

ORDER FOR SUPPLIES OR SERVICES

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

1. DATE OF ORDER 05/07/2018		2. CONTRACT NO. (If any) 31310018D0001		6. SHIP TO: a. NAME OF CONSIGNEE NUCLEAR REGULATORY COMMISSION	
3. ORDER NO. 31310018F0061		4. REQUISITION/REFERENCE NO. NMSS-18-0026		b. STREET ADDRESS NUCLEAR REGULATORY COMMISSION	
5. ISSUING OFFICE (Address correspondence to) US NRC - HQ ACQUISITION MANAGEMENT DIVISION MAIL STOP TWFN-07B20M WASHINGTON DC 20555-0001				c. CITY WASHINGTON	
				d. STATE DC	e. ZIP CODE 20555-0001
7. TO: PAUL MALDONADO				f. SHIP VIA	
a. NAME OF CONTRACTOR SOUTHWEST RESEARCH INSTITUTE				8. TYPE OF ORDER	
b. COMPANY NAME				<input type="checkbox"/> a. PURCHASE	
c. STREET ADDRESS 6220 CULEBRA RD				REFERENCE YOUR:	
d. CITY SAN ANTONIO				e. STATE TX	
				f. ZIP CODE 782385166	
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITION NG OFFICE OFFICE OF NUCLEAR MATERIAL	
11. 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				12. F.O.B. POINT	
13. PLACE OF a. INSPECTION Destination		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)	
b. ACCEPTANCE Destination				16. DISCOUNT TERMS 30	

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)
	Accounting Info: 2018-X0200-FEEBASED-50-50D007-50B703-1023-33-7-184-255B-33-7-184-1023 Period of Performance: 05/07/2018 to 05/06/2019					

18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)
21. MAIL INVOICE TO:						
a. NAME FISCAL ACCOUNTING PROGRAM						\$0.00
b. STREET ADDRESS (or P.O. Box) ADMIN TRAINING GROUP AVERY STREET A3-G BUREAU OF THE FISCAL SERVICE PO BOX 1328						\$649,877.00
c. CITY PARKERSBURG		d. STATE WV	e. ZIP CODE 26106-1328			17(i) GRAND TOTAL

22. UNITED STATES OF AMERICA BY (Signature)		05/07/2018		23. NAME (Typed) SHARLENE M. MCCUBBIN TITLE: CONTRACTING/ORDER NG OFFICER	
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CONTRACTOR ACCEPTANCE OF TASK ORDER 31310018F0061

Acceptance of Task Order No. 31310018F0061 under contract No. 31310018D0001 should be made by having an official, authorized to bind your organization, execute two copies of this document in the space provided and return one copy to the Contracting Officer. You should retain the other copy for your records.

Accepted Task Order No. 31310018F0061 under Contract No. 31310018D0001:

Name

Title

Date

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SECTION B - Supplies or Services/Prices

B.1 BRIEF DESCRIPTION OF WORK

(a) The title of this project is: Disposal-Related Integrated Spent Nuclear Fuel Regulatory Activities--Identification and Analysis of Key Regulatory and Technical Issues for Disposal of Spent Nuclear Fuel and High-Level Waste

(b) Summary work description: The objective of this task order is to obtain technical assistance with the identification and analysis of key regulatory and technical issues associated with a variety of potential repository systems.

B.2 CONSIDERATION AND OBLIGATION— TASK ORDERS (AUG 2011)

(a) The total ceiling of this contract for the products/services under this contract is **\$649,877**.

(b) This order is subject to the minimum and maximum ordering requirements set forth in the contract.

(c) The amount presently obligated with respect to this order is \$150,000 of which \$138,000 represents costs and \$12,000 represents fee. The obligated amount shall, at no time, exceed the order ceiling as specified in paragraph (a) above. When and if the amount(s) paid and payable to the Contractor hereunder shall equal the obligated amount, the Contractor shall not be obligated to continue performance of the work unless and until the Contracting Officer shall increase the amount obligated with respect to this order, in accordance with FAR Part 43 - Modifications. Any work undertaken by the Contractor in excess of the obligated amount specified above is done so at the Contractor's sole risk and may not be reimbursed by the Government.

(d) The Contractor shall comply with the provisions of FAR 52.232-22 - Limitation of Funds, for incrementally-funded delivery orders or task orders.

