

ORDER FOR SUPPLIES OR SERVICES

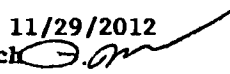
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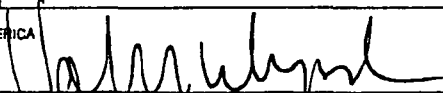
IMPORTANT: Mark all packages and papers with contract and/or order numbers.

BPA NO.

1. DATE OF ORDER 30/12		2. CONTRACT NO. (if any) NRC-HQ-12-C-02-0089		6. SHIP TO:	
3. ORDER NO. NRCT008		MODIFICATION NO.		a. NAME OF CONSIGNEE U.S. Nuclear Regulatory Commission	
4. REQUISITION/REFERENCE NO.		b. STREET ADDRESS J. Gwo Mail Stop E2-A012		c. CITY Washington	
5. ISSUING OFFICE (Address correspondence to) U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Valerie Whipple Mail Stop: TWB-01-B20M Washington, DC 20555		7. TO: a. NAME OF CONTRACTOR SOUTHWEST RESEARCH INSTITUTE S W R I DUNS: 007936842		d. STATE DC	
b. COMPANY NAME		f. ZIP CODE 782385166		e. ZIP CODE 20555	
c. STREET ADDRESS 6220 COLEBRA RD		d. CITY SAN ANTONIO		f. SHIP VIA	
8. ACCOUNTING AND APPROPRIATION DATA RFPA: NMS-13-007; FAIMIS: 130306 B&R: 13-50-33-3-159; Job Code: J5670; BOC: 252A Approp. No.: X0200; Obligation: \$5,000; DUNS: 007936842		e. STATE TX		8. TYPE OF ORDER <input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY	
9. BUSINESS CLASSIFICATION (Check appropriate box(es)) <input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB		10. REQUISITIONING OFFICE NMS		12. F.O.B. POINT N/A	
13. PLACE OF a. INSPECTION b. ACCEPTANCE		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)	
				16. DISCOUNT TERMS	

17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	<p>The Contractor shall provide services in accordance with the attached Statement of Work, entitled: "Disposal-Related Integrated Spent Nuclear Fuel Regulatory Activities--International Programs."</p> <p>Total Task Order Ceiling: \$87,365 Total Obligated Amount: \$5,000 Period of Performance: Date of Award through 9-28-2013</p> <p>NRC Contract COR: Oeborah OeMarco 301-492-3143 Task Order COR: Jin-Ping (Jack) Gwo 301-492-3178</p> <p>DUNS: 007936842 NAICS: 562211 PSC: R499</p> <p>ACCEPTED: Signature: Print Name/Title: 11/29/2012 R. B. Kalmbach  Executed Director, Contracts</p>					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages) 17(ii) GRAND TOTAL
	21. MAIL INVOICE TO:						
	a. NAME Department of Interior / NBC NRCPayments NBCDenver@NBC.gov			b. STREET ADDRESS (or P.O. Box) Attn: Fiscal Services Branch - 02770 7301 W. Mansfield Avenue			
	c. CITY Denver		d. STATE CO	e. ZIP CODE 80235-2230		\$87,365	
22. UNITED STATES OF AMERICA BY (Signature) 					23. NAME (Typed) Valerie Whipple Contracting Officer TITLE: CONTRACTING/ORDERING OFFICER		

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OPTIONAL FORM 347 (REV. 2/2012)
PRESCRIBED BY GSA/FAR 48 CFR 53.213(f)

TEMPLATE - ADM/DOJ

SUNSI REVIEW COMPLETE

DEC 07 2012

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DELIVERY ORDER TERMS AND CONDITIONS NOT SPECIFIED IN THE TASK ORDER

A.1 BRIEF PROJECT TITLE AND WORK DESCRIPTION (AUG 2011)

(a) The title of this task order is: Disposal-Related Integrated Spent Nuclear Fuel Regulatory Activities—International Programs

(b) Summary work description: The objective of this task order is to obtain technical assistance with the identification of activities, knowledge and strategic insights obtained from international sources on nuclear waste disposal programs abroad, in order to support NRC preparations to address ongoing revisions to the U.S. national strategy for regulating and managing spent nuclear fuel.

