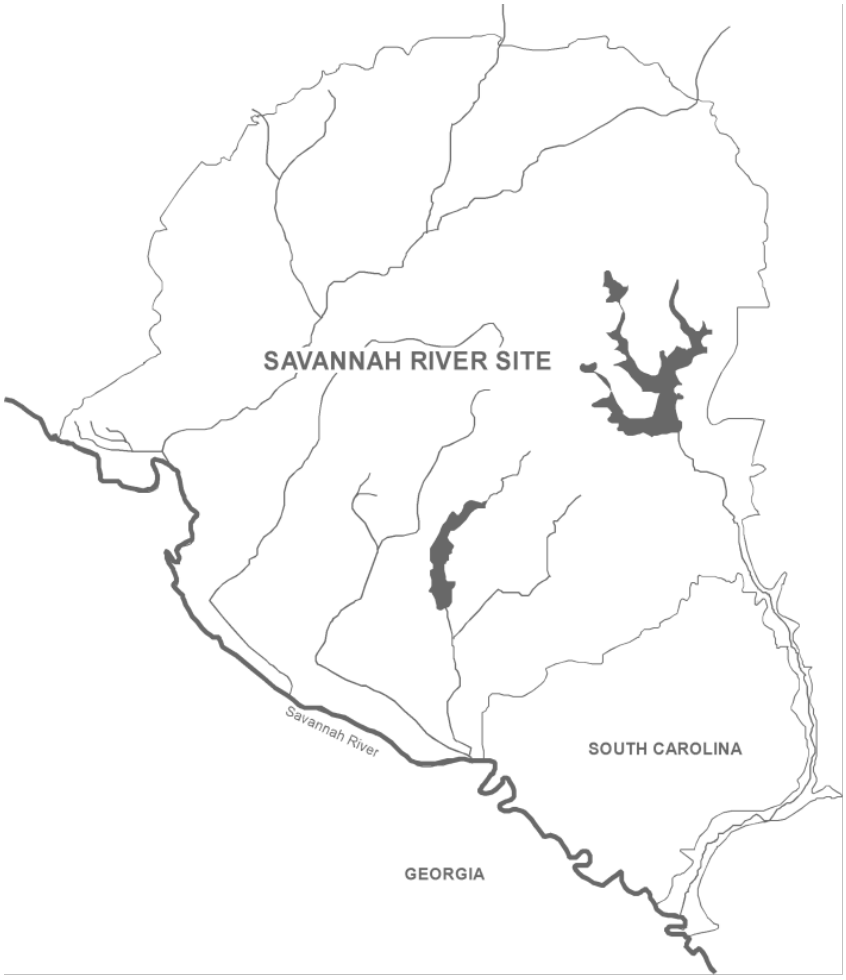
United States Department of Energy

Savannah River Site

Ten Year Site Plan
Limited Update

FY 2015 – 2024

June 2014



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Prepared for
U. S. Department of Energy
by
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Aiken, South Carolina

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1. Summary

This Savannah River Site (SRS) Ten Year Site Plan (TYSP) is a limited update of the Site's status from last year's plan, issued in May 2013. SRS is participating in the infrastructure assessment commissioned by the Department Of Energy's (DOE) Laboratory Operations Board (LOB) and is dedicating significant resources to conduct these assessments which will provide a thorough analysis of infrastructure condition and functionality. DOE streamlined the Fiscal Year (FY) 2014 requirements for the annual update of the TYSP and the associated real property assessment data, tables, attachments, and program and mission information. This update will outline significant changes in real property management at SRS and a provide list of proposed real property investments needed for FY2014-FY2016.

2. Site Overview, Missions and General Planning Assumptions

SRS covers 310 square miles in Aiken, Allendale and Barnwell counties of South Carolina. The Site boundary is approximately 12 miles south of Aiken, SC and 15 miles southeast of Augusta, GA and is bound on its southwestern border by the Savannah River. SRS is well into the process of environmentally remediating and cleaning up the legacy of nuclear materials production from the 1950s through the 1980s. Over 85 percent of the industrial footprint has been cleaned up and remediated for potential reuse or development. Cleanup operations of major nuclear facilities supporting disposition of liquid waste and surplus weapons plutonium will continue for several more decades. The Environmental Management (EM) cleanup program, involving stabilization and disposition of nuclear materials and disposition of liquid waste and tank closure, is expected to continue through FY2042. Cleanup of the facilities that support those missions, as well as the current EM nuclear materials management and National Nuclear Security Administration (NNSA) tritium operations, are enduring missions that will last well beyond the EM cleanup program and require a well-maintained supporting infrastructure at SRS.

The following assumptions address key expectations regarding the future direction of SRS missions, land and facilities and functional capabilities. These assumptions provide strategic guidance for the SRS planning process.

- SRS will maintain its current physical boundary under the ownership of the federal government in perpetuity, except where lease or transfer to the private or public sectors in accordance with applicable laws and regulations aligns with DOE objectives and enhances economic development in the surrounding region. As a result of land use control commitments made to the Environmental Protection Agency and the South Carolina Department of Health and Environmental Control, SRS prefers to make property available by lease rather than fee simple transfer. SRS anticipates future interest by both governmental and private entities in new uses of its land.
- EM cleanup operations are projected to continue through the year 2042 and will be transitioned to Long-Term Stewardship (LTS) activities.
- NNSA Nuclear Nonproliferation missions will be completed, while NNSA Defense Programs will continue in perpetuity.

