

**ORDER FOR SUPPLIES OR SERVICES**

PAGE OF PAGES

1 12

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

|  |  |   |  |  |                      |
|--|--|---|--|--|----------------------|
| 1. DATE OF ORDER<br>04/22/2015   |  | 2. CONTRACT NO. (If any)<br>NRC-HQ-25-14-E-0002 |  | 6. SHIP TO:  |                      |
| 3. ORDER NO.<br>NRC-HQ-20-15-T-0001  |  | 4. REQUISITION/REFERENCE NO.<br>NRR-15-0107     |  | a. NAME OF CONSIGNEE<br>ATTN MATHEW PANICKER                   |                      |
| 5. ISSUING OFFICE (Address correspondence to)<br>US NRC - HQ<br>ACQUISITION MANAGEMENT DIVISION<br>MAIL STOP TWFN-5E03<br>WASHINGTON DC 20555-0001 |  |   |  | b. STREET ADDRESS<br>11555 ROCKVILLE PIKE<br>MS OWFN 10 A1     |                      |
|  |  |   |  | c. CITY<br>ROCKVILLE   | e. ZIP CODE<br>20852 |
| 7. TO:   |  |   |  | f. SHIP VIA  |                      |
| a. NAME OF CONTRACTOR<br>ENERGY RESEARCH INC   |  |   |  | 8. TYPE OF ORDER   |                      |
| b. COMPANY NAME  |  |   |  | <input type="checkbox"/> a. PURCHASE                           |                      |
| c. STREET ADDRESS<br>6189 EXECUTIVE BLVD   |  |   |  | REFERENCE YOUR:  |                      |
| d. CITY<br>ROCKVILLE   |  |   |  | e. STATE<br>MD   |                      |
|  |  |   |  | f. ZIP CODE<br>208523901                                       |                      |
| 9. ACCOUNTING AND APPROPRIATION DATA<br>See Schedule   |  |   |  | 10. REQUISITIONING OFFICE<br>OFF OF NUCLEAR REACTOR REGULATION |                      |

|   |  |   |  |  |  |                  |                    |
|---|--|---|--|--|--|------------------|--------------------|
| 11. BUSINESS CLASSIFICATION (Check appropriate box(es)) |  |   |  |  |  | 12. F.O.B. POINT |                    |
| <input checked="" type="checkbox"/> a. SMALL            | <input type="checkbox"/> b. OTHER THAN SMALL | <input type="checkbox"/> c. DISADVANTAGED           | <input type="checkbox"/> g. SERVICE-DISABLED VETERAN-OWNED |  |  |                  |                    |
| <input type="checkbox"/> d. WOMEN-OWNED                 | <input type="checkbox"/> e. HUBZone          | <input type="checkbox"/> f. EMERGING SMALL BUSINESS |  |  |  |                  |                    |
| 13. PLACE OF  |  |   | 14. GOVERNMENT B/L NO.                                     |  | 15. DELIVER TO F.O.B. POINT<br>ON OR BEFORE (Date)<br>04/21/2017 |                  | 16. DISCOUNT TERMS |
| a. INSPECTION<br>Destination                            |  | b. ACCEPTANCE<br>Destination                        |  |  |  |                  |                    |

**17. SCHEDULE (See reverse for Rejections)**

| ITEM NO.<br>(a) | SUPPLIES OR SERVICES<br>(b)   | QUANTITY ORDERED<br>(c) | UNIT<br>(d) | UNIT PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY ACCEPTED<br>(g) |
|-----------------|---|-------------------------|-------------|-------------------|---------------|--------------------------|
|                 | Task Order 3 Entitled, "Review of WCAP-16747-P, POLCA-T: System Analysis Code with Three-Dimensional Core Model, Appendices C and D" for BWR 2-6," under Enterprisewide Contract Number NRC-Continued ... |                         |             |                   |               |                          |