A.2 CONSIDERATION AND OBLIGATION--COST-PLUS-AWARD-FEE (AUG 2011)

(a) The total estimated cost to the Government for full performance of this task order is **\$87,365**, of which the sum of _____ represents the estimated reimbursable costs, and of which _____ represents the base fee.

(b) An award fee pool of _____ is hereby established for this task order. Evaluation of award fee earned will be accomplished in accordance with the attached Award Fee Plan (AFP). The Government reserves the right to unilaterally change the content of the AFP at any time during the life of this contract. Any changes to the plan will be furnished to the Contractor prior to the date they become effective. The amount of award fee available for each period of evaluation and the amount of time for each period will be set forth in the AFP. The final evaluation and determination as to the amount of award fee earned during an evaluation period shall be made unilaterally by the Fee Determination Official (FDO). The Contractor shall be advised of the award fee decision by letter which shall include the rationale for reaching the decision.

(c) The amount obligated by the Government with respect to this contract is **\$5,000**.

(d) If this task order is a fully-funded contract, FAR 52.232-20 - "Limitation of Cost" applies.

A.3 PACKAGING AND MARKING (AUG 2011)

(a) The Contractor shall package material for shipment to the NRC in such a manner that will ensure acceptance by common carrier and safe delivery at destination. Containers and closures shall comply with the Surface Transportation Board, Uniform Freight Classification Rules, or regulations of other carriers as applicable to the mode of transportation.

(b) On the front of the package, the Contractor shall clearly identify the contract number under which the product is being provided.

(c) Additional packaging and/or marking requirements are as follows: N/A

A.4 PLACE OF DELIVERY--REPORTS (AUG 2011)

The items to be furnished electronically to:

Deborah.DeMarco@nrc.gov

Jin-Ping.Gwo@nrc.gov

Valerie.whipple@nrc.gov

A.5 TASK/DELIVERY ORDER PERIOD OF PERFORMANCE (AUG 2011)

This order shall commence on **Date of Award** and will expire on **September 28, 2013**.

A.6 2052.215-70 KEY PERSONNEL (JAN 1993)

(a) The following individuals are considered to be essential to the successful performance of the work hereunder:

Dr. David Pickett	Project Manager
Dr. Jude McMurry	Principal Investigator

The contractor agrees that personnel may not be removed from the contract work or replaced without compliance with paragraphs (b) and (c) of this section.

(b) If one or more of the key personnel, for whatever reason, becomes, or is expected to become, unavailable for work under this contract for a continuous period exceeding 30 work days, or is expected to devote substantially less effort to the work than indicated in the proposal or initially anticipated, the contractor shall immediately notify the contracting officer and shall, subject to the concurrence of the contracting officer, promptly replace the personnel with personnel of at least substantially equal ability and qualifications.

(c) Each request for approval of substitutions must be in writing and contain a detailed explanation of the circumstances necessitating the proposed substitutions. The request must also contain a complete resume for the proposed substitute and other information requested or needed by the contracting officer to evaluate the proposed substitution. The contracting officer and the NRC TO COR shall evaluate the contractor's request and the contracting officer shall promptly notify the contractor of his or her decision in writing.

(d) If the contracting officer determines that suitable and timely replacement of key personnel who have been reassigned, terminated, or have otherwise become unavailable for the contract work is not reasonably forthcoming, or that the resultant reduction of productive effort would be so substantial as to impair the successful completion of the contract or the service order, the contract may be terminated by the contracting officer for default or for the convenience of the Government, as appropriate. If the contracting officer finds the contractor at fault for the condition, the contract price or fixed fee may be equitably adjusted downward to compensate the Government for any resultant delay, loss, or damage.