B.3 PRICE/COST SCHEDULE

DESCRIPTION	ESTIMATED COST
	Base Task Order
Labor	
Subcontractor/Consultant Costs	
Travel	
ODC	
SUBTOTAL	
Indirect Cost Pool (includes G&A, Fringe, Overhead and Material Handling)	
SUBTOTAL	
Fixed-Fee	
TOTAL	\$649,877.00

SECTION C - Description/Specifications

C.1 Statement of Work

TASK TITLE: DISPOSAL-RELATED INTEGRATED SPENT NUCLEAR FUEL REGULATORY ACTIVITIES--IDENTIFICATION AND ANALYSIS OF KEY REGULATORY AND TECHNICAL ISSUES FOR DISPOSAL OF SPENT NUCLEAR FUEL AND HIGH-LEVEL WASTE

TASK ORDER NUMBER: 31310018F0061

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. In 2013, DOE released a new waste management strategy that endorses a system containing a pilot interim storage facility; a larger, full-scale interim storage facility; and a geologic repository. In 2015, DOE noted its intent to pursue separate defense and commercial HLW disposal facilities. To remain positioned to support national policy changes in areas associated with its regulatory purview, NRC staff identified and has continued to analyze key regulatory and technical issues associated with high-level waste disposal in a variety of potential repository designs and geologic media.

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. 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.

2.0 OBJECTIVE

The objective of this task order is to obtain technical assistance with the identification and analysis of key regulatory and technical issues associated with a variety of potential repository systems.

3.0 STAFFING

Professional staff proposed for the effort shall be thoroughly familiar with the technical aspects of the activities they are tasked with. Technical expertise in the following areas will be needed:

geology; seismology and volcanology; 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 and depths, including salt and deep boreholes; nuclear engineering; waste form; source term (thermal loads, inventory as function of different waste streams, burn-ups, and storage times); radionuclide release; radionuclide transport; performance assessment, and health physics. Preclosure safety analysis expertise is needed to address specific aspects of operational safety issues associated with very long-term storage and deferred transportation of fuel that could be handled in different potential waste disposal systems.

4.0 SCOPE OF WORK AND DELIVERABLES

The overall objective of this task is for NRC and CNWRA staff to collaborate in further analyzing important regulatory and technical issues associated with high-level waste disposal alternatives. The current task will build on the work completed in this area in FY12 through FY17 (Task Order 9 under contract NRC-HQ-12-C-02-0089) and discussed in the staff's report of key regulatory and technical issues associated with disposing of spent fuel and high-level waste in a repository other than Yucca Mountain (key issues report). 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 1: SPENT FUEL (SIMFUEL) AND WASTE PACKAGE MATERIALS

SUBTASK 1-A – Long Term Laboratory Experiments on Waste Package Materials and Spent Fuel

The contractor shall conduct two long term tests in the laboratory: (1) electrochemical experiments to elucidate the effects of chloride on copper corrosion and that of cathodic hydrogen on carbon steel and (2) immersion experiments of simulated spent fuel (SIMFUEL) to identify potential mechanisms of spent fuel dissolution, in addition to electrochemical processes, environmental parameters such as groundwater chemistry, temperature, spent fuel burn-ups, and other electrochemical conditions. The contractor shall maintain close coordination with NRC staff to identify important laboratory test parameters, to design test matrices, and to resolve issues related to interpretation of laboratory results.

Deliverables: The contractor shall deliver two technical reports describing methods, results, analysis, and conclusions with respect to the two sets of experiments mentioned above.

SUBTASK 1-B – Effects of Cement Dissolution on Waste Package Materials and Spent Fuel

NRC staff published some data previously on how the passivity of carbon steel at high pH may remain in various groundwater chemistry. The contractor shall continue the work in this respect to determine the effect of cement dissolution and near field geochemical parameters on corrosion of carbon steel and titanium waste containers, and on dissolution of SIMFUEL. The contractor shall (1) synthesize state-of-the-art information on recent findings in these regards, and (2) conduct laboratory tests to determine these effects, under various environmental conditions, e.g., temperatures and

geochemistry, for waste package materials and various burn-ups of SIMFUEL. The contractor shall maintain close coordination with NRC staff to identify important laboratory test parameters, to design test matrices, and to resolve issues related to interpretation of laboratory results.