3. Management Concerns

- Relationships with the State of South Carolina are strained by the FY2015 Budget Request.
- SRS has facilities, resources, and the skilled workforce required to disposition nuclear materials. These assets are unique to SRS, the DOE Complex and the Nation and are vital to national security; however, the facilities and supporting common infrastructure, much of which is over 60 years old, is in need of reinvestment so that they can continue to safely support the missions. The Defense Nuclear Facility Safety Board (DNFSB) noted [1]safety-related aging infrastructure issues with H-Canyon, Tank Farms and fire protection water supply systems in A-Area.
- SRS deferred maintenance (DM) is currently estimated to be just over one billion dollars. This deteriorating infrastructure has increasingly resulted in reduced operational capability and higher repair or replacement costs.
- Over the past 10 years, funding for infrastructure maintenance has declined considerably as budget constraints increased and funds were needed to support direct mission activities. As a result, cannibalization of parts, costly piecemeal maintenance, temporary modifications, and in some cases work-arounds have been performed in order to sustain functional performance of many facilities, equipment and systems. This has resulted in an excessive, expensive and inefficient utilization of resources and increased the cost of future capital infrastructure investment.
- SRS assumes that the Savannah River National Laboratory (SRNL) will remain the lead National Laboratory supporting the DOE-EM program. SRNL has documented more than $5 billion in savings to the EM program in the last five years; SRNL science and technology innovation is expected to play a significant role in reducing the to-go costs across the complex for the EM program. To fulfill this role, SRNL will need to assure that both infrastructure and core competencies are available and sufficient to meet expectations associated with both a Site and national program.
- Nuclear materials are managed by multiple programs within DOE. In order to be most effective, an integrated nuclear materials management strategy is necessary. At Savannah River, the EM closure mandate could conflict with the need for long-term maintenance of the technical competencies and infrastructure needed to successfully manage proliferation-sensitive nuclear materials from around the world.
- Flat funding and delays in the Salt Waste Processing Facility (SWPF) project are impacting progress in the tank waste system, tank closures and ramp up of SWPF operations.
- Security requirements and the inability to ship to the Waste Isolation Pilot Project (WIPP) for up to several years will impact the Site's ability to disposition plutonium.
- The Site's long-term ability to effectively support mission requirements is at risk due to the expected attrition and loss of workforce talent, knowledge and skill base. A significant percentage of SRS personnel have reached or are nearing retirement age. Hiring new employees and retaining experienced employees are challenged by budget uncertainties and regional competition with two new commercial nuclear plants under construction.

[1] RE: Letter, P.S. Winokur, Ph.D. to E.J. Moniz. October 30, 2013.

4. Significant Accomplishments

- Completed the American Recovery and Reinvestment Act (ARRA) cleanup project work at SRS.
- Savannah River Tritium Enterprise (SRTE) completed 100 percent of mission deliverables on schedule – including reservoirs, gas transfer systems and functions tests – despite a planned facility outage that lasted for several weeks.
- Processed some used nuclear fuel vulnerable to long term wet storage through H-Canyon.
- Shipped down-blended plutonium that was not a candidate for processing in the Mixed-Oxide Fuel Fabrication Facility (MFFF) to the WIPP.
- The Defense Waste Processing Facility (DWPF) completed production of 225 canisters, 25 more than the goal.
- Developed a Deactivation Plan for 235-F (Pu-238 production facility).
- Legacy Transuranic (TRU) waste characterization was completed. TRU waste shipments are far ahead of schedule.
- Saltstone Facilities made history in FY2013, processing for the first time over 2M gallons of decontaminated salt solution in a single year.
- The construction of Saltstone Disposal Units (SDU) #3 and #5 were completed ahead of schedule and under budget. Each will hold 2.9M gallons of waste/grout mixture.
- The Interim Salt Disposition Process (ISDP), which consists of the Actinide Removal Process (ARP) and Modular Caustic Side Solvent Extraction Unit (MCU), processed over 1M gallons of waste.
- Completed conversion of MCU to a new Next Generation Solvent to improve radionuclide removal.
- Waste Tanks #5, #6, #18 and #19 were successfully closed, resulting in the most substantial environmental risk reduction in the state since 1997.
- Operated the newly installed system for recovery and bottling of helium-3.
- Added new tritium to the nation's supply by extracting tritium from the Cycle 10b Tritium Producing Burnable Absorber Rods (TPBARS) and received and stored the Cycle 11a and 11b TPBARs for future extraction.
- Continued to execute the Tritium Responsive Infrastructure Modification (TRIM) Program to relocate and right-size functions from Cold War legacy facilities into modern facilities.
- Completed dissolution of three batches of non-pit plutonium (AFS-2) in H-Canyon to prepare for conversion in HB-Line upon startup.
- Successfully completed the final stages of an initiative that began in 2006 by implementing the replacement Automated Reservoir Management System (ARMS II), a major undertaking that required a five-week facility outage and coordination across the U.S. Nuclear Security Enterprise.
- Completed a major facility safety basis upgrade, operator training procedures, software upgrades, and cold demonstration runs to support start up readiness in HB-Line for production of plutonium oxide feed material for the MFFF.
- A contract was signed for receipt, processing and recovery of uranium from Canadian liquids containing Highly Enriched Uranium (HEU) originally from the United States.
- Operated and maintained 39 regulatory-required soil and groundwater remedial systems.
- Met all current enforceable Federal Facility Agreements (FFA) and Resource Conservation & Recovery Act (RCRA) permit commitments.
- Conducted post-closure and post-Record of Decision care and surveillance and maintenance at 121 closed waste units.
- Monitored, sampled, performed environmental analysis and reported on over 3,000 groundwater wells and five major streams.

5. Major Changes From Last Year's Plan

- Revision 19 of the *Liquid Waste System Plan* was completed and focuses on continuing risk reduction activities through maintaining safe storage and facility configuration, bulk waste removal and disposition, tank cleaning and closure, and vitrification of high level waste.
- The NNSA Fissile Materials Disposition Program may be impacted by the following two emerging items:
  - NNSA has directed that construction be completed on the Waste Solidification Building and then placed in lay-up for a period of not less than five years.
  - The FY2015 President's Budget Request for NNSA "...reflects a decision to place the Mixed Oxide (MOX) project in cold standby to further study more efficient options for plutonium disposition." However, neither formal approvals have been received nor has contract direction been given to commence cold standby as of this report.
- Deferred maintenance is continuing to increase as the Site is nearing the completion of the first five-year cycle of condition assessments and is now evaluating more complex facilities. The data is being analyzed, and further assessments are being conducted as part of the LOB Infrastructure Assessments. As part of the LOB initiative, the definitions of asset conditions have been redefined as *Adequate*, *Inadequate* or *Substandard*.
- The number of *active* Site structures in the Facility Information Management System (FIMS) has increased by 284 since last year to a total of 1,972 as the addition of existing facilities to FIMS continues.
- The Site workforce decreased by 1,274 people to a total of 10,175, as a result of normal attrition as well as an involuntary workforce reduction in the liquid waste operations due to budget constraints.
- Revision nine of the Critical Infrastructure Integrated Priority List (CIIPL)was reviewed and approved by the Executive Integrated Project Team.
- Revision three of the *SRNS Comprehensive Consolidated Housing Plan* was completed. This plan has reduced the administrative and support staff footprint and maximized warehouse utilization.