|   |  |                           |                           |                 |             |                                 |
|---|--|---------------------------|---------------------------|-----------------|-------------|---------------------------------|
| 18. SHIPPING POINT  |  | 19. GROSS SHIPPING WEIGHT |                           | 20. INVOICE NO. |             | 17(h)<br>TOTAL<br>(Cont. pages) |
| 21. MAIL INVOICE TO:  |  |                           |                           |                 |             |                                 |
| a. NAME<br>US NUCLEAR REGULATORY COMMISSION   |  |                           |                           |                 |             | \$0.00                          |
| b. STREET ADDRESS<br>(or P.O. Box)<br>ONE WHITE FLINT NORTH<br>11555 ROCKVILLE PIKE<br>MAILSTOP O3-E17A |  |                           |                           |                 |             |                                 |
| c. CITY<br>ROCKVILLE  |  | d. STATE<br>MD            | e. ZIP CODE<br>20852-2738 |                 | \$94,286.11 | 17(i)<br>GRAND TOTAL            |

|   |  |            |  |  |
|---|--|------------|--|--|
| 22. UNITED STATES OF AMERICA BY (Signature) |  | 04/22/2015 | 23. NAME (Typed)<br>MARK THOMPSON<br>TITLE: CONTRACTING/ORDERING OFFICER |  |
|---|--|------------|--|--|

**SUNSI REVIEW COMPLETE**

MAY 20 2015 **ADMM02**

**TEMPLATE - ADMIN**

**ORDER FOR SUPPLIES OR SERVICES  
SCHEDULE - CONTINUATION**

PAGE NO

2

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

DATE OF ORDER

CONTRACT NO.

NRC-HQ-25-14-E-0002

ORDER NO.

NRC-HQ-20-15-T-0001

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)   | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|--|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | <p>HQ-25-14-E-0002.</p> <p>This task order is fully funded at \$94,286.11.</p> <p>Period of Performance: April 22, 2015 - April 21, 2017<br/>                     Total Task Order Ceiling: \$94,286.11<br/>                     Total Obligated Amount: \$94,286.11</p> <p>Contracting Officer's Representative (COR):<br/>                     Mathew Panicker<br/>                     Email: Mathew.Panicker@nrc.gov<br/>                     Phone: 301-415-2987</p> <p>Contractor POC (Business):<br/>                     Tracey Mullinix, Contract Administrator<br/>                     Email: tlm@eri-world.com<br/>                     Phone: 301-881-0866</p> <p>Contractor POC (Technical):<br/>                     Dr. Mohsen Kahtib-Rahbar, President<br/>                     Email: mkrl@eri-world.com<br/>                     Phone: 301-881-0866</p> <p><i>Mohsen Kahtib-Rahbar</i>      4/22/15<br/>                     ERI Authorized Official      Date</p> <p>Accounting Info:<br/>                     2015-X0200-FEEBASED-20-20D008-11-4-151-1065-251A</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

**TASK ORDER 03 – Small Business EWC IDIQ for ERI**

**SECTION B - SUPPLIES OR SERVICES AND PRICE/COSTS**

**B.1 PRICE/COST SCHEDULE**

| CLIN | DESCRIPTION OF SUPPLIES/SERVICES  | ESTIMATED COST | FIXED FEE  | TOTAL COST PLUS FIXED FEE |
|------|---|----------------|------------|---------------------------|
| 0001 | Contractor to provide Technical Assistance in accordance with section C: DESCRIPTION/ SPECIFICATIONS/ STATEMENT OF WORK | [REDACTED]     | [REDACTED] | [REDACTED]                |
|      | <b>Total</b>  | [REDACTED]     | [REDACTED] | <b>\$94,286.11</b>        |

**NRCB044 CONSIDERATION AND OBLIGATION—INDEFINITE-QUANTITY CONTRACT**

(a) The estimated total quantity of this contract for the products/services under this contract is **\$94,286.11** of which the sum of [REDACTED] represents the estimated reimbursable costs, and of which [REDACTED] represents fixed-fee.

(b) The Contracting Officer will obligate funds on each task order issued.

