

## 6 FEDERAL AND STATE PERMITS AND APPROVAL

This chapter summarizes the Federal and State of South Carolina requirements that are applicable to the resumption of L-Reactor operations. Table 6-1 lists the permits and other environmental approvals needed for this resumption of operations. The table emphasizes air quality, water quality, the disposal of solid and hazardous wastes, the protection of critical wildlife habitats, and the preservation of cultural resources.

### 6.1 HISTORIC PRESERVATION

No permits, certifications, or approvals related to historic preservation are required; however, the U.S. Department of Energy (DOE) must provide the Advisory Council on Historic Preservation an opportunity for comment and consultation, as required by the Historic Preservation Act of 1966 [16 USC 470(f) et seq.]. Section 106 of this Act requires any agency with jurisdiction over a Federal "undertaking" to provide the Council an opportunity to comment on the effect the activity might have on properties included in, or eligible for nomination to, the National Register of Historic Places.

In addition, Executive Order 11593 requires Federal agencies to locate, inventory, and nominate properties under their jurisdiction or control to the National Register of Historic Places if those properties qualify. Until this process is complete, the agency must provide the Advisory Council an opportunity to comment on the possible impacts of the proposed activities on the properties.

An archeological and historic survey of the Steel Creek terrace and floodplain system was completed in February 1981. The survey revealed one site that is considered eligible for nomination to the National Register of Historic Places (i.e., important and worthy of preservation from any adverse effects). A monitoring plan has been developed to protect this site and four other sites that were identified during the same survey as potentially significant (Section 4.5.2.5).

A draft of the archeological survey report, which was prepared by the University of South Carolina's Institute of Archeology and Anthropology for the Department of Energy, has been submitted to the South Carolina State Historic Preservation Office (SHPO). SHPO representatives conducted a site visit in March 1982. The U.S. Department of Energy, in conjunction with the Institute of Archeology and Anthropology, is developing the monitoring and mitigation plan for the archeological sites. This plan will have to be approved by the State Historic Preservation Office before L-Reactor operations resume.

### 6.2 SOLID WASTE DISPOSAL

The operation of L-Reactor and the increased operation of its associated facilities will generate a variety of radioactive and chemical wastes; these

Table 6-1. Required regulatory permits and notifications

Facility/activity	Requirement	Agency
<b>Water</b>		
Process and sanitary-sewer outfalls	NPDES permit renewal	DHEC-IAWD
Cooling water intake and discharge	Clean Water Act	DHEC-IAWD
Oil storage	SPCC plan	EPA/DHEC
<b>Air</b>		
Emergency diesel generators	Operation permits	DHEC-BAQC
F-, H- and M-Area process facilities	Operation permit amendments	DHEC-BAQC
<b>Solid</b>		
Domestic wastes	Sanitary landfill permit	DHEC
Endangered species	Consultation/biological assessment	USFWS
Historic preservation	Archeological survey and assessment	SC-HPO
Floodplain/wetlands impact	Assessment	DOE

Abbreviations:

BAQC = Bureau of Air Quality Control  
 DHEC = Department of Health and Environmental Control (South Carolina)  
 DOE = U.S. Department of Energy  
 EPA = U.S. Environmental Protection Agency  
 IAWD = Industrial and Agricultural Wastewater Division  
 NPDES = National Pollutant Discharge Elimination System  
 SC-HPO = South Carolina Historic Preservation Officer  
 SPCC = Spill Prevention Control and Countermeasure  
 USFWS = U.S. Fish and Wildlife Service

will include the following: radioactive wastes, which consist of high-level, transuranic, and low-level wastes, and solvents from the chemical separations areas. These wastes will be stored or disposed of at the Savannah River Plant (SRP). The disposal of these materials is governed by DOE requirements. The Department of Energy is formulating its own guidelines for the management of nonradioactive solid and hazardous wastes. The regulations of the South Carolina Department of Health and Environmental Control (DHEC) are being used as guidelines in developing the SRP program. The policy of the Department of Energy is to cooperate with the Department of Health and Environmental Control on all matters concerning solid and hazardous wastes.

In addition to these solid wastes, L-Reactor and its associated activities will generate sewage sludge and domestic solid wastes. Sewage sludge will be retained in the treatment facility until it is transported by tank truck for disposal in an onsite basin near the Central Shops. This basin has been inspected on several occasions by the Department of Health and Environmental Control. Samples of sludge from other reactor areas have been analyzed for trace metals and, based on these analyses, found to be nonhazardous. However, the sludge is considered a "solid" waste under DHEC Solid Waste Management Regulations.

Trash from operational activities will be disposed of in the SRP sanitary landfill, which is operated in accordance with DHEC guidelines. The landfill can be expanded from its current size of 10 acres to 32 acres. The waste from the L-Reactor area can be accommodated easily in this larger site.

