# ORDER FOR SUPPLIES OR SERVICES



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

1. DATE OF ORDER: 08/03/2020

2. CONTRACT NO. *(If any)*: 31310020D0002

3. ORDER NO.: 31310020F0093

4. REQUISITION/REFERENCE NO.: RES-20-0123

5. ISSUING OFFICE *(Address correspondence to)*
US NRC - HQ
ACQUISITION MANAGEMENT DIVISION
MAIL STOP TWFN-07B20M
WASHINGTON DC 20555-0001

6. SHIP TO:
a. NAME OF CONSIGNEE: NUCLEAR REGULATORY COMMISSION
b. STREET ADDRESS: NUCLEAR REGULATORY COMMISSION
c. CITY: WASHINGTON
d. STATE: DC
e. ZIP CODE: 20555-0001

7. TO: MOHSEN KHATIB-RAHBAR
a. NAME OF CONTRACTOR: ENERGY RESEARCH INC
b. COMPANY NAME:
c. STREET ADDRESS: PO BOX 2034
d. CITY: ROCKVILLE
e. STATE: MD
f. ZIP CODE: 208472034

f. SHIP VIA:

8. TYPE OF ORDER
[ ] a. PURCHASE
REFERENCE YOUR:
Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.
[X] b. DELIVERY
Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.

9. ACCOUNTING AND APPROPRIATION DATA: See Schedule

10. REQUISITIONING OFFICE: OFF OF NUCLEAR REG RESEARCH

11. BUSINESS CLASSIFICATION *(Check appropriate box(es))*
[X] a. SMALL [ ] b. OTHER THAN SMALL [ ] c. DISADVANTAGED [ ] d. WOMEN-OWNED [ ] e. HUBZone
[ ] f. SERVICE-DISABLED VETERAN-OWNED [ ] g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM [ ] h. EDWOSB

12. F.O.B. POINT:

13. PLACE OF
a. INSPECTION: Destination
b. ACCEPTANCE: Destination

14. GOVERNMENT B/L NO.:

15. DELIVER TO F.O.B. POINT ON OR BEFORE *(Date)*:

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) |
|---|---|---|---|---|---|---|
| | This Task Order is a place holder for the $10,000 minimum guarantee. This Task Order will be used as the first Task Order that is awarded to your organization.<br>Accounting Info:<br>2020-C0200-FEEBASED-60-60D003-1032-11-6-154-<br>Continued ... | | | | | |

18. SHIPPING POINT:

19. GROSS SHIPPING WEIGHT:

20. INVOICE NO.:

17(h) TOTAL *(Cont. pages)*: $0.00

21. MAIL INVOICE TO:

*SEE BILLING INSTRUCTIONS ON REVERSE*

a. NAME: FISCAL ACCOUNTING PROGRAM

b. STREET ADDRESS (or P.O. Box): ADMIN TRAINING GROUP AVERY STREET A3-G
BUREAU OF THE FISCAL SERVICE
PO BOX 1328

c. CITY: PARKERSBURG
d. STATE: WV
e. ZIP CODE: 26106-1328

17(i) GRAND TOTAL: $10,000.00

22. UNITED STATES OF AMERICA BY *(Signature)*: 08/03/2020 Jeffrey R Mitchell

23. NAME *(Typed)*: JEFFREY R. MITCHELL
TITLE: CONTRACTING/ORDERING OFFICER

# ORDER FOR SUPPLIES OR SERVICES
## SCHEDULE - CONTINUATION



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

| DATE OF ORDER | CONTRACT NO. | ORDER NO. |
|---|---|---|
| 08/03/2020 | 31310020D0002 | 31310020F0093 |

| ITEM NO. (a) | SUPPLIES/SERVICES (b) | QUANTITY ORDERED (c) | UNIT (d) | UNIT PRICE (e) | AMOUNT (f) | QUANTITY ACCEPTED (g) |
|---|---|---|---|---|---|---|
| | 255A-11-6-154-1032<br>Period of Performance: 08/01/2020 to 07/31/2025 | | | | | |
| | TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H)) | | | | $0.00 | |

**AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT**

1. CONTRACT ID CODE

PAGE 1 OF PAGES 15

2. AMENDMENT/MODIFICATION NO. P00001

3. EFFECTIVE DATE See Block 16C

4. REQUISITION/PURCHASE REQ. NO. RES-21-0181

5. PROJECT NO. *(If applicable)*

6. ISSUED BY CODE NRCHQ

US NRC - HQ
ACQUISITION MANAGEMENT DIVISION
MAIL STOP TWFN-07B20M
WASHINGTON DC 20555-0001

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

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

ENERGY RESEARCH INC
ATTN MOHSEN KHATIB-RAHBAR
PO BOX 2034
ROCKVILLE MD 208472034

CODE 621211259 FACILITY CODE

(x) 9A. AMENDMENT OF SOLICITATION NO.

9B. DATED *(SEE ITEM 11)*

x 10A. MODIFICATION OF CONTRACT/ORDER NO. 31310020D0002 31310020F0093

10B. DATED *(SEE ITEM 13)* 08/03/2020

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

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

12. ACCOUNTING AND APPROPRIATION DATA *(If required)* Net Increase: $155,205.05
See Schedule

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

| CHECK ONE | |
|---|---|
| | A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A. |
| | B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation data, etc.)* SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). |
| | C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: |
| X | D. OTHER *(Specify type of modification and authority)* Bilateral: Acceptance of Task Order 31310020F0093 |

**E. IMPORTANT:** Contractor ☐ is not ☒ is required to sign this document and return 1 copies to the issuing office.

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

The purpose of this modification is utilize the minimum guarantee and award the first task order to Energy Research Inc.
The NRC hereby awards task order 31310020D0002 / 31310020F0093 entitled Development of TRAC/RELAP Advanced Computational Engine (TRACE) Models for the Davis-Besse Nuclear Plant to Support Licensing Actions and Emergent Technical Issues.

Total Obligated Amount: $165,205.05
Total Contract Ceiling: $165,205.05
Period of Performance: 06/15/2021 to 03/15/2022

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

15A. NAME AND TITLE OF SIGNER *(Type or print)*

16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)* JEFFREY R. MITCHELL

15B. CONTRACTOR/OFFEROR *(Signature of person authorized to sign)*

15C. DATE SIGNED

16B. UNITED STATES OF AMERICA *(Signature of Contracting Officer)*

16C. DATE SIGNED 06/11/2021

## B - Supplies or Services/Prices

### B.1 BRIEF PROJECT TITLE AND WORK DESCRIPTION

(a) The title of this project is: Development of TRAC/RELAP Advanced Computational Engine (TRACE) Models for the Davis-Besse Nuclear Plant to Support Licensing Actions and Emergent Technical Issues

(b) Summary work description: The contractor shall provide technical assistance in the development of TRACE models for the Davis-Besse nuclear power plant, a plant-type that is not currently represented in the TRACE model library.

### B.2 CONSIDERATION AND OBLIGATION-FIRM-FIXED-PRICE

The total amount of the Firm-Fixed-Price portion of this contract is $165,205.05, and this amount is fully-funded.

### B.3 PRICE/COST SCHEDULE

| CLIN | DESCRIPTION | QUANTITY | FIXED PRICE |
|---|---|---|---|
| 0001 | Development of TRAC/RELAP Advanced Computational Engine (TRACE) Models for the Davis-Besse Nuclear Plant to Support Licensing Actions and Emergent Technical Issues | 1 | $165,205.05 |

## C - Description/Specifications

### 1. PROJECT TITLE

Development of TRAC/RELAP Advanced Computational Engine (TRACE) Models for the Davis-Besse Nuclear Plant to Support Licensing Actions and Emergent Technical Issues

### 2. BACKGROUND

TRACE is the NRC code used for evaluating coupled neutronics and thermal-hydraulic transient behavior in current and advanced nuclear reactor systems. However, many of the models in the TRACE Plant Model Library are outdated and the library does not include a model for each major operating plant type. Therefore, technical assistance is required to modernize and standardize the outdated models and to develop models for plant-types missing from the TRACE Plant Model Library. Having a more complete TRACE model library will allow staff to perform confirmatory calculations for technical reviews more efficiently and timely; and having updated and standardized models will decrease uncertainty in code results by reducing the effect of individual modeling decisions.

