

2. AMENDMENT/MODIFICATION NO. 3. EFFECTIVE DATE 4. REQUISITION/PURCHASE REQ. NO. 5. PROJECT NO. (if applicable)
 353 04/25/2013 13EM001637

6. ISSUED BY CODE 7. ADMINISTERED BY (if other than Item 6) CODE
 00901 00901
 Savannah River Operations U.S. Department of Energy Savannah River Operations
 P.O. Box A P.O. Box A
 Aiken SC 29802 Aiken SC 29802

8. NAME AND ADDRESS OF CONTRACTOR (f/a, street, county, State and ZIP Code) 9A. AMENDMENT OF SOLICITATION NO.
 SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC
 Attn: LLOYD CLEVINGER
 203 LAURENS ST SW
 AIKEN SC 298012421
 9B. DATED (SEE ITEM 11)
 10A. MODIFICATION OF CONTRACT/ORDER NO.
 DE-AC09-08SR22470
 10B. DATED (SEE ITEM 13)
 01/10/2008
 CODE 798861048 FACILITY CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS
 The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended. is not extended.
 Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (if required)
 No change to accounting data

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE
 A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
 B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
 C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
 D. OTHER (Specify type of modification and authority)
 X Section I, DEAR 970.5211-1 Work Authorization (May 2007)

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ 0 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

A. The purpose of this modification is to incorporate the contract work authorizations listed below (See attachments 1 through 6, hereto):

- 1) No. KC/SR1/3, Rev. 1 for Basic Energy Sciences - Energy Frontier Research Center
- 2) No. KP/W/SR1/3, Rev. 2 for Biological and Environmental Research
- 3) No. 410003-TechSupt, Rev. 3, for SRNL Technical Support
- 4) No. HQ091101, Rev 1, for Advanced Simulation Capability for Environmental Management
- 5) No. HQTD1005-4-13, Rev 1, for Increased Wasted Loadings
- 6) No. IN13012, Rev 2, for Energy and Threat

B. This modification formally incorporates the above referenced contract work
 Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 8A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) 15A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
 James Lovett
 15B. CONTRACTOR/OFFEROR 15C. DATE SIGNED 15B. UNITED STATES OF AMERICA 15C. DATE SIGNED
 04/25/2013
 (Signature of person authorized to sign) (Signature of Contracting Officer)

CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED
DE-AC09-08SR22470/353

PAGE 2 OF 2

NAME OF OFFEROR OR CONTRACTOR
SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>authorizations as part of the contract. Fund authorizations were provided under separate modifications under FINPLAN 12, FY 2013, and FINPLAN #14, FY 2013. As stated under DEAR 970.5211-1 Work Authorization (May 2007), paragraph (b), the work authorization, whether issued bilaterally or unilaterally shall become a part of the contract.</p> <p>C. The contract estimated value and all other terms and conditions remain unchanged.</p>				

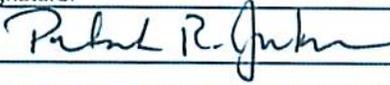
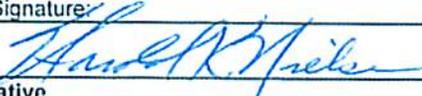
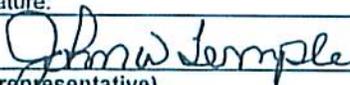
Attachment 1

Contract Work Authorization No. KC/SR1/3, Rev 1

**Project Title: Basic Energy Sciences – Energy Frontier Research
Center**

**Note: Eight (8) pages, inclusive of Headquarters transmittal
Memorandum, Cost and Obligation Report Year-To-Date
Values (supporting documentation)**

**U. S. DEPARTMENT OF ENERGY
CONTRACT WORK AUTHORIZATION**

1a. Project Title Basic Energy Sciences - Energy Frontier Research Centers		1b. Work Proposal Number Various; Project Code 2005000	
2. Headquarters Program Point of Contact Name: Harriet Kung Organization Code: SC-22 Telephone: 301-903-3081			
3. Headquarters Budget Point of Contact Name: Kristy Shriver Organization Code: SC-41.2 Telephone: 301-903-3129			
4. Responsible Program Office of Science: Basic Energy Sciences		5. Responsible Secretarial Officer Patricia Dehmer, Deputy Director for Science Programs	
6. Responsible Field Organization U.S. Department of Energy, Savannah River Operations			
7a. Site and Facility Management Contractor Savannah River Nuclear Solutions, LLC		7b. Contractor Point of Contact Name: John W. Temple Telephone No. (803) 952- 7210	
8. Work Authorization Number KC/SR1/3		9. Revision Number 1	
10. Funds Authorized (See NOTE below) NOTE: Work subject to funds availability and an approved "Full Year FY 2013 Continuing Resolution Act."			
Budget and Reporting Code: KC0202050	Previous: \$204,000	Change: \$76,000	Current: \$280,000
11. Performance Period Covered by Funds (See NOTE in Block 10) From: 10/1/12 To: Sep 30, 2013		12. Work Start Date From: 10/1/12	
		13. Expected Completion Date To: 9/30/13	
14. Statement of Work (Includes attachments) Materials Sciences and Engineering: Funds in the amount of \$76,000, under KC020205, are provided for project #SCW-0090 entitled "Elucidation of Hydride Interaction Mechanisms with Carbon Nanostructures and the Formation of Novel Nanocomposites," Zidan, principal investigator.			
15. DOE-SR Program Point of Contact			
Name (printed): Patricia R. Jackson	Signature: 	Date: 4/19/13	
16. DOE Budget Official			
Name (typed): Harold K. Nielsen	Signature: 	Date: 4/19/13	
17. Contractor's Authorized Representative			
Name (typed): John Temple	Signature: 	Date: 4/23/13	
18. DOE Contracting Officer (or delegated representative)			
Name (typed): Scott Langston	Signature: 	Date: 4/18/13	



Department of Energy
Office of Science
Washington, DC 20585

APR 17 2013

MEMORANDUM FOR DOUGLAS J. DEAROLPH
MANAGER
SAVANNAH RIVER SITE OFFICE

FROM:

Robert J. Costello
HARRIET KUNG
ASSOCIATE DIRECTOR OF SCIENCE
FOR BASIC ENERGY SCIENCES

SUBJECT:

FY 2013 Office of Science Approved Funding Program -
Savannah River National Laboratory

The attached budget detail and program guidance relate to the funding amounts in the FY 2013 April Approved Funding Program (AFP) recently submitted to the Chief Financial Officer by the Office of Basic Energy Sciences. Also attached, in accordance with DOE Order 412.1A, is the FY 2013 Work Authorization for the M&O contract with Savannah River National Laboratory. This authorization covers funding through the April AFP.

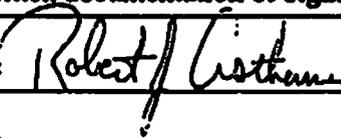
If you have any questions regarding the attached, please call Kristy Shriver on 301-903-3129 or Mike Osinski on 301-903-3590.

Attachment

cc: D. Donati, SR (dennis.donati@srs.gov)
P. Jackson, SR (patrick.jackson@srs.gov)
R. Jump, SR (roxanne.jump@nnsa.srs.gov)
L. Roberson, SR (leza.roberson@srs.gov)



**U.S. DEPARTMENT OF ENERGY
CONTRACT WORK AUTHORIZATION**

1a. Project Title: Basic Energy Sciences		1b. Work Proposal Number (if applicable): Various	
2. Headquarters Program Point of Contact. Name: Harriet Kung Organization Code: SC-22 Telephone No.: (301) 803-3081			
3. Headquarters Budget Point of Contact. Name: Kristy Shriver Organization Code: SC-41 Telephone No.: (301) 903-3129			
4. Responsible Program: Basic Energy Sciences		5. Responsible Secretarial Officer: Director, Office of Science	
6. Responsible Field Organization: Savannah River Operations Office			
7a. Site and Facility Management Contractor: Savannah River Nuclear Solutions, LLC		7b. Contractor Point of Contact. Name: Telephone No.:	
8. Work Authorization Number: KC/SR1/3		9. Revision Number: 01	
10. Funds Authorized (\$ in thousands). B&R Code: KC Previous: \$204 Change: \$+76 Current: \$280			
11. Performance Period Covered by Funds. From: 10/01/12 To: 09/30/13		12. Work Start Date: 10/01/12	13. Expected Completion Date: 09/30/13
14. Statement of Work: This FY 2013 Approved Funding Program provides funding to support Basic Energy Sciences activities, consistent with the Field Work Proposals, as amended, and the monthly program guidance letters. The Office of Basic Energy Sciences (BES) is committed to conducting research in a manner that ensures protection of the workers, the public, and the environment. Protecting the workers, the public, and the environment is a direct and individual responsibility of all BES managers and BES-supported researchers and their staff. Funds provided by BES for research will be applied as necessary to ensure that all BES research activities are conducted safely and in an environmentally conscientious manner. Only research conducted in this way will be supported.			
15. Reporting Requirements (Status reports, scientific and technical information or similar): It is recognized that for BES the research will be reported as publications in the open literature, copies of which will be made available to DOE. An annual progress report must be included with each FWP including projects which are terminating. Throughout the year each program must receive written documentation of significant accomplishments.			
16. Work Authorization Program Official. Name (typed): Harriet Kung		Signature: 	Date: 4/17/13
17. DOE Field Organization Official. Name (typed):		Signature:	Date:
18. Contractor's Authorized Representative. Name (typed):		Signature:	Date:
19. DOE Contracting Officer (or delegated representative). Name (typed):		Signature:	Date:

Savannah River National Laboratory

Materials Sciences and Engineering

Funds in the amount of \$76,000, under KC020205, are provided for project #SCW-0090 entitled "Elucidation of Hydride Interaction Mechanisms with Carbon Nanostructures and the Formation of Novel Nanocomposites," Zidan, principal investigator.

**Basic Energy Sciences
FY 2013 April Program Guidance Attachment**

		Approved Obligations			Approved Costs		
		Current	Change	Proposed	Current	Change	Proposed
Savannah River Ops Office		SAVANNAH RIVER NATIONAL LABORA					
KC02	Materials Sciences and Engineering						
KC020205	Physical Behavior of Materials						
	OPE	204,000	76,000	280,000	204,000	76,000	280,000
	Total KC02	204,000	76,000	280,000	204,000	76,000	280,000
Total	SAVANNAH RIVER NATIONAL LABORA	204,000	76,000	280,000	204,000	76,000	280,000

Cost and Obligation Report YTD Values

Funding Source: All

Appr Year	Fund Code	Legacy FT	Program	Legacy B&R	Project	WFO	Object Class	Local Use	Purchase Order	BEARS		STARS		Ending Uncosted		
										BA Committed	BA Obligated	Curr Yr Obligated	Curr Yr Costs			
Legacy Program Parent: KC0200000																
2013	00500	WA	2924295	KC0202050	0000000	0000000	25102	0000000	9999999		0.00	76,000.00	0.00	0.00	0.00	
2013	00500	WA	2924295	KC0202050	0000000	0000000	25400	0000000	SR22470		0.00	204,000.00	204,000.00	204,000.00	132,025.87	
Total for Legacy Program Parent: KC0200000											0.00	280,000.00	204,000.00	204,000.00	132,025.87	71,974.13
Report Total											0.00	280,000.00	204,000.00	204,000.00	132,025.87	71,974.13

** Draft Finplan **

Contract Modification Number: ** No MOD **

Rpt Entity: SR Savannah River Nuclear Solutions, LLC

Financial Plan Report - Detail

Site: SR

14

*** DRAFT ***

SR22470 - Savannah River Nuclear Solutions (SRNS)

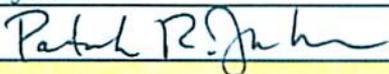
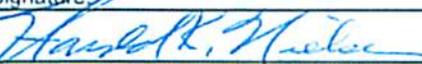
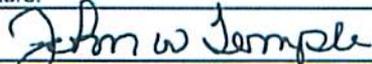
Rpt Entity	Fund Code	Leg FT	Legacy Program	Legacy B&R	Obj. Class	Local Use	Project	WFO	Legacy Order Number	Beginning Uncosted Obs	BA			Total Available
											Previous	Change	Revised	
410003	00500	WA	2924295	KC0202050	25400	0000000	0000000	0000000		0.00	204,000.00	76,000.00	280,000.00	280,000.00
Total for Program Parent/Control Point: KC0200000										0.00	204,000.00	76,000.00	280,000.00	280,000.00
410003	00500	WA	2924214	KP1702030	25400	0000000	0000000	0000000		84,671.60	158,639.52	138,000.00	296,639.52	381,311.12
Total for Program Parent/Control Point: KP0000000										84,671.60	158,639.52	138,000.00	296,639.52	381,311.12
Total for Fund: 00500										84,671.60	362,639.52	214,000.00	576,639.52	661,311.12
410003	00697	SB	3165133	WN3200000	25400	0000000	0000000	0000000		0.00	0.00	6,600,000.00	6,600,000.00	6,600,000.00
AY 2012 - Transfer \$6,600,000 to support the retention of qualified personnel, receipt, and disposition of enriched uranium solutions from AECL in H Canyon. The WN32 funds being added to the SRNS Finplan require prior authorization for use by Pat Mcquire or J.J. Hynes. MGD41813														
Total for Program Parent/Control Point: WN0000000										0.00	0.00	6,600,000.00	6,600,000.00	6,600,000.00
Total for Fund: 00697										0.00	0.00	6,600,000.00	6,600,000.00	6,600,000.00
410003	00910	3T	1720297	400403209	25400	0000000	0000000	0411154 11154		0.00	0.00	42,718.45	42,718.45	42,718.45
AY 2013 - WFO SRARM-AA6 SRARMY-AA6 MIPR3380840019														
Total for Program Parent/Control Point: 400000000										0.00	0.00	42,718.45	42,718.45	42,718.45
Total for Fund: 00910										0.00	0.00	42,718.45	42,718.45	42,718.45
410003	01050	TF	3184820	RH0501010	25400	0000000	0000000	0000000		1,918.36	0.00	-1,918.36	-1,918.36	0.00
410003	01050	TF	3184849	RH0607010	25400	0000000	0000000	0000000		193.60	0.00	-193.60	-193.60	0.00
Total for Program Parent/Control Point: RH0301000										2,111.96	0.00	-2,111.96	-2,111.96	0.00
Total for Fund: 01050										2,111.96	0.00	-2,111.96	-2,111.96	0.00
410003	01050		3203735	GD2540580	25400	0000000	0000000	0000000		0.00	189,468.00	-4,000.00	185,468.00	185,468.00
Total for Program Parent/Control Point: GD2540000										0.00	189,468.00	-4,000.00	185,468.00	185,468.00
410003	01050		3203740	GD3003010	25400	0000000	0000000	0000000		0.00	885,996.00	260,700.00	1,146,696.00	1,146,696.00
410003	01050		1714209	GD3006000	25400	0000000	0000000	0000000		0.00	10,000.00	10,000.00	20,000.00	20,000.00
410003	01050		3203736	GD3015000	25400	0000000	0000000	0000000		0.00	345,700.00	159,000.00	504,700.00	504,700.00
Total for Program Parent/Control Point: GD3001000										0.00	1,241,696.00	429,700.00	1,671,396.00	1,671,396.00
Total for Fund: 01050										0.00	1,431,164.00	425,700.00	1,856,864.00	1,856,864.00
410003	01091		3184701	HQ1001000	25400	0000000	0000000	0000000		0.00	290,000.00	45,000.00	335,000.00	335,000.00
Total for Program Parent/Control Point: HQ1001000										0.00	290,000.00	45,000.00	335,000.00	335,000.00
Total for Fund: 01091										0.00	290,000.00	45,000.00	335,000.00	335,000.00
410003	01250	TP	1110925	EY804910K	25400	0000000	0004074	0000000		0.00	124,194.85	50,000.00	174,194.85	174,194.85
410003	01250	TP	1110925	EY804910K	25400	0000000	0004202	0000000		0.00	65,000.00	40,000.00	105,000.00	105,000.00
Total for Program Parent/Control Point: EY804910A										0.00	189,194.85	90,000.00	279,194.85	279,194.85
Total for Fund: 01250										0.00	189,194.85	90,000.00	279,194.85	279,194.85

No. KP/W/SR1/3, Rev 2

Project Title: Biological and Environmental Research

Note: Seven (7) pages, inclusive of Headquarters transmittal Memorandum, Cost and Obligation Report Year-To-Date Values (supporting documentation)