A.7 2052.215-71 CONTRACTING OFFICER'S REPRESENTATIVE AUTHORITY (NOVEMBER 2006)

(a) The contracting officer's authorized representative (hereinafter referred to as the COR) for this task order is:

Name: Jack Gwo

Address: Mail Stop EBB-2A03
Washington, DC 20555

Telephone Number: 301-492-3178

(b) Performance of the work under this contract is subject to the technical direction of the NRC TO COR. The term "technical direction" is defined to include the following:

(1) Technical direction to the contractor which shifts work emphasis between areas of work or tasks, authorizes travel which was unanticipated in the Schedule (i.e., travel not contemplated in the Statement of Work (SOW) or changes to specific travel identified in the SOW), fills in details, or otherwise serves to accomplish the contractual SOW.

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(2) Provide advice and guidance to the contractor in the preparation of drawings, specifications, or technical portions of the work description.

(3) Review and, where required by the contract, approval of technical reports, drawings, specifications, and technical information to be delivered by the contractor to the Government under the contract.

(c) Technical direction must be within the general statement of work stated in the contract. The NRC TO COR does not have the authority to and may not issue any technical direction which:

(1) Constitutes an assignment of work outside the general scope of the contract.

(2) Constitutes a change as defined in the "Changes" clause of this contract.

(3) In any way causes an increase or decrease in the total estimated contract cost, the fixed fee, if any, or the time required for contract performance.

(4) Changes any of the expressed terms, conditions, or specifications of the contract.

(5) Terminates the contract, settles any claim or dispute arising under the contract, or issues any unilateral directive whatever.

(d) All technical directions must be issued in writing by the NRC TO COR or must be confirmed by the NRC TO COR in writing within ten (10) working days after verbal issuance. A copy of the written direction must be furnished to the contracting officer. A copy of NRC Form 445, Request for Approval of Official Foreign Travel, which has received final approval from the NRC must be furnished to the contracting officer.

(e) The contractor shall proceed promptly with the performance of technical directions duly issued by the NRC TO COR in the manner prescribed by this clause and within the NRC TO COR's authority under the provisions of this clause.

(f) If, in the opinion of the contractor, any instruction or direction issued by the NRC TO COR is within one of the categories as defined in paragraph (c) of this section, the contractor may not proceed but shall notify the contracting officer in writing within five (5) working days after the receipt of any instruction or direction and shall request the contracting officer to modify the contract accordingly. Upon receiving the notification from the contractor, the contracting officer shall issue an appropriate contract modification or advise the contractor in writing that, in the contracting officer's opinion, the technical direction is within the scope of this article and does not constitute a change under the "Changes" clause.

(g) Any unauthorized commitment or direction issued by the NRC TO COR may result in an unnecessary delay in the contractor's performance and may even result in the contractor expending funds for unallowable costs under the contract.

(h) A failure of the parties to agree upon the nature of the instruction or direction or upon the contract action to be taken with respect thereto is subject to 52.233-1 -Disputes.

(i) In addition to providing technical direction as defined in paragraph (b) of the section, the NRC TO COR shall:

(1) Monitor the contractor's technical progress, including surveillance and assessment of performance, and recommend to the contracting officer changes in requirements.

(2) Assist the contractor in the resolution of technical problems encountered during performance.

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(3) Review all costs requested for reimbursement by the contractor and submit to the contracting officer recommendations for approval, disapproval, or suspension of payment for supplies and services required under this contract.

(4) Assist the contractor in obtaining the badges for the contractor personnel.

(5) Immediately notify the Security Branch, Division of Facilities and Security (SB/DFS) (via e-mail) when a contractor employee no longer requires access authorization and return of any NRC issued badge to SB/DFS within three days after their termination.

(6) Ensure that all contractor employees that require access to classified Restricted Data or National Security Information or matter, access to sensitive unclassified information (Safeguards, Official Use Only, and Proprietary information) access to sensitive IT systems or data, unescorted access to NRC controlled buildings/space, or unescorted access to protected and vital areas of nuclear power plants receive approval of SB/DFS prior to access in accordance with Management Directive and Handbook 12.3.