### 3. PROJECT DESRIPTION AND OBJECTIVE(S)

The contractor shall provide technical assistance in the development of TRACE models for the Davis-Besse nuclear power plant, a plant-type that is not currently represented in the TRACE model library.

The Davis-Besse TRACE model shall be updated in accordance with the latest version of the TRACE PWR Modeling Guidelines. Additionally, the models shall be verified by performing steady-state and loss-of-coolant accident (LOCA) calculations, and the modeling details and simulation results shall be documented in calculation notebooks and analysis reports, respectively.

### 4. STATEMENT OF WORK TASKS

**Task 1: Develop a TRACE Model for the Davis-Besse Nuclear Power Station Unit 1 (Davis-Besse) and Develop a Corresponding Calculation Notebook**

**Task 1.1 Develop TRACE Model for Davis-Besse**
The contractor shall use the latest version of SNAP, the most recently released version of TRACE (Patch VI), and any available sources of plant-specific or relatable plant information, to assemble a complete base TRACE model and two transient restart cases that represent the Davis-Besse plant. The base TRACE model shall contain all the systems, components, and controls necessary to simulate the steady-state operation of the Davis-Besse plant at nominal conditions. The two transient restart cases shall be loss-of-coolant accident (LOCA) simulations. One case shall be a large-break LOCA, and the other case shall be a small-break LOCA (SBLOCA). Each of the transient simulations shall be developed as separate cases using the graphical editing mode in SNAP.
After the base model and transient cases have been assembled, the contractor shall perform demonstration calculations to verify the inputs and demonstrate the operability of the models. The rationale and sources of all information used to assemble the base model shall be documented in a calculation notebook, and the results from the demonstration calculations shall be documented in an analysis report.

**Task 1.2 Develop a Calculation Notebook for the Davis-Besse TRACE Model**
The contractor shall use all available plant information to create a separate, stand-alone calculation notebook that completely describes the Davis-Besse TRACE model. The notebook shall be structured in a manner similar to previously delivered calculation notebooks (an example will be provided), such that there is a graphical depiction of each major component showing the relevant dimensions and that there is sufficient text to describe all modeling assumptions, the rationale behind input-parameter selections, and the sources of all plant-model input. The notebook

shall include all information necessary to assemble the Davis-Besse model, to include the modifications made to bring the model into compliance with the TRACE PWR User Guidelines.
**Deliverable**: The contractor shall provide a single SNAP (*.med) file that contains the base Davis-Besse TRACE plant model and the two transient cases as described above, along with the corresponding calculation notebook and analysis report.

## 5. APPLICABLE DOCUMENTS AND STANDARDS

The following documents shall be referenced for the completion of this task order:

- Davis Besse Updated Final Safety Analysis Report (UFSAR), Version 26
- TRACE PWR Modeling Guidelines, Rev.1

## 6. DELIVERABLES AND DELIVERY SCHEDULE/REPORTING REQUIREMENTS

The contractor shall provide the deliverables stated in Table 1 below, both in hard copy and electronic format unless directed by the Contracting Officer Representative (COR). The electronic format shall be provided using a Microsoft-based product, (e.g., Outlook, Word, Excel, PowerPoint) unless the COR and the contractor specifically agree on another format. All deliverables shall be in the format of draft version, revision version with redline/strikeout with a change-control appendix, and a revised version which can be the final version. The contractor shall maintain appropriate revision control in an electronic format.

For each “final” deliverable (e.g., preliminary, draft, or final) that accomplishes a specific portion of a subtask activity, the contractor shall provide an electronic copy to the COR. The contractor shall explicitly state in its submittal that the product provided is the deliverable for Task/Subtask XX, as further described below.

The schedule for deliverables shall be contained in the approved Project Plan for the task order effort, which is included as a deliverable in the table below.