**U. S. DEPARTMENT OF ENERGY
CONTRACT WORK AUTHORIZATION**

1a. Project Title		1b. Work Proposal Number	
Biological and Environmental Research		Various	
2. Headquarters Program Point of Contact			
Name: Sharlene Weatherwax		Organization Code: SC-23	Telephone: 301-903-3251
3. Headquarters Budget Point of Contact			
Name: Lisa Yost		Organization Code: SC-41.2	Telephone: 301-903-2310
4. Responsible Program		5. Responsible Secretarial Officer	
Biological and Environmental Research		Patricia Dehmer, Deputy Director for Science Programs	
6. Responsible Field Organization			
U.S. Department of Energy, Savannah River Operations			
7a. Site and Facility Management Contractor		7b. Contractor Point of Contact	
Savannah River Nuclear Solutions, LLC		Name: John W. Temple	Telephone No. (803) 952- 7210
8. Work Authorization Number		9. Revision Number	
KPW/SR1/3		2	
10. Funds Authorized (See NOTE below)			
NOTE: Work subject to funds availability and an approved "Full Year FY 2013 Continuing Resolution Act."			
Budget and Reporting Code:	Previous:	Change:	Current:
KP1702030	\$ 158,639.52	\$ 138,000.00	\$ 296,639.52
11. Performance Period Covered by Funds (See NOTE in Block 10)		12. Work Start Date	13. Expected Completion Date
From: Oct. 1, 2012	To: Sep 30, 2013	From: Oct. 1, 2012	To: Sep 30, 2013
14. Statement of Work (Includes attachments)			
<p>The FY 2013 Approved Funding Program provides funding to support Biological and Environmental Research activities, consistent with the Field Work Proposals (FWPs), as amended, and the monthly program guidance letters. The Office of Biological and Environmental Research (BER) is committed to conducting research in a manner that ensures protection of the workers, the public, and the environment. Protecting the workers, the public, and the environment is a direct and individual responsibility of all BER managers and BERsupported researchers and their staff. Funds provided by BER for research will be applied as necessary to ensure that all BER research activities are conducted safely and in an environmentally conscientious manner. Only research conducted in this way will be supported. It is recognized that for BER the research will be reported as publications in the open literature, copies of which will be made available to DOE. An annual progress report must be included with each FWP including projects which are terminating. Throughout the year each program must receive written documentation of significant accomplishments.</p>			
15. DOE-SR Program Point of Contact			
Name (printed):	Signature:	Date:	
Patrick Jackson		4/18/13	
16. DOE Budget Official			
Name (typed):	Signature:	Date:	
Harold K. Nielsen		4/19/13	
17. Contractor's Authorized Representative			
Name (typed):	Signature:	Date:	
John Temple		4/23/13	
18. DOE Contracting Officer (or delegated representative)			
Name (typed):	Signature:	Date:	
Scott Langston		4/18/13	



**Department of Energy
Office of Science
Washington, DC 20585**

APR 18 2013

**MEMORANDUM FOR DAVID C. MOODY, III
MANAGER
SAVANNAH RIVER OPERATIONS OFFICE**

**FROM: SHARLENE WEATHERWAX, PH.D. *Sh Weatherwax*
ASSOCIATE DIRECTOR OF SCIENCE
FOR BIOLOGICAL AND ENVIRONMENTAL RESEARCH**

**SUBJECT: FY 2013 Office of Science Approved Funding Program - Savannah
River Nuclear Solutions**

The attached budget detail and program comments relate to the April AFP recently submitted to the Chief Financial Officer by the Biological and Environmental Research program. Also attached, in accordance with DOE Order 412.1a, is the FY 2013 Work Authorization for the Management and Operating (M&O) contract with the Savannah River Nuclear Solutions, LLC. This authorization continues to cover funding through the April AFP.

If you should have any questions, please call Lisa Yost on 301-903-2310 or Mike Osinski on 301-903-3590.

Attachment

**cc:
T. Michalske, Director, SRNL
L. Roberson, SRO
E. Seguinot, SRO
P. Jackson, SRO, OLO
N. Peralta, SRO, OLO**



**U.S. DEPARTMENT OF ENERGY
CONTRACT WORK AUTHORIZATION**

1a. Project Title: Biological and Environmental Research		1b. Work Proposal Number (if applicable): Various	
2. Headquarters Program Point of Contact. Name: Sharlene Weatherwax Organization Code: SC-23 Telephone No.: (301)903-3251			
3. Headquarters Budget Point of Contact. Name: Lisa Yost Organization Code: SC-41.2 Telephone No.: (301) 803-2310			
4. Responsible Program: Biological and Environmental Research		5. Responsible Secretarial Officer: Director, Office of Science	
6. Responsible Field Organization: Savannah River Operations Office			
7a. Site and Facility Management Contractor: Savannah River Nuclear Solutions, LLC		7b. Contractor Point of Contact. Name: Telephone No.:	
8. Work Authorization Number: KP/WSR1/3		9. Revision Number: 02	
10. Funds Authorized (\$ in thousands). B&R Code: KP Previous: \$165 Change: +138 Current: \$303			
11. Performance Period Covered by Funds. From: 10/01/12 To: 09/30/13		12. Work Start Date: 10/01/12	13. Expected Completion Date: 09/30/13
14. Statement of Work: <p>The FY 2013 Approved Funding Program provides funding to support Biological and Environmental Research activities, consistent with the Field Work Proposals (FWPs), as amended, and the monthly program guidance letters.</p> <p>The Office of Biological and Environmental Research (BER) is committed to conducting research in a manner that ensures protection of the workers, the public, and the environment. Protecting the workers, the public, and the environment is a direct and individual responsibility of all BER managers and BER-supported researchers and their staff. Funds provided by BER for research will be applied as necessary to ensure that all BER research activities are conducted safely and in an environmentally conscientious manner. Only research conducted in this way will be supported.</p>			
15. Reporting Requirements (Status reports, scientific and technical information or similar): <p>It is recognized that for BER the research will be reported as publications in the open literature, copies of which will be made available to DOE.</p> <p>An annual progress report must be included with each FWP including projects which are terminating. Throughout the year each program must receive written documentation of significant accomplishments.</p>			
16. Work Authorization Program Official. Name (typed): Sharlene Weatherwax Signature: <i>Sh Weatherwax</i> Date: 09/17/2013			
17. DOE Field Organization Official. Name (typed): Signature: Date:			
18. Contractor's Authorized Representative. Name (typed): Signature: Date:			
19. DOE Contracting Officer (or delegated representative). Name (type): Signature: Date:			

RPT7.RPT
 B&R: KP 89X0222
 Lab: All
 SETASIDES: Include All
 Current Stage: 2013-06-43
 Proposed Stage: 2013-07-43
 \$: Whole

Biological & Environmental Research
 FY 2013 April Program Guidance Attachment

Approved Obligations			Approved Costs		
Current	Change	Proposed	Current	Change	Proposed

Savannah River Ops Office

SAVANNAH RIVER NATL LAB

Operating Expenses

KP13	Environmental Remediation						
KP1302	Environmental Remediation Sciences Research						
	OPE	-8,376	0	-8,376	-8,376	0	-8,376
	Total KP1302	-8,376	0	-8,376	-8,376	0	-8,376
	Total KP13	-8,376	0	-8,376	-8,376	0	-8,376
KP15	Biological Research						
KP150401	Environmental Remediation Sciences Research Prog						
	OPE	-10,263	0	-10,263	-10,263	0	-10,263
	Total KP150401	-10,263	0	-10,263	-10,263	0	-10,263
	Total KP15	-10,263	0	-10,263	-10,263	0	-10,263
KP17	Climate and Environmental Sciences						
KP170201	Terrestrial Ecosystem Science						
	OPE	25,000	0	25,000	25,000	0	25,000
	Total KP170201	25,000	0	25,000	25,000	0	25,000
KP170203	Subsurface Biogeochemical Research						
	OPE	158,639	138,000	296,639	158,639	138,000	296,639
	Total KP170203	158,639	138,000	296,639	158,639	138,000	296,639
	Total KP17	183,639	138,000	321,639	183,639	138,000	321,639
	Total Operating Expenses	165,000	138,000	303,000	165,000	138,000	303,000
	Total SAVANNAH RIVER NATL LAB	165,000	138,000	303,000	165,000	138,000	303,000

FY 2013 Initial Guidance – Savannah River National Laboratory

**KP170203 – Climate and Environmental Sciences/Environmental System
Science/Subsurface Biogeochemical Research**

\$28,000 is provided for project SCW-0083, entitled “Self-Consistent Model of Plutonium Sorption,” (Kaplan, PI).

\$65,000 is provided for project SCW-0091, entitled “Fate of Uranium During Transport Across the Groundwater-Surface Water Interface,” (Kaplan, PI).

\$45,000 is provided for project SCW-0052, entitled “Collaborative Research; The Importance of Organo-Iodine and Iodate in Iodine-127,129 Speciation, Mobility, and Microbial Activity in Groundwater at DOE Sites,” (Kaplan, PI).

Detail Funding Point History

XID	AY	Allot- tee	Rpt Ent Parent	Fund	Program	Pgm Parent	Rept Entity	Project	WFO	Obj Class	Purchase Order	Local Use	BUO	BUO Deob	PY BUO Deob	BA Committed	BA Obligated	FAC	
Chg Date / Time		User		Prog. ID	Description														
47854	2013	36	SR	00500	2924214	C001024	410003	0000000	0000000	25400	SR22470	0000000	0.00	0.00	0.00	278,000.00	278,000.00	0.00	
4/18/2013 11:59:57		Segunot, Elberto		UPD0001	Climate and Environmental Sciences/Environmental System Science/Subsurface Biogeochemical Research														
												Change Amounts:		0.00	0.00	0.00	138,000.00	138,000.00	0.00
48071	2013	36	SR	00500	2924214	C001024	410225	0000000	0000000	25200	9999999	0000000	0.00	0.00	0.00	0.00	0.00	0.00	
4/18/2013 11:56:59		Segunot, Elberto		UPD0001	RESERVES														
												Change Amounts:		0.00	0.00	0.00	-138,000.00	0.00	0.00
48071	2013	36	SR	00500	2924214	C001024	410225	0000000	0000000	25200	9999999	0000000	0.00	0.00	0.00	138,000.00	0.00	0.00	
4/11/2013 11:38:42		Segunot, Elberto		UPD0001	RESERVES														
												Change Amounts:		0.00	0.00	0.00	138,000.00	0.00	0.00

** Draft Finplan **

Contract Modification Number ** No MOD **

Rpt Entity: SR Savannah River Nuclear Solutions, LLC

Financial Plan Report - Detail

Site: SR

*** DRAFT ***

SR22470 - Savannah River Nuclear Solutions (SRNS)

Rpt Entity	Fund Code	Leg FT	Program	Legacy B&R	Obj. Class	Local Use	Project	WFO	Legacy Order Number	Beginning Uncosted Obs	BA			Total Available	
											Previous	Change	Revised		
410003	00500	WA	2924295	KC0202050	25400	0000000	0000000	0000000		0.00	204,000.00	76,000.00	280,000.00	280,000.00	
Total for Program Parent/Control Point: KC0200000											0.00	204,000.00	76,000.00	280,000.00	280,000.00
410003	00500	WA	2924214	KP1702030	25400	0000000	0000000	0000000		84,671.60	158,639.52	138,000.00	296,639.52	381,311.12	
Total for Program Parent/Control Point: KP0000000											84,671.60	158,639.52	138,000.00	296,639.52	381,311.12
Total for Fund: 00500											84,671.60	362,639.52	214,000.00	576,639.52	661,311.12
410003	00697	SB	3165133	WN3200000	25400	0000000	0000000	0000000		0.00	0.00	6,600,000.00	6,600,000.00	6,600,000.00	
<i>AY 2012 - Transfer \$6,600,000 to support the retention of qualified personnel, receipt, and disposition of enriched uranium solutions from AECL in H Canyon. The WN32 funds being added to the SRNS Finplan require prior authorization for use by Pat McGuire or J.J. Hynes. MG041813</i>											0.00	0.00	6,600,000.00	6,600,000.00	6,600,000.00
Total for Program Parent/Control Point: WN0000000											0.00	0.00	6,600,000.00	6,600,000.00	6,600,000.00
Total for Fund: 00697											0.00	0.00	6,600,000.00	6,600,000.00	6,600,000.00
410003	00910	3T	1720297	400403209	25400	0000000	0000000	0411154 11154		0.00	0.00	42,718.45	42,718.45	42,718.45	
<i>AY 2013 - WFO SRARM-AA6 SRARMY-AA6 MIPR3380840019</i>											0.00	0.00	42,718.45	42,718.45	42,718.45
Total for Program Parent/Control Point: 400000000											0.00	0.00	42,718.45	42,718.45	42,718.45
Total for Fund: 00910											0.00	0.00	42,718.45	42,718.45	42,718.45
410003	01050	TF	3184820	RH0501010	25400	0000000	0000000	0000000		1,918.36	0.00	-1,918.36	-1,918.36	0.00	
410003	01050	TF	3184849	RH0607010	25400	0000000	0000000	0000000		193.60	0.00	-193.60	-193.60	0.00	
Total for Program Parent/Control Point: RH0301000											2,111.96	0.00	-2,111.96	-2,111.96	0.00
Total for Fund: 01050											2,111.96	0.00	-2,111.96	-2,111.96	0.00
410003	01090		3203735	GD2540980	25400	0000000	0000000	0000000		0.00	169,468.00	-4,000.00	165,468.00	165,468.00	
Total for Program Parent/Control Point: GD2540000											0.00	169,468.00	-4,000.00	165,468.00	165,468.00
410003	01090		3203740	GD3003010	25400	0000000	0000000	0000000		0.00	685,996.00	260,700.00	1,146,696.00	1,146,696.00	
410003	01090		1714209	GD3006000	25400	0000000	0000000	0000000		0.00	10,000.00	10,000.00	20,000.00	20,000.00	
410003	01090		3203736	GD3015000	25400	0000000	0000000	0000000		0.00	345,700.00	159,000.00	504,700.00	504,700.00	
Total for Program Parent/Control Point: GD3001000											0.00	1,241,696.00	429,700.00	1,671,396.00	1,671,396.00
Total for Fund: 01090											0.00	1,431,164.00	425,700.00	1,856,864.00	1,856,864.00
410003	01091		3184701	HQ1001000	25400	0000000	0000000	0000000		0.00	290,000.00	45,000.00	335,000.00	335,000.00	
Total for Program Parent/Control Point: HQ1001000											0.00	290,000.00	45,000.00	335,000.00	335,000.00
Total for Fund: 01091											0.00	290,000.00	45,000.00	335,000.00	335,000.00
410003	01250	TP	1110925	EY804910K	25400	0000000	0004074	0000000		0.00	124,194.85	50,000.00	174,194.85	174,194.85	
410003	01250	TP	1110925	EY804910K	25400	0000000	0004202	0000000		0.00	65,000.00	40,000.00	105,000.00	105,000.00	
Total for Program Parent/Control Point: EY804910A											0.00	189,194.85	90,000.00	279,194.85	279,194.85
Total for Fund: 01250											0.00	189,194.85	90,000.00	279,194.85	279,194.85

No. 410003-TechSupt

Project Title: SRNL Technical Support

Note: Seven (7) pages, inclusive of Headquarters transmittal Memorandum, Cost and Obligation Report Year-To-Date values (supporting documentation)

**U. S. DEPARTMENT OF ENERGY
CONTRACT WORK AUTHORIZATION**

1a. Project Title SRNL Technical Support	1b. Work Proposal Number 410003-TechSupt
--	--

2. Headquarters Program Point of Contact		
Name Maureen O'Dell	Organizational Code EM-11	Telephone 301-903-4638

3. Headquarters Budget Point of Contact		
Name Tracey Whipp	Organizational Code EM-61	Telephone 301-903-7157

4. Responsible Program Office of Environmental Management	5. Responsible Secretarial Officer Tracy Mustin
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6. Responsible Field Organization U.S. Department of Energy, Savannah River Operations
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7a. Site and Facility Management Contractor Savannah River Nuclear Solutions, LLC	7b. Contractor Point of Contact Name: John W. Temple Telephone No. (803) 952- 7210
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8. Work Authorization Number 410003-TechSupt	9. Revision Number 3
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10. Funds Authorized (See Note below)
NOTE: Work subject to funds availability and an approved "Full Year FY 2013 Continuing Resolution Act."

Date	Budget and Reporting Code:	Project Value	Previous:	Change:	Current:
Nov. 8	EY804910K	4074	\$ 35,000.00		
Nov. 8	EY804910K	4202	\$ 50,000.00		
Dec. 7	EY804910K	4074	\$ 20,000.00		
Jan. 4	EY804910K	4074	\$ 45,000.00		
Jan. 4	EY804910K	4202	\$ 15,000.00		
Apr. 15	EY804910K	4074 <i>SA</i>		\$ 50,000.00	
Apr. 15	EY804910K	4074 4202 <i>SA</i>		\$ 40,000.00	\$ 255,000.00

11. Performance Period Covered by Funds (See NOTE in Block 10) From: 10/1/2012 To: 9/30/2013	12. Work Start Date From: 10/1/2012	13. Expected Completion Date To: 9/30/2013
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14. Statement of Work (Includes attachments)
The Office of Environmental Compliance authorizes the Savannah River National Laboratory to provide support comment resolution and updates to the technical standards, guides, and order in preparation for final issuance; follow NRC, IAEA, and other external developments that could impact the order; and develop text to address new information from external developments for the technical standards, guides, and order. Additionally, the Office of Environmental Compliance authorizes the Savannah River National Laboratory to provide technical support as needed to address waste management issues around the complex, review and provide comments on regulatory activities and follow LFRG related developments from external organizations, support new activities in preparation for implementation of the update to DOE Order 435.1, and participate in and provide briefings for LFRG meetings.