Deliverables: The contractor shall deliver two technical reports summarizing the synthesized information and laboratory tests and test results for the waste package materials and for SIMFUEL.

4.2 TASK 2: CEMENTITIOUS MATERIALS DEGRADATION IN THE NEAR FIELD

SUBTASK 2-A – Cementitious material alteration, degradation, and interaction with near field components

The contractor shall summarize recent and available literature, projects, and experiments pertinent to cement in deep geologic disposal (DGR). Focus should be on identification of how processes in cements and interactions with other near field components affect performance (e.g., corrosion), especially the effect of high temperatures associated with DGR. This should also include gathering information from other divisions across the NRC that are working on cements, specifying how the information might apply to DGR, and how the knowledge obtained under DGR environment may be applicable to other regulatory and technical areas of interest to NRC staff in general. This subtask should also collaborate with subtask 1-B to ensure focus and integration in describing the evolution of the near field environment when cement is present.

Deliverables: The contractor shall deliver a workshop to disseminate the results and to gather additional inputs from NRC and CNWRA technical experts. The contractor shall also prepare a report summarizing the outcome of the information gathered by this subtask and the inputs gathered from the workshop, including the presentations prepared for the workshop.

4.3 TASK 3: PERFORMANCE ASSESSMENT MODEL SOAR

SUBTASK 3-A – Independent shaft transport module and human intrusion

The contractor shall update the Scoping of Options and Analyzing Risk (SOAR) code and user guide to include the following components:

1. An independent shaft transport module considering various direct and indirect transport pathways to land surface; and
2. A human intrusion example utilizing the pathways.

The contractor shall conduct testing of the SOAR model and document the testing results and findings.

Deliverables: The contractor shall deliver an updated SOAR model, a model testing summary including the human intrusion example, and an updated user guide.

5.0 PROJECT MANAGEMENT

The contractor (Center) shall maintain effective communication with NRC staff to help coordinate and integrate this effort with NRC's technical and decision-making activities. The contractor (Center) shall also coordinate all necessary NRC communication through the NRC COR and/or NRC TO COR. 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 COR and/or the NRC TO COR (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. Any redirection not given by the NRC COR or NRC TO COR should be reported to the NRC COR and NRC TO COR immediately.

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 COR and/or the NRC TO COR) 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 satisfactorily 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.

Because the funding for this effort is not from the Nuclear Waste Fund, but represents fee-based funds, all documentation (e.g., Scientific Notebooks or Deliverables) shall be separate from documentation of Nuclear Waste Fund work and should not be directed to the Part 63 docket.

7.0 MEETINGS AND TRAVEL

Domestic, and any potential international travel, related to this effort shall require the prior approval by the NRC COR or NRC TO COR. To enhance integration and support the collaborative effort expected between the staffs of the NRC and the contractor (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.

8.0 NRC FURNISHED MATERIAL

The NRC TO COR and/or NRC task leads will provide the necessary information to conduct the activities for each topic to the pertinent, identified, Center staff.

9.0 CONTRACTOR ACQUIRED MATERIAL

No materials are expected to be acquired.

10.0 PERIOD OF PERFORMANCE

REFER TO SECTION F.1 TASK/DELIVERY ORDER PERIOD OF PERFORMANCE (SEP 2013)

The revised deliverables and schedule for work conducted under this task order are summarized in Appendix A.

11.0 REPORTS

All reports are to be developed in the contractor (CNWRA) SharePoint system. Submittals for all 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 COR and NRC TO COR for Job Code J5662 and the relevant NRC principle investigators in the electronic mail. Reports by the contractor shall be in letter report form. The deliverables should attribute work to both NRC and CNWRA when the outcome is a result of joint effort between NRC and CNWRA.

12.0 TECHNICAL/PROJECT DIRECTION

Jack Gwo is the NRC TO COR and the focal point for all task order-related activities. Technical direction may be provided by the NRC TO COR to the contractor during the duration of 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 is a large number of routine, repetitive calculations), the contractor must first obtain approval from the NRC COR and/or NRC TO COR. In addition, all reports, including those which do not contain numerical analyses must be reviewed for consistency and readability in accordance with the procedures outline 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**

The schedule of deliverables for Tasks 1 through 4 is outlined below.