The contractor shall develop (as necessary), maintain, and control data, files, information, and deliverables pursuant to this task order

| Tasks | Delivery Dates | | Deliverables |
|---|---|---|---|
| | Preliminary Deliverables | Final Deliverables | |
| Task 1 | 4 months after receipt of requisite information from NRC COR | 2 months after receipt of NRC comments on draft deliverables, but no later than the last date of the period of performance. | The contractor shall provide the TRACE plant model for Davis-Besse and corresponding calculation notebook and analysis report for review and comment after the delivery of preliminary and final deliverables. |
| | | | |
| Monthly Letter Status Report | 20th of the following month | N/A | Monthly Letter Status Report (MLSR) per Section A.5.10 of the Base BPA |

The above deliverables shall be submitted to the task order Contracting Officer (CO) and task order COR. Unless otherwise directed by the COR or the CO, the contractor must provide all deliverables except the Monthly Letter Status Reports (MLSR) as draft products. The COR will review all draft deliverables (and coordinate any internal NRC

staff review, if needed) and provide comments back to the contractor. The contractor shall revise the draft deliverable based on the comments provided by the COR and then deliver a revised version of the deliverable, which will then be considered the Final Version. When mutually-agreed upon between the contractor and the COR, the contractor may submit preliminary or partial drafts to help gauge the contractor's understanding of the particular work requirement. More than one round of drafts may be needed if the contractor does not successfully incorporate the COR's comments on the previous draft.

## 7. REPORTING REQUIREMENTS

**Monthly Letter Status Report (MLSR)**

Each month, the contractor will provide a Monthly Letter Status Report (MLSR) per Section A.5.10 of the Base BPA. This report is due no later than the 20th of the following month. If no work was performed during the prior month, the contractor shall not prepare and submit an MLSR. Copies of the MLSRs are to be sent to the COR the Alternate COR with a copy provided to the Contracting Officer.

## 8. GOVERNMENT-FURNISHED PROPERTY

The following items shall be provided to the contractor:

- TRACE Patch VI and applicable upgrades
- SNAP Version 3.1.1 or later
- Davis Besse Updated Final Safety Analysis Report (UFSAR), Version 26
- TRACE PWR Modeling Guidelines

## 9. PLACE OF PERFORMANCE

All work will be done at the contractor's site.

## 10. SPECIAL CONSIDERATIONS

### TRAVEL/MEETINGS

No travel is authorized for this contract.

### SECURITY

Work on this task order may involve the handling of documents that contain PROPRIETARY information. The contractor shall safeguard documents containing proprietary information against unauthorized disclosure. After completion of work, the contractor must either destroy the documents or return them to the NRC. If they are destroyed, please confirm this in an email to the COR with a copy to the CO and include the date and manner in which the documents were destroyed.

### LICENSE FEE RECOVERY

All work under this task order is not license fee recoverable.

### DATA RIGHTS

The NRC shall have unlimited rights to and ownership of all deliverables provided under this contract/order, including reports, recommendations, briefings, work plans and all other deliverables. All documents and materials, to include the source codes of any software, produced under this contract/order are the property of the Government with all rights and privileges of ownership/copyright belonging exclusively to the Government. These documents and materials may not be used or sold by the contractor without written authorization from the CO. All materials supplied to the Government shall be the sole property of the Government and may not be used for any other purpose. This right does not abrogate any other Government rights. The definition of “unlimited rights” is contained in Federal Acquisition Regulation (FAR) 27.401, “Definitions.” FAR clause at FAR 52.227-14, “Rights in Data-General,” is hereby incorporated by reference and made a part of this contract/order.

## D - Packaging and Marking

### D.1 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: 31310020D0002_31310020F0093.

### D.2 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 Regulatory Research, under Contract/order number 31310020D0002_31310020F0093.

## F - Deliveries or Performance

### F.1 PLACE OF DELIVERY-REPORTS

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

Name: Shawn.Marshall@nrc.gov

Contracting Officer's Representative (COR)

Name: Jeffrey.Mitchell@nrc.gov

Contracting Officer (CO)

### F.2 TASK/DELIVERY ORDER PERIOD OF PERFORMANCE (SEP 2013)

This order shall commence on June 15, 2021 and will expire on March 15, 2022.