(c) The amount currently obligated by the Government with respect to this contract is **\$94,286.11** of which the sum of [REDACTED] represents the estimated reimbursable costs, and of which [REDACTED] represents the fixed-fee.

(d) This is an incrementally-funded contract and FAR 52.232-22 – "Limitation of Funds" applies.

(e) The Contractor shall comply with the provisions of FAR 52.232-20 - Limitation of Cost for fully-funded task orders and FAR 52.232-22 - Limitation of Funds for incrementally-funded task orders, issued hereunder.

(End of Clause)

## **SECTION C – DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK FOR ERI SMALL BUSINESS EWC TASK ORDER 03**

NRC Requisition Office: Office of Nuclear Reactor Regulation

Fee Recoverable: Yes

TAC Numbers: MF5393

### **1. PROJECT TITLE**

Review of WCAP-16747-P, POLCA-T: System Analysis Code with Three-Dimensional Core Model, Appendices C and D” for BWR 2-6.

The Statement of Work for this Task Order falls within the Small Business Set-Aside part of the NRC IDIQ Enterprise-Wide Contract (EWC) entitled *Technical Assistance in Support of Agency Environmental and Reactor Programs*, paragraph 3.6 - Topical Reports.

### **2. BACKGROUND**

The Topical Report (TR), WCAP-16747-P describes Westinghouse Electric Company methodology and models for analyzing boiling water reactor (BWR) transients using POLCA-T. POLCA-T is an advanced dynamic system analysis code with the three-dimensional (3-D) core physics described by the nodal code POLCA presented in the topical report CENPD-390-P-A Revision 0. POLCA-T is a computer code for transient thermal-hydraulic and neutron-kinetic analysis of BWRs. It can be used as a general tool for advanced simulation of single- and two-phase flow systems including non-condensable gases. The code has a full 3-D neutronic model where each fuel assembly in the reactor core may be represented in the thermal-hydraulic model. The reactor pressure vessel, external pump loops, steam system, feedwater system, emergency core cooling systems, and steam relief system can be modeled in detail.

Appendix C of the TR provides qualification basis of the POLCA-T code for application to the transient analysis and evaluation of anticipated operational occurrences (AOOs) in BWR/2-6. Appendix D of the TR provides the qualification basis of the POLCA-T code for application to the analysis of anticipated transients without scram (ATWS) in advanced boiling water reactors (ABWR) and in operating boiling water reactors (BWR/2-6). The POLCA-T code has been demonstrated to perform licensing analysis of ATWS events for BWR/2-6 plants. Appendix D is an extension of the qualification studies presented for AOOs in Appendix C.

Appendix C of the TR describes the methodology for licensing transient analysis of AOOs using POLCA-T. AOOs are those conditions/events at normal operation that are expected to occur one or more times during the life of the nuclear power plant (NPP). The AOO events are grouped according to four categories consistent with Chapter 15 of the NRC Standard Review Plan (NUREG-0800):

- Pressure increase/decrease
- Reactor coolant flow increase or decrease
- Feedwater flow increase/decrease
- Reactor coolant temperature increase/decrease

Appendix D describes the code qualification of POLCA-T for analyzing ATWS events. POLCA-T has already been approved by the NRC for CRDA and BWR stability analysis. An ATWS is an AOO followed by the failure of the reactor trip portion of the reactor protection system (RPS), as specified in the General Design Criteria (GDC) Criterion 20 of Appendix A of 10 CFR 50. Since the probability of an AOO with simultaneous failure of RPS trip has a lower than that of the AOO itself, ATWS events are classified as beyond design basis accidents and treated separately in Chapter 15.8 of the SRP. ATWS events are mitigated by manual/automatic reactor shutdown scenarios: reactor shutdown by alternate rod injection (10CFR 50.62) or in case of total failure of ARI, a backup capability of fine control rod drive (FMCRD) run-in and reactor shutdown by manual or automatic activation of Standby Liquid Control system (SLCS) in case of failure of ARI and FMCRD.