### 6.3 ENDANGERED SPECIES

Ecological field surveys are being conducted in the area to be affected by L-Reactor operations. The surveys performed thus far indicate the presence of no Federally listed endangered species except the American alligator. A reproducing population of alligators inhabits the Steel Creek delta and floodplain (Section 3.6). The thermal effluent from L-Reactor will make the habitat in Steel Creek unsuitable for alligators. Extensive field surveys are under way to determine the population status, to assess impacts, and to develop mitigation plans. Before the operation of L-Reactor can proceed, the Department of Energy will complete a biological assessment and perform mitigation measures compatible with the recommendations of the U.S. Fish and Wildlife Service to reduce impacts on the alligator population of Steel Creek.

The wood stork has been proposed for inclusion on the Federal list of endangered species, and is considered a threatened species by the State of South Carolina. This stork uses the Savannah River swamp bottomland during its summer migration. Thermal effluents from L-Reactor would destroy well-vegetated wading habitats in the Steel Creek delta potentially used by the wood stork during these migrations. Until the listing status of the wood stork has been resolved, no formal biological assessment of this species is contemplated. However, biological surveys are being conducted that would form the basis of a biological assessment if one were to be required by the Fish and Wildlife Service for consultation before L-Reactor resumes operation.

Several species of "special concern" to the State of South Carolina are found on the Savannah River Plant. Intensive biological surveys currently under way at the Savannah River Plant to assess the impacts of the resumption of L-Reactor operation might detect the presence of several of these species. No formal legal or regulatory requirements exist to protect these species of special concern to the State. However, the South Carolina Wildlife and Marine Resources Department will be informed of any survey results regarding these species.

#### 6.4 WATER QUALITY

Section 402 of the Clean Water Act, as amended, is the basis for controlling "point source" discharges of pollutants into navigable waters of the United States through the National Pollutant Discharge Elimination System (NPDES), which is administered by the U.S. Environmental Protection Agency. The Agency has delegated NPDES permitting authority to the State of South Carolina. Recently, the U.S. Department of Energy applied for renewal and consolidation of its current NPDES permits. All L-Reactor area outfalls with the potential for future use are included in the NPDES permit renewal for the Savannah River Plant with the classification of "inactive."

Sanitary wastes generated in the L-Reactor area will be treated at a facility similar to other package treatment facilities in use at the Savannah River Plant. The effluent from the waste-treatment operations will be treated with sodium hypochlorite and discharged into the L-Reactor area process sewer, which empties into Steel Creek. The NPDES permit application includes this sanitary discharge. It also includes the release of effluents from a domestic water-treatment plant to the L-Reactor area process sewer.

L-Reactor effluents are expected to meet all standards. Thermal streams at the Savannah River Plant (those receiving cooling-water effluent) have been exempt from Class B stream standards under previous NPDES permits. The U.S. Department of Energy has requested a revision of the present NPDES permit limitations to allow a larger mixing zone in the Savannah River at the mouth of Steel Creek than that allowed under the present permit. The larger mixing zone would accommodate the thermal effluents from L- and K-Reactors. The Department expects a formal response from the South Carolina Department of Health and Environmental Control in the near future.

The U.S. Department of Energy also has asked the South Carolina Department of Health and Environmental Control for a variance to continue the practice of discharging high concentrations of suspended sediments for short periods of time from the cooling-water basin in the L-Reactor area to Steel Creek. Periodically, these basins are flushed with Savannah River water to remove accumulated sediments.

The L-Reactor area will contain two surface fuel-oil storage tanks with capacities of approximately 30,000 and 11,000 liters. Each tank has a spill containment structure around it. If a spill occurs and the containment structure leaks, the flow would travel about 4 meters from the 30,000-liter tank, or about 400 meters from the 11,000-liter tank, before it reached a storm sewer.

Oil entering the storm sewer eventually would reach the L-Reactor area process sewer and discharge to Steel Creek. The L-Reactor area will be included in the Spill Prevention Containment and Control plans for the Savannah River Plant.

## 6.5 WETLANDS

Executive Order 11990, Protection of Wetlands (May 24, 1977), requires Federal agencies to incorporate wetlands protection into their decision making. The U.S. Department of Energy has published guidelines based on this Executive Order (Compliance with Floodplain/Wetlands Environmental Review Requirements, 10 CFR 1022).

If L-Reactor operations are resumed, the discharge of the thermal effluent as proposed will impact the wetlands along Steel Creek and in the Savannah River swamp. Thermal effluents and increased stream flow will inundate both wetland areas; change the erosion and the deposition of sediments in Steel Creek and the adjoining swamp; and eliminate functioning wetland habitats for both endangered and nonendangered species. To comply with this Executive Order and its own regulations, the U.S. Department of Energy must prepare a wetlands assessment that describes the proposed action, potential effects on wetlands and alternatives. Appendix B provides this assessment.

## 6.6 AIR QUALITY

The authority for the regulation of air emissions has been delegated by the U.S. Environmental Protection Agency to the Bureau of Air Quality Control of the South Carolina Department of Health and Environmental Control. The Bureau issues operating permits and performs Prevention of Significant Deterioration (PSD) reviews.

No SCDHEC operating permits will be required for facilities supplying steam and electric power to L-Reactor on a continuous basis, nor will PSD reviews be required. Modifications to the operating permits have been issued for increased nitrous oxide emissions from the process facilities in the F-, H-, and M-Areas. Operating permits will be required for three emergency diesel generators.