6. Freeze The Footprint

SRS supports the Office of Management and Budget's (OMB) Freeze The Footprint (FTF) initiative that requires office and warehouse space to remain at or below square footage baseline targets established in FY2012.

The current SRS office and warehouse space square footage is approximately 3.7M square feet, which consists of just over 3.6M square feet for EM and 83K square feet for NNSA. The EM square footage is now below the FY2012 baseline cap, while NNSA has slightly above their baseline of 56K square feet due to the completion of projects that were already under construction prior to the establishment of the baseline. One facility was transferred from EM and was re-purposed from a medical facility to an administrative office building. This increase of square footage does not violate the FTF mandate per *OMB Memorandum M-12-12 Section 3: Freeze the Footprint, Annual Agency Evaluation, FY 2013 May 21, 2014*.

See Table 1 for FTF activity at SRS.

Table 1
SRS Freeze The Footprint Statistics

EM

Fiscal Year	Office GSF	Office GSF Added	Office GSF Removed	Warehouse GSF	Warehouse GSF Added	Warehouse GSF Removed	Total GSF
2012 Baseline	1,786,591			1,874,824			3,661,415
2013	1,773,261	0	13,330	1,874,824	0	0	3,648,085
2014 Forecast	1,745,389	0	27,872	1,874,824	0	0	3,620,213
2015 Forecast	1,745,389	0	0	1,874,824	0	0	3,620,213
2016 Forecast	1,745,389	0	0	1,874,824	0	0	3,620,213

NNSA

Fiscal Year	Office GSF	Office GSF Added	Office GSF Removed	Warehouse GSF	Warehouse GSF Added	Warehouse GSF Removed	Total GSF
2012 Baseline	39,584			16,341			55,925
2013	55,709	16,125	0	30,341	14,000	0	86,050
2014 Forecast	53,960	0	1,749	30,341	0	0	84,301
2015 Forecast	52,221	0	1,739	30,341	0	0	82,562
2016 Forecast	52,221	0	0	30,341	0	0	82,562

7. Asset Revitalization Initiative

Asset Revitalization Initiatives (ARI) at SRS are conducted through the Savannah River Site Community Reuse Organization (SRSCRO). The goal is to maximize asset use, availability and potential reuse to promote a more efficient and streamlined infrastructure at SRS as well as to stimulate the local economy. Some of the assets transferred to the SRSCRO are listed below. These have resulted in cost avoidance of about $6-8M in future demolition costs. Some of the major ARI activities are shown below:

- Received DOE approval to utilize a streamlined process to excess D-Area assets, partnering with SRSCRO which resulted in the removal of 11 miles of abandoned steam lines.
- Completed the Final Acceptance Inspection for the SRSCRO removal of excess railroad tracks, crossties, ballast and hardware at SRS. The completed scope included removal of 27 linear miles of track and ~18,000 tons of material.
- Transferred L-Area machine shop equipment (26 pieces). This was the first time SRSCRO electrically disconnected and removed installed equipment from an operating area, and this opens the door to more opportunities for more complex removals while reducing disposition cost to SRNS and DOE.
- Removed eight retired office trailers in A-Area

Future possible initiatives include release of excess equipment, metals and assets from the deactivated D-Area Powerhouse, River Water Pump House and removal of additional excess office trailers and other installed assets. Funding is required for implementation.

8. Land Use

All SRS land is owned and controlled by DOE. Specific uses of SRS land are determined by the missions established by Congress and DOE, and land use must comply with applicable congressional direction and federal policy directives, such as the Federal Land Policy and Management Act, the National Environmental Policy Act (NEPA), the RCRA, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

SRS is in the process of updating the Land Use Plan, which will be available by the end of FY2014. The Site anticipates future interest by both governmental and private entities in new uses of its land and is studying which, if any, tracts of land may be excess to our EM missions in support of the ARI program to eliminate under-utilized federal property.

9. Proposed Real Property Investments - Next Two Years

SRS uses a risk-ranking process, the CIIPL, to identify high priority reinvestments necessary to support Site missions. The CIIPL consists of unfunded projects from all tenant organizations at SRS and is a small subset of the overall Site's deferred maintenance needs. Each project is rated and ranked per a set of risk-based criteria. An Executive Integrated Project Team (EIPT) was established to oversee the CIIPL and ensure open consideration of all SRS organizations' infrastructure needs and establish mutually supported priorities through the CIIPL process. The 39 highest priority items from the CIIPL with funding needs in FY2014, 2015 and 2016 are shown in Table 2. The complete list of projects from the CIIPL is shown in Attachment 1. It should be noted that the Site is currently engaged in the LOB special assessment of infrastructure and the initial result further validates the need to recapitalize the Site's deteriorated (and in many cases 60 years old) systems. NNSA submitted a programmatic TYSP through the NNSA Savannah River Field Office. Their proposed real property investment project list is shown in Attachment 2. Some of the NNSA items have increased in priority and are included in the CIIPL.

Table 2
Proposed Real Property Investments
(Top 39 Items of the SRS Critical Infrastructure Integrated Priority List)

Note: All of the funding needs are not necessarily indicated as some project fiscal year outlays may extend beyond FY2016.		Thousands of Dollars (Burdened)		
Project Name	**Project #**	**FY2014**	**FY2015**	**FY2016**
Replace Degraded L-Area Main Power Supply (L-Area Reliable Power) - Risk Increased		2,846	2,214	1,490
K-Area Reliable Power - Risk Increased	Y616	-	2,556	730
A-Area Fire Water Supply Upgrades - $330K Funded FY14 for Conceptual Design	SS-FW-003	-	2,091	4,933
Replace 285-H Unit Substations (2.4kV and 480V) (Procurement & Installation)		1,850	3,985	-
294 Sand Filter Roof Upgrades		948	984	994
294-1 Sand Filter Roof Upgrades		534	554	-
221-H Building Roof Restoration		1,423	1,476	1,490
Repair 221 H-Canyon Level 7 Roof		356	369	-
292-H Roof Restoration (roof currently leaking)		534	554	-
Replace Return Basin (281-2H) Substation & Transformer (Procurement & Installation)		925	1,993	-

Table 2
Proposed Real Property Investments
(Top 39 Items of the SRS Critical Infrastructure Integrated Priority List)