(7) For contracts for the design, development, maintenance or operation of Privacy Act Systems of Records, obtain from the contractor as part of closeout procedures, written certification that the contractor has returned to NRC, transferred to the successor contractor, or destroyed at the end of the contract in accordance with instructions provided by the NRC Systems Manager for Privacy Act Systems of Records, all records (electronic or paper) which were created, compiled, obtained or maintained under the contract.

A.8 2052.215-78 TRAVEL APPROVALS AND REIMBURSEMENT -ALTERNATE 1 (OCT 1999)

(a) Total expenditure for travel may not exceed **\$1,725** without the prior approval of the contracting officer.

(b) All foreign travel must be approved in advance by the NRC on NRC Form 445, Request for Approval of Official Foreign Travel, and must be in compliance with FAR 52.247-63 Preference for U.S. Flag Air Carriers. The contractor shall submit NRC Form 445 to the NRC no later than 30 days prior to the commencement of travel.

(c) The contractor will be reimbursed only for those travel costs incurred that are directly related to this contract and which are allowable subject to the limitations prescribed in FAR 31.205-46.

(d) It is the responsibility of the contractor to notify the contracting officer in accordance with the FAR Limitations of Cost clause of this contract when, at any time, the contractor learns that travel expenses will cause the contractor to exceed the travel ceiling amount identified in paragraph (a) of this clause.

(e) Reasonable travel costs for research and related activities performed at State and nonprofit institutions, in accordance with Section 12 of Pub. L. 100-679, shall be charged in accordance with the contractor's institutional policy to the degree that the limitations of Office of Management and Budget (OMB) guidance are not exceeded. Applicable guidance documents include OMB Circular A-87, Cost Principles for State and Local Governments; OMB Circular A-122, Cost Principles for Nonprofit Organizations; and OMB Circular A-21, Cost Principles for Educational Institutions.

A.9 ELECTRONIC PAYMENT (AUG 2011)

The Debt Collection Improvement Act of 1996 requires that all payments except IRS tax refunds be made by Electronic Funds Transfer. Payment shall be made in accordance with FAR 52.232-33, entitled "Payment by Electronic Funds- Central Contractor Registration".

To receive payment, the contractor shall prepare invoices in accordance with NRC's Billing Instructions. Claims shall be submitted on the payee's letterhead, invoice, or on the Government's Standard Form 1034, "Public Voucher for Purchases and Services Other than Personal," and Standard Form 1035, "Public Voucher for Purchases Other

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than Personal - Continuation Sheet." The preferred method of submitting invoices is electronically to the Department of the Interior at NRCPayments_NBCDenver@nbc.gov. If the contractor submits a hard copy of the invoice, it shall be submitted to the following address:

Department of the Interior
National Business Center
Attn: Fiscal Services Branch - D2770
7301 West Mansfield Avenue
Denver, CO 80235-2230

A.10 WHISTLEBLOWER PROTECTION FOR NRC CONTRACTOR AND SUBCONTRACTOR EMPLOYEES (AUG 2011)

(a) The U.S. Nuclear Regulatory Commission (NRC) contractor and its subcontractor are subject to the Whistleblower Employee Protection public law provisions as codified at 42 U.S.C. 5851. NRC contractor(s) and subcontractor(s) shall comply with the requirements of this Whistleblower Employee Protection law, and the implementing regulations of the NRC and the Department of Labor (DOL). See, for example, DOL Procedures on Handling Complaints at 29 C.F.R. Part 24 concerning the employer obligations, prohibited acts, DOL procedures and the requirement for prominent posting of notice of Employee Rights at Appendix A to Part 24 entitled: "Your Rights Under the Energy Reorganization Act".

