

DOE/EA - 1010

**ENVIRONMENTAL ASSESSMENT  
FOR THE  
CONSTRUCTION AND OPERATION  
OF THE  
ENVIRONMENTAL MONITORING  
LABORATORY  
ON THE  
SAVANNAH RIVER SITE**



**JULY 1995**

**UNITED STATES DEPARTMENT OF ENERGY  
SAVANNAH RIVER OPERATIONS OFFICE  
SAVANNAH RIVER SITE**

**Revised Finding of No Significant Impact  
for the Construction and Operation  
of the  
Regulatory Monitoring and Bioassay Laboratory  
(formerly the Environmental Monitoring Laboratory)  
at the Savannah River Site**

**Agency:** U.S. Department of Energy

**Action:** Revised Finding of No significant Impact

**Summary:** The Department of Energy (DOE) prepared an environmental assessment (EA) (DOE/EA-1010) for the proposed construction and operation of a new Environmental Monitoring Laboratory (EML) at the Savannah River Site (SRS) near Aiken, South Carolina. Based on the analysis in the EA, DOE determined the proposed action was not a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act (NEPA) of 1969, as amended. Therefore, the preparation of an environmental impact statement (EIS) was not required, and DOE issued a Finding of No Significant Impact (FONSI) dated August 3, 1995.

*Missions at the Site continued to change resulting in a revision to the scope of the EML project. Part of the revision includes the incorporation of the activities planned for the Health Physics Site Support Facility (HPSSF) into the EML. The HPSSF was analyzed in an EA (DOE/EA-1022). DOE issued a FONSI for this facility on July 12, 1995.*

As these two facilities (1) were originally planned to be located adjacent to one another, (2) each facility received a FONSI, and (3) the combined activity will be less than the original two projects with reduced potential impacts, DOE has concluded that the environmental impacts of the proposed combination facility (Regulatory Monitoring and Bioassay Laboratory) is not a major Federal action significantly affecting the quality of the human environment within the meaning of NEPA. Therefore, the preparation of an EIS is not required, and DOE is therefore issuing a revised FONSI.

**Public Availability:** Copies of the existing EAs and FONSIs or further information on the DOE NEPA process are available from:

Andrew R. Grainger  
SR NEPA Compliance Officer  
U.S. Department of Energy  
Savannah River Operations Office  
773-42A, Room 212  
Aiken, South Carolina 29808  
Phone/Fax: (800) 881-7292  
e-mail: nepa@srs.gov

**Background:** The existing EML operations are located in buildings 735-A, 735-11A, 735-16A, and 773-18A. These facilities can not continue to support the current analytical work required to support the Environment, Safety, and Health mission to provide radiological and chemical protection for SRS workers, the public, and the environment. Building 735-A, constructed in the early 1950s, is nearing the end of its design life. Building 735-11A, constructed in 1986, cannot support radiological preparation activities due to extensive ventilation duct corrosion. Buildings 735-16A and 773-18A are trailers used to house Environmental Monitoring Section (EMS) personnel. The SRS Health Physics Department technical support laboratories and some of the departmental offices presently occupy facilities within Building 735-A that were designed and constructed in

1952. This space is no longer adequate to support the radiological protection needs of SRS.


**Proposed Action:** The proposed action is to combine the functions previously planned for the Environmental Monitoring Laboratory and the Health Physics Site Support Facility into one facility to be called the Regulatory Monitoring and Bioassay Laboratory (RMBL). The RMBL is to be one of three buildings located in the Health Protection Complex in B-Area. The facility would provide approximately 7432 square meters (80,000 square feet) of laboratory space, personnel offices, and support areas such as records storage and chemical storage.

**Alternatives:** The major alternative is to build each facility as originally designed. However, since the scope of work contemplated for each facility has been reduced, both facilities would be over designed. Each facility could be reduced in size to accommodate their individual reduced scopes. This would result in higher capital and operational costs per work unit. Other alternatives such as sending the work off-site, continuing to utilize the existing facilities, upgrading the existing facilities, were reviewed in the original EAs and rejected for cost and/or safety reasons.

**Environmental Impacts:** The potential consequences of the proposed construction and operation of the original two facilities were assessed to determine whether they would have significant impact to water, air, and land resources; floodplains and wetlands; ecological and cultural resources; health and safety; socioeconomic conditions; and transportation. All impacts were expected to be either minimal or negligible for two separate facilities. The effect of combining the reduced scopes into one facility is less than the sum of the original facilities impacts.