TASK	DELIVERABLE	SCHEDULE (business days)
1-A	Technical Report: Long term laboratory experiments on waste package material degradation	November 28, 2018
1-A	Technical Report: Long term laboratory experiments on SIMFUEL degradation	October 31, 2018
1-B	Technical Report: Effect of cement degradation on waste package material degradation	October 15, 2018
1-B	Technical Report: Effect of cement degradation on SIMFUEL degradation	September 17, 2018
2-A	Workshop on degradation of cementitious materials and its effect on near field component performance	December 1, 2018
2-A	Technical report – near field cementitious degradation workshop summary report	December 16, 2018
3-A	Computer model – SOAR with shaft transport module	August 12, 2018
3-A	Updated SOAR user guide, SOAR test summary with human intrusion example	September 31, 2018

SECTION D - Packaging and Marking

D.1 BRANDING

The Contractor is required to use the statement below in any publications, presentations, articles, products, or materials funded under this contract/order, to the extent practical, in order to provide NRC with recognition for its involvement in and contribution to the project. If the work performed is funded entirely with NRC funds, then the contractor must acknowledge that information in its documentation/presentation.

Work Supported by the U.S. Nuclear Regulatory Commission (NRC), Office of Nuclear Material Safety and Safeguards, under Contract number 31310018D0001/31310018F0061.

(End of Clause)

D.2 PACKAGING AND MARKING

(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: Not Applicable.

(End of Clause)

SECTION E - Inspection and Acceptance

E.1 INSPECTION AND ACCEPTANCE BY THE NRC (SEP 2013)

Inspection and acceptance of the deliverable items to be furnished hereunder shall be made by the NRC Contracting Officer's Representative (COR) at the destination, in accordance with FAR 52.247-34 - F.o.b. Destination.

(End of Clause)

SECTION F - Deliveries or Performance

F.1 TASK/DELIVERY ORDER PERIOD OF PERFORMANCE (SEP 2013)

This task order shall commence on May 7, 2018 and will expire on May 6, 2019.

(End of Clause)

F.2 PLACE OF DELIVERY-REPORTS

The items to be furnished hereunder shall be delivered, with all charges paid by the Contractor, to:

a. Contracting Officer Representative:

Refer to Section G.1 CONTRACTING OFFICER'S REPRESENTATIVE AUTHORITY

b. Contracting Officer (CO) (1 electronic copy):

(End of Clause)

SECTION G - Contract Administration Data

G.1 CONTRACTING OFFICER'S REPRESENTATIVE AUTHORITY

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

Name: Jack Gwo

Telephone Number: 301-415-8736

Email: Jin-Ping.Gwo@nrc.gov

Address: U.S. Nuclear Regulatory Commission
Office of Nuclear Material Safety and Safeguards
Washington, DC 20555

(b) Performance of the work under this contract is subject to the technical direction of the NRC 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 or changes to specific travel identified in the Statement of Work), fills in details, or otherwise serves to accomplish the contractual statement of work.

(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, approve 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 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 project officer or must be confirmed by the 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 COR in the manner prescribed by this clause and within the COR's authority under the provisions of this clause.

(f) If, in the opinion of the contractor, any instruction or direction issued by the COR is within one of the categories 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 that 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 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 to the instruction or direction is subject to 52.233-1 - Disputes.

(i) In addition to providing technical direction as defined in paragraph (b) of the section, the 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.

(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.

(End of Clause)

G.2 2052.215-78 TRAVEL APPROVALS AND REIMBURSEMENT - ALTERNATE 1 (OCT 1999)

(a) Total expenditure for travel may not exceed **\$4,904** 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 travel costs incurred that are directly related to this contract and 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, must 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

(End of Clause)

SECTION H - Special Contract Requirements

H.1 2052.209-72 CONTRACTOR ORGANIZATIONAL CONFLICTS OF INTEREST. (JAN 1993)

(a) Purpose. The primary purpose of this clause is to aid in ensuring that the contractor:

(1) Is not placed in a conflicting role because of current or planned interests (financial, contractual, organizational, or otherwise) which relate to the work under this contract; and

(2) Does not obtain an unfair competitive advantage over other parties by virtue of its performance of this contract.

(b) Scope. The restrictions described apply to performance or participation by the contractor, as defined in 48 CFR 2009.570-2 in the activities covered by this clause.

(c) Work for others.