(b) Under this Whistleblower Employee Protection law, as implemented by regulations, NRC contractor and subcontractor employees are protected from discharge, reprisal, threats, intimidation, coercion, blacklisting or other employment discrimination practices with respect to compensation, terms, conditions or privileges of their employment because the contractor or subcontractor employee(s) has provided notice to the employer, refused to engage in unlawful practices, assisted in proceedings or testified on activities concerning alleged violations of the Atomic Energy Act of 1954 (as amended) and the Energy Reorganization Act of 1974 (as amended).

(c) The contractor shall insert this or the substance of this clause in any subcontracts involving work performed under this contract.

A.11 GREEN PURCHASING (JUN 2011)

(a) In furtherance of the sustainable acquisition goals of Executive Order 13514, "Federal Leadership in Environmental, Energy, and Economic Performance" products and services provided under this contract/order shall be energy- efficient (Energy Star or Federal Energy Management Program (FEMP) designated), water-efficient, biobased, environmentally preferable (e.g., Electronic Product Environmental Assessment Tool (EPEAT) certified), non-ozone depleting, contain recycled content, or are non-toxic or less toxic alternatives, where such products and services meet agency performance requirements. <http://www.fedcenter.gov/programs/eo13514/>

(b) The contractor shall flow down this clause into all subcontracts and other agreements that relate to performance of this contract/order.

A.12 USE OF AUTOMATED CLEARING HOUSE (ACH) ELECTRONIC PAYMENT/REMITTANCE ADDRESS (AUG 2011)

The Debt Collection Improvement Act of 1996 requires that all Federal payments except IRS tax refunds be made by Electronic Funds Transfer. It is the policy of the Nuclear Regulatory Commission to pay government vendors by the Automated Clearing House (ACH) electronic funds transfer payment system. Item 15C of the Standard Form 33 may be disregarded.

CONTRACT TITLE: OPERATION OF THE CENTER FOR NUCLEAR WASTE ANALYSES AS
THE NRC'S FEDERALLY FUNDED RESEARCH AND DEVELOPMENT
CENTER (FFRDC) – FIFTH RENEWAL

TASK ORDER TITLE: DISPOSAL-RELATED INTEGRATED SPENT NUCLEAR FUEL
REGULATORY ACTIVITIES--INTERNATIONAL PROGRAMS

TASK ORDER NUMBER: 008
JOB CODE: J5670
B&R NUMBER:
ISSUING OFFICE: NMSS
NRC TECHNICAL ASSISTANCE:
NRC CONTRACTING OFFICER'S
REPRESENTATIVE (COR): Deborah DeMarco (301-492-3143)
NRC TASK ORDER (TO) COR: Jack Gwo (301-492-3178)
FEE RECOVERABLE: No
TAC NUMBER: TAC LA0430
DOCKET NUMBER: NA

1.0 BACKGROUND

On January 29, 2010, President Obama directed the Secretary of Energy to establish the Blue Ribbon Commission on America's Nuclear Future (BRC) to conduct a comprehensive review of policies for managing the back end of the nuclear fuel cycle and recommend a new strategy. Pursuant to its Charter, the BRC provided its final recommendations to the Secretary of Energy on January 26, 2012. The Department of Energy is the lead agency for developing a response to the BRC report and for implementing any changes to the national policy on nuclear waste management. Several of the BRC recommendations are related to NRC regulatory activities, and NRC is positioned to support national policy changes in areas associated with its regulatory purview. Identification and analysis of key regulatory and technical issues associated with high-level waste disposal in a variety of repository designs and geologic media is one of those NRC regulatory activities.

NRC has identified actions from regulatory, environmental impacts assessment, and technical perspectives that will improve the ability of the Agency to quickly adapt to changes in national policy. NRC has identified an integrated approach for regulating the back end of the nuclear fuel cycle including long term storage and deferred transportation, reprocessing, and ultimate disposal of high level waste. An integrated perspective is needed because the subsystems in the back end of the fuel cycle are interdependent; long term storage may impact disposal options, and reprocessing can affect both storage and disposal, for example. Near-term flexibility is a key consideration because national policy is likely to remain in flux for some time. The activities identified are needed regardless of direction of national policy, and are designed to support the Agency's mission under a range of policy outcomes. Because all plausible alternative scenarios for the back end of the nuclear fuel cycle produce residual waste, it is assumed that geological isolation will be a component of any new national policy. An awareness of programs with a similar aim in foreign countries was deemed to be necessary knowledge for this effort. This task aims to collect, collate, and assess such information about international programs and activities.