**Determination:** Based on the information and analysis in the two original EAs (DOE/EA-1010 and DOE/EA-1022) and after careful consideration of all comments received, DOE has determined that the proposed construction and operation of a combined facility on SRS does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of NEPA. Therefore, an EIS is not required and DOE is issuing this revised FONSI.

Signed in Aiken, South Carolina, this 15 day of October, 1997.

  
Mario P. Fiori  
Manager  
Savannah River Operations Office

**Finding of No Significant Impact  
for the  
Construction and Operation  
of the  
Environmental Monitoring Laboratory  
at the Savannah River Site**

**Agency:** U. S. Department of Energy

**Action:** Finding of No Significant Impact

**Summary:** The Department of Energy (DOE) has prepared an Environmental Assessment (EA) (DOE/EA-1010) for the proposed construction and operation of a new Environmental Monitoring Laboratory (EML) at the Savannah River Site (SRS) near Aiken, South Carolina. To support the EML, a Health Protection (HP) Complex Wastewater Neutralization Facility would also be constructed and operated. On the basis of the analyses in the EA, DOE has determined that the proposed action is not a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act (NEPA) of 1969. Therefore, the preparation of an environmental impact statement is not required, and DOE is issuing this Finding of No Significant Impact (FONSI).

**Public Availability:**

Copies of the EA and FONSI or further information on the DOE NEPA process are available from:

A. R. Grainger  
SR NEPA Compliance Officer  
Environmental Compliance Division  
Savannah River Operations Office  
P. O. Box 5031  
Aiken, South Carolina 29804  
Phone/FAX: (800) 242-8269  
E-mail: nepa@barms036.b-r.com

**Background:** The existing EML operations are located in buildings 735-A, 735-11A, 735-16A, and 773-57A. These facilities cannot continue to support the current analytical work required to support the Environment, Safety, and Health mission to provide radiological and chemical protection for SRS workers, the public, and the environment. Building 735-A, constructed in the early 1950's, is nearing the end of its design life. In addition to ventilation system failures that have occurred in isolated laboratory modules, there has been inadequate temperature and humidity control. In the past, the facility waste neutralization system capabilities have been substandard or non-existent. Building 735-11A constructed in 1986, cannot presently support radiological preparation activities due to extensive ventilation duct corrosion. Neither building is equipped to meet the current sample preparation requirements. Buildings 735-16A and 773-57A are trailers used to house Environmental Monitoring Section (EMS) personnel.

**Proposed Action:** The proposed action is to construct and operate a new EML at the SRS. This new facility would allow the EMS to consolidate environmental operations. The facility would provide adequate accommodations for laboratory analyses, computer analytical functions, and administrative space. The new radioanalytical laboratories

would have acid-resistant hoods, ductwork, and exhaust fans. The laboratories would also contain improved temperature and humidity controls to ensure proper functioning of the analytical instruments and reliable analyses.

To support the EML, an HP Complex Wastewater Neutralization Facility would also be constructed and operated. This facility would collect wastewater from laboratory modules, safety showers, lab floor drains, and scrubbers. This facility would also be designed to handle wastes from the new HP facility, which would be located in B Area near the EML. The HP facility is covered under separate NEPA documentation.

**Alternatives:** In addition to the proposed action, DOE considered the following alternatives:

- No Action (i.e. continue to use existing facilities);
- Utilize shifts in existing facilities;
- Use of off-site facilities for sample analyses; and
- Upgrade existing facilities.

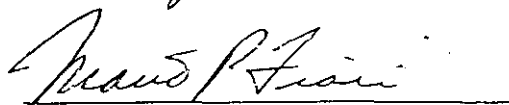
The no-action alternative is not a reasonable alternative because current conditions would continue to deteriorate. Going to shift work would address operational concerns, but would not address the deterioration problem. Use of off-site facilities is not cost-effective, and would not address the deterioration problem. Upgrading the existing facilities would address the operational and deterioration concerns, but would be costly. Combining the EML with the new HP facility would also address the operational and deterioration concerns, but would again be too costly to implement.

**Environmental:** There are not expected to be any significant impacts due to construction and operation of the proposed facility. One potential impact identified during construction and operation of this facility is erosion due to stormwater runoff. These impacts would be mitigated by taking appropriate erosion control measures, and the construction of a new stormwater retention basin. Construction debris is not expected to be hazardous and would be disposed of in the designated off-site sanitary landfill or on-site erosion control pit. All other impacts are expected to be either minimal or negligible.