Note: All of the funding needs are not necessarily indicated as some project fiscal year outlays may extend beyond FY2016.		Thousands of Dollars (Burdened)		
Project Name	**Project #**	**FY2014**	**FY2015**	**FY2016**
Cell Block B, D&R Old Control Panel, Fabricate/Install New Panel, Window #7 Procure and Convert Oil-Free Window to Cold Side Load & Install,	LF0623	-	-	2,682
Cell Block B, D&R Old Control Panel, Fabricate/Install new Panel, Window #9 Procure and Convert Oil-Free Window to Cold Side Load & Install,	LF0920	-	-	1,341
Cell Block B, D&R Old Control Panel, Fabricate/Install new Panel, Win #16, Procure & Install Oil-Free Cold Side Load,	LF1318	-	1,328	-
Tie-In Connection for Alternate Diesel Gen. for HB-Line		356	74	-
Replace Degrading Site Radio System	SS-CM-001	-	5,136	3,457
Infrastructure Air Piping Upgrades - H Tank Farm(HTF)-East Hill		7,899	6,421	-
Infrastructure Steam Piping Upgrades (HTF-East Hill)		2,989	2,214	-
Infrastructure Well Water Piping Upgrades (HTF-East Hill)		2,419	443	-
Infrastructure Electrical Upgrades (HTF-East Hill)		1,779	3,247	745
Purchase and install a new Thermal Ionization Mass Spectrometer in the F/H Laboratory	2	-	5,314	2,980
Remove and install cover TEXT ductwork 772-4F	2	1,423	1,476	-
T1 and T2 Transformers/switchgear (772-F) 252-2F substation	2	1,067	1,107	1,490
Upgrade & Consolidation of legacy H-Canyon & H-Outside Facilities DCS		2,135	-	-
Replace H-Canyon First Cycle Blender Programmable Logic Controller		427	-	-
Upgrade H-Area Water Monitor Programmable Logic Controller		427	-	-
Replace HB-Line Phase I/III Programmable Logic Controller I/O		427	-	-
Infrastructure Evaporator Condensate Lines Upgrades (HTF-East Hill)		1,067	2,214	-
Replace South Freight Elevator		285	295	-
Replace B-Block Shielded Cell Exhaust Fans and Degraded Sand filter Ductwork. 773-A	LF1128	235	790	-
Phase 1 - Install New Call Routing Infrastructure to Provide Voice Call Services in F & L Areas (Partial Replace of Obsolete 5ESS Site Tele Switches)		-	1,476	1,490
Phase 3 - Connect Site Special Circuits to New Call Routing System (Replace Obsolete 5ESS Site Telephone Switches)		-	-	745
Secondary Stripper Oxygen Monitor Replacement	TP0001	1,029	-	-
Install 11.5 Bi-Cell Tank		605	148	-
Design and Purchase Evaporator Pots (3)		427	443	447
Seismic Diesel Tank for 254-19H Safety Class Diesels		7,116	7,380	-
DNFSB 2004-2 Alternative Analysis Phase I Install Ember and Cooling Reduction System (ECRS)	2	339	4,280	134
192-4K Fire Water Storage Tank Cleaning & Re-Coating		-	590	-
Basin Modifications		5,693	2,214	-
Replace H-Canyon Exhaust Fan #3		2,846	2,952	-
Totals:		**50,405**	**66,318**	**25,148**

10 TYSP Contacts

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11 Acknowledgements

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Jeff Davis, SRNS, Site Infrastructure Support Services
Marilyn Ware, SRNS, Site Infrastructure Support Services
Sharon Campbell, SRNS, SRS FIMS Administrator

12 Acronyms

ARI	Asset Revitalization Initiative
ARMS	Automated Reservoir Management System
ARP	Actinide Removal Process
ARRA	American Recovery and Reinvestment Act
ATTA	Advanced Tactical Training Area
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIIPL	Critical Infrastructure Integrated Priority List
DM	Deferred Maintenance
DNFSB	Defense Nuclear Facility Safety Board
DOE	Department Of Energy
DWPF	Defense Waste Processing Facility
EIPT	Executive Integrated Project Team
EM	Environmental Management
FIMS	Facility Information Management System
FFA	Federal Facility Agreement
FY	Fiscal Year
HEU	Highly Enriched Uranium
HTF	H-Area Tank Farm
ISDP	Interim Salt Disposition Process
LOB	Laboratory Operations Board
LTS	Long-Term Stewardship
MCU	Modular Caustic Side Solvent Extraction Unit
MFFF	Mixed-Oxide Fuel Fabrication Facility
MOX	Mixed-Oxide
NEPA	National Environmental Policy Act
NNSA	National Nuclear Security Administration
RCRA	Resource Conservation & Recovery Act
SDU	Saltstone Disposal Units
SRNL	Savannah River National Laboratory
SRS	Savannah River Site
SRSCRO	Savannah River Site Community Reuse Organization
SRTE	Savannah River Tritium Enterprise
SWPF	Salt Waste Processing Facility
TPBARS	Tritium Producing Burnable Absorber Rods
TRU	Transuranic
TYSP	Ten Year Site Plan
WIPP	Waste Isolation Processing Plant

ATTACHMENTS


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Attachment 1
Proposed Real Property Investments
(Complete SRS Critical Infrastructure Integrated Priority List)

Note: All of the funding needs are not necessarily indicated as some project fiscal year outlays may extend beyond FY2020.		Thousands of Dollars (Burdened)						
Name	**Project #**	**FY2014**	**FY2015**	**FY2016**	**FY2017**	**FY2018**	**FY2019**	**FY2020**
Replace Degraded L-Area Main Power Supply (L-Area Reliable Power) - Risk Increased		2,846	2,214	1,490	-	-	-	-
K-Area Reliable Power - Risk Increased	Y616	-	2,556	730	3,248	1,718	223	-
A-Area Fire Water Supply Upgrades - $330K Funded FY14 for Conceptual Design	SS-FW-003	-	2,091	4,933	-	-	-	-
Replace 285-H Unit Substations (2.4kV and 480V) (Procurement & Installation)		1,850	3,985	-	-	-	-	-
294 Sand Filter Roof Upgrades		948	984	994	-	-	-	-
294-1 Sand Filter Roof Upgrades		534	554	-	-	-	-	-
221-H Building Roof Restoration		1,423	1,476	1,490	-	-	-	-
Repair 221 H-Canyon Level 7 Roof		356	369	-	-	-	-	-
292-H Roof Restoration (roof currently leaking)		534	554	-	-	-	-	-
Replace Return Basin (281-2H) Substation & Transformer (Procurement & Installation)		925	1,993	-	-	-	-	-
Cell Block B, D&R Old Control Panel, Fab/Install New Panel, Window #7 Procure and Convert Oil-Free Window to Cold Side Load & Install,	LF0623	-	-	2,682	-	-	-	-
Cell Block B, D&R Old Control Panel, Fab/Install new Panel, Window #9 Procure and Convert Oil-Free Window to Cold Side Load & Install,	LF0920	-	-	1,341	1,362	-	-	-
Cell Block B, D&R Old Control Panel, Fab/Install new Panel, Win #16, Procure & Install Oil-Free Cold Side Load,	LF1318	-	1,328	-	-	-	-	-

