



Department of Energy
Savannah River Operations Office
P.O. Box A
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SEP 28 2022

Ms. Susan B. Fulmer, P. G., Manager
Federal Remediation Section
Division of Site Assessment, Remediation and Revitalization
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Mr. Jon Richards
Savannah River Site Remedial Project Manager
Superfund Division
U. S. Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Dear Ms. Fulmer and Mr. Richards:

SUBJECT: Second Early Action Post-Construction Report (EAPCR) for the D-Area Operable Unit (U) (SRNS-RP-2022-00064, Revision 1, September 2022) (Redline) and Savannah River Site's Responses to the Regulatory Comments on the Revision 0 Document, SEMS Number: 63

In accordance with the terms of the Federal Facility Agreement, the U. S. Department of Energy (DOE) is submitting the subject information for your review. The U. S. Environmental Protection Agency (EPA) and the South Carolina Department of Health and Environmental Control (SCDHEC) provided comments on the Revision 0 report on July 25, 2022, and August 3, 2022, respectively. The enclosed final SRS' responses have been incorporated into the revised document. Please review the enclosures and provide your approval within thirty (30) days of receipt. The effort and time that the SCDHEC and the EPA have given on the subject operable unit are greatly appreciated.

Questions from you or your staff may be directed to me at (803) 952-8365, or the DOE Federal Project Director, Karen Adams, at (803) 952-7871.

Sincerely,

Brian T. Hennessey Digitally signed by Brian T. Hennessey
Date: 2022.09.27 15:14:27 -04'00'

Brian T. Hennessey
SRS Remedial Project Manager
Infrastructure and Area Completion Division

SEP 28 2022

Ms. Susan Fulmer
Mr. Jon Richards

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Enclosures:

1. Second Early Action Post-Construction Report (EAPCR) for the D-Area Operable Unit (U) (SRNS-RP-2022-00064, Revision 1, September 2022) SEMS Number: 63 (Redline)
2. SRS Responses to EPA Comments on the Second Early Action Post-Construction Report (EAPCR) for the D-Area Operable Unit (U) (SRNS-RP-2022-00064, Revision 0, May 2022) SEMS Number: 63
3. SRS Responses to SCDHEC Comments on the Second Early Action Post-Construction Report (EAPCR) for the D-Area Operable Unit (U) (SRNS-RP-2022-00064, Revision 0, May 2022) SEMS Number: 63

cc w/o encl:

J. Blalock, SCDHEC-Columbia
S. French, SCDHEC-Columbia
M. Reece, SCDHEC-Columbia
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B. A. Cameron, SCDHEC-Aiken Environmental Affairs Office
K. L. Beatty, SCDHEC-Aiken Environmental Affairs Office
H. L. Herlong, SCDHEC-Aiken Environmental Affairs Office
R. H. Pope, EPA-Atlanta

cc w/encl:

D. Lloyd, EPA-Atlanta
M. McRae, TechLaw, Inc

General Comments

1. Throughout the document, references to the 488-1D inlet basins are inconsistent with regards to inclusion with the 488-1D Ash Basin. Some sections/tables list them as separate subunits; some list them as an inclusion with 488-1D Ash Basin and some do not mention the inlet basins at all. The PCR should be revised to address the inlet basins and 488-1D consistently.

Response: Agree

The inlet basins are part of 488-1D Ash Basin. The selected remedial alternative for the Inlet Basins portion of the 488-1D Ash Basin is No Action and does not require Land Use Controls. The Ash Sluice Line is not identified as a separate subunit in the FFA but was removed as part of the early action for 488-4D.

The text will be revised in Section 1.1 1st Paragraph to state the following:

“This Second Early Action Post-Construction Report (EAPCR) documents the completion of field implementation of the Second Early Action (EA) for the closure of portions of the D-Area Operable Unit (DAOU) at the Savannah River Site (SRS) (Figure 1) and applies to the following DAOU subunits: 488-1D Ash Basin (including the Inlet Basins), 488-2D Ash Basin, 488-4D Ash Landfill, and the 489-D Coal Pile Runoff Basin (CPRB) (Southern 75%), ~~and the Inlet Basins~~. This report summarizes the activities performed to implement the selected Second EA remedy requirements defined in the *Second Early Action Record of Decision (EAROD) Remedial Alternative Selection for the D Area Operable Unit* (SRNS 2020a) and the *Second Early Action Land Use Control Implementation Plan (EALUCIP) for the D-Area Operable Unit* (SRNS 2020b). The Second EA remedy selected is Land Use Controls (LUCs) to prevent unrestricted use for the 488-1D Ash Basin, 488-2D Ash Basin, and the 488-4D Ash Landfill (Figure 2). The selected remedial alternative for the 489-D CPRB (Southern 75%) and the Inlet Basins portion of the 488-1D Ash Basin is No Action.”