The principle cumulative impact of the proposed action is an increase in demands placed on the B Area domestic water supply. These demands as well as demands due to other proposed B Area projects through 1999 are well within the capacity of the B Area domestic water system.

**Determination:** Based on the information and analyses in the EA, DOE has determined that the proposed construction and operation of the EML does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of NEPA. Therefore, an environmental impact statement is not required and DOE is issuing this FONSI.

Signed in Aiken, South Carolina, this 3 day of August, 1995.

  
Mario P. Fiori  
Manager  
Savannah River Operations Office

DOE/EA-1010

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## **1.0 PURPOSE AND NEED FOR ACTION**

The Department of Energy (DOE) needs to take action to ensure the Environmental Monitoring Program at Savannah River Site (SRS) can adequately and reliably support current and projected future environmental monitoring operations.

The existing Environmental Monitoring Laboratory (EML) operations are located in buildings 735-A, 735-11A, 735-16A, and 773-57A. Since the construction of these facilities, there have been some upgrades to systems such as the heating, ventilation, and air conditioning (HVAC) system and drainage system. However, the facilities remain basically unchanged. These facilities cannot continue to support the current analytical work required to support the Environment, Safety, and Health mission to provide radiological and chemical protection for SRS workers, the public, and the environment.

Building 735-A was constructed in the early 1950's and is nearing the end of its design life. In addition to ventilation system failures that have occurred in isolated laboratory modules, there has been inadequate temperature and humidity control. In the past, the facility waste neutralization system capabilities have been substandard or non-existent. Building 735-11A was constructed in 1986, but cannot support radiological preparation activities due to extensive ventilation duct corrosion. Neither building is equipped to meet the current sample separation requirements. Buildings 735-16A and 773-57A are trailers used to house Environmental Monitoring Section (EMS) personnel.

## **2.0 PROPOSED ACTION AND ALTERNATIVES**

### **2.1 Proposed Action**

The proposed action is to construct and operate a new Environmental Monitoring Laboratory. The construction of the 5574 m<sup>2</sup> (60,000 ft<sup>2</sup>) facility will allow the EMS to consolidate environmental operations. The facility will be constructed to provide adequate accommodations for laboratory analyses, computer analytical functions, and administrative space. The new radioanalytical laboratories will have acid-resistant hoods, ductwork, and exhaust fans. The laboratories will also contain improved temperature and humidity controls to ensure proper functioning of the analytical instruments and reliable analyses.

To support the EML, a Health Protection (HP) Complex Wastewater Neutralization Facility will be constructed in order to collect wastewater from laboratory modules, safety showers, lab floor drains, and scrubbers. This facility will also be designed to handle wastes from the new HP facility, which will be located in B Area near the EML. The HP facility is covered under separate National Environmental Policy Act (NEPA) documentation.

#### **2.1.1 Construction**

Construction is scheduled to begin in June 1997, and be completed December 1998. Construction would require the clearing of approximately 11 acres for the project. Construction would also include grading, erosion and sediment control, hookups to existing support services (i.e., domestic water supply, sanitary sewage system, site electrical distribution system, telecommunications), access roads, parking lots, sidewalks, and landscaping.



### 2.1.2 Operation

Operation is scheduled to begin March 1999. The EML will support two functional monitoring areas: 1) radiological analyses for effluent monitoring, environmental surveillances, and groundwater samples; and 2) chemical analyses of surface water, National Pollution Discharge Elimination System (NPDES) outfall, and groundwater samples. The HP Complex Wastewater Neutralization Facility will be designed to accommodate batch treatment using ion exchange, filtration, oxidation, reduction, distillation, and neutralization, and evaporation. Once the EML has begun operation, the final disposition of the old laboratory facilities will be handled under separate NEPA documentation. When required, D&D of the EML will also be handled under separate NEPA documentation (DOE, 1995).

Table 1 contains a listing of the hazardous chemicals and compressed gases used in the EML. External storage for these materials will be provided. Table 2 contains a listing of the radionuclides that are used as standards, controls, or identified by radioanalytical methods performed in the EML.