2.0 OBJECTIVE

The objective of this task order is to obtain technical assistance with the identification of activities, knowledge and strategic insights obtained from international sources on nuclear waste disposal programs abroad, in order to support NRC preparations to address ongoing revisions to the U.S. national strategy for regulating and managing spent nuclear fuel.

3.0 STAFFING

Professional staff proposed for the effort shall have sufficiently detailed technical and programmatic expertise to communicate a comprehensive understanding of nuclear waste management programs and policies in other countries. Staff will identify key information and activities in international programs to (i) enhance NRC's regulatory perspectives on a range of waste policy options and (ii) help NRC prepare to regulate ultimate disposal of high-level nuclear waste in alternative geologic media or disposal systems. Technical expertise in the following areas is an asset: geology; geophysics; hydrology (including coupled thermal-hydrology-geochemical processes); materials science and corrosion; geochemistry; engineered barrier systems (including cementitious materials); mechanical or mining engineering familiarity with a variety of disposal media, including salt; nuclear engineering; waste forms; transportation and storage of dry casks; preclosure safety analysis; source terms (thermal loads, inventory as function of different waste streams, burn-ups, and storage times); radionuclide release; radionuclide transport; probabilistic risk assessment and health physics.

4.0 SCOPE OF WORK AND DELIVERABLES

The overall objective of this task is for CNWRA staffs to assist NRC in further analyzing important regulatory and technical issues associated with high-level waste disposal and transportation, and storage alternatives that are being pursued in foreign countries. The current task will build on the work completed in this area in FY 2012, by organizing existing knowledge bases into forms that are amenable for strategic insight development and decision-making analysis. The work conducted under this task order shall be subject to the project management requirements described in Section 5.0. The work required is described in detail below and in Appendix A.

4.1 TASK 0: MANAGEMENT ACTIVITIES

Mid-Year and End of Year Summary Reports

CNWRA management should provide a brief overview of the key activities conducted and accomplishments achieved at the end of 6 months and at the end of the fiscal year. The reports should briefly summarize the strategic insights obtained during the respective periods of time.

Deliverable: Provide a letter report for each period.

4.2 TASK 1: CONTINUE TO UPDATE INTERNATIONAL SUMMARIES

SUBTASK 1-A:

Maintain and update, as new information becomes available, the previously obtained (FYs 2011 and 2012) set of international summaries of information from nuclear regulators, implementers, and other international organizations about the current technical and regulatory developments for high-level waste management practices, spent fuel transportation, reprocessing, storage, and disposal options in other countries. Identify any missing, pertinent sources of information on international programs.

SUBTASK 1-B:

Assist NRC in developing a knowledge flow database and its quantitative metrics that support decision making of NRC international engagement activities. The goal is to assist NRC in identifying and prioritizing international programs with which NRC might become involved to benefit the general aims of this project.

Deliverable:

Provide NRC technical program managers (TPMs) and program officer (PO) for Job 5670 with updated lists and comments on relevant activities and developments in international programs and organizations, via SharePoint (Subtask 1A). Provide a knowledge flow database with evaluations of potential knowledge gains from direct or indirect engagement to individual activities or programs (Subtask 1B). Strategic insights obtained should be identified and included in the mid-year and final reports (Subtask 0).