The text will be revised in Section 1.4.2 2nd Paragraph to state the following:

“The selected remedial alternative for the 489-D CPRB (Southern 75%) and the area where the Inlet Basins portion of the 488-1D Ash Basin were formally located is No Action. In their current state, these subunits pose no unacceptable risk requiring a response action to human health and the environment and support unrestricted land use.”

Table 2 will be revised as follows:

Comments received 08/03/2022

SUBUNIT/AREA	ADMINISTRATIVE PATH					
	EA ROD ¹	Second ² EA ROD	Final ROD	IOU	GW OU	Remedial Decision
Ash Basin (488-D)						Geosynthetic Cover/GW Monitoring/ LUCs (DEXOU ROD 2004)
Ash Basin (488-1D) (including the Inlet Basins)		X				LUCs; No Action for the Inlet Basins portion
Ash Basin (488-2D)		X				LUCs
Ash Basin-Landfill (488-4D)		X				LUCs

Responsible Party: Eric Schiefer, (803)952-6273, eric.schiefer@srs.gov

2. Please revise the title page of the document to reflect Revision 0, not Revision Draft.

Response: Agree

The title page and headers were incorrectly marked as draft. However, the document was entered into the Administrative Record File as Revision 0 and no changes are needed. The document will be revised and issued in the next revision as Revision 1.

Responsible Party: Eric Schiefer, (803) 952-6273, eric.schiefer@srs.gov

Specific Comments

1. Table 1, Summary of Administrative Paths for Area and Subunits in and Around the DAOU, page 19. This table shows several subunits in bold font that are not the subject of the Second EAPCR and does not include 489-D CPRB Southern 75% in bold font. Also, the Ash sluice lines are marked in the Second EA ROD column but should be listed in the Final ROD column instead. By comparison, Table 2 appears to be correct. Please revise Table 1 to be correct and consistent with Table 2 and the rest of the document.

Response: Agree

Table 1 will be revised to bold only subunits that are the subject of this document. The Ash Sluice Lines are not identified as a separate subunit in the FFA. The 488-1D Ash Basin subunit includes the ash sluicing lines which were removed during Phase 1 construction activities. A footnote will be added to Table 1 to clarify as follows:

¹ EA ROD for DAOU, SRNS-RP-2010-00162, Rev 1.1, June 2011.

² Second EA ROD for DAOU, SRNS-RP-2018-00461, Rev 1, July 2020, subunits in bold font are the subject of this document.

³ The 488-1D Ash Basin subunit includes the ash sluicing lines which were removed during Phase 1 construction activities.

Comments received 08/03/2022

Table 1. Summary of Administrative Paths for Area and Subunits in and Around the DAOU

Subunit/Area	ADMINISTRATIVE PATH					
	EA ROD ¹	Second ² EA ROD	Final ROD	IOU	GW OU	Other
Bubble Tower Subunit	X					
Moderator Processing Subunit	X					
Powerhouse Subunit			X			
489-D CPRB - northern 25%	X					
489-D CPRB - southern 75%		X				
484-D Powerhouse building			X			
484-10D WOF Building			X			
484-10D WOF environmental media	X					
Ash Sluice Lines³		X				
D Area Coal Pile			X			
483-D Combined Spills			X			
Miscellaneous Units						
D-01 Outfall					X	
D-06 Outfall (Petroleum Release Site [PRS])				X		
904-50G Outfall	X					
D Area Asbestos Pit (80-20G)	X					
DIPSLs	X					
Electrical Transformers	X					
Miscellaneous Buildings	X					
D Area Rubble Pit (431-2D)						Closed; D Area Expanded OU (DEXOU) ROD 2004
D Area Oil Seepage Basin						Closed; D Area Oil Seepage Basin (DAOSB) ROD 1998
Ash Basin (488-D)						Closed; DEXOU ROD 2004
Ash Basin (488-1D)		X				Closed via Industrial Wastewater Permit (IWT).
Ash Basin (488-2D)		X				Closed via IWT.
Ash Basin Landfill (488-4D)		X				Closed via Solid Waste (SW) permit.
D Area Groundwater					X	

