AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE	OF PAGES
	1	1

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
098	See Block 16C	10EM003393	

6. ISSUED BY CODE 00901

Savannah River Operations
U.S. Department of Energy
Savannah River Operations
P.O. Box A
Aiken SC 29802

7. ADMINISTERED BY (If other than Item 6) CODE 00901

Savannah River Operations
U.S. Department of Energy
Savannah River Operations
P.O. Box A
Aiken SC 29802

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)

SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC
Attn: MARK COGGIN
ONE FLUOR DANIEL DRIVE
A-3-A
ALISO VIEJO CA 926981000

CODE 798861048 FACILITY CODE

(x) **9A. AMENDMENT OF SOLICITATION NO.**

9B. DATED (SEE ITEM 11)

x **10A. MODIFICATION OF CONTRACT/ORDER NO.** DE-AC09-08SR22470

10B. DATED (SEE ITEM 13) 01/10/2008

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)
See Schedule

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.
X	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, 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)

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 cancel modification #96 in its entirety and replace it with modification #98.

B. This modification adds the revised Fee Table to Modification 91 and corrects pages 2 - 7 of the Rev 7 Work Authorization for Modification 91.

C. All other terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
		D. Elaine Nix	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		Signature on File (Signature of Contracting Officer)	08/27/2010

ARRA Fee Table
FY09 – FY12

Fiscal Year (FY)	Firm Fixed Fee
FY 2009	$12,771,272
FY 2010 (10/1/09-7/31/10)	$19,305,469
FY 2010 (8/1-10– 12/31/12) Available Fee Pool	$55,394,448
Total Fee	$87,471,189

Project D (TRU & SW)	ARRA-SRS-3-09-04 Rev. 7	
	Rough Order of Magnitude	Est. Comp Date
	$5,745,735	12/31/2012

Statement of Work

This Recovery Act Project includes general plant projects, environmental management operational activities, waste management operational activities, and landlord (LPSO) program activities under the programmatic responsibility of EM

In EM's Integrated Planning, Accountability, and Budgeting System, this Recovery Act Project is decomposed to the following reporting elements:

- SR-0011C.R1.1, Canyon Complex Support;
- SR-0013.R1.1, Solid Waste Disposition; and
- SR-0013.R1.2, Accelerated TRU Waste Disposition.

SR-0011C.R1.1, Canyon Complex Support To TRU Waste Program

- Modifications to canyon facilities to support accelerated transuranic waste drum and box remediation
- Partial deactivation or reactivation of F Canyon systems to facilitate TRU waste processing in the warm side of the canyon
- Support from F Canyon facilities and personnel vital to the accomplishment of the TRU Waste remediation effort including cognizant engineering support from design authorities knowledgeable in the canyon support systems and their operation

SR-0013.R1.1, Solid Waste Disposition

- Ongoing operations of the solid waste management program for SRS, including the storage, treatment, and/or disposal, on-site and off-site, of low-level radioactive waste (LLW), mixed low-level radioactive and hazardous waste (MLLW), sanitary waste, and hazardous waste
- Transfer and support the transfer of approximately 14,801 drums of depleted uranium oxide (DUO) to an off-site facility(s) for interim storage for about five years pending final disposition
- Transfer of approximately 805 drums of DUO (material) to DOE's Oak Ridge Reservation (Oak Ridge National Laboratory) (TN) for re-use
- Transfer of one 20,000 square-foot storage facility in F Area to NNSA

Project D (TRU & SW)	ARRA-SRS-3-09-04 Rev. 7	
	Rough Order of Magnitude	Est. Comp Date
	$5,745,735	12/31/2012

- Dispose of the substantial quantities of hazardous, LLW, and MLLW generated by other SRS Recovery Act projects associated with deactivation, decommissioning, demolition and environmental restoration activities
- Closure of five LLW disposal trenches
- Management and curation of cold war artifacts that are preserved in accordance with National Historic Preservation Act including modifications to 315-M Curation Facility and development of the Cultural Resource Management Plan Feasibility Study

SR-0013.R1.2, Accelerated TRU Waste Disposition

The scope of the Accelerated TRU Waste Disposition project is the compliant disposition of 5,000 cubic meters of legacy transuranic waste off the SRS site. The majority of the TRU waste is currently stored in non-shippable, aged, deteriorating containers that must be repackaged and remediated before shipment to the Waste Isolation Pilot Plant (WIPP) located in Carlsbad, New Mexico. The 5,000 cubic meters of TRU waste includes in excess of 1,500 miscellaneous boxed containers and over 1,250 drum type containers stored under earthen cover containing over 350,000 curies of plutonium-238 or plutonium-239.