5.0 PROJECT MANAGEMENT

The Center shall maintain effective communication with NRC staff to help coordinate and integrate this effort with NRC's technical and decision-making activities. The Center shall also coordinate all necessary NRC communication through the NRC TPM and/or NRC PO. We expect strong NRC staff involvement in the development of, and participation in conducting, the work in the various topic areas identified in Section 3.0. The NRC may assign a technical lead (principal investigator) from the NRC staff for each of the topic areas who will serve as the Center's direct technical interface for the topic. This principal investigator will be responsible for: (1) correctly defining the focus for the Center's activities for their assigned topic, in coordination with the NRC PO and/or the NRC TPM (see Section 13 for restrictions on providing technical direction); (2) ensuring the proper focus is maintained during the technical activities; and (3) ensuring integration of efforts for the specific topic between the Center and the NRC.

6.0 ACCEPTANCE CRITERIA

The contractor shall describe any applicable quality assurance program. Specifically, any work (i.e., data, interpretations, models, computations, methods, etc.) developed under the contract shall be performed under an adequate quality assurance program (discussed with and approved by the NRC TPM and/or the NRC PO) to ensure the technical accuracy and quality of the documents produced. Quality assurance comprises all those planned and systematic actions necessary to provide adequate confidence that the assessments have been satisfactory performed. Quality assurance shall include verification for completeness, accuracy,

consistency, and sufficient documentation to assure the reproducibility of the results of all calculations, laboratory experiments (if any), or modeling.

7.0 LEVEL OF EFFORT

The total level of effort for all tasks is 459 hours.

8.0 MEETINGS AND TRAVEL

Domestic, and any potential international travel, related to this effort shall require the prior approval by the NRC PO or NRC TPM. To enhance integration and support the collaborative effort expected between the staffs of the NRC and the Center on this task, the NRC staff may participate in staff exchanges with the Center, subject to prior approval by the NRC and the Center.

9.0 NRC FURNISHED MATERIAL

The NRC TPM will provide copies of information necessary to conduct the work, if any, to the pertinent, identified Center staff.

10.0 CONTRACTOR ACQUIRED MATERIAL

No materials are expected to be acquired.

11.0 REPORTS

All reports and data are to be developed in the CNWRA SharePoint system. Submittals for Task deliverables shall be submitted via electronic mail with electronic attachments consistent with the word processor in use at the NRC or in portable document format (i.e., *.pdf), as appropriate. The contractor shall also include the NRC PO and NRC TPM for Job Code J5670 and the relevant NRC principal investigators in the electronic mail. Reports by the contractor shall be in letter report form. When a deliverable is a joint NRC and CNWRA effort, the deliverable should attribute work to both parties.

12.0 TECHNICAL/PROJECT DIRECTION

Deborah DeMarco is the NRC COR for the overall Contract and Jack Gwo is the designated NRC Task Order (TO) COR. They are the focal point for all task order-related activities. Technical direction may be provided by the NRC COR and/or NRC TO COR to the contractor throughout this task order.

13.0 STANDARD WORK PRACTICES

For all draft and final reports under this agreement, the contractor shall assure that an independent review of numerical computations, mathematical equations, and derivations is performed by qualified technical staff other than the original author(s) of the reports and other

than the person who performed the original calculation. If the contractor proposes to check less than 100 percent of all computations, mathematical equations, and derivations in the report(s) (such as may be the case when there are many routine, repetitive calculations), the contractor must first obtain approval from the NRC PO and/or NRC TPM. In addition, all reports, including those which do not contain numerical analyses, must be reviewed for consistency and readability in accordance with the procedures outlined for the CNWRA's programmatic review. Informal submittals/deliverables must be reviewed and forwarded from at least the Project Manager level.

This section does not intend to create the development of a formal quality assurance program nor does it require formal quality assurance program documentation or review.

**APPENDIX A
SCHEDULE AND DELIVERABLES FOR JOB 5670**

The schedule of deliverables for Tasks 0 through 1 is outlined below.

TASK	DELIVERABLE	SCHEDULE (business days)
0	Mid-Year Summary report	March 15, 2013
0	End of Year Summary Report	September 15, 2013
1-A	Updated list of international activities	May 15, 2013
1-B	International high-level waste programs knowledge flow database (format TBD)	July 15, 2013