Scope of the analysis consists of demonstration of the acceptable use of POLCA-T for its application to the analysis ATWS events in BWR/2-6. ATWS licensing acceptance criteria consists of fuel integrity, peak reactor coolant pressure boundary (RCPB) system pressure, containment integrity (mass-energy release to the containment), and long-term shutdown cooling.

### **3. SCOPE OF WORK**

The objective of this task order is to obtain technical assistance in determining the technical adequacy of the POLCA-T code and application methodology for determining the behavior of BWR/2-6 during AOOs and ATWS events.

The Contractor will review the technical and regulatory basis for the POLCA-T code and application methodology. Also the task includes review of the benchmarking, calibration, and validation of the code and application methodology to ensure the acceptability of the code system. If additional information is necessary to justify a conclusion of technical or regulatory adequacy the Contractor will prepare questions to be assembled into a request for additional information (RAI). Each question must clearly express the regulatory basis that that cannot be addressed without additional information. The final outcome of this contract will be a technical evaluation report (TER) expressing the final recommendations on the technical and regulator adequacy of the POLCA-T code and methodology for BWR/2-6 during AOOs and ATWS events.

### **4. SPECIFIC TASKS**

Using the criteria and guidelines found in Standard Review Plan (SRP) Chapter 4 and Chapter 15; the Contractor shall review the Westinghouse POLCA-T code for AOO analysis and AOWS analysis applications.

**Task 1:** Review and evaluate the POLCA-T code and application methodology to determine the adequacy, technical accuracy, and regulatory compliance of the included evaluation models. This includes an evaluation of the model validation and verification, model uncertainties and their evaluation using a combination of code predictions against separate and integral effects tests, and qualification of POLCA-T using BWR transient plant data for both AOO and ATWS applications to BWR/2-6 plants. Prepare a draft TER documenting the Contractor's determination of the POLCA-T code's technical and regulatory adequacy for BWR/2-6 applications and clearly identifying any limitations on the code's use. The draft TER should

identify 'gaps' where additional information is necessary to reach a conclusion on the technical or regulatory adequacy of the code. In addition, the draft TER must express whether the benchmarking and empirical databases support the expected application of the POLCA-T code and methodology. The Contractor must provide sufficient empirical data to justify their results and conclusion; no empirical data should be considered other than that which is provided by the vendor.

**Task 2:** For each gap identified in the draft TER, prepare a request for information from the vendor that will fill the gap and support a conclusion on technical and regulatory adequacy of the POLCA-T code for BWR/2-6 applications. The Contractor must provide a summary of the gaps identified in the draft TER and the associated questions written to the COR on a bi-monthly schedule. Each question must clearly express the regulatory basis that that cannot be addressed without additional information. Upon completion of the draft TER, the Contractor must provide a final RAI containing all questions written during the course of the review. If necessary, the COR may arrange a meeting or teleconference between the TR vendor (Westinghouse), the Contractor and the NRC staff to resolve any issues related to the RAI.

**Task 3:** Once the Contractor has received the response to the RAI has from the vendor, the Contractor must perform a review of the response to determine if it addressed the identified gaps in the draft TER. After the Contractor has reviewed the response, the COR will schedule a teleconference to discuss the RAI response and confirm the acceptability. If the response does not adequately address the identified gap in the draft TER then the Contractor must promptly inform the COR. Once the Contractor has reviewed the RAI response and has discussed it with the COR, the Contractor must provide a summary of any responses that do not adequately address gaps the draft TER to the COR.

**Task 4 (OPTION):** The Contractor must perform an audit along with NRC staff to resolve any open items remaining in the review. Contractor staff must support a five-day audit to NRC Headquarters or vendor facility. The level of effort estimate for the trip is based on a one person five day trip. This is an option task, which will only be performed by the Contractor subsequent to receiving written direction from the COR. Prior to any trip taken, the contractor will obtain written approval from the COR or CO.