(1) Notwithstanding any other provision of this contract, during the term of this contract, the contractor agrees to forego entering into consulting or other contractual arrangements with any firm or organization the result of which may give rise to a conflict of interest with respect to the work being performed under this contract. The contractor shall ensure that all employees under this contract abide by the provision of this clause. If the contractor has reason to believe, with respect to itself or any employee, that any proposed consultant or other contractual arrangement with any firm or organization may involve a potential conflict of interest, the contractor shall obtain the written approval of the contracting officer before the execution of such contractual arrangement.

(2) The contractor may not represent, assist, or otherwise support an NRC licensee or applicant undergoing an NRC audit, inspection, or review where the activities that are the subject of the audit, inspection, or review are the same as or substantially similar to the services within the scope of this contract (or task order as appropriate) except where the NRC licensee or applicant requires the contractor's support to explain or defend the contractor's prior work for the utility or other entity which NRC questions.

(3) When the contractor performs work for the NRC under this contract at any NRC licensee or applicant site, the contractor shall neither solicit nor perform work in the same or similar technical area for that licensee or applicant organization for a period commencing with the award of the task order or beginning of work on the site (if not a task order contract) and ending one year after completion of all work under the associated task order, or last time at the site (if not a task order contract).

(4) When the contractor performs work for the NRC under this contract at any NRC licensee or applicant site,

(i) The contractor may not solicit work at that site for that licensee or applicant during the period of performance of the task order or the contract, as appropriate.

(ii) The contractor may not perform work at that site for that licensee or applicant during the period of performance of the task order or the contract, as appropriate, and for one year thereafter.

(iii) Notwithstanding the foregoing, the contracting officer may authorize the contractor to solicit or perform this type of work (except work in the same or similar technical area) if the contracting officer determines that the situation will not pose a potential for technical bias or unfair competitive advantage.

(d) Disclosure after award.

(1) The contractor warrants that to the best of its knowledge and belief, and except as otherwise set forth in this contract, that it does not have any organizational conflicts of interest as defined in 48 CFR 2009.570-2.

(2) The contractor agrees that if, after award, it discovers organizational conflicts of interest with respect to this contract, it shall make an immediate and full disclosure in writing to the contracting officer. This statement must include a description of the action which the contractor has taken or proposes to take to avoid or mitigate such conflicts. The NRC may, however, terminate the contract if termination is in the best interest of the Government.

(3) It is recognized that the scope of work of a task-order-type contract necessarily encompasses a broad spectrum of activities. Consequently, if this is a task-order-type contract, the contractor agrees that it will disclose all proposed new work involving NRC licensees or applicants which comes within the scope of work of the underlying contract. Further, if this contract involves work at a licensee or applicant site, the contractor agrees to exercise diligence to discover and disclose any new work at that licensee or applicant site. This disclosure must be made before the submission of a bid or proposal to the utility or other regulated entity and must be received by the NRC at least 15 days before the proposed award date in any event, unless a written justification demonstrating urgency and due diligence to discover and disclose is provided by the contractor and approved by the contracting officer. The disclosure must include the statement of work, the dollar value of the proposed contract, and any other documents that are needed to fully describe the proposed work for the regulated utility or other regulated entity. NRC may deny approval of the disclosed work only when the NRC has issued a task order which includes the technical area and, if site-specific, the site, or has plans to issue a task order which includes the technical area and, if site-specific, the site, or when the work violates paragraphs (c)(2), (c)(3) or (c)(4) of this section.

(e) Access to and use of information.

(1) If, in the performance of this contract, the contractor obtains access to information, such as NRC plans, policies, reports, studies, financial plans, internal data protected by the Privacy Act of 1974 (5 U.S.C. Section 552a (1988)), or the Freedom of Information Act (5 U.S.C. Section 552 (1986)), the contractor agrees not to:

(i) Use this information for any private purpose until the information has been released to the public;

(ii) Compete for work for the Commission based on the information for a period of six months after either the completion of this contract or the release of the information to the public, whichever is first;

(iii) Submit an unsolicited proposal to the Government based on the information until one year after the release of the information to the public; or

(iv) Release the information without prior written approval by the contracting officer unless the information has previously been released to the public by the NRC.

(2) In addition, the contractor agrees that, to the extent it receives or is given access to proprietary data, data protected by the Privacy Act of 1974 (5 U.S.C. Section 552a (1988)), or the Freedom of Information Act (5 U.S.C. Section 552 (1986)), or other confidential or privileged technical, business, or financial information under this contract, the contractor shall treat the information in accordance with restrictions placed on use of the information.