### 2.1.3 Waste Streams

Operation of the EML and HP Complex Wastewater Neutralization Facility will produce four types of waste:

- Moisture entrained air
- Sediments from evaporation
- Filters
- Spent ion exchanger resin

Typical EML operations produce approximately 100 liters (27 gallons) per day of acidified aqueous waste (primarily solutions of nitric and hydrochloric acids). This waste will be filtered to remove sediments, then neutralized. Oxidizers and reducers are added as necessary to reduce toxicity or alter solubility. Additional filtration and ion exchange remove chemical impurities. Fully treated wastewater is sampled, then sent to the evaporator. Residual sediments (primarily sodium nitrate) from evaporation will be filtered and disposed of in the appropriate on-site facility. Sediments are expected to be produced at the rate of one 208 l (55 gallon) drum every 9 days. The stack emissions will be mostly moisture-entrained air. Some tritiated moisture is expected to escape, but projected levels will not require continuous monitoring.

The filters are mechanical traps and capture primarily particulate impurities, both radioactive and non-radioactive. Ion exchange removes ionic impurities that are dissolved in wastewater, both radioactive and non-radioactive. Spent filters and ion exchange resin will be disposed of in other SRS facilities as appropriate.

### 2.1.4 Justification for Proposed Action

The DOE believes that the proposed action best meets the purpose and need for radioanalytical work is currently performed in building 735-A, a 40 year old building at the end of its life cycle. This building was not designed to support the current scope of analyses with regard to type, capacity, and number of samples to be analyzed. Catastrophic ventilation system failures have occurred in isolated labs and are expected to become prevalent within ten years. Extensive ventilation duct corrosion has rendered Building 735-11A useless for radiological preparation purposes. However, the vacated

**Table 1. Hazardous Chemicals and Compressed Gas Listing**

Chemical or Gas Name	Chemical or Gas Name
1-octanol	Ethylene diamine tetraacetic acid
Acetone	Ferrous sulfamate
Acid, acetic	Helium gas
Acid, hydrochloric	Hexone
Acid, hydrofluoric	Hydrogen gas
Acid, nitric	Hydrogen peroxide
Acid, oxalic	Ion exchange resin mesh
Acid, phosphoric	Liquid argon
Acid, sulfuric activated carbon	Liquid nitrogen
Aluminum chloride	Methanol
Aluminum nitrate	Neutra-Sol
Ammonium acetate	P-10 gas
Ammonium chloride	Phenol
Ammonium hydroxide	Silver nitrate
Ammonium iodide	Sodium bisulfite
Ammonium oxalate	Sodium hydroxide
Ammonium phosphate, dibasic	Sodium nitrite
Ammonium phosphate, monobasic	SR-Spec U-TEVA-Spec
Calcium nitrate	Tetrabutylammonium hydroxide titrant
Compressed air	Toluene
Di-2-ethylhexyl phosphoric acid	Triisooctylamine
Diethylene triamine pentaacetic acid	Uraplex
Diethylenecarbamyl phosphate	Xylene
Ecolite	
Ethyl alcohol	
Octyl (phenyl)-NN-diisobutyl carbamyl-methyl phosphine oxide	
Bis-4,4'(5') [t-butyl cyclohexanol]-18-crown-6	

buildings can be utilized by the Industrial Hygiene Section and the Environmental Transport Section with little or no renovation.

Alternatives to the proposed action that meet the purpose and need do so at greater expense. At a total estimated cost of \$26.5 million for the EML and HP Complex Wastewater Neutralization Facility, cost is favorable compared with upgrades to existing facilities (\$46 million) and building a combined EML/HP building (\$110 million versus \$48 million for separate structures).

Alternatives that do not meet the purpose and need do not address the issue of the deteriorating HVAC system nor provide space relief for equipment, sample storage, and personnel. Sending additional samples offsite is limited and needlessly increases

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**Table 2. Radionuclide Listing**

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General	Mixed Gamma Standards	Samples
Americium 241	Cadmium 109	Cesium 137
Cesium 137	Cesium 137	Strontium 90
Iodine 131	Cobalt 57, 60	Tritium (Hydrogen 3)
Phosphorus 32	Cerium 139	
Plutonium 238, 242	Mercury 203	
Promethium 147	Strontium 85	
Strontium 85, 89, 90	Tin 113	
Sulfur 35	Yttrium 88	
Tritium (Hydrogen 3)		
Uranium 235		
Yttrium 88		

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turnaround times at a slightly greater cost than on-site analysis. Shift operations only address analytical and operational concerns. The no action alternative does not meet the purpose and need.

