established a DOE policy of complying fully with NEPA and describes the roles of various facilities within the DOE complex in implementing the act.

DOE National Environmental Policy Act Implementing Procedures and Guidelines Revocation (10 CFR Part 1021) - These regulations replaced DOE NEPA guidelines, revised the existing rule to implement CEQ regulations, and incorporated changes required by SEN-15-90. These regulations include public and affected state participation in the NEPA process, and a revised and expanded list of typical classes of actions, including categorical exclusions. As soon as possible, SRS is required to integrate the NEPA process with other proposed action planning tools to ensure that design decisions reflect environmental values.

Organizational Responsibilities

The NEPA Group has the responsibility to prepare and/or manage all appropriate draft NEPA documentation for transmittal to DOE. The group's primary responsibility is to coordinate all activities of SRS organizations related to NEPA documentation for specific activities, and to train WSRC and other site organizations how to implement the NEPA process.

Approximately 400-450 Environmental Evaluation Checklists (EEC)s are prepared by the various site organizations for SRS activities each year. Most activities require documentation, as Categorical Exclusions (CX) under 10 CFR Part 1021, with an average of 10 activities per year requiring preparation of an EA or Environmental Impact Statement (EIS). DOE and an independent subcontractor prepare all EISs for which the operating contractor provides technical information. Three programmatic EISs currently are being prepared by DOE-HQ; nuclear weapons complex reconfiguration, environmental restoration and waste management, and spent nuclear fuel.

The project sponsor or EEC preparer is responsible for properly completing the checklist and providing any additional or follow-up information regarding the proposed action.

The department NEPA coordinators are responsible for ensuring the implementation of NEPA provisions within their respective organizations. This responsibility is centered around the review, submittal, tracking and filing of the EEC. The department NEPA coordinators also function as a single focal point within the various organizations to transmit and coordinate EA/EIS review and approval by sponsoring organizations. DOE and WSRC line managers are responsible for training, accountability, early implementation of NEPA, and project monitoring within their various organizations.

Site Procedures and Documents

DOE Procedures Guide for NEPA Documentation for Savannah River Site – This document encompasses general guidelines for implementing the DOE-SR NEPA process, including a summary of NEPA laws and DOE orders, descriptions of various types of NEPA documentation, EIS preparation activities and procedures, and checklists for each NEPA activity related to an EIS.

DOE Guide for NEPA Coordinators at Savannah River Site – This guide was prepared for the DOE NEPA coordinators as a tool for implementing NEPA requirements at SRS. The guide provides an overview of NEPA, and explains how DOE has integrated the NEPA process into its program.

DOE Directive Implementation Instructions for DOE Order 5440.1, National Environmental Policy Act Compliance Program, Savannah River Field Office. This directive assigns responsibilities to DOE-SR and the various SRS contractors for implementing and maintaining procedures and programs for furthering DOE compliance with DOE Order 5440.1E.

WSRC Q-1-1-1, Item DPM-306, Rev 1, "Implementation of the National Environmental Policy Act Final Rule 10 CFR Part 1021 at the Savannah River Site" – This procedure defines the NEPA group's responsibilities within EPD and its activities and responsibilities in implementing the NEPA program at SRS.

WSRC 3Q, Procedure ECM 5.1, Rev 1, "Implementation of the National Environmental Policy Act" – This procedure establishes the responsibilities and requirements for implementing and complying with NEPA at SRS, as specified in 10 CFR Part 1021, DOE NEPA regulations. This procedure also establishes the responsibilities and requirements for preparing and using Environmental Evaluation Checklist, and is intended to ensure that the proper federal and state permits are identified (and subsequently obtained) for a proposed action.

Savannah River Site Plan for Implementation of NEPA Procedures 10 CFR Part 1021, WSRC-RP-92-770 – This plan provides a detailed strategy and process for implementing 10 CFR Part 1021 in order to fully comply with NEPA. This plan also defines DOE-SR and WSRC roles, responsibilities, and working arrangements to implement the NEPA process onsite.

WSRC Department NEPA Coordinator Handbook – This handbook/manual contains the materials/information used to train and qualify the designated site department NEPA coordinators to enable them to function in the role defined in WSRC-RP-92-770.

One-Year Road Map

The NEPA program will continue implementing the new DOE NEPA regulations (10 CFR Part 1021) during 1993. This process will establish a more significant role and responsibility within the site line organizations with respect to NEPA compliance and documentation. The primary position in this effort will be the department NEPA coordinators. These coordinators will be responsible for ensuring the implementation of the new NEPA provisions, and the documentation/records maintenance within their respective organizations. The role of the WSRC NEPA Group also will increase, with responsibility and compliance support being extended to include all site organizations and contractors.

Five-Year Road Map

During the next five years, there will be earlier planning, increased training, and increased documentation of NEPA. This process will continue to be centered primarily around the team effort of the department NEPA coordinators within the site line organizations. A revision of the WSRC 30. Procedure ECM 5.1 is being initiated to incorporate issues regarding compliance with pre-operational monitoring requirements as stated in DOE Order 5400.1.

DATE
FILMED
5/31/94

END