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Name	**Project #**	**FY2014**	**FY2015**	**FY2016**	**FY2017**	**FY2018**	**FY2019**	**FY2020**
Tie-In Connection for Alternate Diesel Gen. for HBL		356	74	-	-	-	-	-
Replace Degrading Site Radio System	SS-CM-001	-	5,136	3,457	-	-	-	-
Infrastructure Air Piping Upgrades (HTF-East Hill)		7,899	6,421	-	-	-	-	-
Infrastructure Steam Piping Upgrades (HTF-East Hill)		2,989	2,214	-	-	-	-	-
Infrastructure Well Water Piping Upgrades (HTF-East Hill)		2,419	443	-	-	-	-	-
Infrastructure Electrical Upgrades (HTF-East Hill)		1,779	3,247	745	-	-	-	-
Purchase and install a new Thermal Ionization Mass Spectrometer (TIMS) in the F/H Laboratory	2	-	5,314	2,980	1,059	-	-	-
Remove and install cover TEXT ductwork 772-4F	2	1,423	1,476	-	-	-	-	-
T1 and T2 Transformers/switchgear (772-F) 252-2F substation	2	1,067	1,107	1,490	-	-	-	-
Upgrade & Consolidation of legacy H-Canyon & H-Outside Facilities DCS		2,135	-	-	-			
Replace H-Canyon First Cycle Blender Programmable Logic Controller		427	-	-	-			
Upgrade H-Area Water Monitor Programmable Logic Controller		427	-	-	-	-	-	-
Replace HB-Line Phase I/III Programmable Logic Controller I/O		427	-	-	-			
Infrastructure Evaporator Condensate Lines Upgrades (HTF-East Hill)		1,067	2,214	-	-	-	-	-

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Name	**Project #**	**FY2014**	**FY2015**	**FY2016**	**FY2017**	**FY2018**	**FY2019**	**FY2020**
Replace South Freight Elevator		285	295	-	-	-	-	-
Replace B-Block Shielded Cell Exhaust Fans and Degraded Sandfilter Ductwork. 773-A	LF1128	235	790	-	-	-	-	-
Phase 1 - Install New Call Routing Infrastructure to Provide Voice Call Services in F & L Areas (Partial Replace of Obsolete 5ESS Site Tele Switches)		-	1,476	1,490	-	-	-	-
Phase 3 - Connect Site Special Circuits to New Call Routing System (Replace Obsolete 5ESS Site Telephone Switches)		-	-	745	1,513	1,498	759	-
Secondary Stripper Oxygen Monitor Replacement	TP0001	1,029	-	-	-	-	-	-
Install 11.5 Bi-Cell Tank		605	148	-	-	-	-	-
Design and Purchase Evaporator Pots (3)		427	443	447	-	-	-	-
Seismic Diesel Tank for 254-19H Safety Class Diesels		7,116	7,380	-	-	-	-	-
DNFSB 2004-2 Alternative Analysis Phase I Install Ember and Cooling Reduction System (ECRS)	2	339	4,280	134	-	-	-	-
192-4K Fire Water Storage Tank Cleaning & Re-Coating		-	590	-	-	-	-	-
Basin Modifications		5,693	2,214	-	-	-	-	-
Replace H-Canyon Exhaust Fan #3		2,846	2,952	-	-	-	-	-
Cell Block B, D&R Old Control Panel, Fab/Install new Panel, Procure & Install Oil-Free Cold Side Load, # 14 Window	LF1804	-	-	-	-	599	759	-
NEW - Cell Block B, D&R Old Control Panel, Fab/Install new Panel, Window #15 Procure & Install Oil-Free Cold Side Load,	LF1323	-	-	-	1,362	-	-	-

Attachment 1
Proposed Real Property Investments
(Complete SRS Critical Infrastructure Integrated Priority List)

Note: All of the funding needs are not necessarily indicated as some project fiscal year outlays may extend beyond FY2020.		Thousands of Dollars (Burdened)						
Name	**Project #**	**FY2014**	**FY2015**	**FY2016**	**FY2017**	**FY2018**	**FY2019**	**FY2020**
NEW - Cell Block B, D&R Old Control Panel, Fab/Install new Panel, Window #13 Procure and Convert Oil-Free Window to Cold Side Load & Install,	LF1324	-	-	-	1,362	1,348	-	-
NEW - Cell Block B, D&R Old Control Panel, Fab/Install new Panel, Window #10 Procure & Install Oil-Free Cold Side Load	LF1325	-	-	-	-	599	759	-
NEW - Cell Block B, D&R Old Control Panel, Fab/Install new Panel, Window #11 Procure & Install Oil-Free Cold Side Load	LF1323	-	-	-	-	-	-	1,409
NEW - Cell Block B, D&R Old Control Panel, Fab/Install new Panel, Window #12 Procure Oil-Free Cold Side Load Window & Install	LF1324	-	-	-	-	-	607	783
Phase 2 - Expand New Call Routing Infrastructure in Other Site Areas. (Replace Obsolete 5ESS Site Telephone Switches)		-	-	-	9,078	10,486	10,619	-
Replace Backup Computer Facility UPS		-	443	671	-	-	-	-
Enhance Cellular Repeater Infrastructure		-	738	745	-	-	-	-
Upgrade equipment to include Haz mat equipment, SCBA's and bunker gear. Reduced Risk		-	295	298	-	-	-	-
Replace Damaged & Degraded Inter-Area Fiber Infrastructure Cables		-	1,476	1,490	3,783	-	-	-
DNFSB 2004-2 Alternative Analysis Phase 2 Replace 772-4F Control Relay Panel (CRP-1)	2	541	2,177	173	-	-	-	-
DNFSB 2004-2 Alternative Analysis Phase 4-Install seismically qualified diesel generator	22013	-	695	1,937	-	-	-	-
Relocate SRNL's Standards Lab from 736-A to 735-2B (2014-2015)	LF1420	-	2,081	7,867	-	-	-	-
Update HBL Instrument Air and Process Air Compressor Controls		285	295	-	-	-	-	-
Replace Degraded Stack and KAMS Area Roofs		-	-	1,490	1,831	-	-	-
Replace Process and Instrument Air Compressor, HBL		249	258	-	-	-	-	-
Secondary Stripper System Piping	TP0003	-	590	-	-	4,052	-	-
Replace Aging and Undersized K-Area Complex Chillers		-	1,771	745	-	-	-	-
K-Area Backup Power Capabilities (Diesel Generator Quick Connect)		-	221	1,267	-	-	-	-
Advanced Tactical Training Area (ATTA) Road and Parking Lot		2,135	10,332	-	-	-	-	-
Relocate Fuel Oil Heater Pumps Inside Tank Secondary Containment Dike		189	-	-	-	-	-	-