## **2.2 Alternatives to the Proposed Action**

In accordance with NEPA regulations, DOE examined the following alternatives to the proposed action:

- No action, continue to use existing facility
- Utilize shifts in existing facilities
- Off-site sample analysis
- Upgrade existing facilities
- Combine EML With Health Protection Facility

### **2.2.1 No Action Alternative; Continue to Use Existing Facility**

The no action alternative would be to continue using the existing facilities. Under this alternative, more frequent HVAC system failures would result in costly productivity losses, as well as rapid increases in preventive and corrective maintenance costs. This alternative does not address increases in the number of samples to be analyzed, nor does it address the lack of space. Therefore, the no action alternative does not meet the purpose and need.

### **2.2.2 Utilize Shifts in Existing Facilities**

The first alternative examined was to utilize workers in shifts in the existing facilities. This would address analytical and operational concerns but would not address the issue of the deteriorating HVAC system nor provide space relief for equipment, sample storage, and personnel. In addition, the deterioration problem would be aggravated as acid-digestion hoods and ventilation systems worsen under heavier use.

### **2.2.3 Off-site Sample Analysis**

The next alternative examined was to send samples off site. Due to turnaround time constraints, only environmental surveillance samples could be sent off site. Cost estimates indicate that off-site analysis would be \$5.6 million/year, while on-site cost would be slightly lower at \$5.4 million/year. However, the same number of on-site staff would be required to collect, screen, and ship the samples, validate returned results, then prepare the necessary environmental reports. This alternative does not address the issue of the deteriorating HVAC system nor provide space relief for equipment, sample storage, and personnel.

### **2.2.4 Upgrade Existing Facilities**

The next alternative examined was to upgrade buildings 735-A and 735-11A, and to expand into nearby HP laboratories when they are vacated in the 1995-1999 time frame. The cost estimate for this alternative was \$46 million. This cost is high is due to extensive refurbishment and replacement of HVAC equipment, ventilation ductwork, and hoods.

### **2.2.5 Combine EML With Health Protection Facility**

Another alternative examined was to combine the Environmental Monitoring Laboratory with the new HP facility. The cost of such a combined facility was estimated to be \$110 million, compared to \$48 for the cost of separate new facilities. The cost of a combined facility was higher than the cost of separate buildings due to a larger number of Radiological Control Area modules as well as a larger scope of parameters sampled.

## **3.0 AFFECTED ENVIRONMENT**

The SRS is a 198,000 acre complex located in southwestern South Carolina on the Savannah River, which forms the border with Georgia (Figure 1). With its construction in the early 1950s, the primary mission of SRS was to produce materials to support the nuclear weapons program of the United States. To support this mission, facilities were constructed to monitor the environmental impacts of SRS operations on the environment. With the demise of the Soviet Union, the mission focus for the SRS has shifted more towards cleanup and environmental restoration while reducing production and other nuclear weapons complex activities. A comprehensive discussion of the SRS and its general environment can be found in Continued Operation of K-, L-, and P-Reactors, (DOE, 1990), and Reactor Operation Environmental Information Documents (WSRC, 1989a, 1989b, Wike et al., 1994).

The specific site selected for the EML and HP Complex Wastewater Neutralization Facility is in B Area. This location is currently undeveloped, and is primarily forest. The nearest wetland is a Carolina Bay located 2.4 km (1.5 miles) away. The nearest surface water is Upper Three Runs located 3.2 km (2 miles) away. The nearest river is the Savannah River