15. DOE-SR Program Point of Contact		
Name (printed): Patrick R. Jansal	Signature: <i>Patrick R. Jansal</i>	Date: 4/18/13

16. DOE-SR Field Budget Official		
Name (typed): Harold K. Nielsen	Signature: <i>Harold K. Nielsen</i>	Date: 4/19/13

17. Contractor's Authorized Representative		
Name (typed): John Temple	Signature: <i>John W. Temple</i>	Date: 4/23/13

18. DOE Contracting Officer (or delegated representative)		
Name (typed): Scott Langston	Signature: <i>SL</i>	Date: 4/18/13



Department of Energy
Washington, DC 20585

APR 18 2013

MEMORANDUM FOR PATRICIA PETTY
LEAD BUDGET ANALYST
SAVANNAH RIVER OPERATIONS OFFICE

FROM: TRACEY A. WHIPP *Tracey Whipp*
OFFICE OF BUDGET
OFFICE OF ENVIRONMENTAL MANAGEMENT

SUBJECT: Fiscal Year 2013 Approved Funding Program

The Office of Environmental Compliance authorizes the Savannah River National Laboratory to provide technical support as needed to address waste management issues around the complex, review and provide comments on regulatory activities and follow LFRG related developments from external organizations, support new activities in preparation for implementation of the update to DOE Order 435.1, and participate in and provide briefings for LFRG meetings. (POC, Maureen O'Dell, 301-903-4638).

The funding has been provided in the FY 2013 April AFP under the following codes:

Fund	Year	Reporting Entity	Program Value	B&R	Project Value	PBS	Amount
01250	2013	410003	1110925	EY804910K	0004074	HQ-PS-4012	50,000.00

The Office of Environmental Compliance authorizes the Savannah River National Laboratory to provide support for comment resolution updates to the technical standards, guides, and order in preparation for final issuance; follow NRC, IAEA, and other external developments that could impact the order; and develop text to address new information from external developments for the technical standards, guides, and order. (POC, Maureen O'Dell, 301-903-4638).

The funding has been provided in the FY 2013 April AFP under the following codes:

Fund	Year	Reporting Entity	Program Value	B&R	Project Value	PBS	Amount
01250	2013	410003	1110925	EY804910K	0004202	HQ-PS-4033	40,000.00

If you require additional information, please contact Maureen O'Dell, 301-903-4638.

cc:
L. Roberson, SR
M. O'Dell, EM-11

**EXPLANATION OF CHANGES
FY 2013 MARCH AFP
(WHOLE DOLLARS)**

BAR CODE / PBS#	OPS OFFICE	AFP RECIPIENT CONTRACTOR	REPORTING ENTITY	BA CHANGE	EXPLANATION
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01250 (TP) / EM3

DEFENSE PROGRAM SUPPORT

OPERATING EXPENSES

EY804910T

CC CBC 490815 250,000.00

Funding is provided to CBC to support the New Mexico Community Foundation Grant. (POC: Michelle Hudson, 202-598-0946).

EY804910A

CC CBC 490815 5,000,000.00

Funding is provided to CBC for Historical Black Colleges and Universities G31 (POC: Karen Shubel 301-803-6524).

EY804910K

CC CBC 490815 146,310.00

Real Property Management and TEAM Initiative for FUTRE NNSA PBA-Based task Order. (POC, Maureen O'Dell, 301-903-4639).

EY804910K

Funding is provided to CBC from Headquarters to be placed on Aspen contract Number DE-EM0002034. Provide support to get revised 435.1 submitted to REVCOM. This will include the following deliverables: complete and resolve new GC edits, management issues resolution, support GC review of guides, post-GC review processing, assist in CRD edits, QA ripple effects to HLW and LLW guides, QA ripple effects to DAS Tech STD, preparation and review of FRN, assist in web posting vertiage, assist in webinar planning, assist in MA justification memo, submission for publication, public comment period, webinar, response to public comments, final edits, and submission to REVCOM. (POC, Maureen O'Dell, 301-803-4639)

HQ-PS-4202

CC CBC 490815 205,000.00

EY804910A

CC CBC 490815 25,000.00

Link Technologies, Inc. Contract Work Area #1 task: Multiple Oxidant Leaching Technology Development - Comprehensive Design Basis Completion. POC: James Peppitt, 301-803-1733.

HQ-PS-TBD

**EXPLANATION OF CHANGES
FY 2013 MARCH AFP
(WHOLE DOLLARS)**

BAR CODE / PBS#	OPS OFFICE	AFP RECIPIENT CONTRACTOR	REPORTING ENTITY	BA CHANGE	EXPLANATION
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01250 (TP) / EMS

DEFENSE PROGRAM SUPPORT

EY804910A

HQ-PS-4515

CC

CBC

480815

150,000.00

Funds are provided to the CBC from Headquarters for U.S. Army Corps of Engineers (listed as Hartford Waste Treatment and Immobilization Plant and Tank Farms - contract #0001223)

EY804910A

HQ-PS-TBD

CC

CBC

480815

31,000.00

Funding is provided to the CBC from Headquarters for Aspen Task order # DE-EM0004097, Task 3

EY804910K

HQ-PS-4012

SR

SRNL

410003

50,000.00

Funding is provided to Savannah River from Headquarters to provide technical support as needed to address waste management issues around the complex, review and provide comments on regulatory activities and follow LFRG related developments from external organizations, support new activities in preparation for implementation of the update to DOE Order 435.1, and participate in and provide briefings for LFRG meetings. (POC, Maureen O'Dell, 301-903-4639).

EY804910K

HQ-PS-4033

SR

SRNL

410003

40,000.00

Funding is provided to Savannah River from Headquarters to provide support for comment resolution updates to the technical standards, guides, and order in preparation for final issuance, follow NRC, IAEA, and other external developments that could impact the order, and develop text to address new information from external developments for the technical standards, guides, and order. (POC: Maureen O'Dell, 301-903-4639)

EY804910N

**EXPLANATION OF CHANGES
FY 2013 MARCH AFP
(WHOLE DOLLARS)**

B&R CODE / PBSM	OPS OFFICE	AFP RECIPIENT CONTRACTOR	REPORTING ENTITY	BA CHANGE	EXPLANATION
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01250 (TP) / EM3

DEFENSE PROGRAM SUPPORT

The funding authority is to support the continuation of tasks directed at supporting EM project needs relative to critically safety. Including follow-on activities that might arise from updated surveys on EM Criticality Safety Needs, which are being conducted on a continuing basis. Dr. Robert E. Wilson is serving as the ongoing Task Manager for this work.

HQ-PS-2001	OR	ORNL	470002	40,000	
TOTAL, PROGRAM SUPPORT				<u>5,937,310.00</u>	

Detail Funding Point History

XID	AY	Allot-tee	Rpt Ent Parent	Fund	Program	Pgm Parent	Rept Entity	Project	WFO	Obj Class	Purchase Order	Local Use	BUO	BUO Deob	PY BUO Deob	BA Committed	BA Obligated	FAC
Chg Date / Time		User		Prog. ID		Description												
49923	2013	35	SR	01250	1110925	C002130	410225	0004074	0000000	25102	9999999	0000000	0.00	0.00	0.00	50,000.00	0.00	0.00
4/8/2013 14:42:49		Segunot, Elberto		UPD0001		RESERVES		Change Amounts:					0.00	0.00	0.00	50,000.00	0.00	0.00

Financial Plan Report - Detail

*** DRAFT ***

SR22470 - Savannah River Nuclear Solutions (SRNS)

Rpt Entity	Fund Code	Leg FT	Program	Legacy B&R	Obj. Class	Local Use	Project	WFO	Legacy Order Number	Beginning Uncosted Obs	BA			Total Available
											Previous	Change	Revised	
410003	00500	WA	2924295	KC0202050	25400	0000000	0000000	0000000		0.00	204,000.00	76,000.00	280,000.00	260,000.00
Total for Program Parent/Control Point: KC0200000										0.00	204,000.00	76,000.00	280,000.00	280,000.00
410003	00500	WA	2924214	KP1702030	25400	0000000	0000000	0000000		84,671.60	158,639.52	138,000.00	296,639.52	381,311.12
Total for Program Parent/Control Point: KP0000000										84,671.60	158,639.52	138,000.00	296,639.52	381,311.12
Total for Fund: 00500										84,671.60	362,639.52	214,000.00	576,639.52	661,311.12
410003	00697	SB	3165133	WN3200000	25400	0000000	0000000	0000000		0.00	0.00	6,600,000.00	6,600,000.00	6,600,000.00
AY 2012 - Transfer \$6,600,000 to support the retention of qualified personnel, receipt, and disposition of enriched uranium solutions from AECL in H Canyon. The WN32 funds being added to the SRNS Finplan require prior authorization for use by Pat Mcguire or J.J. Hynes. MG041813														
Total for Program Parent/Control Point: WN0000000										0.00	0.00	6,600,000.00	6,600,000.00	6,600,000.00
Total for Fund: 00697										0.00	0.00	6,600,000.00	6,600,000.00	6,600,000.00
410003	00910	3T	1720297	400403209	25400	0000000	0000000	0411154 11154		0.00	0.00	42,718.45	42,718.45	42,718.45
AY 2013 - WFO: SRARM-AA6 SRARMY-AA6 MIPR3380840019														
Total for Program Parent/Control Point: 400000000										0.00	0.00	42,718.45	42,718.45	42,718.45
Total for Fund: 00910										0.00	0.00	42,718.45	42,718.45	42,718.45
410003	01050	TF	3184520	RH0501010	25400	0000000	0000000	0000000		1,918.36	0.00	-1,918.36	-1,918.36	0.00
410003	01050	TF	3184849	RH0607010	25400	0000000	0000000	0000000		193.60	0.00	-193.60	-193.60	0.00
Total for Program Parent/Control Point: RH0301000										2,111.96	0.00	-2,111.96	-2,111.96	0.00
Total for Fund: 01050										2,111.96	0.00	-2,111.96	-2,111.96	0.00
410003	01090		3203735	GD2540980	25400	0000000	0000000	0000000		0.00	189,468.00	-4,000.00	185,468.00	185,468.00
Total for Program Parent/Control Point: GD2540000										0.00	189,468.00	-4,000.00	185,468.00	185,468.00
410003	01090		3203740	GD3003010	25400	0000000	0000000	0000000		0.00	885,996.00	260,700.00	1,146,696.00	1,146,696.00
410003	01090		1714209	GD3006000	25400	0000000	0000000	0000000		0.00	10,000.00	10,000.00	20,000.00	20,000.00
410003	01090		3203736	GD3015000	25400	0000000	0000000	0000000		0.00	345,700.00	159,000.00	504,700.00	504,700.00
Total for Program Parent/Control Point: GD3001000										0.00	1,241,696.00	429,700.00	1,671,396.00	1,671,396.00
Total for Fund: 01090										0.00	1,431,164.00	425,700.00	1,856,864.00	1,856,864.00
410003	01091		3184701	HQ1001000	25400	0000000	0000000	0000000		0.00	290,000.00	45,000.00	335,000.00	335,000.00
Total for Program Parent/Control Point: HQ1001000										0.00	290,000.00	45,000.00	335,000.00	335,000.00
Total for Fund: 01091										0.00	290,000.00	45,000.00	335,000.00	335,000.00
410003	01250	TP	1110925	EY804910K	25400	0000000	0004074	0000000		0.00	124,194.85	50,000.00	174,194.85	174,194.85
410003	01250	TP	1110925	EY804910K	25400	0000000	0004202	0000000		0.00	65,000.00	40,000.00	105,000.00	105,000.00
Total for Program Parent/Control Point: EY804910A										0.00	189,194.85	90,000.00	279,194.85	279,194.85
Total for Fund: 01250										0.00	189,194.85	90,000.00	279,194.85	279,194.85

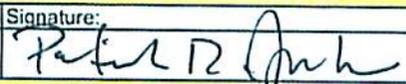
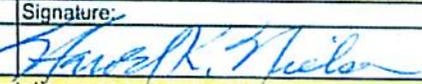
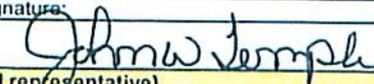
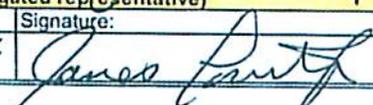
Attachment 4

No. HQ091101-1

**Project Title: Advanced Simulation Capability for
Environmental Management**

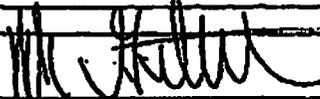
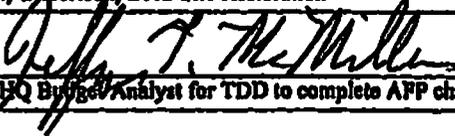
**Note: Nineteen (19) pages, inclusive of Cost and Obligation
Report Year-To-Date values (supporting documentation)**

**U. S. DEPARTMENT OF ENERGY
CONTRACT WORK AUTHORIZATION**

1a. Project Title Advanced Simulation Capability for Environmental Management		1b. Work Proposal Number HQ091101	
2. Headquarters Program Point of Contact Kurt Gerdes EM-12 301.903.7248			
3. Headquarters Budget Point of Contact Jeffrey McMillan EM-61 301.903.7701			
4. Responsible Program Office of Environmental Management		5. Responsible Secretarial Officer Mark Gilbertson, DAS Site Restoration	
6. Responsible Field Organization U.S. Department of Energy, Savannah River Operations			
7a. Site and Facility Management Contractor Savannah River Nuclear Solutions, LLC		7b. Contractor Point of Contact Name: John W. Temple Telephone No. (803) 952- 7210	
8. Work Authorization Number HQ091101 SR071801-R2		9. Revision Number 1	
10. Funds Authorized (\$ in thousands)(See NOTE below) NOTE: Work subject to funds availability and an approved "Full Year FY 2013 Continuing Resolution Act."			
Budget and Reporting Code: EY4049110	Previous: \$59,000	Change: \$40,000	Current: \$99,000
11. Performance Period Covered by Funds From: October 1, 2012 To: Sept. 30, 2013		12. Work Start Date From: Oct. 1, 2012	13. Expected Completion Date To: Sept. 30, 2013
14. Statement of Work (Includes attachments) Task 5: A S C E M Support Provide support and funding to ASCEM project including but not limited to F-Area field site data for model validation. The ASCEM Multi-Laboratory program is aimed at addressing critical EM program needs to provide the capability to better understand and quantify subsurface flow and contaminant transport behavior in complex geological systems and the long-term performance of engineered components including cementitious materials in nuclear waste disposal facilities, in order to reduce uncertainties and risks associated with DOE EM's disposal, environmental cleanup and closure programs. The alignment of the AFRI work and the data needs for ASCEM model development and validation ensure an integrated approach to decisions necessary to accomplish the DOE EM clean up mission. Note: Period of performance for this work scope ends September 30,2013.			
15. DOE-SR Program Point of Contact			
Name (printed): Patrick Jackson	Signature: 	Date: 4/18/13	
17. DOE Budget Official			
Name (typed): Harold K. Nielsen	Signature: 	Date: 4/19/13	
18. Contractor's Authorized Representative			
Name (typed): John Temple	Signature: 	Date: 4/23/13	
19. DOE Contracting Officer (or delegated representative)			
Name (typed): Jim Lovett James Lovett	Signature: 	Date: 4/18/13	