**Task 5:** The Contractor must prepare a final TER incorporating the RAI response and filling any gaps identified in the draft TER. The Contractor must submit the final TER to the COR. The Contractor must incorporate any comments received from the COR and submit a revised final TER.

## **5. APPLICABLE DOCUMENTS AND STANDARDS**

1. WCAP-16747-P, Appendices C and D Revision 0, "POLCA-T: System Analysis Code with Three-Dimensional Core Model, Appendices C and D," Westinghouse Electric Company, October 2010.
2. WCAP-16747-P-A, Revision 0, POLCA-T: System Analysis Code with Three-Dimensional Core Model," Westinghouse Electric Company
3. Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition (NUREG-0800), Sections 4 and 15.
4. CENPD-300-P Supplement1, "Reference Safety Report for Boiling Water Reactor Fuel and Core Analyses, Westinghouse/CE, September 2010.

## 6. DELIVERABLES AND DELIVERY SCHEDULE/REPORTING REQUIREMENTS

The schedule for project deliverables is shown in the following table.

| NUMBER | DELIVERABLE   | SCHEDULE  |
|--------|---|---|
| 1A     | Draft TER with gaps identified.   | Six months from the date of award.                                  |
| 1B     | Summary report of all gaps identified to date and questions written to address those gaps.  | Every two months from date of award until the completion of Task 1. |
| 2      | Final list of all questions to be included in the RAI.  | Four weeks after the completion of Task 1.                          |
| 3      | Summary report identifying any responses that do not adequately address identified gaps in the draft TER.   | Four weeks after the receipt of the RAI response.                   |
| 4      | Audit trip report that contains a summary of the significant highlights of the audit. The trip report should note the disposition of items reviewed during the audit. In addition, the trip report should provide insights for the possible resolution of any remaining open items. | Four weeks after the trip.  |
| 5A     | A final TER that contains a summary of the work performed, the results attained, and conclusions of the evaluation. List any open or unresolved items.  | Four weeks after the completion of Task 3.                          |
| 5B     | A revised final TER incorporating NRC comments.   | Two weeks after receipt of NRC comments on draft TER.               |

For all deliverables, including the monthly letter status report, the Contractor shall include the following on distribution:

[Jeremy.Dean@nrc.gov](mailto:Jeremy.Dean@nrc.gov)  
[Mathew.Panicker@nrc.gov](mailto:Mathew.Panicker@nrc.gov)  
[RidsNrrDss.Resource@nrc.gov](mailto:RidsNrrDss.Resource@nrc.gov)  
[Evan.Davidson@nrc.gov](mailto:Evan.Davidson@nrc.gov)

## 7. REQUIRED LABOR CATEGORIES/ ESTIMATED LEVEL OF EFFORT

Specialized experience must include expertise in such areas as BWR/2-6 reactor systems (CRDS, SLCS, RWCS, RCICS, etc.), other BWR internals, recirculation and jet pumps, BWR fuel system, containment, core thermal-hydraulic (T-H) methodology and codes, evaluation models for T-H verification and validation processes, and all systems related to AOO and ATWS analyses.

One Subject Matter Expert on an intermittent and/or a part-time basis with at least 10 years of experience in BWR systems, computer code modeling and their applications, knowledge of computer code development, benchmarking of codes, calibration, verification and validation methods. The Subject Matter Expert must be experienced with best estimate

thermal-hydraulic methodology combined with statistical methodologies in uncertainty quantification.

One Senior Technical Reviewer on an intermittent and/or a part-time basis with at least 5 years of experience in BWR systems, computer code modeling and their applications, knowledge in computer code development, benchmarking codes, calibration and validation methods. The Senior Technical Reviewer must be experienced with best estimate methodology codes combined with statistical methodologies and modeling of scaled down components for testing.