To accomplish this large scale work scope in the allotted time, the capabilities of three areas at SRS will be required; E Area (Solid Waste Management Facility), H Canyon and F Canyon. The E Area facilities currently store the TRU waste and will be used to house equipment and operations to characterize the TRU waste and ship the waste to WIPP. The shipment of the TRU waste to WIPP will be accomplished using approved shipping configurations including standard large boxes (SLBs), standard waste boxes (SWBs), ten drum overpacks (TDOPs) and 55 gallon drums. The waste will be transferred to WIPP in TRUPACT-II or TRUPACT-III shipping casks following final characterization and certification of the acceptability of the waste containers

Additionally, E Area will remediate and repackage low content non-compliant containers into shippable box or drum configurations. To accomplish these remediation activities, existing ventilated containment structures on Pad 6 and in Cell 11 will be modified, staffed and operated to perform the remediation. The activity requires substantial controls due to the high hazards associated with exposure to the principal contaminant of the waste, Pu-238. High airborne concentrations of Pu-238 are anticipated to be generated during hand-on

Project D (TRU & SW)	ARRA-SRS-3-09-04 Rev. 7	
	Rough Order of Magnitude	Est. Comp Date
	$5,745,735	12/31/2012

remediation of the waste inside these ventilated enclosures. To address these hazards the facilities are being modified to incorporate controls such as supplemental local ventilation and secondary containment in addition to the three levels of PPE and supplied air workers will don.

The F-Canyon facilities will be utilized for the remediation and repackaging of higher content non-compliant drums and medium sized boxes of TRU waste. This waste will be initially characterized in E area and overpacked or properly wrapped to enable on-site transport of the more than 40 year old containers. F Canyon is presently partially deactivated. To accomplish the TRU scope, select areas of the canyon (Warm Crane and Truck Well Areas) will be reactivated and modified to safely handle the waste. These modifications will be substantial in the Truckwell where an inner airlock structure will be erected and significant ventilation controls provided. The safety basis documentation will be modified to permit the materials to be received into these areas of the canyon with the hands-on remediation conducted including aggressive size reduction activities. The remediation and size reduction will be conducted with hand tools due to fire hazard concerns. Within the Warm Crane area an existing ventilated enclosure is being modified to remediate approximately 1,250 very high content (some >1,500 Ci Plutonium-238) drums.

H Canyon will be employed to repackage the waste within the very large boxes in the TRU waste inventory into other containers so as to produce feed for the F Canyon facility. Additionally, H Canyon will take a percentage of the high content waste boxes and conduct hands-on remediation within the warm shop area of the canyon. To perform these activities, modifications will be made to this area of the canyon to provide supplemental ventilation controls and improved egress to adhere to the life safety codes.

A portion of the existing TRU waste inventory includes highly (count rates of about 100 million disintegrations per minute for Pu-238) contaminated oversized items. The work force in both H Canyon and F Canyon will take implement size reduction only to the extent necessary to repackage the wastes into an SLB. The amount of size reduction necessary is not expected to be significant but will include steel vessels, lathe bases, and glove boxes. This work scope requires more intensive hands-on work, with higher work exposure doses, and a higher probability of contamination spread. The experience accumulated to date serves as the basis for the processing rates in both F and H Canyons.

Additionally in order to promote the efficient disposal of the TRU waste at WIPP, the processing rates have been accelerated at certain facilities through the

Project D (TRU & SW)	ARRA-SRS-3-09-04 Rev. 7	
	Rough Order of Magnitude	Est. Comp Date
	$5,745,735	12/31/2012

application of additional shifts. These facilities include the drum line in F Canyon and characterization operations in E Area.

In addition to the 5,000 cubic meters of TRU legacy waste planned for disposition, another 200 cubic meters of TRU waste remains in inventory at SRS. This waste exhibits characteristics that present significant challenges to the repackaging and remediation of the waste into compliant shipping containers. The project scope includes the delineation of an implementable plan for the repackaging of this remaining inventory. This waste volume is considered very difficult by virtue of the plutonium content and highly elevated radiation fields. Planning activities, completion of a Technical Implementation Plan, safe guard & security requirements, and pre-disposal activities to address some or the entire remaining inventory will be accomplished as part of this SRRAP. While the disposition of this remaining 200 cubic meters of extremely difficult waste remains outside the present scope of the project, the project team has taken on a stretch commitment to attempt to accomplish the disposition of all or a portion of this remaining inventory by funding the activities through efficiency savings in other areas of the program.

Changes during Final Scope Definitization

Scope deletions include:

- Treatment and disposal of mixed and low level wastes in FY 2012
- Elimination of the planned expansion of the E Area low level waste burial ground as waste generation projections no longer warrant it.
- Reduced F Canyon TRU support in FY 2011. No F Canyon TRU support in FY 2012.