1. EA ROD for DAOU, SRNS-RP-2010-00162, Rev 1.1, June 2011.

2. Second EA ROD for DAOU, SRNS-RP-2018-00461, Rev 1, July 2020, subunits in **bold** font are the subject of this document.

3. The 488-1D Ash Basin subunit includes the ash sluicing lines which were removed during Phase 1 construction activities.

Comments received 08/03/2022

Table 2. Detailed Listing of Administrative Paths for Subunits and Areas for the DAOU Early Actions

SUBUNIT/AREA	ADMINISTRATIVE PATH					
	EA ROD ¹	Second ² EA ROD	Final ROD	IOU	GW OU	Remedial Decision
Ash Basin (488-D)						Geosynthetic Cover/GW Monitoring/ LUCs (DEXOU ROD 2004)
Ash Basin (488-1D) (including and the adjacent Inlet Basins)		X				LUCs; No Action for the Inlet Basins portion
Ash Basin (488-2D)		X				LUCs
Ash Basin-Landfill (488-4D)		X				LUCs
Powerhouse Subunit			X			
489-D CPRB - Northern 25%	X					LUCs
489-D CPRB - Southern 75%		X				No Action
484-D Powerhouse Building			X			
484-10D WOF Building			X			
484-10D WOF Environmental Media			X			
Ash Sluice Lines		<u>X</u>	X			
D-Area Coal Storage Area (484-17D) ³			X			
483-D Combined Spills			X			
Bubble Tower Subunit	X					LUCs
Moderator Processing Subunit	X					LUCs
Miscellaneous Units						
D-01 Outfall					X	
D-06 Outfall (Petroleum Release Site)				X		
904-50G Outfall	X					No Action
D-Area Asbestos Pit (80-20G)	X					LUCs
DIPSLs	X					LUCs
Electrical Transformers	X					No Action
Miscellaneous Buildings	X					No Action
D-Area Rubble Pit (431-2D)						LUCs (DEXOU ROD 2004)
D-Area Oil Seepage Basin						GW Monitoring/LUCs (DAOSB ROD 1998)
D Area Groundwater					X	
Ash Area Adjacent to and Easterly of D-Area Ash Basins 488-1D and 488-2D				X		

1. EA ROD for DAOU, SRNS-RP-2010-00162, Rev 1.1, June 2011.

Comments received 08/03/2022

2. Second EA ROD for DAOU, SRNS-RP-2018-00461, Rev 1, July 2020, subunits in **bold** font are the subject of this document.
3. **D-Area Coal Storage Area (484-17D)** also referred to as **D-Area Coal Pile** in SRS documentation

Responsible Party: Eric Schiefer, (803) 952-6273, eric.schiefer@srs.gov

SPECIFIC COMMENTS

- 1) **Section 5.1, Verification of Construction Completion, Page 10 of 22 and Section 7.0, Post Construction Activities, Pages 11-12 of 22:** The established frequency of periodic field inspections of the cover system, access roads, and warning signs and the criteria for performing maintenance of the cover system is unclear. For example, Section 5.1 indicates that scheduling for periodic field inspections of the cover system, access roads, and warning signs has been established; however, the scheduled frequency is not stated in Section 5.1. It is noted, Section 7.0 (Post Construction Activities) indicates that annual inspections will be performed for signs, access roads, cover system integrity as specified in the Second Early Action Land Use Control Implementation Plan (EALUCIP). Further, Section 7.0 indicates that maintenance of the cover system will be performed as necessary; however, it is unclear how post construction maintenance of the cover system will be triggered (e.g., as necessary based on issues identified during annual field inspection of the cover system). To ensure that the land use controls (LUC) elements for the D Area Operable Unit (DAOU) are being implemented, maintained, and monitored, please revise the text in Section 5.1 and 7.0, respectively, to state the frequency of periodic field inspections that will be conducted and clarify how maintenance of the cover system will be triggered.