Start Value
0004017

SITE RESTORATION (RM-10) WORK AUTHORIZATION / TASK CHANGE REQUEST (TCR)										
Project Number:		HQ091101		Date:		March 11, 2013		APP Change Month:		April 2013
Project Title:		Advanced Simulation Capability for Environmental Management								
Site / Contractor:		LANL/LBNL/PNNL/ ORNL/SRNL/ANL		Project Area from Roadmap:		Soil & GW		Work Proposal Attached:		No
Contract Number if other than National Laboratory or DOE site contractor: Justin Marble -- 301,903,7210										
Name of Principal Investigator: Paul Dixon (LANL)										
Name of Budget Analyst at the site where the contract is held: Valerie Kaatz (LBNL), Steven Romero (LANL), Dolisa Atwater (ORNL-PNNL)										
New BA (\$K) Requested		Prior Funding (\$K) in this FY		Total Uncosted (\$K) as of Beginning of this FY			Total Available Funding (\$K) including this request (add first three columns)			
LANL = 525 320k		\$583.5		\$60			\$1105.5			
LBNL = 575 320k		\$344.5		\$85			\$919.5			
PNNL = 775 515k		\$434.75		\$68			\$1269.75			
ORNL = \$0		\$1.25		\$35			\$1.25			
SRNL = 910 40k		\$59		\$0			\$239			
Spend Plan for Total Available Funding (use actual costed funds for previous quarters)										
1 st Quarter of FY		2 nd Qtr of FY		3 rd Quarter of FY		4 th Quarter of FY		Projected uncosted at the end of this FY		
1125k										
Funding Codes (To be Completed by Budget Office)										
Fund	Year	Allottee	Reporting Entity	SQL	Object Class	Program	Project	Amount		
LANL	01250	13	3b	4100B	610000	2540	110676	0004017		
LBNL			see attachment							
PNNL										
LLNL										
ORNL										
SRNL										
ANL										
Short Description of Work Scope Authorized / Changed for Input in APP:		The ASCEM program is a multi-year multi-laboratory program developing Advanced Simulation Capability for Environmental Management. LANL → 525k for High Performance Computing and Field Application (NNSS) LBNL → 575k for Platform Thrust and High Performance Computing PNNL → 775k for Platform Thrust SRNL → 180k for Field Application (SR tanks)								
Submitted by:		Justin Marble <i>Justin Marble</i>					Date:			2/21/2013
Justin Marble, Headquarters Project Manager (Please Print & Sign)										
Field:		Russell Patterson <i>Russell P.</i>					Date:			3/10/2013
Russell Patterson, Field DOE Representative (Please Print & Sign)										
Approved by:		Kurt Gerdes <i>Kurt Gerdes</i>					Date:			3/12/13
Kurt Gerdes, Office Director (Please Print & Sign)										

Approved by:		Date:
Mark, C. Bertson, DAS Site Restoration		
Submitted to:		4/3/2013
EM-HQ Budget Analyst for TDD to complete APP change		Date:

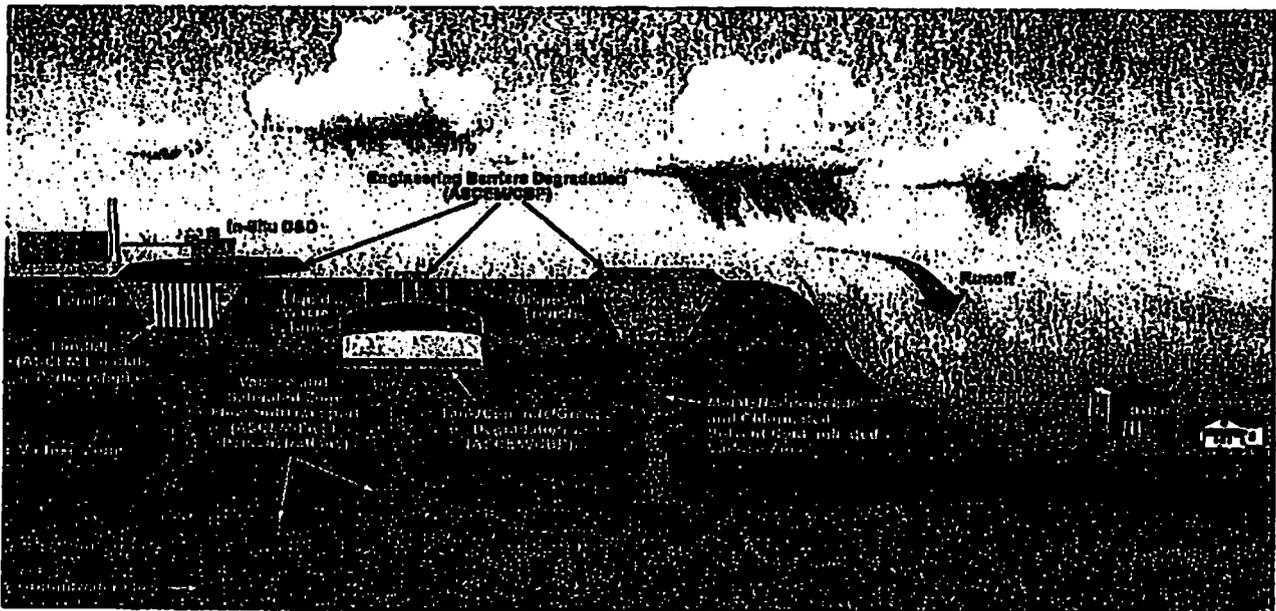
Technical Task Plan ASCEM WBS 1.1

NEEDS STATEMENT:

The United States Department of Energy (DOE), Office of Environmental Management (EM), in collaboration with other DOE offices, is leading a multi-institution, multi-disciplinary team of geoscientists, material scientists, and computational scientists from Los Alamos, Lawrence Berkeley, Pacific Northwest, Oak Ridge, and Savannah River National Laboratories with support from Argonne, Lawrence Livermore, and Idaho National Laboratories to develop a modeling initiative for Advanced Simulation Capability for Environmental Management (ASCEM). ASCEM is a state-of-the-art scientific toolset and approach for understanding and predicting contaminant fate and transport in natural and engineered systems. This modular and open source high performance computing (HPC) tool will facilitate graded and integrated approaches to modeling and site characterization that enable more robust and standardized assessments of performance and risk for EM disposal operations, cleanup and closure activities. The ASCEM Multi-Laboratory program is aimed at addressing critical EM program needs to provide the capability to better understand and quantify subsurface flow and contaminant transport behavior in complex geological systems and the long-term performance of engineered components including cementitious materials in nuclear waste disposal facilities, in order to reduce uncertainties and risks associated with DOE EM's disposal, environmental cleanup and closure programs.

BACKGROUND AND PURPOSE:

The Site Restoration's mission is to develop technologies that advance the safe and timely cleanup of legacy wastes and facilities from defense nuclear applications. This is the largest cleanup program in the world [1]. Although EM has made great progress toward this goal during the past twenty years, the remaining clean-up challenges are far more complex than those previously addressed. The role of the ASCEM initiative is to develop a transformational modeling approach and toolset to help EM better meet these challenges through improving its long-term risk and performance modeling capabilities and by characterizing and reducing the uncertainty associated with the resulting predictions for the types of EM clean-up sites illustrated in the figure below.



In a review of the EM technology roadmap, the National Research Council (NRC) of the National Academies provided advice to DOE-EM for addressing principal science and technology gaps. The NRC identified the principal technology gaps in the groundwater and soil remediation program and the major recommendation was on the development and use of advanced computational models to better understand subsurface flow and contaminant transport behavior in complex geological systems, and the long-term performance of engineered components and barriers, including cementitious materials in nuclear waste disposal facilities.

In response to the NAS and internal DOE review recommendations, and to address key NRC challenge areas DOE-EM has launched the ASCEM initiative along with other complementary and synergistic initiatives with other DOE offices. The DOE Offices of Science, Nuclear Energy, and Fossil Energy have made significant investments in developing advanced, high performance computing models for evaluating groundwater flow and transport, source term degradation and release, and mechanical degradation of structures and barriers. ASCEM leverages these investments. In doing so, ASCEM is improving the timeliness and cost effectiveness of its modeling approach and toolset, which is not only to the benefit of DOE-EM, but the greater DOE community as well (e.g., in the areas of geologic sequestration of carbon and high level waste repository performance).

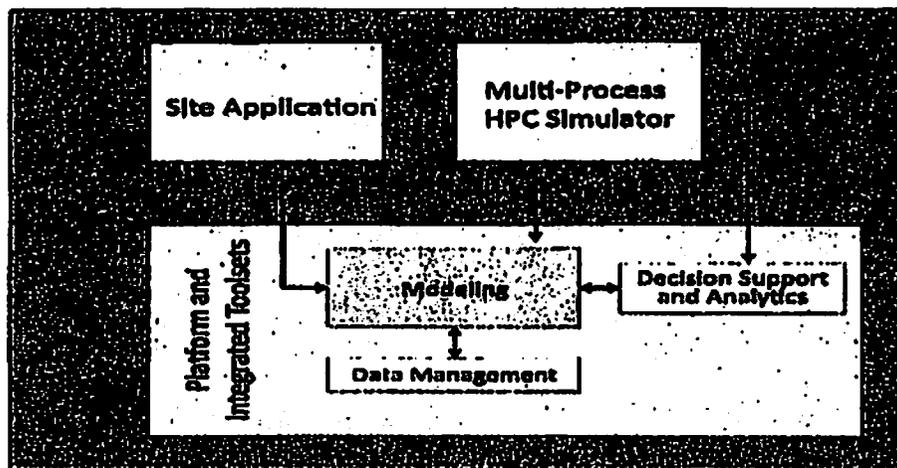
A major ASCEM goal is to provide a community code for DOE-EM and the greater scientific and engineering communities. To that end, the ASCEM HPC modeling tools is being developed using an open source model, with involvement from the DOE-SC community. This method is allowing ASCEM to leverage the considerable scientific investment that has already been made both within and outside of DOE-EM in the areas of subsurface geosciences, modeling and simulation, and environmental remediation.

The ASCEM model will be deployed at the EM sites through a phased process. The phased deployment of ASCEM will be done in close collaboration with the site end-users who have the ultimate ownership of this process. Initially the ASCEM platform and high performance computing toolsets will be used to provide additional technical underpinning to the existing risk and performance assessments. Eventually ASCEM will become the regulatory assessment tool used for updates and new risk and performance assessments at all EM sites.

TECHNICAL APPROACH:

Summary of the Approach

The ASCEM project is organized into three technical thrust areas: the Multi-Process High Performance Computing Simulator (HPC Simulator), which constitutes the computational engine; the Platform and Integrated Toolsets, which provide the user interfaces; and Site Applications (see Figure below). Detailed descriptions of the three thrust areas are contained in the ASCEM FY10-FY15 Integrated Modeling Implementation Plan.



The ASCEM project will be led by a management and integration team represented by senior representatives from the participating laboratories, Thrust areas leaders, and a Technical Systems Integration lead. A dedicated Project Manager (PM), will provide the single point of contact and overall interface responsibility to the DOE program manager.

This Task Plan describes the overall ASCEM Program with detailed budgets, tasks and milestone descriptions for all the ASCEM Thrust and management areas. Detailed budgets, tasks and milestone descriptions for each of the three thrusts and the ASCEM program management areas are contained in the following task plans:

- 1) ASCEM Task Plan WBS 1.1.1 Platform and Integrated Toolsets
- 2) ASCEM Task Plan WBS 1.1.2 Multi-Process HPC Simulator
- 3) ASCEM Task Plan WBS 1.1.3 Site Applications
- 4) ASCEM Task Plan WBS 1.1.4 ASCEM Program Management

SCHEDULE / MILESTONES:

WBS	Milestone Title	Date*
Platform and HPC Development		
1.1.1	Release Workshop Version of Code	TBD
1.1.1	Alpha Code Integration Complete	-33d, 3/12/2013
1.1.1	Beta Code Integration Complete	-23d, 7/15/2013
1.1.1	Release Candidate 2 Complete	-30d, 9/27/2013
Platform and HPC Documentation		
1.1.1 & 1.1.2	ASCEM User Guide Documents Complete	9/27/2013
1.1.2	ASCEM Developer Guide Document Complete (Amanzi Only)	7/29/2013
Site Applications		
1.1.3	Phase III Demonstration Plan	TBD
1.1.3	Demonstration Workshops	-22d, 3/29/2013
1.1.3	Phase III Demonstration Report	-23d, 9/30/2013
Program Management		
1.1.4.3	User steering committee meeting	Quarterly
1.1.4.4	ASCEM website maintenance	On going
1.1.4.5	Monthly status reports	Submitted by the 15th of each month
1.1.4.5	Integrated schedule	Due yearly in August
1.1.4.6	FY13 Basic Phase QA Plan Rolled-Out	3/1/2013
1.1.4.6	Applied Phase QA Plan Complete	9/30/2013

***NUMBER OF DAYS DELAYED DUE TO FUNDING AS OF MARCH 11, 2013**

SPENDING PLAN

Monthly Spending Plan for FY2013

Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Total
365	338	261	436	210	0	342	342	342	342	342	342	3455

*Funded with \$60K carryover at project level

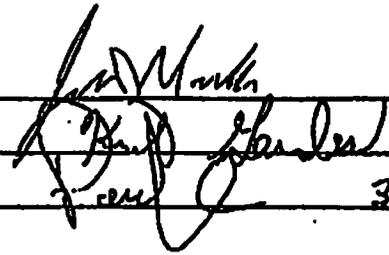
Signature and Approvals

HQ Program Manager:

Office Director:

Principal Investigator

Site Representative



 _____ 3-12-13

BUDGET:**Thrust Budgets (\$K)**

Thrust	Budget FY13
1.1.1 – Platform and Integrated Toolsets	\$1,113
1.1.2 – Multi-Process HPC Simulator	\$1,193
1.1.3 – Site Applications	\$698
1.1.4 – Project Management	\$450
Total	\$3,455

Laboratory FY13 Budgets (\$K)

Thrust	LANL	LBNL	PNNL	ANL	LJNL	ORNL	SRNL
1.1.1 – Platform and Integrated Toolsets	211	406	496	0	0	0	0
1.1.2 – Multi-Process HPC Simulator	566	339	288	0	2	0	0
1.1.3 – Site Applications	17	236	262	0	0	1.6	180.8
1.1.4 – ASCEM Program Management	271	21	114	7	0	0	44.5
Total	1,065.3	1,002.9	1,160.0	0	0	1.6	225.3

Technical Task Plan ASCEM WBS 1.1.1

NEEDS STATEMENT:

The United States Department of Energy (DOE), Office of Environmental Management (EM), in collaboration with other DOE offices, is leading a multi-institution, multi-disciplinary team of geoscientists, material scientists, and computational scientists from Los Alamos, Lawrence Berkeley, Pacific Northwest, Oak Ridge, and Savannah River National Laboratories with support from Argonne, Lawrence Livermore, and Idaho National Laboratories to develop a modeling initiative for Advanced Simulation Capability for Environmental Management (ASCeM). ASCeM is a state-of-the-art scientific toolset and approach for understanding and predicting contaminant fate and transport in natural and engineered systems. This modular and open source high performance computing (HPC) tool will facilitate graded and integrated approaches to modeling and site characterization that enable more robust and standardized assessments of performance and risk for EM disposal operations, cleanup and closure activities. The ASCeM Multi-Laboratory program is aimed at addressing critical EM program needs to provide the capability to better understand and quantify subsurface flow and contaminant transport behavior in complex geological systems and the long-term performance of engineered components, including cementitious materials in nuclear waste disposal facilities, in order to reduce uncertainties and risks associated with DOE EM's disposal, environmental cleanup and closure programs.

BACKGROUND AND PURPOSE:

The purpose of the Platform and Integrated Toolset is to make available the use of the ASCeM HPC simulation capabilities for the solution of environmental management tasks, and to provide support for the related model development and analysis tasks. Application of high-fidelity computational simulation to EM problems requires not only a well-designed multiphysics simulator, but also a computational environment that facilitates the complex process of code application to a given site and problem. The Platform and Integrated Toolset ("Platform") will build a set of tools incorporated into a powerful user interface to support a modeling workflow that is flexible, maintains quality assurance procedures and data integrity, and significantly enhances user efficiency. Tasks within this thrust area include the core platform development with user interfaces, information and data management tools, model setup tools, parameter estimation approaches, uncertainty quantification, decision support and risk assessment tools, and advanced visualizations.

TECHNICAL APPROACH:

Summary of the Approach

The Platform development effort is structured as a set of tasks, as described below. The activities in these tasks are closely coordinated to ensure commonalities are addressed appropriately and the Platform software architecture and data management support a broad set of capabilities for the toolsets.

This Task Plan describes the overall ASCeM Platform thrust WBS 1.1.1 with detailed budgets, tasks and milestone descriptions for all the Platform activities.

Platform Thrust Management WBS 1.1.1.1:

The Thrust Area Lead (TAL) and the deputy are responsible for the overall technical leadership, planning and execution of the scope within the thrusts. The TAL and the deputy will work closely with the Technical Systems Integration Lead to develop technical and design requirements for the ASCeM HPC Core and Platform Toolsets based on needs identified from the EM site end users. The TAL and the deputy will select key project staff and technical performers from best available resources from the participating National Laboratories to execute the ASCeM work scope. The TAL will report monthly status and progress, and identify and communicate technical or programmatic issues. They will use the ASCeM baseline change control process to recommend changes to the technical program. Finally the TAL will assure the thrust area delivers products that meet project requirements for quality, cost, and schedule. Review thrust areas reports and products and transmit to the core management team for review, as needed prior to submittal to DOE.

Data Management WBS 1.1.1.3:

This task will further enhance the existing Platform data management infrastructure to support modeling and analysis activities, and provide more sophisticated integration with visualization tools. The task will work with identified DOE

sites to ingest site data into the ASCEM database, capturing a consistent set of metadata that is associated with the site data files. This data will then be made available to Platform users for incorporation in modeling activities. A key focus will be the creation of programming interfaces to enable the data in the data management system to be easily queried and extracted, resulting in a seamless integration with the other Platform toolsets. We will also, as identified by initial Platform users, extend the data management system to incorporate new data types such as bioremediation and treatment histories.