Scope additions include:

- Solid Waste Disposition
    - Management and disposition of additional volumes of mixed, low level, and sanitary wastes generated through the incremental footprint reduction activities
- Transuranic Waste
    - E Area

Project D (TRU & SW)	ARRA-SRS-3-09-04 Rev. 7	
	Rough Order of Magnitude	Est. Comp Date
	$5,745,735	12/31/2012

- Extend Operations and add shifts to select activities such as vent and purge, PHAS, and the preparation activities (radiological surveying, non-destructive assay, and radiography) to support onsite movements and shipments of the waste
- Increase the loading and shipping activities for the additional volume of legacy waste
- Characterize, size reduce and remediate the inventory of Master Slave Manipulators into SWBs or SLBs
- Procure the necessary additional containers to support the packaging and shipping of the additional 2,880 cubic meters of waste
- Reactivate and modify as required the existing enclosure on Pad 6 to repack and remediate non-compliant low content (<10 curies) SWBs , B25s and 85 gallon overpack drums
- Reactivate, modify as required, and operate the existing enclosure in Cell 11 to repack, as necessary, and remediate existing SLB2 containers with relatively low contents (<10 curies) of
- Install and operate an unloading area to support the retrieval of high content drums and boxes from the Pad 1 culverts previously planned for H Canyon
- Support WIPP in the fabrication of TRUPACT III shipping casks to facilitate the disposition of compliantly packaged SLB2 containers
- Support the necessary hardware and software upgrades to bring the Large Box Non-destructive Examination system into a configuration that supports WIPP certification
- Support WIPP in the deployment and use of a TRUPACT III loading system at SRS

- F Canyon
  - Accelerate the processing of legacy non-compliant drums to facilitate early shipments of waste to WIPP through the addition of work shifts
  - Revise the design, install and extend the operations of the planned F Canyon Box Remediation Enclosure to address

Project D (TRU & SW)	ARRA-SRS-3-09-04 Rev. 7	
	Rough Order of Magnitude	Est. Comp Date
	$5,745,735	12/31/2012

the additional volume (2,880 cubic meters) and the significant hazards associated with opening the high concentration Pu-238 bearing boxes of TRU waste

- Reactivate the warm crane to support the construction of the box remediation enclosure in the Truckwell of the canyon

- H Canyon
  - Make the necessary modifications to the facility and supporting DSA to utilize the existing warm shop of the canyon to perform hands-on remediation and repackaging of high Pu-238 content boxed waste into SWBs
  - Extend the operations of the H canyon TRU support operations to accommodate the additional volume of TRU waste
  - Install vent and purge capability to remove the potential hydrogen build-up in high content Pad 1 containers
  - Upgrade certain canyon safety class components to meet contemporary seismic qualification standards that permit high content plutonium contaminated waste to be repackaged in the warm area of the canyon

Potential New Work

In the event additional Recovery Act funding becomes available, the EM mission activities described below will be evaluated for inclusion in this Recovery Act Project.

- The 200m^3 of TRU waste scope is the number one priority on DOE-HQ and SR Recovery Act Work Scope Buy Back List for this B&R. This element of work is a stretch objective to be funded through identified cost savings, if generated, from improved efficiencies
- Disposition of Unforecasted Wastes
- Additional Lead recycling
- Disposition of Sealed Sources
- Disposition of Tritiated Oil
- Disposition of Tritiated Equipment
- Disposition of Cadmium Rods

U. S. DEPARTMENT OF ENERGY
CONTRACT WORK AUTHORIZATION

1a. Project Title:	1b. Work Proposal Number (if applicable):
Project D (TRU and Solid Waste)	DE-AC-09-08SR22470

2. Headquarters Program Point of Contact.

Name:	Cynthia Anderson	Organization Code:	EM-3	Telephone No.	202-586-2083

3. Headquarters Budget Point of Contact.

Name:	Christine Shafik	Organization Code:	CF-1.2	Telephone No.	202-586-4171

4. Responsible Program:	5. Responsible Secretarial Officer:
Office of Environmental Management	Ines R. Triay, EM-1

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	Name: Greg Ryan	Telephone No. 803-725-9346

8. Work Authorization Number:	9. Treasury Accounting Symbol:
ARRA-SRS-3-09-04 Rev. 7	TAS::89-09/10-0253::TAS Recovery Project D

10. Funds Authorized ($ in millions). Shall not exceed ceilings w/o prior written approval of the Contracting Officer.

Budget and Reporting Code:	Rough Order of Magnitude	Obligation	Cost Ceiling Increased
FD.05.30.00.0	$720,038,103	$720,038,103	$534,400,000

From:	To:	4/8/2009	12/30/2012
4/8/2009	12/30/2012		

14. Statement of Work:

SEE PAGE 2-8 for STATEMENT OF WORK

15. Reporting Requirements (Status reports, scientific and technical information or similar):

Shall be in accordance with this Mod 091

16. Work Authorization Program Official - Contracting Officer's Representative

Name (typed):	Signature:	Date:
Rodrigo V. Rimando, Jr.	[signature]	8/3/2010

17. DOE Budget Official

Name (typed):	Signature:	Date:
Harold K Nielsen	[signature]	8/3/10

18. Contractor's Authorized Representative.

Name (typed):	Signature:	Date:
John W. Temple	John W Temple	8/5/10

19. DOE Contracting Officer (or delegated representative).

Name (typed):	Signature:	Date:
D. Elaine Nix, (803)819-4731	D. Elaine Nix	8/5/10