Response: Agree.

Inspections will be performed annually. The text in Section 5.1, 4th bullet will be revised as follows:

- “A schedule for the periodic field inspections of the cover system, access roads and warning signs has been established **as annually per the Second EALUCIP (SRNS 2020b)** to ensure that there is no cover system or sign damage and to prevent unauthorized excavation or construction activities. **Additional inspections may be necessary in the event of unusual weather or any other condition warranting inspection.**”

The text in Section 7.0, 1st paragraph will be revised as follows:

“SRS will implement, maintain, and monitor the LUC elements for the DAOU to ensure the remedial action remain protective of human health and the environment per the EALUCIP (SRNS 2020b). The LUCs for the DAOU include controlled access to SRS, controlled industrial use, warning signs, and deed restrictions (upon property transfer) for future use. Annual inspection requirements for the Second EA (e.g., signs, access roads, cover system integrity) are specified in the Second EALUCIP. **Additional inspections may be necessary in the event of unusual weather or any other condition warranting inspection.**”

Responsible Party: Eric Schiefer, (803)952-6273, eric.schiefer@srs.gov

- 1) **Table 3, Events/Dates, Page 21 of 22:** Table 3 shows that a Field Inspection Checklist activity was conducted on November 11, 2021; however, there is no record or attachment of the Field Inspection Checklist in the EAPCR. Please revise the EAPCR to include the Field Inspection Checklist prepared for the activity conducted on November 11, 2021 as an attachment.

Response: Agree

Reference to the Field Inspection Checklist being issued internally on November 11, 2021 will be deleted. The first inspection per the checklist was performed on 1/10/22 and will be provided as Appendix D.

Table 3 will be revised to clarify as follows:

Table 3. Events/Dates

Description of Activity	Date
REGULATORY ACTIVITIES	
Final inspection walkdowns for 488-2D and 488-4D	November 3, 2016
EPA Approval of 488-2D and 488-4D Removal Action Report	November 17, 2017
SCDHEC approval of 488-2D and 488-4D Removal Action Report	Mach 14, 2018
Final inspection walkdowns for 488-1D and 489-D	October 29, 2018
Installation of warning signs	November 1, 2018
EPA Approval of 488-1D and 489-D Removal Action Report	September 30, 2019
SCDHEC approval of 488-1D and 489-D Removal Action Report	October 22, 2019
Second Early Action ROD for the D-Area Operable Unit (Regulatory Approval) (Revision 1)	August 21, 2020
Second Early Action Land Use Control Implementation Plan (Regulatory Approval) (Revision 0)	November 24, 2020
Field Inspection Checklist	November 11, 2021
<u>First SRNS Inspection per Field Inspection Checklist</u>	<u>January 10, 2022</u>
Professional Land Survey	March 29, 2022
488-1D, -2D and -4D Land Use Controls Completion Walkdown	TBD

Appendix D will be added as follows:

“APPENDIX D

**D-Area Ash Basins 488-1D and 488-2D, and D-Area Ash Landfill 488-4D
 Field Inspection Checklist”**

ARF-023578

ENVIRONMENTAL COMPLIANCE & AREA COMPLETION PROJECTS (EC&ACP) STANDARD OPERATING PROCEDURES, VOL. I	Manual: C3 Procedure: ER-IDS-019-078 Revision: 1 Effective Date: 11/11/2021 Type-Class: Checklist Page: 1 of 3
D-AREA ASH BASINS 488-1D AND 488-2D, AND D-AREA ASH LANDFILL 488-4D FIELD INSPECTION CHECKLIST	

WORKING COPY	
This document is a Working Copy. Prior to start of work, verify this is the latest revision per the Procedure Index.	
<i>Charles P. Carter</i> Verified By	01/10/2022 Date

CAUTION
The Inspector will IMMEDIATELY notify the Post-Closure Manager and Environmental Compliance Authority if there has been a breach or compromise of the institutional controls of this waste unit. This notification will be in accordance with Savannah River Site post closure inspection procedures.

NOTE
1. Manual C3, Volume I, Procedure ER-SOP-019, Waste Unit and IOU Inspection and Maintenance, will be referred to for inspection details.
2. Steps in this checklist may be completed concurrently or in any order.