Model Setup and Analysis WBS 1.1.1.4:

This task will enhance the initial Model Setup Toolset with new capabilities to support conceptual/numerical model creation. The effort will extend the collection of mesh types that a user can create, and incorporate new capabilities to specify geochemical parameters required by specific Amanzi models. Working closely with the Core Platform and HPC Thrust, this task will help specify and refine the Amanzi input file format, and extend existing capabilities available for importing/generating the computational grid. Improvements to usability, robustness and performance will also be made based on testing by the initial user community.

Requirement Document, Design Document, and Reviews WBS 1.1.1.10

This task will work with the task teams, HPC Thrust and Site Applications Thrust, as well as key ASCEM demonstration sites to revise, refine and update the Platform Requirements and Design documents.

Akuna WBS 1.1.1.11

Akuna is the core Platform user environment. We will continue to build upon the initial Akuna release to improve user workflows, model management and incorporate new plotting and visualizations. Working with the Toolsets and Model Setup tasks, we will continue to create and improve capabilities for users to exploit the new algorithms that are available in the toolsets. This requires extensive work to create appropriate user interfaces and extensions to the Akuna internal data model. Attention will also be given to performance and usability of the environment, as well as supporting initial users with documentation, case studies and workshops.

Toolsets SA, PE, DS, UQ WBS 1.1.1.12

We will work to add new capabilities for Parameter Estimation, Uncertainty Quantification and Sensitivity Analysis into the Platform. These will provide users with a broader range of capabilities that can be used in conjunction with Amanzi and Akuna to execute models and analyze results. Working closely with the Akuna task, we will ensure that powerful visualization and data provenance features are built to support each toolset. We will also exploit commonalities in the toolsets to more efficiently implement these features. In addition, we will start to design and implement an initial version of the Decision Support toolset. This will provide users with model-based decision analyses (i.e. based on model predictions), along with support for users to perform these analyses through Akuna.

Agni WBS 1.1.1.13

Agni provides a scalable and extensible coupling between the Akuna user interface and Amanzi by managing model input and output to the simulators. In addition to executing a single simulation run, Agni executes a series of model analysis tools, including parameter estimation, geostatistical simulation, and uncertainty quantification. We will continue to incorporate the new Toolset algorithms into Agni, and improve its robustness and performance. A key focus will be to ensure a seamless integration with Akuna, extending existing features to provide powerful and flexible tools for simulation execution and analysis.

Technical Task Plan ASCEM WBS 1.1.2

NEEDS STATEMENT:

The United States Department of Energy (DOE), Office of Environmental Management (EM), in collaboration with other DOE offices, is leading a multi-institution, multi-disciplinary team of geoscientists, material scientists, and computational scientists from Los Alamos, Lawrence Berkeley, Pacific Northwest, Oak Ridge, and Savannah River National Laboratories with support from Argonne, Lawrence Livermore, and Idaho National Laboratories to develop a modeling initiative for Advanced Simulation Capability for Environmental Management (ASCeM). ASCeM is a state-of-the-art scientific toolset and approach for understanding and predicting contaminant fate and transport in natural and engineered systems. This modular and open source high performance computing (HPC) tool will facilitate graded and integrated approaches to modeling and site characterization that enable more robust and standardized assessments of performance and risk for EM disposal operations, cleanup and closure activities. The ASCeM Multi-Laboratory program is aimed at addressing critical EM program needs to provide the capability to better understand and quantify subsurface flow and contaminant transport behavior in complex geological systems and the long-term performance of engineered components including cementitious materials in nuclear waste disposal facilities, in order to reduce uncertainties and risks associated with DOE EM's disposal, environmental cleanup and closure programs.

BACKGROUND AND PURPOSE:

The Multi-Process High Performance Computing (HPC) Simulator, Amanzi, will provide a flexible and extensible computational engine that will simulate the coupled processes and flow scenarios described by the conceptual models developed using the ASCeM Platform. These conceptual models span a range of process complexity, potentially coupling hydrological, bio-geochemical, geo-mechanical, and thermal processes and will be used to quantify the associated uncertainty, sensitivity, and risk. Early in the development of this thrust we focused on documenting the mathematical description of these processes as a means to define the modeling requirements for the Multi-Process HPC Simulator. Building on these established requirements for process models, the HPC thrust has three tasks: the HPC Toolsets, the HPC Core Framework, and Verification and Validation. The HPC Toolsets task provides the essential building blocks (modules) for the process models, including grids, advanced discretizations, multiscale techniques, and nonlinear/linear equation solvers. In addition, this task supports development of the Multi-Process Coordinator (MPC). The HPC Core Framework task provides the underlying low-level services, such as parallel I/O, and data structures. The last task focuses on code and algorithm verification and model validation, and is an important bridge between The Process Models and the HPC Simulator, as well as the Site Applications Thrust (WBS 1.1.3).

TECHNICAL APPROACH:

HPC Thrust Management WBS 1.1.2.1

The Thrust Area Lead (TAL) and the deputy are responsible for the overall technical leadership, planning and execution of the scope within the thrusts. The TAL and the deputy will work closely with the other thrust leads and the HPC Thrust team to continue to evolve the technical and design requirements for the ASCeM HPC Toolsets, HPC Core Framework, and their interface with the Platform (WBS 1.1.1) based on needs identified from the EM site end users. The TAL and the deputy will select key project staff and technical performers from best available resources from the participating National Laboratories, industry and universities to execute the ASCeM work scope. The TAL will report monthly status and progress, and identify and communicate technical or programmatic issues. They will use the ASCeM baseline change control process to recommend changes to the technical program. Finally the TAL will assure the thrust area delivers products that meet project requirements for quality, cost, and schedule. Review thrust areas reports and products and transmit to the core management team for review, as needed prior to submittal to DOE.

HPC Toolsets WBS 1.1.2.2

The HPC Toolsets provide the building blocks that transform the mathematical description of the process models into a discrete form suitable for simulation on a computer. The activities in this task are aligned with the three toolsets:

meshing, discretization, and solvers. In each toolset, we will leverage existing algorithms, techniques, and implementations, where appropriate.

The mesh provides an essential and fundamental data structure that bridges the conceptual site model and the numerical methods, and is ultimately the building block that connects the resulting simulation with the computing hardware. The Meshing Toolset provides mesh data structures and services for both structured meshes, which may be adapted to fit to the stratigraphy or features of the solution, and fully unstructured meshes. The Discretization Toolset is composed of several modules, including spatial and temporal discretization, geochemical reactions, and multiscale techniques. Using these modules as fundamental building blocks we create process kernels to simulate the various process models. The Multi-Process Coordinator (MPC) manages the coupling of these processes and is at the heart of providing a flexible and extensible simulation capability. Activities in this area will significantly enhance the flexibility of the MPC, and provide more robust and accurate discrete models. In addition, features that enhance integration with the Platform thrust (WBS 1.1.1), such as model gradients for optimization, and augmented systems for direct evolution of parameter sensitivities, will be considered.

In the Solvers Toolset we treat the nonlinear systems of equations that arise throughout Environmental Management applications, from the time evolution of discretizations and geochemical reaction networks, to optimization and assimilation. Through the first two ASCEM demonstrations we have established high-level requirements for the Solver Toolset, and established a baseline capability that leveraged existing tools for steady state and time evolution problems. In this activity, we will further enhance the design and implementation of preconditioners to fully support the flexibility, robustness and scalability required by the graded and iterative approach to site assessments.

HPC Core Framework WBS 1.1.2.3

This task focuses on the key infrastructure that facilitates the modular design of the HPC Simulator, as well as its portability and its graded Quality Assurance program. This task has two key activities, the HPC Core Infrastructure, and Portability and Performance Tuning. The HPC Core Infrastructure activity provides a number of low-level services for the HPC Toolsets (WBS 1.1.2.2), which provide the building blocks for the process models. These include data structures, input file specification and utilities, parallel input/output capabilities, application programming interfaces, and HPC related visualization support. Existing HPC Frameworks will be investigated to identify tools, algorithms, and techniques that may be leveraged in each of these activities.

The portability and performance tuning activities will ensure that the HPC Simulator runs well on a wide range of platforms, from laptops to supercomputers. This activity will leverage an automated build process in conjunction with automated testing and reporting to ensure a reliable capability is available on all required platforms. Together with the Verification and Validation task (WBS 1.1.2.4) this provides critical support for the graded QA program planned for ASCEM.

Verification and Validation WBS 1.1.2.4

The Verification and Validation (V&V) task will provide a unified hierarchical approach to testing, verification and validation, and benchmarking in order to ensure the reliability and robustness of the HPC Simulator. At the lowest level of the hierarchy, unit tests of individual models will be used to verify the correctness of specific sub-modules. At higher levels various integrated tests will be designed to span multiple coupled processes and detailed conceptual model descriptions with data requirements will be developed. Finally, at the highest level, benchmarks will be developed or gathered from the community that captures realistic site-application scenarios. These test suites will be developed in collaboration with the Site Applications thrust, particularly the Site Working Groups, and hence, this element provides a critical bridge between these thrusts. In addition, this element enhances communication between the HPC Toolsets and HPC Core Framework tasks (WBS 1.1.2.2 and 1.1.2.3, respectively).

Technical Task Plan ASCEM WBS 1.1.3

NEEDS STATEMENT:

The United States Department of Energy (DOE), Office of Environmental Management (EM), in collaboration with other DOE offices, is leading a multi-institution, multi-disciplinary team of geoscientists, material scientists, and computational scientists from Los Alamos, Lawrence Berkeley, Pacific Northwest, Oak Ridge, and Savannah River National Laboratories with support from Argonne, Lawrence Livermore, and Idaho National Laboratories to develop a modeling initiative for Advanced Simulation Capability for Environmental Management (ASCeM). ASCeM is a state-of-the-art scientific toolset and approach for understanding and predicting contaminant fate and transport in natural and engineered systems. This modular and open source high performance computing (HPC) tool will facilitate graded and integrated approaches to modeling and site characterization that enable more robust and standardized assessments of performance and risk for EM disposal operations, cleanup and closure activities. The ASCeM Multi-Laboratory program is aimed at addressing critical EM program needs to provide the capability to better understand and quantify subsurface flow and contaminant transport behavior in complex geological systems and the long-term performance of engineered components including cementitious materials in nuclear waste disposal facilities, in order to reduce uncertainties and risks associated with DOE EM's disposal, environmental cleanup and closure programs.

BACKGROUND AND PURPOSE:

The Site Applications Thrust provides expertise and site data for model development and testing and a linkage between the computational capabilities and specific DOE EM sites where cleaning up legacy wastes and managing disposal activities will require advanced modeling. The thrust will establish and maintain linkages with end users. A key aspect of the Site Applications Thrust Area will be to provide testing and feedback for developing the HPC and Platform components based on user experience, to disseminate information, and provide training.

The Site Applications Thrust includes tasks to maintain an interface with end users; establish demonstrations; develop, expand, and coordinate working groups formed to perform demonstrations; and disseminate working group progress to the environmental community and, DOE management. Tasks focused on development of application protocols for the ASCeM toolset and training as well as a plan for long-term maintenance of the capability are also part of the Site Applications Thrust.

TECHNICAL APPROACH:

Site Applications Thrust Area Management WBS 1.1.3.1

This task encompasses three key items: (1) coordination and oversight of the Site Applications Thrust activities, ultimately leading to effective completion of deliverables within allotted budget and timeframe; (2) participation with other ASCeM leads in guiding the evolution, cross-thrust linkages, and implementation of ASCeM; and (3) representation of the Site Application Thrust activities to the environmental community and, where appropriate, DOE management. The task is staffed by the Thrust Area Lead and a Deputy Thrust Lead

User Interface WBS 1.1.3.2

This task focuses on outreach to DOE EM performance assessment and risk assessment users and to scientists involved in other modeling and research activities at DOE Sites. Efforts will continue with on-going interactions with the LFRG, PA Community of Practice, and the Cementitious Barriers Partnership. This task will provide a means for continuous feedback regarding ASCeM as the project moves forward. Key tasks in FY13 will be developing a report on end user interactions and leading a demonstration workshop with the User Steering Committee.

Site Working Groups WBS 1.1.3.6:

Working groups have been formed around each of the identified demonstration problems. The working groups are responsible for (a) refining the working group scope; (b) assembling the necessary input (conceptual models, data, process models, and other expert input) and (c) working closely with the developers to advance and test ASCeM using

realistic and relevant datasets; and (d) engage end-users in the development and use of ASCEM. The current working groups are formed around the SRS F Area Attenuation of Metals and Radionuclides Applied Field Research Initiative (AFRI), the Hanford Deep Vadose Zone AFRI, Waste Tank Performance Assessment, and the Oak Ridge Mercury problem. During FY13, efforts will be focused on demonstration workshops using the Phase II results, interactions with the developers on testing advancements and refinements in the capabilities, and completing a Phase III demonstration.

SRS F-Area Seepage Basin Working Group WBS 1.1.3.6.1:

The goal of the Attenuation-Based Remedies for the Subsurface Demonstration is to demonstrate how ASCEM capabilities can be used to evaluate and guide remediation strategies in heterogeneous subsurface environments at the Savannah F-Area. Building on previous demonstrations as well as AFRI and LBNL SPA advances, we will extend and implement ASCEM capabilities to simulate the effect of the pH manipulation barrier and recirculation on plume mobility in 3D. The developed capabilities will then be used to evaluate: 1) the duration required for the base injection treatment to meet clean-up goals; 2) the possibility of replacing active groundwater remediation by attenuation-based remedies, including natural and enhanced attenuation. The demonstration will take advantage of multi-scale reactive facies characterization approach used to develop model parameterization input for the F-Area (Sassen et al., WRR in press; Wainwright et al., in development and will engage end users (site personnel and others) in capability testing. Many ASCEM components will be refined and utilized in this demonstration: Data Management will be extended to archive and serve up datasets associated with the engineering treatments; HPC toolsets will be used to develop reaction networks associated with the base injection treatments; Model setup will be used to define the coupled physiochemical heterogeneity (or reactive facies); Amanzi will be used to simulate 3D plume responses to various remediation strategies over a minimum 100 year timeframe; visualization will be used to simulate model output, and UQ will be used to assess key controls on plume remediation. The F Area Seepage Basin working group efforts will be the focus of the Phase III demonstration report and this will be the final year of significant effort for this working group. The working group members will participate in the demonstration workshops.

Hanford Deep Vadose Zone Working Group WBS 1.1.3.6.2:

The Hanford Deep Vadose Zone (DVZ) Applied Field Research Initiative has provided an opportunity to demonstrate ASCEM capabilities needed to help DOE EM evaluate innovative treatment technologies for recalcitrant contaminants in the deep vadose zone. The current technology under evaluation at the BC Cribs site is soil desiccation, an approach that minimizes ²³⁵U movement in the vadose zone by removing pore water via the injection of dry air and extraction of vapor. During the Phase II Demonstration, the working groups illustrated integration of Platform and HPC components. During FY 2013, efforts will focus on making the Phase II demonstration more robust in preparation for the demonstration workshops. The working group members will participate in the demonstration workshops and continue interacting with the development teams to test and debug refined ASCEM components. Future demonstration phases will include explicit representation of soil desiccation as well as other remediation approaches, such as foam delivery or NH₃ gas treatment of uranium as well as exploring the concepts of end states for remediation. The remediation technologies will be developed as part of the Deep Vadose Zone AFRI or by CH2M Hill Plateau Remediation Contract and evaluated with ASCEM.

Waste Tank PA Working Group WBS 1.1.3.6.3:

Waste tank closures and comparable disposals of residual waste in engineered containment systems are a prominent component of the DOE EM complex. Engineered barriers also present unique process and requirements in comparison to purely geologic systems in the form of geometries, materials and associated properties, and physical and chemical processes. The Waste Tank PA Working Group will continue to develop ASCEM demonstrations that are representative of tank closures at Hanford and Savannah River and similar engineered barrier scenarios, using data from existing Performance Assessment (PA) studies for efficiency and relevance. Increased emphasis will be placed on working with real site data relevant to tank closure rather than representative sites. Working group activities in FY12 focused on ASCEM advancements in the areas of Adaptive Mesh Refinement (AMR) on structured grids, radioactive decay and progeny ingrowth, and collaboration with the Cementitious Barriers Partnership (CBP) on a joint demonstration. FY13 activity will be focus on making the Phase II demonstration more robust and participating in the demonstration workshops. In addition, the working group will complete the ASCEM-CBP joint demonstration, and expand the waste tank demonstration using site data from Savannah River and Hanford (as appropriate) commensurate with ongoing Amanzi code development. Interactions with the development teams on testing the Amanzi code will continue. The working group will begin to engage end users in the PA community related to modeling of cementitious waste forms (e.g., Saltstone) and other waste tank closure issues.