Attachment 1
Proposed Real Property Investments
(Complete SRS Critical Infrastructure Integrated Priority List)

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Name	**Project #**	**FY2014**	**FY2015**	**FY2016**	**FY2017**	**FY2018**	**FY2019**	**FY2020**
Area								
FH Low Activity Drain (LAD) Tank	2	-	3,690	-	-	-	-	-
Install 3rd H-Canyon Dissolver		142	5,166	5,364	-	-	-	-
Install Fire Detection and Notification Capability in Portions of L-Reactor		-	590	894	-	-	-	-
NEW - Upgrade Existing 773-A Fire Walls,Between B/C/D/F Wings to Safety Class and Modify Exterior Walls for Fire Rating for Safety Basis Consequence Reduction and expanded research and business potential	LF 1427	-	2,952	3,725	-	-	-	-
NEW Install Additional Safety Class Fire Walls Between 773-A A/B/C/D Wings for Safety Basis Consequence Reduction and expanded research and business potential	LF1426	-	2,952	4,470	-	-	-	-
703-A Habitability		-	1,476	745	757	-	-	-
Replace Underground DBCF (Disassembly Basin Cooling and Filtration) Piping		-	5,904	745	-	-	-	-
Convert HBL Roof Temp Power to Permanent Power		356	369	-	-	-	-	-
Modify Existing and Install New Fuel Bucket Racks to reduce DSA Admin Controls		-	2,214	745	-	-	-	-
NEW - Relocate VTR Storage	TP0010	-	2,291	3,227	2,899	-	-	-
Rescue Vehicle		-	-	596	-	-	-	-
Replace 3 Degraded Mobile Cranes (30, 40 & 90Ton) For Reliability	SS-PE- 001	-	1,476	1,490	1,513	-	-	-
Install Water Fire Suppression (+15, Personnel Wing) & Fire Protection Improvements in 105-K		-	2,214	4,470	4,539	-	-	-
Refurbish Ambulances		498	-	-	-	-	-	-
Transformer Rooms # 1 & 4 Fans and Ductwork Ventilation Upgrades (647971 & 647972)		-	369	-	-	-	-	-
737-A (SREL) Facility Roof (Degradation) Replacement		-	1,181	1,192	-	-	-	-
Upgrade 105-K Compressed Air System (Replace Air Compressors and Air Dryers)		-	295	522	-	-	-	-
Replace Degraded Hand Ball Court Roof (corrects poor drainage and seals		-	406	-	-	-	-	-

Attachment 1
Proposed Real Property Investments
(Complete SRS Critical Infrastructure Integrated Priority List)

Note: All of the funding needs are not necessarily indicated as some project fiscal year outlays may extend beyond FY2020.		Thousands of Dollars (Burdened)						
Name	**Project #**	**FY2014**	**FY2015**	**FY2016**	**FY2017**	**FY2018**	**FY2019**	**FY2020**
leaking plugs).								
Disassembly Area Roof Replacement		-	-	745	1,210	-	-	-
Replace TCON 70 Ton Chillers	TP0005	-	-	1,728	-	-	-	-
K-Area Auxiliary Lighting Upgrades		-	369	373	-	-	-	-
Replace Emergency Operations Network (EONET)		-	369	-	-	-	-	-
CAM Replacement, HB Line 5th and 6th Level		616	639	647	-	-	-	-
Replace 2nd, 3rd, 4th Level HBL NIM Wiring		854	886	-	-	-	-	-
Argus (Tritium, H, K, and L - Areas)		-	7,380	7,450	7,565	14,980	-	-
Repair/Replace 21 Degraded River Water Line Valve Houses	SI-RW-007	-	738	745	757	-	-	-
Replacement for 719-5N (medical)		-	-	5,960	4,539	-	-	-
Refresh the Network with Increased Capacity (SI-2 Next Gen Network)	2	-	480	645	492	-	-	-
Replace Central Computer Facility UPS		-	1,107	1,118	-	-	-	-
Implementation of Physical Access Control to IT Facilities for HSPD-12 Compliance	14	-	1,107	1,118	-	-	-	-
Replace Obsolete Fire Alarm Panels	SS-FA-001	-	1,033	1,043	1,059	-	-	-
Install a Redundant KAC Compressed Air Dryer with Associated Electrical Piping and Controls		-	74	112	-	-	-	-
Replace End of Life (EOL) Network UPS		-	369	373	-	-	-	-
Replace 702-2A Backup HVAC		213	-	-	-	-	-	-
Replace Ladder Truck - Reduced Risk		-	-	1,490	-	-	-	-
Replace Most Critical Fire Hydrants (Installed Before 1970) For Reliability	SS-FW-004	-	369	373	378	-	-	-
Wildland Firefighter Physical Training (PT) Room		327	44	-	-	-	-	-
Install PLC Controls System for the 105-K HVAC System		-	738	-	-	-	-	-
Rebuild, Repair & Repave Fatigued Sections of Road C	SS-RD-001	-	3,424	5,424	5,053	4,569	-	-
737-A (SREL) HVAC System Replacement		-	369	-	-	-	-	-
Permanent Access to +75 Roof		-	148	-	-	-	-	-
Install KAC Building Lightning Protection		-	354	2,026	-	-	-	-

Attachment 1
Proposed Real Property Investments
(Complete SRS Critical Infrastructure Integrated Priority List)