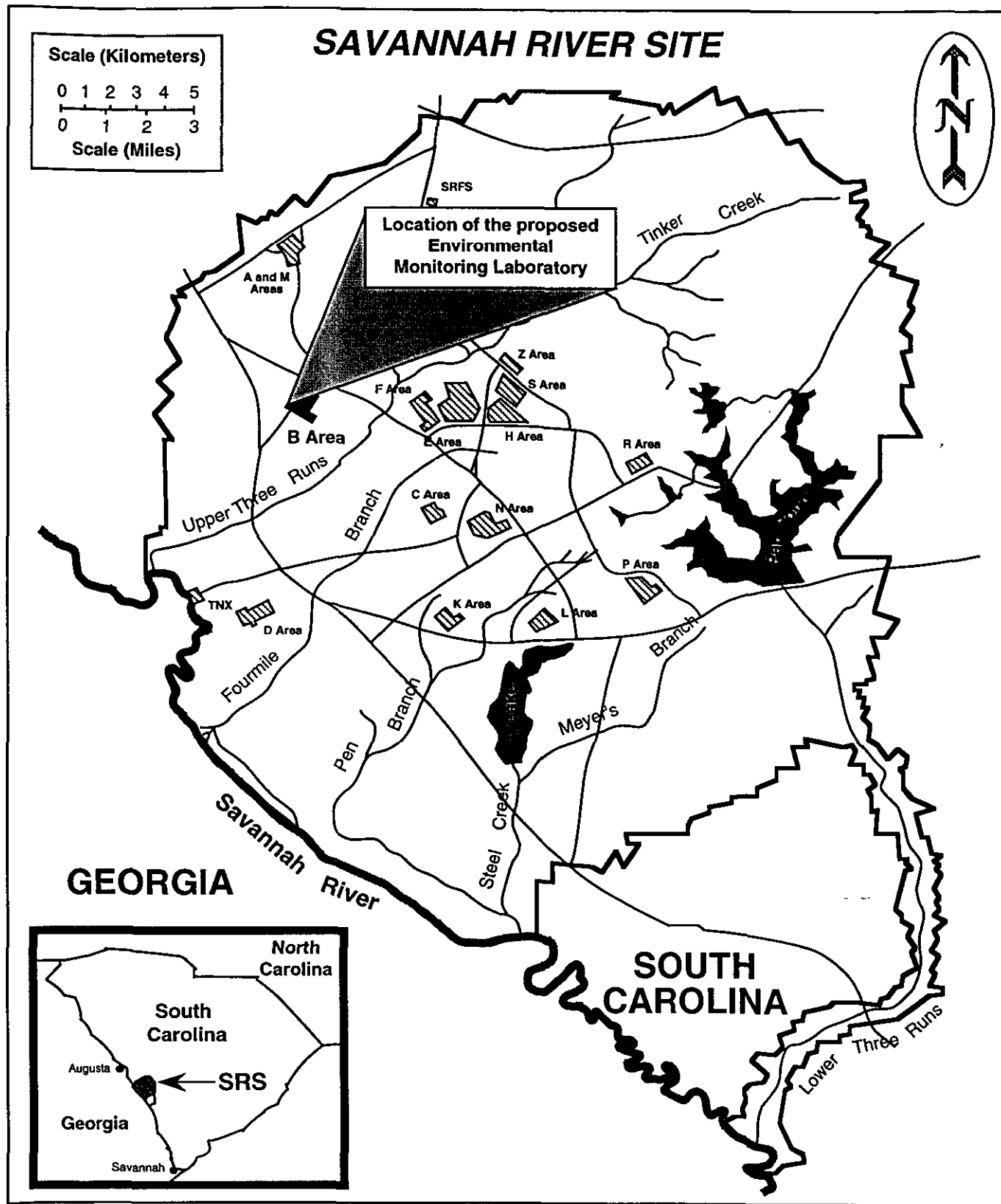


Figure 1. Location of the proposed Environmental Monitoring Laboratory at the Savannah River Site, South Carolina.

located about 8.0 km (5 miles) away. The proposed location contains no threatened or endangered species, no prime or unique farmland, no state or national parks, no wild or scenic rivers, natural resources, historical or archaeological sites, no sites of concern to Native Americans, and is not located near any minority or low income populations.

#### **4.0 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION**

As part of the routine Site Use Permit system, a prospective building site is evaluated for impacts of construction and operation of the new facility on ecological and archaeological resources. Archaeological impacts are evaluated by the University of South Carolina Archaeological Department. Ecological impacts are evaluated by the Savannah River Technology Center (SRTC).

##### **4.1 Construction**

**Potential Impacts** - There are not expected to be any significant impacts that occur due to construction. One potential impact to streams and wetlands during construction would be erosion and stormwater runoff, but control measures will be taken during construction to *minimize any impacts from runoff*. Construction debris are not expected to contain any hazardous material and will be disposed of in the designated off-site sanitary landfill or on-site Erosion Control Pit.

**Negligible Impacts** - There are not expected to be any impacts due to construction on threatened or endangered species, on prime or unique farmland, on state or national parks, on wild or scenic rivers, natural resources, historical or archaeological sites, on sites of concern to Native Americans, or on minority or low income populations.

##### **4.2 Operation**

**Potential Impacts** - There are not expected to be any significant impacts that occur due to operation. A stormwater retention basin will be built in order to mitigate any impacts to streams and wetlands due to stormwater runoff during operation. Socioeconomic impacts are expected to be minimal. Operation of the new facilities would employ up to 94 people. Current operations requires staffing of 113 people. Impacts due to air emissions from the evaporator are minimized by treatment. Groundwater impacts will be minimal. Domestic water and fire water systems will use existing B Area wells. The projected domestic water demand of 1.9 liters per of the supply aquifer. Fire water usage is expected to be zero.