Management Task Plan ASCEM WBS 1.1.4

NEEDS STATEMENT:

The United States Department of Energy (DOE), Office of Environmental Management (EM), in collaboration with other DOE offices, is leading a multi-institution, multi-disciplinary team of geoscientists, material scientists, and computational scientists from Los Alamos, Lawrence Berkeley, Pacific Northwest, Oak Ridge, and Savannah River National Laboratories with support from Argonne, Lawrence Livermore, and Idaho National Laboratories to develop a modeling initiative for Advanced Simulation Capability for Environmental Management (ASCEM). ASCEM is a state-of-the-art scientific toolset and approach for understanding and predicting contaminant fate and transport in natural and engineered systems. This modular and open source high performance computing (HPC) tool will facilitate graded and integrated approaches to modeling and site characterization that enable more robust and standardized assessments of performance and risk for EM disposal operations, cleanup and closure activities. The ASCEM Multi-Laboratory program is aimed at addressing critical EM program needs to provide the capability to better understand and quantify subsurface flow and contaminant transport behavior in complex geological systems and the long-term performance of engineered components including cementitious materials in nuclear waste disposal facilities, in order to reduce uncertainties and risks associated with DOE EM's disposal, environmental cleanup and closure programs.

BACKGROUND AND PURPOSE:

The ASCEM project will be led by a management and integration team represented by senior representatives from the participating laboratories, Thrust areas leaders, and a Technical Systems Integration lead. A dedicated Project Manager (PM), selected from one of the core laboratories, provides the single point of contact and overall interface responsibility to the DOE program manager. This Task Plan describes the ASCEM Project Management WBS 1.1.4 detailed budgets, tasks and milestone descriptions.

TECHNICAL APPROACH:

Program Management WBS 1.1.4.1

ASCEM Multi-Lab Program Manager:

The ASCEM Program Manager (PM) serves as primary programmatic point of contact for the project and with DOE Program Manager. The ASCEM Multi-Lab PM leads the preparation, maintenance, and execution a life-cycle Program Plan, which includes quality assurance plan, schedule and milestone management, budgeting and financial control, and records maintenance. Through weekly management and integration meetings the PM will oversee project execution activities, ensure the project fulfills the clients' requirements, and assure that the ASCEM project products meet customers' requirements based on approved scope, schedule and budget. On a yearly basis, the PM will work with the ASCEM Management and Integration Team to prepare and approve the annual technical scope, staffing, and budget plans for the DOE annual budgeting process. The ASCEM multi-lab PM will oversee execution activities, including drafting and submitting to DOE program execution guidance for project performers and establish and implement a reporting and communication mechanism among ASCEM project staff. The ASCEM Multi-Lab PM will chair the project baseline change control board composed of the Management and Integration Team and submit requests to DOE for change approvals. This position is also supported by a part time admin.

Laboratory Representatives:

Each of the core laboratories supporting the ASCEM Program will be represented by a "Lab Lead". The Lab Lead will provide non-parochial senior-level technical and programmatic expertise to assure project planning and execution is defensible, achievable, and has the full commitment of the participating laboratory. The Lab Leads will assure the ASCEM Program has the needed laboratory resources for program execution by providing technical expertise to address technical gaps and emerging issues. The Lab Leads will assist the ASCEM Multi-Lab PM in assuring the program meets quality, cost, and schedule performance, and address performance issues within their represented laboratory.

User Steering Committee WBS 1.1.4.3:

This member of the ASCEM management team serves as the primary project interface with the PA User Community (e.g., EM Office of Regulatory Compliance, Low-Level Waste Disposal Facility Federal Review Group (LFRG) Members, site contractors, US NRC, and others as applicable). In addition, the user steering committee lead will communicate EM user needs and requirements to the ASCEM Management and Integration Team. This member of the ASCEM management team will serve as coordinator for the User Steering Committee, including development of its Charter, organizing the Steering Committee meetings, and reporting to the Management and Integration Team on the User Steering Committee Meeting results. This person will also serve as the primary interface with EM Office of Compliance to coordinate ASCEM with future updates of DOE Order 435.1.

Communications and Website Team WBS 1.1.4.4:

The Communication and Website management team has three roles: 1) oversight and maintenance of the ASCEM internal communication tool for sharing of project information, 2) oversight and maintenance of the external ASCEM website, and 3) preparation of presentations and document production oversight for internal and external ASCEM project reports. This team is experienced in marketing, technical editing, website design, and communications. The communications function will support regular communication products, including input to EM weekly reports, EM highlights, and annual reports. The lead for this area will provide direct support to the Thrust Area Teams as well as the Core Management Team. Web-based communication resources will be established to maximize ease of access by all team members including DOE-EM management and advisory group members, and site user collaborators. These tools will provide for real-time sharing of project information through tools such as a share point sites or other internet-based networking products to support multi-lab, university, and industry collaboration.

Project Controls & Business Mgmt WBS 1.1.4.5:

The project controls function will provide the overall business, finance, and schedule tracking and reporting support to the PM and management core team, including Thrust Area leaders and task managers. This function will work with individual laboratory finance and project controls staff to assure the overall project is tracking and managing deliverables at an appropriate level. The project is employing an Earned Value Management System (EVMS) process and provide DOE monthly reporting on project performance. Internally, the project will track critical path activities on a more frequent basis.

Quality Assurance WBS 1.1.4.6:

The ASCEM platform and HPC framework will ultimately be deployed to support EM regulatory decisions (e.g., PA, risk assessments, composite analyses). Therefore, NQA-1 software quality requirements will be met for the final products of the project. To assure NQA-1 compliance, a graded approach will be employed to allow for early development and testing of prototype components and systems without unnecessary burden on the research and development effort. Other software quality standards such as the 1996/1997 BPA Guidance on "Ground-Water Model Testing: Systematic Evaluation and Testing of Code Functionality and Performance" and ASTM D 6025 (reapproved 2008) "Standard guide for developing and evaluating Ground-water modeling codes" will be considered for application, depending on regulatory requirements. As components and systems mature to deployment status, enhanced QA requirements and corresponding procedures will be applied. The QA function is responsible for developing and instituting an overall QA project plan and QA requirements that will flow down to project participants. The QA function will work across the Thrust Areas and laboratories to assure task level QA requirements are appropriately and consistently applied, and minimize the QA burden on individual task leaders.

SCHEDULE / MILESTONES:

WBS	Milestone Title	Date*
Platform and HPC Development		
1.1.1	Release Workshop Version of Code	TBD
1.1.1	Alpha Code Integration Complete	-33d, 3/12/2013
1.1.1	Beta Code Integration Complete	-23d, 7/15/2013
1.1.1	Release Candidate 2 Complete	-30d, 9/27/2013
Platform and HPC Documentation		
1.1.1 & 1.1.2	ASCEM User Guide Documents Complete	9/27/2013
1.1.2	ASCEM Developer Guide Document Complete (Amanzi Only)	7/29/2013
Site Applications		
1.1.3	Phase III Demonstration Plan	TBD
1.1.3	Demonstration Workshops	-22d, 3/29/2013
1.1.3	Phase III Demonstration Report	-23d, 9/30/2013
Program Management		
1.1.4.3	User steering committee meeting	Quarterly
1.1.4.4	ASCEM website maintenance	On going
1.1.4.5	Monthly status reports	Submitted by the 15th of each month
1.1.4.5	Integrated schedule	Due yearly in August
1.1.4.6	FY13 Basis Phase QA Plan Rolled-Out	3/1/2013
1.1.4.6	Applied Phase QA Plan Complete	9/30/2013

***NUMBER OF DAYS DELAYED DUE TO FUNDING AS OF MARCH 11, 2013**

SPENDING PLAN

Monthly Spending Plan for FY2013

Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Total
365	338	261	436	210	0	342	342	342	342	342	342	3455

*Funded with \$60K carryover at project level

Signature and Approvals

HQ Program Manager: _____

Office Director: _____

Principal Investigator _____

Site Representative _____



Detail Funding Point History

XID	AY	Allot-tee	Rpt Ent Parent	Fund	Program	Pgm Parent	Rept Entity	Project	WFO	Obj Class	Purchase Order	Local Use	BUO	BUO Deob	PY BUO Deob	BA Committed	BA Obligated	FAC			
Chg Date / Time		User		Prog. ID	Description																
47650	2013	36	SR	01250	1110676	C000977	410003	0004266	0000000	25400	SR22470	0000000	0.00	0.00	0.00	113,000.00	113,000.00	0.00			
4/9/2013 16:29:31		Segunot, Elberto		UPD0001	JOINT INTERNAT STUDY OF GLASS																
													Change Amounts:			0.00	0.00	0.00	15,000.00	15,000.00	0.00
47650	2013	36	SR	01250	1110676	C000977	410003	0004266	0000000	25400	SR22470	0000000	0.00	0.00	0.00	98,000.00	98,000.00	0.00			
12/11/2012 15:20:40		Segunot, Elberto		UPD0001	JOINT INTERNAT STUDY OF GLASS																
													Change Amounts:			0.00	0.00	0.00	98,000.00	98,000.00	0.00
47652	2013	36	SR	01250	1110676	C000977	410003	0004265	0000000	25400	SR22470	0000000	0.00	0.00	0.00	25,000.00	25,000.00	0.00			
12/11/2012 15:16:25		Segunot, Elberto		UPD0001	IMPROVED VITRIFICATION CAPACIT																
													Change Amounts:			0.00	0.00	0.00	25,000.00	25,000.00	0.00
47654	2013	36	SR	01250	1110676	C000977	410003	0004263	0000000	25400	SR22470	0000000	0.00	0.00	0.00	130,000.00	130,000.00	0.00			
11/27/2012 15:00:44		Segunot, Elberto		UPD0001																	
													Change Amounts:			0.00	0.00	0.00	130,000.00	130,000.00	0.00
47656	2013	36	SR	01250	1110676	C000977	410003	0004262	0000000	25400	SR22470	0000000	0.00	0.00	0.00	250,000.00	250,000.00	0.00			
10/17/2012 16:20:25		Segunot, Elberto		UPD0001	CEMENTITIOUS BARRIERS PARTNERS																
													Change Amounts:			0.00	0.00	0.00	250,000.00	250,000.00	0.00
47658	2013	36	SR	01250	1110676	C000977	410003	0004261	0000000	25400	SR22470	0000000	0.00	0.00	0.00	557,000.00	557,000.00	0.00			
12/11/2012 15:11:30		Segunot, Elberto		UPD0001	Technical Planning, Integrator and Risk Management (HQTD1000)																
													Change Amounts:			0.00	0.00	0.00	372,000.00	372,000.00	0.00
47658	2013	36	SR	01250	1110676	C000977	410003	0004261	0000000	25400	SR22470	0000000	0.00	0.00	0.00	185,000.00	185,000.00	0.00			
10/17/2012 16:12:57		Segunot, Elberto		UPD0001	Technical Planning, Integrator and Risk Management (HQTD1000)																
													Change Amounts:			0.00	0.00	0.00	185,000.00	185,000.00	0.00
47660	2013	36	SR	01250	1110676	C000977	410003	0004017	0000000	25400	SR22470	0000000	0.00	0.00	0.00	99,000.00	99,000.00	0.00			
4/9/2013 16:20:34		Segunot, Elberto		UPD0001	Advanced Subsurface Computing for Environmental Management (ASCEM)																
													Change Amounts:			0.00	0.00	0.00	40,000.00	40,000.00	0.00
47660	2013	36	SR	01250	1110676	C000977	410003	0004017	0000000	25400	SR22470	0000000	0.00	0.00	0.00	59,000.00	59,000.00	0.00			
10/17/2012 16:14:52		Segunot, Elberto		UPD0001	Advanced Subsurface Computing for Environmental Management (ASCEM)																
													Change Amounts:			0.00	0.00	0.00	59,000.00	59,000.00	0.00
49787	2013	36	SR	01250	1110676	C000977	410003	0004030	0000000	25400	SR22470	0000000	0.00	0.00	0.00	150,000.00	150,000.00	0.00			
3/13/2013 17:00:10		Segunot, Elberto		UPD0001																	
													Change Amounts:			0.00	0.00	0.00	25,000.00	25,000.00	0.00

Financial Plan Report - Detail

SR22470 - Savannah River Nuclear Solutions (SRNS)

Rpt Entity	Fund Code	Leg FT	Program	Legacy B&R	Obj. Class	Local Use	Project	WFO	Legacy Order Number	Beginning Uncosted Obs	BA			Total Available
											Previous	Change	Revised	
410003	01250	TP	1110676	EY4049110	25400	0000000	0003925	0000000		15,138.97	135,061.61	200,000.00	335,061.61	350,200.58
410003	01250	TP	1110676	EY4049110	25400	0000000	0004017	0000000		26,037.10	59,000.00	40,000.00	99,000.00	125,037.10
410003	01250	TP	1110676	EY4049110	25400	0000000	0004266	0000000		76,614.28	147,098.00	15,000.00	162,098.00	238,712.28
Total for Program Parent/Control Point: EY4000000										117,790.35	341,159.61	255,000.00	596,159.61	713,949.96
410003	01250	TP	1111525	EY8648111	25400	0000000	0001761	0000000		119,672.95	18,977,600.00	7,007,417.00	25,985,217.00	26,104,889.95
<i>AY 2013 - Transfer to SRNS per MG/PP rz</i>														
410003	01250	TP	1111461	EY864811B	25400	0000000	0004363	0000000		1,312,929.09	-918,475.00	500,000.00	-418,475.00	894,454.09
<i>AY 2013 - \$500K of funds are specifically to support the PAV project activities per H. Gunter. rz</i>														
410003	01250	TP	1111497	EY864811D	25400	0000000	0004364	0000000		2,676,304.39	60,235,629.92	16,266,919.00	76,522,548.92	79,198,853.31
<i>AY 2013 - Transfer to SRNS per MG/PP rz</i>														
410003	01250	TP	1111498	EY864811E	25400	0000000	0004365	0000000		1,184,520.19	22,878,741.00	5,416,399.00	28,295,140.00	29,479,660.19
<i>AY 2013 - \$1.2M specifically for: *\$700K these funds are specifically to support (\$400k for SRNS efforts for a pre-conceptual for vulnerability assessment for the Waste Isolation Pilot Plant and \$300k for SRNS efforts to develop an application package for submittal to the Nuclear Regulatory Commission for the 3013 9975 shipping package), \$500K for DSA 10 & 11 preparations and Operations support to PAV" per H. Gunter. rz</i>														
410003	01250	TP	1111499	EY864811F	25400	0000000	0004366	0000000		110,373.09	9,506,985.00	2,902,431.00	12,409,416.00	12,519,789.09
<i>AY 2013 - Transfer to SRNS per MG/PP rz</i>														
410003	01250	TP	1111526	EY8648121	25400	0000000	0001762	0000000		344,221.52	18,164,250.00	5,874,896.00	24,039,146.00	24,383,367.52
<i>AY 2013 - Transfer to SRNS per MG/PP rz</i>														
410003	01250	TP	1110949	EY8648130	25400	0000000	0001763	0000000		11,288,054.07	7,392,562.00	3,778,782.00	11,171,344.00	22,459,398.07
<i>AY 2013 - 4.9.2012 - Increased by \$3,778,782 per RMOP Petty -mat</i>														
410003	01250	TP	1110950	EY8648300	25400	0000000	0001766	0000000		668,926.39	22,278,054.00	8,187,882.00	30,465,946.00	31,334,872.39
<i>AY 2013 - 4.9.2013 - Increased by \$8,187,882 - Per RMO email P. Petty - mat</i>														
Total for Program Parent/Control Point: EY8648020										17,905,001.69	158,515,556.92	49,954,726.00	208,470,282.92	226,375,284.61
410003	01250	TP	1111528	EY8748141	25400	0000000	0001764	0000000		1,358,284.88	41,016,000.00	7,000,000.00	48,016,000.00	49,374,284.88
410003	01250	TP	1111528	EY8748141	25400	0411107	0001764	0000000		0.00	18,062,500.00	4,000,000.00	22,062,500.00	22,062,500.00
410003	01250	TP	1111528	EY8748141	25400	0411108	0001764	0000000		121,214.20	7,741,000.00	2,000,000.00	9,741,000.00	9,862,214.20
410003	01250	TP	1111528	EY8748141	25400	0411130	0001764	0000000		0.00	7,606,000.00	2,000,000.00	9,606,000.00	9,606,000.00
Total for Program Parent/Control Point: EY8748140										1,479,499.08	74,425,500.00	15,000,000.00	89,425,500.00	90,904,999.08
410003	01250	TP	1111166	FS5048010	25400	0000000	0001765	0000000		185,186.65	1,950,000.00	200,000.00	2,150,000.00	2,335,186.65
410003	01250	TP	1111167	FS5048020	25400	0000000	0001765	0000000		191,501.97	5,407,000.00	2,000,000.00	7,407,000.00	7,598,501.97
410003	01250	TP	1111172	FS5048070	25400	0000000	0001765	0000000		820,190.84	565,000.00	300,000.00	865,000.00	1,685,190.84
Total for Program Parent/Control Point: FS5010010										1,196,879.46	7,922,000.00	2,500,000.00	10,422,000.00	11,618,879.46
Total for Fund: 01250										20,699,170.58	241,204,216.53	67,709,726.00	308,913,942.53	329,613,113.11