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Name	**Project #**	**FY2014**	**FY2015**	**FY2016**	**FY2017**	**FY2018**	**FY2019**	**FY2020**
Renovation of Barricade 9		712	2,952	-	-	-	-	-
Primary Stripper 2 System Piping	TP0007	-	-	-	-	-	-	-
Replace Pyrotronics Fire Alarm Panel 772-F	2	1,423	-	-	-	-	-	-
NEW - 717-K Roof Replacement		-	524	-	-	-	-	-
NEW - Install 773-A Universal Wiring Wireless Network Capability for Labs and Offices in 773-A	LF1133	142	431	-	-	-	-	-
Fire Systems Upgrades (Tank Farms)		1,423	-	-	-	-	-	-
773-A, B/C Wing Central Hood Exhaust Tape-in-Place HEPA Filter Housing Replacement (DNFSB 2004-2, Scope 6 Gap 4)	LF1096	527	369	745	1,513	2,996	3,034	-
Replace 480V Motor Control Centers in 105-K		-	-	373	378	-	-	-
Replace 1500KVA Transformers in TR-2 & TR-4.		-	148	149	-	-	-	-
Replace Outdated 480/208-120V Dry Type Transformers in 105-K		-	295	-	-	-	-	-
Replace Outdated 208V/120V lighting panels.		-	148	224	-	-	-	-
Site Dams Federal Energy Regulatory Commission (FERC) Recommendation/Actions	SS-DM-001	-	517	149	151	-	-	-
Replace Roof System for 735-A , A-Wing, B-Wing and Partial C Wing	LF1032	712	1,476	-	-	-	-	-
Upgrade +15 Fire Egress Routes in L-Reactor		-	886	149	-	-	-	-
Install Fire Suppression in Transfer Bay and Dis. Basin Area		-	1,033	149	-	-	-	-
Replace Degraded Roof For 703-47A	SS-FM-008	-	717	-	-	-	-	-
Replace Degraded Roof For 730-4B	SS-FM-039	-	911	-	-	-	-	-
Replace Oil Dock 710-6N	SS-CF-002	-	295	298	-	-	-	-
Establish Wi-Fi Local Area Infrastructure (SI-5b)	5b	-	1,638	1,654	850	2,630	-	-
Disassembly Basin & Transfer Bay HVAC Replacement		-	2,952	2,980	-	-	-	-
Replace Site Laboratory Information Management System (LIMS)	LF1224	370	307	-	-	-	-	-
NEW - Replace Chillers		285	1,476	-	-	-	-	-
Replace Environmental Conditioning PLC	TP0002	356	-	1,728	-	-	-	-
SRSOC Telephone System / Voice Recorder		-	-	298	-	-	-	-

Attachment 1
Proposed Real Property Investments
(Complete SRS Critical Infrastructure Integrated Priority List)

Note: All of the funding needs are not necessarily indicated as some project fiscal year outlays may extend beyond FY2020.		Thousands of Dollars (Burdened)						
Name	**Project #**	**FY2014**	**FY2015**	**FY2016**	**FY2017**	**FY2018**	**FY2019**	**FY2020**
Replace HANM Cable Tray Heat Detection	TP0004	-	-	-	-	-	1,745	-
NEW - B/C Wing Supply and Exhaust Interlocks (DNFSB 2004-2, Gap 3, Gap 9 and Gap 13)	LF0815	171	738	2,235	2,270	599	-	-
Replace +26 and +40 (Assembly, 910 and 911 Fan Rooms)		-	8,118	-	-	-	-	-
NEW - 288-F Ash Basin Consolidation	SS-	-	295	1,341	1,967	2,996	4,248	-
Infrastructure Chromate Piping Upgrades (HTF-East Hill)		320	738	-	-	-	-	-
NEW - Replace the SRNL Safety Address System (PA System)	LF0610	-	959	-	-	-	-	-
Replace Degraded Roof For 703-1B (WSI Admin / Training Building)	Good	-	1,033	-	-	-	-	-
Replace Degraded Roof For 703-B WSI Administration Bldg.	Good	-	1,033	-	-	-	-	-
NEW - Rebuild, Repair & Repave Fatigued Sections of Road 4	SS-RD-00xx	-	-	2,324	-	-	-	-
NEW - Rebuild, Repair & Repave Fatigued Sections of Road E Between Roads C & F	SS-RD-00xx	-	-	2,248	-	-	-	-
NEW - Rebuild, Repair & Repave Fatigued Sections of Road 1 Between Road 2 & Hwy. 125	SS-RD-001	-	-	1,967	4,539	-	-	-
Design and Purchase Heater Blocks (4)		285	59	-	-	-	-	-
Replace SRNL Central Monitoring & Control Programmable Logic Controller / Input Output Rack (PLC / IO Rack)	LF0405	470	546	2,980	-	-	-	-
Replace Three Degraded Roofs Site Services Roofs For (730-1B, 717-F, 151-1L)		-	-	3,108	-	-	-	-
Replace 702-A UPS		-	221	224	-	-	-	-
Replace +34 and +58 Roofs (Office and Stairwells)		-	2,214	-	-	-	-	-
Replace Roofs +48 & +88 (Process Room, 903 Fan Room and other)		-	4,059	-	-	-	-	-
Replace Roofs +55 and +47 (Stack Area and Purification)		-	-	2,235	-	-	-	-
Replace 50 Ton Process Chiller	TP0006	-	-	-	-	-	-	606
Replace Three Degraded Roofs Site Services Roofs (705-C, 703-46A, 151-2L)		-	-	2,089	-	-	-	-
Education Facility Replacement		36	369	-	-	-	-	-
Plutonium Storage Jumpers (Tank 9.6) - Pu Modifications		285	15	-	-	-	-	-
Replace HCN Chillers	TP0008	-	-	1,441	1,448	-	-	-

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Proposed Real Property Investments
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Name	**Project #**	**FY2014**	**FY2015**	**FY2016**	**FY2017**	**FY2018**	**FY2019**	**FY2020**
737-A (SREL) Carpet and Tile Flooring Replacement		-	148	-	-	-	-	-
Refurbish/Replace HANM Supply Air Handler	TP0009	-	-	-	-	-	-	-
NEW - KIS Backup Diesel Generator Quick Connect		-	111	410	-	-	-	-
Replace 735-A Halon Fire Suppression System with Clean Agent Fire Suppression System	LF1027	71	1,178	-	-	-	-	-
Pilot 1, Phase 1 of Dry cask Storage		-	1,033	1,043	-	-	-	-
TOTALS:		**64,397**	**181,176**	**133,923**	**68,474**	**49,071**	**22,750**	**2,798**