**Negligible Impacts** - There are not expected to be any impacts due to operation on threatened or endangered species, on prime or unique farmland, on natural resources, historical or archaeological sites, on sites of concern to Native Americans, or on minority or low income population. The proposed action does not impact any surface water resources. No wildlife habitats will be disturbed by facility construction and operation.

**Human Health** - The small inventory of radionuclides in the EML presents no hazard to the general public. An accidental release of the total tritium activity (0.75 curies) would produce an exposure of  $9.97 \times 10^{-5}$  rem at 100 m (328 ft). A similar calculation for the alpha emitters (2.00 x 10<sup>-7</sup> curies of Am-241, 3.00 x 10<sup>-7</sup> curies of Pu-238, 1.00 x 10<sup>-7</sup> curies of Pu-242, 2.00 x 10<sup>-7</sup> curies of U-235) produces a dose no greater than 1.00 x 10<sup>-3</sup> rem at 100 m (328 ft). A release of 100% of the remaining radionuclide inventory will not produce a dose greater than 1.00 x 10<sup>-3</sup> rem at 100 m (328 ft).

A hazard assessment is required when a chemical is present in an amount greater than the Reportable Quantity (RQ) for that chemical as listed in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). For the EML chemical inventory, only nitric acid and silver nitrate are stored in amounts greater than the RQ. Accident release calculations have resulted in the EML being classified a General Use facility. Worker safety will be assured through training, use of procedures, and system design.

#### **4.3 Cumulative Impacts**

The principal cumulative impacts due to construction and operation of the EML and HP Complex Wastewater Neutralization Facility are erosion and sediment transport due to stormwater runoff. This impact would be minimized by erosion control and landscaping.

The projected peak demand of groundwater use from the EML and wastewater plant is 1.9 l/sec (30 gpm), compared to the current peak demand of 4.7 l/sec (75 gpm). The projected peak demand for all of B Area in 1999 is 9.5 l/sec (150 gpm), well within the peak capacity for the B Area domestic water system of 31.5 l/sec (500 gpm).

The combined rate of acidified aqueous waste generated from the EML and HP facility sent to the HP Complex Wastewater Neutralization Facility is expected to be approximately 159 l/day (42 gal/day). The HP Complex Wastewater Neutralization Facility can accommodate up to a design basis of 15142 l/day (4000 gal/day) of combined effluent.

#### **5.0 REGULATORY AND PERMITTING CONSIDERATIONS**

Several Federal or state regulatory and permitting issues were applicable to evaluation and implementation of the proposed action. This EA was prepared to comply with the requirements of NEPA, the Council on Environmental Quality regulations on implementing NEPA (40 CFR Parts 1500-1508), DOE NEPA implementing procedure (10 CFR Part 1021), and DOE Order 5440.1E. A wastewater treatment & effluent discharge permit and modification of the Title V permit are required from the South Carolina Department of Health and Environmental Control (SCDHEC) before construction. An air quality control construction permit may be required by SCDHEC depending on the amount of potential emissions from the evaporator stack. Stormwater runoff control falls under SCDHEC NPDES General Permit 1000000. Disposal of hazardous or mixed wastes that result from operation of the EML and HP Complex Wastewater Neutralization Facility would follow the requirements of the Resource Conservation and Recovery Act (RCRA) and the South Carolina Hazardous Waste Management Regulations.

## 6.0 REFERENCES

- DOE (U.S. Department of Energy), 1990. **Final Environmental Impact Statement - Continued Operation of K-, L-, and P-Reactors, Savannah River Site**, DOE/EIS-0147, Savannah River Operations Office, Aiken, South Carolina.
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- WSRC (Westinghouse Savannah River Company), 1989a. **Reactor Operation Environmental Information Document, Vol. I, Geology, Seismology and Surface Hydrology**, WSRC-RP-89-816, Savannah River Site, Aiken, South Carolina.
- WSRC (Westinghouse Savannah River Company), 1989b. **Reactor Operation Environmental Information Document, Vol. III, Meteorology, Surface Hydrology, Transport and Impacts**, WSRC-RP-89-817, Savannah River Site, Aiken, South Carolina.
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- Wike, L. D., R. W. Shipley, A. L. Bryan, J. A. Bowers, C. L. Cummins, B. R. del Carmen, G. P. Friday, J. E. Irwin, J. J. Mayer, E. A. Nelson, M. H. Paller, V. A. Rogers, W. L. Specht, and E. W. Wilde, 1994. **SRS Ecology: Environmental Information Document**, WSRC-TR-93-496, Savannah River Site, Aiken, South Carolina.