The estimated level of effort in professional staff hours apportioned among the tasks by labor category is as follows:

| Tasks                  | Labor Category                | Level of Effort |
|------------------------|-------------------------------|-----------------|
| 1.                     | Subject Matter Expert         | 160             |
|                        | Senior Technical Reviewer     | 80              |
| 2.                     | Subject Matter Expert         | 80              |
|                        | Senior Technical Reviewer     | 40              |
| 3.                     | Subject Matter Expert         | 70              |
|                        | Senior Technical Reviewer     | 30              |
| 4.                     | Subject Matter Expert         | 40              |
|                        | Senior Technical Reviewer     | 0               |
| 5.                     | Subject Matter Expert         | 80              |
|                        | Senior Technical Reviewer     | 40              |
| <b>Subtotal</b>        | <b>Subject Matter Expert</b>  | <b>430</b>      |
| <b>Subtotal</b>        | <b>Sr. Technical Reviewer</b> | <b>190</b>      |
| Program Manager        |                               | 30              |
| Administrative Support |                               | 30              |
| <b>Total</b>           |                               | <b>680</b>      |

## 8. GOVERNMENT-FURNISHED PROPERTY

The COR will provide a copy of the documents containing the topical report WCAP-16747-P Appendices C and D to the contractor upon award of the task order. As determined necessary by the COR, the COR will provide additional documents and references necessary to complete the review of the topical report.

## 9. PERIOD OF PERFORMANCE

The period of performance for this task order is as stated below, in SECTION F - Deliveries or Performance NRCF030A PERIOD OF PERFORMANCE ALTERNATE I.

## 10. PLACE OF PERFORMANCE

Work will be performed at the contractor's site. If required by the COR, the Contractor will provide one or two people to support an audit of the Topical Report information at the NRC Headquarters or a vendor facility (Task 4).



## **11. SPECIAL CONSIDERATIONS**

### **11.1 TRAVEL/MEETINGS**

The following travel maybe required under this task order:

One, 2 Persons, 2 Day Trip to NRC Headquarters or Licensee Facility as determined by the COR.

All travel requires prior written approval from the COR.

### **11.2 SECURITY**

Work on this task order will involve the handling of documents that contain proprietary information. Documents containing proprietary information and must be safeguarded against unauthorized disclosure. After completion of work, the documents shall either be destroyed or returned to NRC. If they are destroyed, please confirm this in an e-mail to the COR with a copy to the CO and include the date and manner in which the documents were destroyed.

### **11.3 LICENSE FEE RECOVERY**

All work under this task order is license fee recoverable.

## **SECTION F - Deliveries or Performance**

### **NRCF030A PERIOD OF PERFORMANCE ALTERNATE I**

This order shall commence on date of award and will expire on April 21, 2017. (See FAR 52.216-18 - Ordering).

(End of Clause)

## **SECTION H - Special Contract Requirements**

### **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. Mohsen Khatib-Rahbar**

**Project Manager/Subject Matter Expert**

\*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)

**2052.215-71 PROJECT OFFICER AUTHORITY. (OCT 1999)**

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

Name: Mathew Panicker  
Address: US NRC  
NRR/DSS/SNPB  
OWFN-10-A-1  
Washington DC 20555  
Telephone Number: 301-415-2987  
Email: [Mathew.Panicker@nrc.gov](mailto:Mathew.Panicker@nrc.gov)

The alternate contracting officer's representative is:

Name: Evan Davidson  
Address: US NRC  
NRR/DSS/SBPB  
OWFN-10-F-4  
Washington DC 20555  
Telephone Number: 301-415-1342  
Email: [Evan.Davidson@nrc.gov](mailto:Evan.Davidson@nrc.gov)

(b) Performance of the work under this contract is subject to the technical direction of the NRC project officer. 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 project officer 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 project officer 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 project officer in the manner prescribed by this clause and within the project officer's authority under the provisions of this clause.

(f) If, in the opinion of the contractor, any instruction or direction issued by the project officer 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 project officer 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

project officer 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)

#### **SECTION J - List of Documents, Exhibits and Other Attachments**

Attachments:

1. Monthly Letter Status Report Template