Attachment 2
NNSA Proposed Real Property Investments
(Burdened Dollars)
Sorted & Prioritized by Funding Program

Description	Project No.	Funding Program	Type	Cost ($000) 2014	2015	2016
Environmental Conditioning PLC Replacement		DSW	GPP		$1,500	
Function Testing DAS Upgrade Project		DSW	GPP			$2,000
Replace GTS Unloading Laser		DSW	GPP		$2,500	$2,500
Modify Unloading B	Y554	DSW	GPP		$1,500	$3,000
Replace Film Radiography		DSW	GPP			$3,000
High Flux Thermal Neutron Source	Y684	DSW	GPP		$1,200	
Direct Stacking Capability	Y608	Readiness Campaign	GPP		$2,900	
Enhanced Fracture Toughness Tester		Readiness Campaign	GPP			$7,500
Replace Worker Protection System		Readiness Campaign	GPP			$1,800
Fabricate Single Point Wireless Tritium Air Monitors		Readiness Campaign	GPP			$4,000
TEF Wireless Network	Y611	Readiness Campaign	GPP	$9		
Replace TCAP Feed Beds A&B, Recovery Beds A&B	Y702	RTBF-MRR	GPP	$1,400	$1,200	
Replace Leaking Safety Significant Z-Bed Recovery Water Traps		RTBF-MRR	GPP			$1,800
Replace Leaking Catalyst System		RTBF-MRR	GPP		$1,300	$2,000
Replace TCAP Recovery Bed C&D		RTBF-MRR	GPP		$300	$1,350
Replace HT-TCAP Prod Bed 300, 400, 500		RTBF-MRR	GPP			$350
Replace TCAP Prod Bed B & Columns A&B		RTBF-MRR	GPP			$400
SS GB Oxygen Monitor	Y686	RTBF-OOF	GPP	$909		
Relocate VTR Storage (TRIM GPP)		RTBF-RECAP	GPP		$2,000	$2,800
Site Prep and Electrical Substation Installation (TRIM GPP)	Y701	RTBF-RECAP	GPP	$2,600		
234-7H AHU Transformation (TRIM GPP)		RTBF-RECAP	GPP	$5,000	$2,300	
Hydroburst *(NOTE: Partially funded by RTBF-OOF)*	Y607	RTBF-RECAP	GPP	$200	$2,500	
General Network Repair (TEB)	Y689	RTBF-RECAP	GPP	$840		
Replace obsolete PS, GB, and MS Glovebox Oxygen Monitors		RTBF-RECAP	GPP		$800	$1,800
PSB General Network Repairs and Upgrade		RTBF-RECAP	GPP	$650	$1,000	
Finishing HANM (TRIM GPP)		RTBF-RECAP	GPP		$1,200	$4,000
Replace obsolete L2, L3, L4, and L5 Glovebox Oxygen Monitors		RTBF-RECAP	GPP			$800
Grab Sample Capability (TRIM GPP)		RTBF-RECAP	GPP			$1,100
Analytical Lab (TRIM GPP)		RTBF-RECAP	GPP		$400	$800
Replace obsolete P1, P2, & Z-Bed Rec Glovebox Oxygen Monitors		RTBF-RECAP	GPP			$800
Hot Calibration Lab (TRIM GPP)		RTBF-RECAP	GPP			$400
Fabricate Two TUMS Calorimeters	Y703	RTBF-CBI(now Recap)	CE	$881	$0	
				$12,489	$22,600	$42,200


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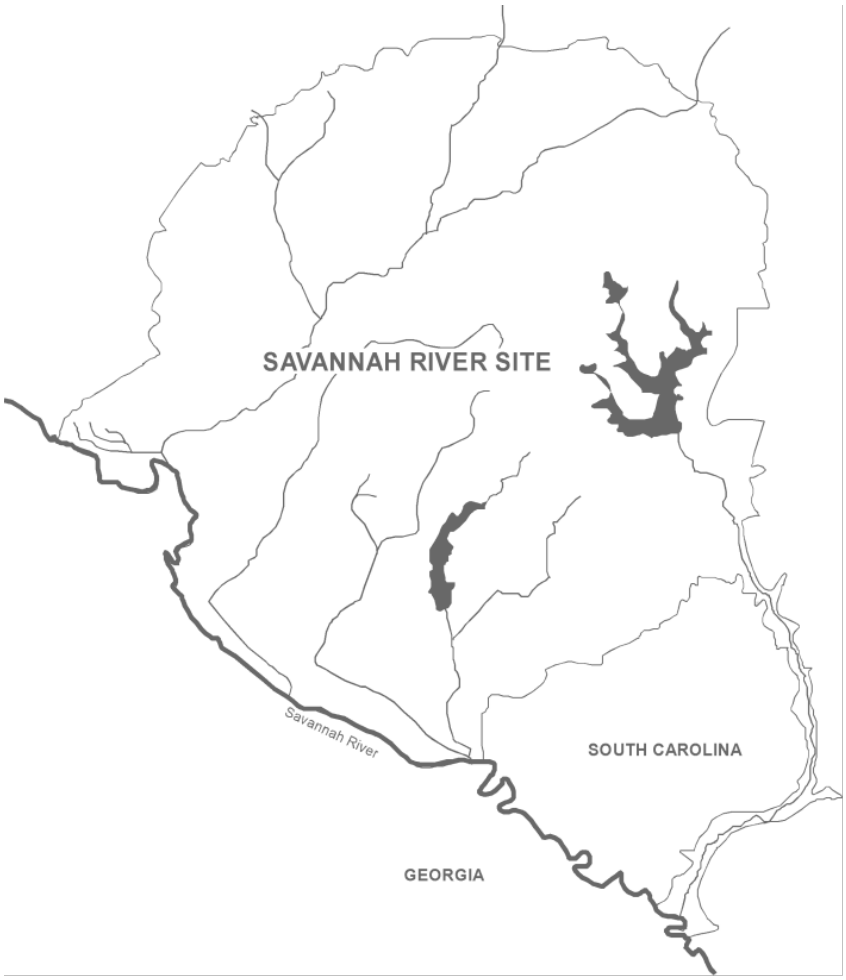
Savannah River Site - Ten Year Site Plan Limited Update

SRNS-RP-2014-00006

June 2014



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