No. HQTD1005-4-13, Rev 1

Project Title: Increased Waste Loadings

**Note: Six (6) pages, inclusive of Cost and Obligation Report
Year-To-Date values (supporting documentation)**

**U. S. DEPARTMENT OF ENERGY
CONTRACT WORK AUTHORIZATION**

1a. Project Title Increased Waste Loadings		1b. Work Proposal Number HQTD1005-4-13	
2. Headquarters Program Point of Contact Name: Gary Smith Organization Code: EM-21 509-430-8830(c)/ 509-376-0922(0), gary_smith@em.doe.gov			
3. Headquarters Budget Point of Contact Name: Connie Flohr Organization Code: EM-61 Telephone: 301-903-0393			
4. Responsible Program Office of Environmental Management		5. Responsible Secretarial Officer Tracy P. Mustin Phone: 202-586-7709 Routing: EM-1	
6. Responsible Field Organization U.S. Department of Energy, Savannah River Operations			
7a. Site and Facility Management Contractor Savannah River Nuclear Solutions, LLC		7b. Contractor Point of Contact Name: John W. Temple Telephone No. (803) 952- 7210	
8. Work Authorization Number HQTD1005-4-13		9. Revision Number 1	
10. Funds Authorized (Pending resolution of CR) NOTE: Work subject to funds availability and an approved "Full Year FY 2013 Continuing Resolution Act."			
B&R Code: EY4049110 <i>Program ID = 1110676</i>	Previous: \$98,000	Change: \$15,000	Current: \$113,000
11. Performance Period Covered by Funds 10/1/2012 9/30/2013	12. Work Start Date 10/1/2012	13. Expected Completion Date 9/30/2013	
14. Statement of Work (Includes attachments) Task WP-5.2.2: Joint EM-NE-SC-International Study of Glass Behavior Over Geologic Time Scales The U.S. team has established several target areas for experimental and simulation-based investigations. These specific areas, when combined with the efforts of our international partners, are expected to provide the greatest improvement in understanding in the long-term behavior of glass and have the largest impact on the development of a more robust and universal glass performance model. SRNL will support EM-21 in FY2013 to complete the following milestones: FY 13 Milestones: 1. Publish corrosion experiment database for international access: SRNL, 7/15/2013 2. Issue report on forward rate variability (pH, temperature, composition, etc.): SRNL, 9/13/2013			
15. DOE-SR Program Point of Contact			
Name (printed): Patrick Jackson	Signature: <i>Patrick Jackson</i>	Date: 4/18/13	
16. DOE Budget Official			
Name (typed): Harold K. Nielsen	Signature: <i>Harold K. Nielsen</i>	Date: 4/19/13	
17. Contractor's Authorized Representative			
Name (typed): John Temple	Signature: <i>John W. Temple</i>	Date: 4/23/13	
18. DOE Contracting Officer (or delegated representative)			
Name (typed): Scott Langston	Signature: <i>SL</i>	Date: 4/18/13	

Task WFS-1: Advanced Silicate Glass Formulations to Increase Waste Loading and Heat Rate

Advanced silicate based glass formulations are needed to reduce the volume of glass produced at both Hanford and the Savannah River Site. The possible advanced waste types at Hanford and Savannah River will be investigated: high-oxides, high-heat, high-calcium, and lithium phosphates. Wastes in that order of priority (i.e., focusing on high-calcium in FY13).

The primary objective is to develop data to evaluate the impacts of advanced methods of silicate glass formulation and molten operations for step function increases in loading of Hanford and Savannah River wastes in glass as part of a synergistic approach with pretreatment to simultaneously optimize separations and immobilization. A secondary objective is the development of predictive tools to use in systems planning which in turn are used to determine the relative benefits of different formulations and guide research priorities. Data will be generated in the activity at a sufficient quality assurance level to allow for use in waste form implementation in the vitrification plant and waste form qualification activities.

1. Submit draft journal article on less restrictive repelling model for HLW glass: PNNL, (TBD), pending funding)

See attached

Project Number:	HQTD1005	Date:	March 2013	APP Change Month:	April 2013																		
Project Title:	Increased Waste Loadings																						
Site/Contractor:	PNNL/SRNL/ORN/LBNL	Project Area Room:	WP-5	Technical Task Plan (TTP) Attached:	Yes																		
<p>Contract Number (if other than National Laboratory or DOE site contractor): RM-21; Rick Machura, (201) 903-3327, nicholas.machura@ornl.gov</p> <p>Project Area Manager (WP Lead or PI): RM-21; Rick Machura, (201) 903-3327, nicholas.machura@ornl.gov</p> <p>Technical Point of Contact:</p> <p>PNNL: Joe Ryan, (509) 372-4809, joryan@pnnl.gov</p> <p>SRNL: James Mann, (803) 725-5838, jamesmann@ornl.gov</p> <p>ORNL: Eric Flores, (665) 574-9968, eflores@ornl.gov</p> <p>LBNL: Glenn Weychman, (510) 495-2234, GAWeychman@lbl.gov</p> <p>Names of Budget Analyst at the site(s):</p> <p>PNNL: Teresa Jenkins, (509) 375-2768, teresajenkins@pnnl.gov</p> <p>SRNL: Leza Robinson, (803) 952-9196, lezarobinson@ornl.gov</p> <p>ORNL: Pat Rader, (665) 574-0360, prader@ornl.gov</p> <p>LBNL: Angela Gill, (510) 495-2276, AAGill@lbl.gov</p>																							
New BA (SR) Requested	135K	Prior Funding (SR) in this FY	\$323K distributed as follows:	\$300K distributed as follows:	\$600K distributed as follows:																		
Total Unencumbered (SR) as of Beginning of this FY			\$323K distributed as follows:																				
Total Available Funding (SR) including all requests (add last three columns)																							
<p>Grand Plan for Total Available Funding (use actual spent funds for previous quarters) Projected unencumbered at the end of this FY</p> <table border="1"> <tr> <td>1st Quarter of FY</td> <td>2nd Qtr of FY</td> <td>3rd Quarter of FY</td> <td>4th Quarter of FY</td> <td>Projected unencumbered at the end of this FY</td> </tr> <tr> <td>\$37K</td> <td>\$270K</td> <td>\$23K</td> <td>-\$240K</td> <td>\$0K</td> </tr> </table>						1 st Quarter of FY	2 nd Qtr of FY	3 rd Quarter of FY	4 th Quarter of FY	Projected unencumbered at the end of this FY	\$37K	\$270K	\$23K	-\$240K	\$0K								
1 st Quarter of FY	2 nd Qtr of FY	3 rd Quarter of FY	4 th Quarter of FY	Projected unencumbered at the end of this FY																			
\$37K	\$270K	\$23K	-\$240K	\$0K																			
<p>Funding Codes (To be Completed by Budget Office)</p> <table border="1"> <tr> <th>Bund</th> <th>Year</th> <th>Allotee</th> <th>Reporting Entity</th> <th>SOL</th> <th>Object Class</th> <th>Program</th> <th>Project</th> <th>Amount</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						Bund	Year	Allotee	Reporting Entity	SOL	Object Class	Program	Project	Amount									
Bund	Year	Allotee	Reporting Entity	SOL	Object Class	Program	Project	Amount															

0004266

Value

OFFICE OF TANK WASTE & NUCLEAR MATERIAL (EM-20)
 WORK AUTHORIZATION/TASK CHANGE REQUEST (TCR)

2. Complete fabrication of test matrix glasses (from FY11 plan): SRNL, (TBD, pending funding)
 3. Complete testing of test matrix glasses: SRNL, (TBD, pending funding)
 Transfer \$0K as follows: \$0K to FNRL and \$0K to SRNL

Task IV-5.2.2: Joint EM-NE-SC-International Study of Glass Behavior Over Geologic Time Scales:
 The U.S. team has established several target areas for experimental and simulation-based investigations. These specific areas, when combined with the efforts of our international partners, are expected to provide the greatest improvement in understanding in the long-term behavior of glass and have the largest impact on the development of a more robust and universal glass performance model. Each of these topics is either the source of international scientific disagreement or general scientific uncertainty while being significant to understanding and modeling glass dissolution. The four general classes of rate limiting mechanisms are:

- i. Reaction kinetics at the glass-solution interface
- ii. Transport kinetics of species to and from the glass-solution interface
- iii. Ion exchange processes within the glass that may impact effective surface area
- iv. Kinetics of alteration product precipitation/striping

A detailed draft technical program plan has been developed jointly with DOE-NE and DOE-SC for the U.S. research program which is being conducted in collaboration with international researchers with complementary studies/approaches. The FY13 BM research focus includes:

1. Evaluation of the alteration product structure including the amorphous gel and crystalline alteration products.
2. Completion of joint DOE-CBA study on CRA 26y old glass sample with advanced characterization methods.
3. Begin composition, temperature, pH, impacts on forward rate testing.

FY13 Milestones:

1. Submit joint CRA/DOE paper to peer reviewed journal: FNRL, 1/16/2013
2. Issue plan on the study of composition-induced "tipping-points": FNRL, 3/29/2013
3. Draft paper on the evolution of corrosion layers: ORNL, 6/14/2013
4. Publish corrosion experiment database for international access: SRNL, 7/15/2013
5. Submit report on *in situ* corrosion studies: LBNL, 8/23/2013
6. Issue report on forward rate variability (pH, temperature, composition, etc.): SRNL, 9/13/2013

Transfer \$400K as follows: \$180K to SRNL, \$175K to FNRL, \$75K to ORNL, and \$30K to LBNL subject to final appropriations

Submitted by:	Mathew Zinkovich <i>with w. Machida</i>	Date:	3/14/13
Headquarters Project Manager (Please Print & Sign)			
Approved by:	Steve Schneider	Date:	3/14/13
Office Director (Please Print & Sign)			
Approved by:	W.P. Park	Date:	3/15/13
Deputy Assistant Secretary, EAS-20			
Approved by:		Date:	
Associate Principal Deputy Assistant Secretary, EAS-2.1			
Submitted to:	Jeff T. McMillan	Date:	4/13/2013
EAS-102 Budget Analyst for TDD to complete AFP change			

Detail Funding Point History

XID	AY	Allot-tee	Rpt Ent Parent	Fund	Program	Pgm Parent	Rept Entity	Project	WFO	Obj Class	Purchase Order	Local Use	BUO	BUO Deob	PY BUO Deob	BA Committed	BA Obligated	FAC		
Chg Date / Time		User		Prog. ID		Description														
47650	2013	36	SR	01250	1110676	C000977	410003	0004266	0000000	25400	SR22470	0000000	0.00	0.00	0.00	113,000.00	113,000.00	0.00		
4/9/2013 16:29:31		Seguinot, Eliberto		UPD0001		JOINT INTERNAT STUDY OF GLASS														
												Change Amounts:			0.00	0.00	0.00	15,000.00	15,000.00	0.00
47650	2013	36	SR	01250	1110676	C000977	410003	0004266	0000000	25400	SR22470	0000000	0.00	0.00	0.00	98,000.00	98,000.00	0.00		
12/11/2012 15:20:40		Seguinot, Eliberto		UPD0001		JOINT INTERNAT STUDY OF GLASS														
												Change Amounts:			0.00	0.00	0.00	98,000.00	98,000.00	0.00
47652	2013	36	SR	01250	1110676	C000977	410003	0004265	0000000	25400	SR22470	0000000	0.00	0.00	0.00	25,000.00	25,000.00	0.00		
12/11/2012 15:16:25		Seguinot, Eliberto		UPD0001		IMPROVED VITRIFICATION CAPACIT														
												Change Amounts:			0.00	0.00	0.00	25,000.00	25,000.00	0.00
47654	2013	36	SR	01250	1110676	C000977	410003	0004263	0000000	25400	SR22470	0000000	0.00	0.00	0.00	130,000.00	130,000.00	0.00		
11/27/2012 15:00:44		Seguinot, Eliberto		UPD0001																
												Change Amounts:			0.00	0.00	0.00	130,000.00	130,000.00	0.00
47656	2013	36	SR	01250	1110676	C000977	410003	0004262	0000000	25400	SR22470	0000000	0.00	0.00	0.00	250,000.00	250,000.00	0.00		
10/17/2012 16:20:25		Seguinot, Eliberto		UPD0001		CEMENTITIOUS BARRIERS PARTNERS														
												Change Amounts:			0.00	0.00	0.00	250,000.00	250,000.00	0.00
47658	2013	36	SR	01250	1110676	C000977	410003	0004261	0000000	25400	SR22470	0000000	0.00	0.00	0.00	557,000.00	557,000.00	0.00		
12/11/2012 15:11:30		Seguinot, Eliberto		UPD0001		Technical Planning, Integration and Risk Management (HQTD1000)														
												Change Amounts:			0.00	0.00	0.00	372,000.00	372,000.00	0.00
47658	2013	36	SR	01250	1110676	C000977	410003	0004261	0000000	25400	SR22470	0000000	0.00	0.00	0.00	185,000.00	185,000.00	0.00		
10/17/2012 16:12:57		Seguinot, Eliberto		UPD0001		Technical Planning, Integration and Risk Management (HQTD1000)														
												Change Amounts:			0.00	0.00	0.00	185,000.00	185,000.00	0.00
47660	2013	36	SR	01250	1110676	C000977	410003	0004017	0000000	25400	SR22470	0000000	0.00	0.00	0.00	99,000.00	99,000.00	0.00		
4/9/2013 16:20:34		Seguinot, Eliberto		UPD0001		Advanced Subsurface Computing for Environmental Management (ASCEM)														
												Change Amounts:			0.00	0.00	0.00	40,000.00	40,000.00	0.00
47660	2013	36	SR	01250	1110676	C000977	410003	0004017	0000000	25400	SR22470	0000000	0.00	0.00	0.00	59,000.00	59,000.00	0.00		
10/17/2012 16:14:52		Seguinot, Eliberto		UPD0001		Advanced Subsurface Computing for Environmental Management (ASCEM)														
												Change Amounts:			0.00	0.00	0.00	59,000.00	59,000.00	0.00
49787	2013	36	SR	01250	1110676	C000977	410003	0004030	0000000	25400	SR22470	0000000	0.00	0.00	0.00	150,000.00	150,000.00	0.00		
3/13/2013 17:00:10		Seguinot, Eliberto		UPD0001																
												Change Amounts:			0.00	0.00	0.00	-25,000.00	-25,000.00	0.00

Financial Plan Report - Detail

SR22470 - Savannah River Nuclear Solutions (SRNS)