(3) Subject to patent and security provisions of this contract, the contractor shall have the right to use technical data it produces under this contract for private purposes provided that all requirements of this contract have been met.

(f) Subcontracts. Except as provided in 48 CFR 2009.570-2, the contractor shall include this clause, including this paragraph, in subcontracts of any tier. The terms contract, contractor, and contracting officer, must be appropriately modified to preserve the Government's rights.

(g) Remedies. For breach of any of the above restrictions, or for intentional nondisclosure or misrepresentation of any relevant interest required to be disclosed concerning this contract or for such erroneous representations that necessarily imply bad faith, the Government may terminate the contract for default, disqualify the contractor from subsequent contractual efforts, and pursue other remedies permitted by law or this contract.

(h) Waiver. A request for waiver under this clause must be directed in writing to the contracting officer in accordance with the procedures outlined in 48 CFR 2009.570-9.

(i) Follow-on effort. The contractor shall be ineligible to participate in NRC contracts, subcontracts, or proposals therefor (solicited or unsolicited) which stem directly from the contractor's performance of work under this contract. Furthermore, unless so directed in writing by the contracting officer, the contractor may not perform any technical consulting or management support services work or evaluation activities under this contract on any of its products or services or the products or services of another firm if the contractor has been substantially involved in the development or marketing of the products or services.

(1) If the contractor under this contract, prepares a complete or essentially complete statement of work or specifications, the contractor is not eligible to perform or participate in the initial contractual effort which is based on the statement of work or specifications. The contractor may not incorporate its products or services in the statement of work or specifications unless so directed in writing by the contracting officer, in which case the restrictions in this paragraph do not apply.

(2) Nothing in this paragraph precludes the contractor from offering or selling its standard commercial items to the Government.

(End of Clause)

H.2 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, Senior Program Manager
Dr. Xihua, Principal Investigator Task 1 (Principal Scientist)
Dr. Yiming Pan Principal Investigator Task 2 (Staff Engineer)
Dr. Biswajit Dasgupta (Staff Engineer) Subject Matter Expert Task 3
Dr. Osvaldo Pensado Program Manager/Principal Investigator Task 4

*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 project officer 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.

(End of Clause)

H.3 ANNUAL AND FINAL CONTRACTOR PERFORMANCE EVALUATIONS

Annual and final evaluations of contractor performance for this task order under this contract will be prepared in accordance with FAR Subpart 42.15, "Contractor Performance Information," normally at or near the time the contractor is notified of the NRC's intent to exercise the contract option. If the multi-year contract does not have option years, then an annual evaluation will be prepared. Final evaluations of contractor performance will be prepared at the expiration of the contract during the contract closeout process.

The Contracting Officer will transmit the NRC Contracting Officer's Representative's (COR) annual and final contractor performance evaluations to the contractor's Project Manager, unless otherwise instructed by the contractor. The contractor will be permitted thirty days to review the document and submit comments, rebutting statements, or additional information.

Where a contractor concurs with, or takes no exception to an annual performance evaluation, the Contracting Officer will consider such evaluation final and releasable for source selection purposes. Disagreements between the parties regarding a performance evaluation will be referred to an individual one level above the Contracting Officer, whose decision will be final.

The Contracting Officer will send a copy of the completed evaluation report, marked "Source Selection Information", to the contractor's Project Manager for their records as soon as practicable after it has been finalized. The completed evaluation report also will be used as a tool to improve communications between the NRC and the contractor and to improve contract performance.

The completed annual performance evaluation will be used to support future award decisions in accordance with FAR 42.1502 and 42.1503. During the period the information is being used to provide source selection information, the completed annual performance evaluation will be released to only two parties - the Federal government personnel performing the source selection evaluation and the contractor under evaluation if the contractor does not have a copy of the report already.

(End of Clause)

SECTION J - List of Documents, Exhibits and Other Attachments

Attachment Number	The following Attachments were provided under the Base Contract and applicable to this task order
1	Template Contractor Spending Plan
2	Monthly Letter Status Report Instructions For Contracts And Orders
3	Billing Instructions Cost-Reimbursement Type Contracts
4	Organizational Conflicts of Interest