## G - Contract Administration Data

### G.1 ELECTRONIC PAYMENT (DEC 2017)

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 Transfer-System for Award Management.”

To receive payment, the contractor shall prepare invoices in accordance with NRC’s Billing Instructions. Claims shall be submitted through the Invoice Processing Platform (IPP) (https://www.ipp.gov/). Back up documentation shall be included as required by the NRC’s Billing Instructions.

## H - Special Contract Requirements

### H.1 USE OF PERMANENT AND LOANER DEVICE SOLUTIONS DURING INTERNATIONAL TRAVEL (FEB 2020)

In order to ensure the secure use of mobile devices by contractors while on official international travel, the NRC has implemented the following requirements. These policies establish best practices in accordance with Management Directive 12.5, "NRC Cybersecurity Program."

NRC-assigned Permanent Laptops

Due to security risks, NRC-assigned permanent laptops shall not be used for international travel by contractors for any reason.

NRC-assigned Loaner Laptops

NRC loaner laptops specifically configured for international travel, if provided, are the only NRC-provided mobile equipment that may be used by contractors while on official agency international travel. Under the NRC's Agency-Wide Mobility Policy, loaner tablets and mobile phones are not provided to contractors. All NRC loaner devices will be wiped of all data upon returning from each international trip.

Personal Devices

The use of personal laptops, tablets and mobile phones while on official international travel is not prohibited. However, if a contractor is using a personal device to perform work for the NRC while on international travel, the contractor must leverage an NRC authorized solution (Citrix Remote Desktop, IBM MaaS360, Microsoft Office 365 (O365)) to access NRC information.

Personal International Travel

The NRC does not support requests for loaner laptops, tablets or mobile phones while contractor employees are on personal international travel.

### H.2 CONTRACTOR CONDUCT (APRIL 2020)

The contractor will ensure that all contractor staff receive anti-harassment training before being granted facility access. The Government reserves the right to deny or restrict facility access for any Contractor employee who engages in any conduct that the agency believes adversely affects the work place. The imposition of a restriction or prohibition shall not excuse the Contractor from performance of obligations under the contract.

**H.3 WHISTLEBLOWER PROTECTION FOR NRC CONTRACTOR AND SUBCONTRACTOR EMPLOYEES**

(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.

**H.4 GREEN PURCHASING (SEP 2015 )**

(a) In furtherance of the sustainable acquisition goals of Executive Order (EO) 13693, "Planning for Federal Sustainability in the Next Decade," products and services provided under this contract/order shall be energy efficient (EnergyStar® or Federal Energy Management Program - FEMP-designated products), water efficient, biobased, environmentally preferable (excluding EPEAT®-registered products), non-ozone depleting, contain recycled content, or are non- or low toxic alternatives or hazardous constituents (e.g., non-VOC paint), where such products and services meet agency performance requirements. See: Executive Order (EO) 13693, "Planning for Federal Sustainability in the Next Decade."

(b) The NRC and contractor may negotiate during the contract term to permit the substitution or addition of designated recycled content products (i.e., Comprehensive Procurement Guidelines - CPG), EPEAT®-registered products, EnergyStar®- and FEMP designated energy efficient products and appliances, USDA designated biobased products (Biopreferred® program), environmentally preferable products, WaterSense and other water efficient products, products containing non- or lower-ozone depleting substances (i.e., SNAP), and products containing non- or low-toxic or hazardous constituents (e.g., non-VOC paint), when such products and services are readily available at a competitive cost and satisfy the NRC’s performance needs.

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

**H.5 KEY PERSONNEL. (JAN 1993)**

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

| | |
|---|---|
| (b)(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.

**H.6 CONTRACTING OFFICER'S REPRESENTATIVE**

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

**Contracting Officer's Representative (COR):**
Shawn Marshall
Shawn.Marshall@nrc.gov
301-415-2361

(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 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 COR 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 project officer 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 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

J.1 List of Documents, Exhibits, and Other Attachments

Attachments:

1. Monthly Letter Status Report Template (Furnished Upon Request)
2. Fixed Price Billing Instructions (Furnished Upon Request)