SCHEDULED UNSCHEDULED

A = Satisfactory X = Unsatisfactory (Explanation required)	A or X	Observation/Corrective Action Taken
1. VERIFY roads are accessible.	A	
2. VERIFY that the waste unit signs (12) are in acceptable condition, have the correct information, and are legible from a distance of 25 feet.	A	
3. VERIFY there are no excavations, digging, or construction activities on the D-Area Ash Basin 488-1D and 488-2D, and D-Area Ash Landfill 488-4D.	A	

SRS Responses to U.S Environmental Protection Agency Comments on the
Second Early Action Post Construction Report for the D Area Operable Unit
SRNS-RP-2022-00064, Revision 0, May 2022, SEMS No: 63

Page 4 of 6

Comments received 07/25/2022

D-Area Ash Basins 488-1D and 488-2D, and D-Area Ash Landfill 488-4D Field Inspection Checklist	Manual:	C3
	Procedure:	ER-IDS-019-078
	Revision:	1
	Page:	2 of 3

SCHEDULED **UNSCHEDULED**

A X	= Satisfactory = Unsatisfactory (Explanation required)	A or X	Observation/Corrective Action Taken
4.	VERIFY integrity of drainage systems and required land grading for proper drainage is maintained and they are free of excessive erosion, sediment buildup, and any debris restricting water flow.	X	Build-up of thatch on drainage grates restricting water flow See Map Note: 1 Reference Maintenance Register PC-2022-00004
5.	VERIFY no woody vegetation is growing on D-Area Ash Basin 488-1D and 488-2D, and D-Area Ash Landfill 488-4D.	A	
6.	VERIFY grass density of vegetation cover has no bare spots more than 3 feet by 3 feet in the area. (The height of the vegetative cover should not impair the visual inspection of the soil cover. This verification will be determined by the inspector.)	A	
7.	VERIFY soil cover at D-Area Ash Basin 488-1D and 488-2D, and D-Area Ash Landfill 488-4D has no signs of unacceptable erosion or depressions (subsidence).	A	
8.	VERIFY signs of burrowing animals on D-Area Ash Basin 488-1D and 488-2D, and D-Area Ash Landfill 488-4D are not present.	X	Active Ant Mounds on Soil Cover See Map Note: 2 Reference Maintenance Register PC-2022-00003
9.	Other. NO FURTHER ENTRIES		

Inspected By

Charles P. Carter	<i>Charles P. Carter</i>	01/10/2022
Print Name	Signature	Date

Reviewed By Post Closure Manager

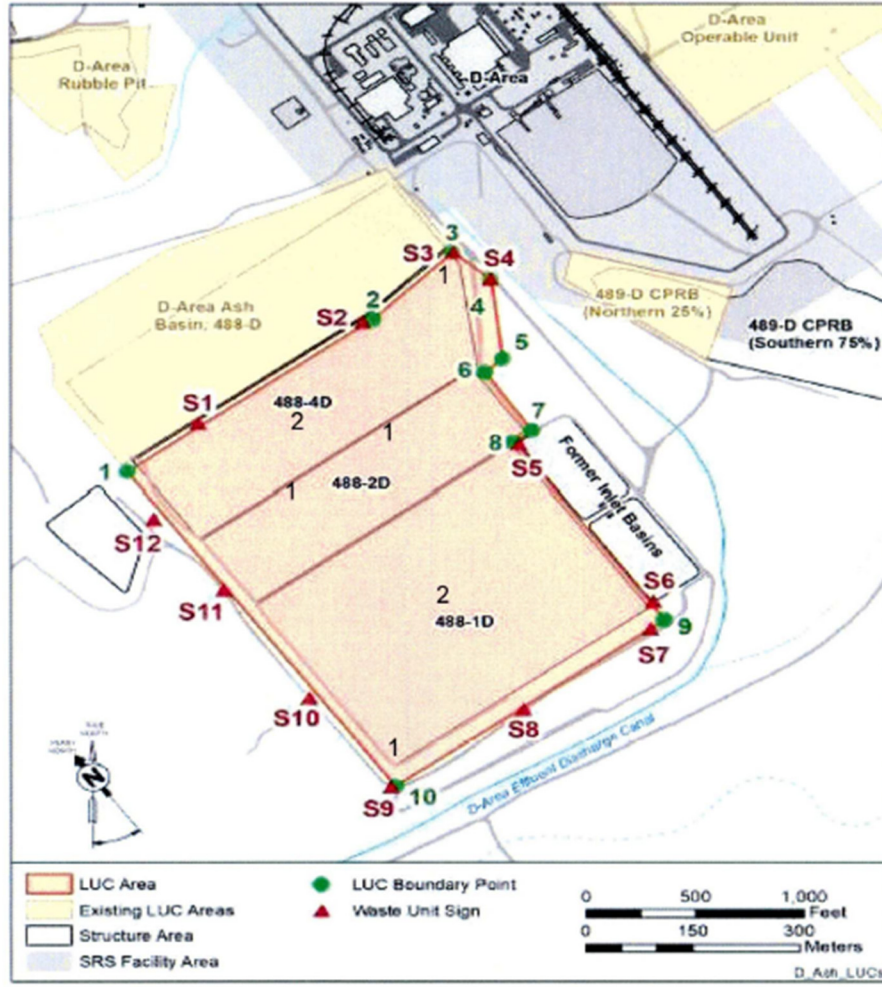
George W. Joyner	<i>George W. Joyner</i>	1/18/22
Print Name	Signature	Date