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Environmental Monitoring Laboratory  
at the Savannah River Site**

**Agency:** U. S. Department of Energy

**Action:** Finding of No Significant Impact

**Summary:** The Department of Energy (DOE) has prepared an Environmental Assessment (EA) (DOE/EA-1010) for the proposed construction and operation of a new Environmental Monitoring Laboratory (EML) at the Savannah River Site (SRS) near Aiken, South Carolina. To support the EML, a Health Protection (HP) Complex Wastewater Neutralization Facility would also be constructed and operated. On the basis of the analyses in the EA, DOE has determined that the proposed action is not a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act (NEPA) of 1969. Therefore, the preparation of an environmental impact statement is not required, and DOE is issuing this Finding of No Significant Impact (FONSI).

**Public Availability:**

Copies of the EA and FONSI or further information on the DOE NEPA process are available from:

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P. O. Box 5031  
Aiken, South Carolina 29804  
Phone/FAX: (800) 242-8269  
E-mail: nepa@barms036.b-r.com

**Background:** The existing EML operations are located in buildings 735-A, 735-11A, 735-16A, and 773-57A. These facilities cannot continue to support the current analytical work required to support the Environment, Safety, and Health mission to provide radiological and chemical protection for SRS workers, the public, and the environment. Building 735-A, constructed in the early 1950's, is nearing the end of its design life. In addition to ventilation system failures that have occurred in isolated laboratory modules, there has been inadequate temperature and humidity control. In the past, the facility waste neutralization system capabilities have been substandard or non-existent. Building 735-11A constructed in 1986, cannot presently support radiological preparation activities due to extensive ventilation duct corrosion. Neither building is equipped to meet the current sample preparation requirements. Buildings 735-16A and 773-57A are trailers used to house Environmental Monitoring Section (EMS) personnel.

**Proposed Action:** The proposed action is to construct and operate a new EML at the SRS. This new facility would allow the EMS to consolidate environmental operations. The facility would provide adequate accommodations for laboratory analyses, computer analytical functions, and administrative space. The new radioanalytical laboratories

would have acid-resistant hoods, ductwork, and exhaust fans. The laboratories would also contain improved temperature and humidity controls to ensure proper functioning of the analytical instruments and reliable analyses.

To support the EML, an HP Complex Wastewater Neutralization Facility would also be constructed and operated. This facility would collect wastewater from laboratory modules, safety showers, lab floor drains, and scrubbers. This facility would also be designed to handle wastes from the new HP facility, which would be located in B Area near the EML. The HP facility is covered under separate NEPA documentation.

**Alternatives:** In addition to the proposed action, DOE considered the following alternatives:

- No Action (i.e. continue to use existing facilities);
- Utilize shifts in existing facilities;
- Use of off-site facilities for sample analyses; and
- Upgrade existing facilities.

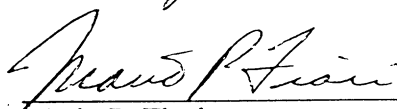
The no-action alternative is not a reasonable alternative because current conditions would continue to deteriorate. Going to shift work would address operational concerns, but would not address the deterioration problem. Use of off-site facilities is not cost-effective, and would not address the deterioration problem. Upgrading the existing facilities would address the operational and deterioration concerns, but would be costly. Combining the EML with the new HP facility would also address the operational and deterioration concerns, but would again be too costly to implement.

**Environmental:** There are not expected to be any significant impacts due to construction and operation of the proposed facility. One potential impact identified during construction and operation of this facility is erosion due to stormwater runoff. These impacts would be mitigated by taking appropriate erosion control measures, and the construction of a new stormwater retention basin. Construction debris is not expected to be hazardous and would be disposed of in the designated off-site sanitary landfill or on-site erosion control pit. All other impacts are expected to be either minimal or negligible.

The principle cumulative impact of the proposed action is an increase in demands placed on the B Area domestic water supply. These demands as well as demands due to other proposed B Area projects through 1999 are well within the capacity of the B Area domestic water system.

**Determination:** Based on the information and analyses in the EA, DOE has determined that the proposed construction and operation of the EML does not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of NEPA. Therefore, an environmental impact statement is not required and DOE is issuing this FONSI.

Signed in Aiken, South Carolina, this 3 day of August, 1995.



Mario P. Fiori  
Manager  
Savannah River Operations Office