Rpt Entity	Fund Code	Leg FT	Legacy Program	Legacy B&R	Obj. Class	Local Use	Project	WFO	Legacy Order Number	Beginning Uncosted Obs	BA			Total Available
											Previous	Change	Revised	
410003	01250	TP	1110676	EY4049110	25400	0000000	0003925	0000000		15,138.97	135,061.61	200,000.00	335,061.61	350,200.58
410003	01250	TP	1110676	EY4049110	25400	0000000	0004017	0000000		26,037.10	59,000.00	40,000.00	99,000.00	125,037.10
410003	01250	TP	1110676	EY4049110	25400	0000000	0004266	0000000		76,614.28	147,098.00	15,000.00	162,098.00	238,712.28
Total for Program Parent/Control Point: EY4000000										117,790.35	341,159.61	255,000.00	596,159.61	713,949.96
410003	01250	TP	1111525	EY8648111	25400	0000000	0001761	0000000		119,672.95	18,977,800.00	7,007,417.00	25,985,217.00	26,104,889.95
<i>AY 2013 - Transfer to SRNS per MG/PP rz</i>														
410003	01250	TP	1111461	EY864811B	25400	0000000	0004363	0000000		1,312,929.09	918,475.00	500,000.00	418,475.00	894,454.09
<i>AY 2013 - \$500K of funds are specifically to support the PAV project activities per H. Gunter. rz</i>														
410003	01250	TP	1111497	EY864811D	25400	0000000	0004364	0000000		2,676,304.39	60,235,629.92	16,286,919.00	76,522,548.92	79,198,853.31
<i>AY 2013 - Transfer to SRNS per MG/PP rz</i>														
410003	01250	TP	1111498	EY864811E	25400	0000000	0004365	0000000		1,184,520.19	22,878,741.00	5,416,399.00	28,295,140.00	29,479,660.19
<i>AY 2013 - \$1.2M specifically for: \$700K these funds are specifically to support: (\$400k for SRNS efforts for a pre-conceptual for vulnerability assessment for the Waste Isolation Pilot Plant and \$300k for SRNS efforts to develop an application package for submittal to the Nuclear Regulatory Commission for the 3013 9975 shipping package); \$500K for DSA 10 & 11 preparations and Operations support to PAV per H. Gunter. rz</i>														
410003	01250	TP	1111499	EY864811F	25400	0000000	0004366	0000000		110,373.09	9,506,965.00	2,902,431.00	12,409,416.00	12,519,789.09
<i>AY 2013 - Transfer to SRNS per MG/PP rz</i>														
410003	01250	TP	1111526	EY8648121	25400	0000000	0001762	0000000		344,221.52	18,164,250.00	5,874,896.00	24,039,146.00	24,383,367.52
<i>AY 2013 - Transfer to SRNS per MG/PP rz</i>														
410003	01250	TP	1110949	EY8648130	25400	0000000	0001763	0000000		11,288,054.07	7,392,562.00	3,778,762.00	11,171,344.00	22,459,398.07
<i>AY 2013 - 4.9.2012 - Increased by \$3,778,762 per RMO P. Petty -mat</i>														
410003	01250	TP	1110950	EY8648300	25400	0000000	0001766	0000000		868,926.39	22,278,064.00	8,187,882.00	30,465,946.00	31,334,872.39
<i>AY 2013 - 4.9.2013 - Increased by \$8,187,882 - Per RMO email P. Petty - mat</i>														
Total for Program Parent/Control Point: EY8648020										17,905,001.69	158,515,556.92	49,954,726.00	208,470,282.92	226,375,284.61
410003	01250	TP	1111528	EY8748141	25400	0000000	0001764	0000000		1,358,284.88	41,016,000.00	7,000,000.00	48,016,000.00	49,374,284.88
410003	01250	TP	1111528	EY8748141	25400	0411107	0001764	0000000		0.00	18,062,500.00	4,000,000.00	22,062,500.00	22,062,500.00
410003	01250	TP	1111528	EY8748141	25400	0411108	0001764	0000000		121,214.20	7,741,000.00	2,000,000.00	9,741,000.00	9,862,214.20
410003	01250	TP	1111528	EY8748141	25400	0411130	0001764	0000000		0.00	7,606,000.00	2,000,000.00	9,606,000.00	9,606,000.00
Total for Program Parent/Control Point: EY8748140										1,479,499.08	74,425,500.00	15,000,000.00	89,425,500.00	90,904,999.08
410003	01250	TP	1111166	FS5048010	25400	0000000	0001765	0000000		185,186.65	1,950,000.00	200,000.00	2,150,000.00	2,335,186.65
410003	01250	TP	1111167	FS5048020	25400	0000000	0001765	0000000		191,501.97	5,407,000.00	2,000,000.00	7,407,000.00	7,598,501.97
410003	01250	TP	1111172	FS5048070	25400	0000000	0001765	0000000		820,190.84	565,000.00	300,000.00	865,000.00	1,685,190.84
Total for Program Parent/Control Point: FS5010010										1,196,879.46	7,922,000.00	2,500,000.00	10,422,000.00	11,618,879.46
Total for Fund: 01250										20,699,170.58	241,204,216.53	67,709,726.00	308,913,942.53	329,613,113.11

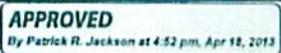
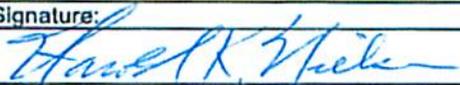
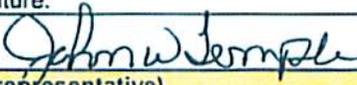
Attachment 6

No. IN13012, Rev 2

Project Title: Energy and Threat

**Note: Six (6) pages, inclusive of Cost and Obligation Report
Year-To-Date values (supporting documentation)**

**U. S. DEPARTMENT OF ENERGY
CONTRACT WORK AUTHORIZATION**

1a. Project Title Energy and Threat		1b. Work Proposal Number IN13012	
2. Headquarters Program Point of Contact Name: Kevin Kremer Organization Code: Phone: 202-586-8865			
3. Headquarters Budget Point of Contact Name: Debbra Dayton Organization Code: Telephone No. 202-586-4370			
4. Responsible Program Office of Energy and Threat		5. Responsible Secretarial Officer Office of Energy and Threat	
6. Responsible Field Organization U.S. Department of Energy, Savannah River Operations			
7a. Site and Facility Management Contractor Savannah River Nuclear Solutions, LLC		7b. Contractor Point of Contact Name: John W. Temple Telephone No. (803) 952- 7210	
8. Work Authorization Number IN13012		9. Revision Number 2	
10. Funds Authorized (\$ in thousands)(See NOTE below) NOTE: Work subject to funds availability and an approved "Full Year FY 2013 Continuing Resolution Act."			
Budget and Reporting Code:	Previous:	Change:	Current:
GD3003010/3203740	\$ 885,996.00	\$ 260,700.00	\$ 1,146,696.00
GD3015000/3203736	\$ 345,700.00	\$ 159,000.00	\$ 504,700.00
GD3006000/1714209	\$ 10,000.00	\$ 10,000.00	\$ 20,000.00
Total Funds			\$ 1,671,396.00
11. Performance Period Covered by Funds From: October 1, 2012 To: September 30, 2013		12. Work Start Date From: Oct. 1, 2012	13. Expected Completion Date To: Sept. 30, 2013
14. Statement of Work (Includes attachments) Statement of Work: Support of ASD, such as Analytical Transformation WG, Analytic Integrity and Standards Evaluation Program, Analytic Tools Forums, and Intelligence Collection Requirement activities. Reporting requirements: Provide monthly cost status reports to program managers.			
15. DOE-SR Program Point of Contact			
Name (printed): Patrick R. Jackson	Signature:  <small>APPROVED By Patrick R. Jackson at 4:52 pm, Apr 18, 2013</small>	Date: April 18, 2013	
16. DOE Budget Official			
Name (typed): Harold K. Nielsen	Signature: 	Date: 4/19/13	
17. Contractor's Authorized Representative			
Name (typed): John Temple	Signature: 	Date: 4/23/13	
18. DOE Contracting Officer (or delegated representative)			
Name (typed): Scott Langston	Signature: 	Date: 4/18/13	

U.S. DEPARTMENT OF ENERGY Work Authorization

1a. Project Title: Energy and Threat

1b. Work Proposal Number:

2. HQ Program Point of Contact:
Name: Sandra Willis ^{KAC} Kevin Kremer Terry Creque
Stockton Butler Telephone #

3. HQ Budget Point of Contact:
Name: Debbra Dayton *[Signature]* Telephone # 202-586-4370

4. Responsible Program Office: Office of Energy and Threat

5. Responsible Program Secretarial Officer: Office of Energy and Threat

6. Responsible Ops/Site Office: Savannah River Operations Office

7a. Major Operating Contractor: Savannah River Nuclear Solutions, LLC (410003)

7b. Contractor Point of Contact: Anthony Burris Telephone # 803-725-3471

8. Work Authorization Number: IN13012 Month: Apr 9. Revision: 2

10. Funds Hereby Authorized:

Director Initials	B&R Code/STARS Value Code	FY 2013 Initial Amount	Prior Changes to Date	YTD Amount	Current Month Change	FY 2013 Revised Amount
<i>SWW</i>	GD3003010 / 3203740 - Analysis	885,996	-	885,996.00	260,700.00	1,146,696.00
<i>SWW</i>	GD3003020 / 3203741 - Foreign Nucle	-	-	-	-	-
<i>SWW</i>	GD3004010 / 3203745 - Nuclear Terror	-	-	-	-	-
	GD3006000 / 1714209 - Analytic Supp-	10,000	-	10,000.00	10,000.00	20,000.00
	GD3009000 / 1714217 - M&O Contract	-	60,000	60,000.00	-	60,000.00
	GD3012000 / 1714286 - Science & Tec	-	-	-	-	-
<i>RJB</i>	GD3015000 / 3203736 - NMIP	345,700	-	345,700.00	159,000.00	504,700.00
	GD3016000 / 3203748 - Integrated Exe	-	-	-	-	-
	Totals:	1,241,696	60,000	1,301,696.00	429,700.00	1,731,396.00

11. Performance Period: 10/1/2012 to 9/30/2013 12. Work Start Date: 10/1/2012

13. Expected Completion Date: Continuing

14. Statement of Work: GD 3003, & GD3015, Incremental funding to cover site costs till full year CR funds are allocated.
GD3006, +\$10,000 to be used in support of ASD, such as Analytical Transformation WG, Analytic Integrity and Standards Evaluation Program, Analytic Tools Forums, and Intelligence Collection Requirement activities.

15. Reporting Requirements: Provide monthly cost status reports to program managers.

16. Work Authorization Program Official:
Name: John Gerrard *[Signature]* Date: 9/11/13

17. DOE Field Org/Site Office Official:
Name: _____ Date: _____

18. Contractor's Authorized Rep.
Name: _____ Date: _____

19. DOE Contracting Officer (or delegated representative)
Name: _____ Date: _____

Please return signed WORK AUTHORIZATION STATEMENTS (WAS) to the centralized WAS email box at was@doe.gov and jenny.lamb@doe.gov within 4 weeks of start time.

Detail Funding Point History

XID	AY	Allot-tee	Rpt Ent Parent	Fund	Program	Pgm Parent	Rept Entity	Project	WFO	Obj Class	Purchase Order	Local Use	BUO	BUO Deob	PY BUO Deob	BA Committed	BA Obligated	FAC		
Chg Date / Time			User		Prog. ID	Description														
48007	2013	36	SR	01090	3203740	C002548	410225	0000000	0000000	25200	9999999	0000000		0.00	0.00	0.00	0.00	0.00	0.00	
													Change Amounts:		0.00	0.00	0.00	-260,700.00	0.00	0.00
4/18/2013 11:07:03			Seguinot, Elberto		UPD0001	Reserves														
48007	2013	36	SR	01090	3203740	C002548	410225	0000000	0000000	25200	9999999	0000000		0.00	0.00	0.00	260,700.00	0.00	0.00	
													Change Amounts:		0.00	0.00	0.00	260,700.00	0.00	0.00
4/17/2013 16:38:35			Seguinot, Elberto		UPD0001	Reserves														
48007	2013	36	SR	01090	3203740	C002548	410225	0000000	0000000	25200	9999999	0000000		0.00	0.00	0.00	0.00	0.00	0.00	
													Change Amounts:		0.00	0.00	0.00	-1,241,696.00	0.00	0.00
10/17/2012 15:16:13			Seguinot, Elberto		UPD0001	Reserves														
48007	2013	36	SR	01090	3203740	C002548	410225	0000000	0000000	25200	9999999	0000000		0.00	0.00	0.00	1,241,696.00	0.00	0.00	
													Change Amounts:		0.00	0.00	0.00	1,241,696.00	0.00	0.00
10/9/2012 10:44:22			Seguinot, Elberto		UPD0001	Reserves														
48007	2013	36	SR	01090	3203740	C002548	410225	0000000	0000000	25200	9999999	0000000		0.00	0.00	0.00	0.00	0.00	0.00	
													Change Amounts:		0.00	0.00	0.00	0.00	0.00	0.00
10/9/2012 10:43:12			Seguinot, Elberto		UPD0001															
48007	2013	36	SR	01090	3203740	C002548	410225	0000000	0000000	25200	9999999	0000000		0.00	0.00	0.00	0.00	0.00	0.00	
													Change Amounts:		0.00	0.00	0.00	0.00	0.00	0.00
10/9/2012 10:43:03			Seguinot, Elberto		UPD0001															
48007	2013	36	SR	01090	3203740	C002548	410225	0000000	0000000	25200	9999999	0000000		0.00	0.00	0.00	0.00	0.00	0.00	
													Change Amounts:		0.00	0.00	0.00	0.00	0.00	0.00
10/9/2012 10:42:19			Seguinot, Elberto		UPD0001															
49782	2013	36	SR	01090	3203740	C002548	410003	0000000	0000000	25400	SR22470	0000000		0.00	0.00	0.00	1,146,696.00	1,146,696.00	0.00	
													Change Amounts:		0.00	0.00	0.00	260,700.00	260,700.00	0.00
4/18/2013 11:20:47			Seguinot, Elberto		UPD0001															
49782	2013	36	SR	01090	3203740	C002548	410003	0000000	0000000	25400	SR22470	0000000		0.00	0.00	0.00	885,996.00	885,996.00	0.00	
													Change Amounts:		0.00	0.00	0.00	885,996.00	885,996.00	0.00
10/17/2012 15:25:38			Seguinot, Elberto		UPD0001															
49782	2013	36	SR	01090	3203740	C002548	410003	0000000	0000000	25400	SR22470	0000000		0.00	0.00	0.00	0.00	0.00	0.00	
													Change Amounts:		0.00	0.00	0.00	0.00	0.00	0.00
10/17/2012 15:25:24			Seguinot, Elberto		UPD0001															

** Draft Finplan **

Contract Modification Number: ** No MOD **

Rpt Entity: SR Savannah River Nuclear Solutions, LLC

Financial Plan Report - Detail

#14
Site: SR
*** DRAFT ***

SR22470 - Savannah River Nuclear Solutions (SRNS)

Rpt Entity	Fund Code	Leg FT	Program	Legacy B&R	Obj. Class	Local Use	Project	WFO	Legacy Order Number	Beginning Uncosted Obs	BA			Total Available	
											Previous	Change	Revised		
410003	00500	WA	2924295	KC0207050	25400	0000000	0000000	0000000		0.00	204,000.00	76,000.00	280,000.00	280,000.00	
Total for Program Parent/Control Point: KC0200000											0.00	204,000.00	76,000.00	280,000.00	280,000.00
410003	00500	WA	2924214	KP1702030	25400	0000000	0000000	0000000		84,671.60	158,639.52	138,000.00	296,639.52	381,311.12	
Total for Program Parent/Control Point: KP0000000											84,671.60	158,639.52	138,000.00	296,639.52	381,311.12
Total for Fund: 00500											84,671.60	362,639.52	214,000.00	576,639.52	661,311.12
410003	00697	SB	3165133	WN3200000	25400	0000000	0000000	0000000		0.00	0.00	6,600,000.00	6,600,000.00	6,600,000.00	
Total for Program Parent/Control Point: WN0000000											0.00	0.00	6,600,000.00	6,600,000.00	6,600,000.00
Total for Fund: 00697											0.00	0.00	6,600,000.00	6,600,000.00	6,600,000.00
410003	00910	3T	1720297	400403209	25400	0000000	0000000	0411154 11154		0.00	0.00	42,718.45	42,718.45	42,718.45	
Total for Program Parent/Control Point: 400000000											0.00	0.00	42,718.45	42,718.45	42,718.45
Total for Fund: 00910											0.00	0.00	42,718.45	42,718.45	42,718.45
410003	01050	TF	3184820	RH0501010	25400	0000000	0000000	0000000		1,918.36	0.00	-1,918.36	-1,918.36	0.00	
410003	01050	TF	3184849	RH0607010	25400	0000000	0000000	0000000		193.60	0.00	-193.60	-193.60	0.00	
Total for Program Parent/Control Point: RH0301000											2,111.96	0.00	-2,111.96	-2,111.96	0.00
Total for Fund: 01050											2,111.96	0.00	-2,111.96	-2,111.96	0.00
410003	01090		3203735	GD2540980	25400	0000000	0000000	0000000		0.00	189,468.00	-4,000.00	185,468.00	185,468.00	
Total for Program Parent/Control Point: GD2540000											0.00	189,468.00	-4,000.00	185,468.00	185,468.00
410003	01090		3203740	GD3003010	25400	0000000	0000000	0000000		0.00	885,996.00	260,700.00	1,146,696.00	1,146,696.00	
410003	01090		1714209	GD3006000	25400	0000000	0000000	0000000		0.00	10,000.00	10,000.00	20,000.00	20,000.00	
410003	01090		3203736	GD3015000	25400	0000000	0000000	0000000		0.00	345,700.00	159,000.00	504,700.00	504,700.00	
Total for Program Parent/Control Point: GD3001000											0.00	1,241,696.00	429,700.00	1,671,396.00	1,671,396.00
Total for Fund: 01090											0.00	1,431,164.00	425,700.00	1,856,864.00	1,856,864.00
410003	01091		3184701	HQ1001000	25400	0000000	0000000	0000000		0.00	290,000.00	45,000.00	335,000.00	335,000.00	
Total for Program Parent/Control Point: HQ1001000											0.00	290,000.00	45,000.00	335,000.00	335,000.00
Total for Fund: 01091											0.00	290,000.00	45,000.00	335,000.00	335,000.00
410003	01250	TP	1110925	EY804910K	25400	0000000	0004074	0000000		0.00	124,194.85	50,000.00	174,194.85	174,194.85	
410003	01250	TP	1110925	EY804910K	25400	0000000	0004202	0000000		0.00	65,000.00	40,000.00	105,000.00	105,000.00	
Total for Program Parent/Control Point: EY804910A											0.00	189,194.85	90,000.00	279,194.85	279,194.85
Total for Fund: 01250											0.00	189,194.85	90,000.00	279,194.85	279,194.85