Comments received 07/25/2022

D-Area Ash Basins 488-1D and 488-2D, and D-Area Ash Landfill 488-4D Field Inspection Checklist

Manual: C3
Procedure: ER-IDS-019-078
Revision: 1
Page: 3 of 3

Map of D-Area Ash Basins



NOTE: 1=Build-up of thatch on drainage grates restricting water flow. Post Closure Maintenance removed thatch. 2=Active Ant Mounds on Soil Cover. Applied 4.0 lbs. on Extinguish ant bait.

NO ENTRIES THIS PAGE

GRC 01/10/2022

Responsible Party: Eric Schiefer, (803)952-6273, eric.schiefer@srs.gov

1) **Table 4, Final Remedial Action Project Cost Comparison, Page 22 of 22:** Table 4 does not provide a breakdown of the indirect capital costs for comparative purposes. Also, Table 4 does not provide a breakdown of the Early Action Record of Decision estimated direct and indirect operations and maintenance costs for comparative purposes. Please revise Table 4 to provide the appropriate breakdown costs to ensure a comparative evaluation between estimated and incurred costs can be performed.

Response: Clarification and Agree

The 200 years of O&M costs for the project has just started. Therefore, no O&M costs can be reported at this time. No text changes are needed.

The 2nd EA ROD indirect capital cost is estimated to be \$23,520 versus an incurred cost of \$15,467. The subcategories of the indirect costs will be provided. The text of Table 4 will be revised as follows:

	EAROD Estimate	Incurred Cost	Delta Cost
Capital Costs:			
<u>Direct Capital Costs</u>			
Land Use Controls			
Posting of Warning Signs 10 ea.	\$1000	\$1200	
Land Use Control Implementation Plan 1 ea.....	\$7500	\$25,041	
Deed Restrictions 1 ea.....	\$7500	\$0	
Mobilization/Demobilization	\$4000	\$4831	
Site Preparation/Site Restoration	\$4000	\$4831	
<u>Total Direct Capital Cost</u>			
	\$24,000	\$35,904	
<u>Engineering & Design</u>	<u>\$4320</u>	<u>\$4175</u>	
<u>Project/Construction Management</u>	<u>\$6000</u>	<u>\$2968</u>	
<u>Health & Safety</u>	<u>\$1200</u>	<u>\$1364</u>	
<u>Overhead</u>	<u>\$7200</u>	<u>\$6960</u>	
<u>Contingency</u>	<u>\$4800</u>	<u>\$0</u>	
<u>Indirect Capital Costs:</u>	\$23,520	\$15,467	
Sub Total:	\$47,520	\$51,372	+8%
Operations and Maintenance (O&M) Costs:			
<u>Direct O&M Costs</u>			
	\$4,244,267	TBD	TBD
<u>Indirect O&M Costs</u>			
	\$5,602,432		
Sub Total:	\$9,846,699	TBD	TBD

Responsible Party: Eric Schiefer, (803)952-6273, eric.schiefer@srs.gov