

2. AMENDMENT/MODIFICATION NO. M0002	3. EFFECTIVE DATE See Block 16C	4. REQUISITION/PURCHASE REQ. NO. NRO-18-0022	5. PROJECT NO. (If applicable) EWC
6. ISSUED BY US NRC - HQ ACQUISITION MANAGEMENT DIVISION MAIL STOP 3WFN-05-C64MP WASHINGTON DC 20555-0001	CODE NRCHQ	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 6189 EXECUTIVE BLVD ROCKVILLE MD 208523901	(x)	9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	x	10A. MODIFICATION OF CONTRACT/ORDER NO. NRC-HQ-25-14-E-0002 NRC-HQ-25-16-T-0001
		10B. DATED (SEE ITEM 13) 09/09/2016
CODE 621211259	FACILITY CODE	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

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

12. ACCOUNTING AND APPROPRIATION DATA (If required) Net Increase: \$30,000.00
 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 date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
X	D. OTHER (Specify type of modification and authority) FAR 52.243-2; Mutual Agreement of the Parties

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 to:
 (1) Add a new within scope requirement identified under task 6
 (2) Increase the total estimated cost by \$26,493.05 from \$295,386.71 to \$321,879.76
 (3) Provided incremental funding in the amount of \$30,000.00 thereby increasing the total obligated amount from \$190,000.00 to \$220,000.00 and
 (4) Revise the SOW to incorporate changes related to adding task 6 (changes notated in red text)
 Refer to the additional pages for changes associated with this modification.
 All other terms and conditions remain unchanged.
 Delivery Location Code: NRCHQ
 US NUCLEAR REGULATORY COMMISSION-
 Continued ...

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 <i>(Signature of person authorized to sign)</i>	15C. DATE SIGNED
	16B. UNITED STATES OF AMERICA  <i>(Signature of Contracting Officer)</i>
	16C. DATE SIGNED 01/12/2018

CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED
NRC-HQ-25-14-E-0002/NRC-HQ-25-16-T-0001/M0002

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NAME OF OFFEROR OR CONTRACTOR
ENERGY RESEARCH INC

ITEM NO. (A)	SUPPL ES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>MAIL PROCESSING CENTER 4930 BOILING BROOK PARKWAY ROCKVILLE MD 20852 USA</p> <p>Period of Performance: 09/14/2016 to 12/31/2018</p>				

SECTION B - SUPPLIES OR SERVICES AND PRICE/COSTS

B.1 PRICE/COST SCHEDULE

CLIN	Description	Est Cost	Fixed Fee	Total Cost Plus Fixed Fee
00001	Cost - Tasks 1 through 6, as described in Section C 4, below.	\$303,660.14		
00002	Fee		\$18,219.62	\$321,879.76
10001	<u>Option Cost CLIN</u> – Continuation of work defined in Tasks 1 through 5, as described in Section C 4, below. (This CLIN is Not Exercised on Task Order Award)	\$67,849.38		
10002	<u>Option Fee CLIN</u> (This CLIN is Not Exercised on Task Order Award)		\$4,070.96	\$71,920.34
Total		\$371,509.52	\$22,290.58	\$393,800.10

NRCB044 CONSIDERATION AND OBLIGATION—INDEFINITE-QUANTITY CONTRACT

(a) The estimated total quantity of this contract for the products/services under this contract is **\$321,879.76**, of which the sum of **\$303,660.14** represents the estimated reimbursable costs, and of which **\$18,219.62** 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 **\$220,000.00**, of which the sum of **\$201,780.38** represents the estimated reimbursable costs, and of which **\$18,219.62** 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.

FEE HOLDBACK TABLE		85.00%	
CLIN	TOTAL FEE	85% LIMIT	15% (HOLD BACK)
00002	\$18,219.62	\$15,486.67	\$2,732.95
10002	\$4,070.96	\$3,460.32	\$610.64
TOTAL	\$22,290.58	\$18,946.99	\$3,343.59

(End of Clause)

SECTION C – DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK

NRC Requisition Office: NRO

Fee Recoverable: YES

TAC Number: 000471/99902043/L-2017-TOP-0012

1.0 PROJECT TITLE AND DESCRIPTION

This project is titled: “Technical review of NuScale Non-LOCA Methodology Topical Report.”

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

1. BACKGROUND

In its letter to the U.S. Nuclear Regulatory Commission (NRC), dated January 28, 2016, NuScale Power, LLC (NuScale, or the Applicant) informed the NRC Staff (Staff) of the final plan to submit eight topical reports about NuScale design in the summer of 2016. One of the eight reports, the non-LOCA Methodology topical report (TR), will be submitted in September 2016 for Staff review. This TR describes the methodology and the use of NRELAP5 and SIMUALTE3-K codes to evaluate SRP Chapter 15 non-LOCA transients. The NuScale NRELAP5 is based on the Idaho National Laboratory RELAP5-3D code. SIMULATE3-K is a 3D, space-time kinetics code based on Studsvik’s SIMULATE-3, static, two group, neutron diffusion code. The non-LOCA evaluation model (EM) will be developed following the Evaluation Model Development and Assessment Process (EMDAP) of Regulatory Guide (RG) 1.203. The process of assessing and validating the NRELAP5 and SIMULATE3-K codes for non-LOCA transients will be described and compared against code assessment cases. Also, the TR will include sample calculations that shows the application of the non-LOCA methodology to the NuScale Plant Module and describe any event specific methodology.

10 CFR Part 50 Appendix A, establishes many of the non-LOCA regulatory requirements (e.g., GDC 10, GDC 15, GDC 26, GDC 27 and GDC 34) which the NuScale reactor design must meet. A combination of Design Specific Review Standards (DSRS) and existing Standard Review Plan (SRP) (NUREG-0800) have been prepared for Staff guidance in performing the safety reviews of the NuScale reactor design. During this topical report review, the Staff of Reactor Systems, Nuclear Performance & Code Review Branch (SRSB) will review the applicability of existing models and correlations to the NuScale design, any NuScale code modifications and their associated technical basis, assessment cases used to validate any non-LOCA codes, review NuScale sample transient calculations and any other models or assumptions which comprise the non-LOCA EM. **Since the non-LOCA methodology is also applied to long term cooling (LTC) analyses of non-LOCA events, Staff will also review the applicability of the non-LOCA methodology to the non-LOCA initiated events described in the LTC technical report.**

2. PROJECT DESCRIPTION AND OBJECTIVE(S)

The objective of this task order is to obtain technical expertise from the contractor in determining the adequacy of the NuScale non-LOCA EM topical report.

The Contractor must provide all resources necessary to accomplish the tasks and provide deliverables described in this SOW. This SOW is organized into the following tasks:

- 1) **Perform familiarity and acceptance review of the non-LOCA Methodology Topical Report**
- 2) **Review the non-LOCA Methodology Technical Report for completeness, regulatory correctness and overall technical adequacy in three evaluation areas**
- 3) **Prepare for and Participate in an NRC on-site audit**
- 4) **Perform RAI Response Review and Develop Technical Evaluation Report**
- 5) **Provide Support for NRC Meetings and Finalize Draft TER based on NRC Comments**
- 6) **Review the applicability of the non-LOCA methodology applied to long term cooling (LTC) events and analysis that are discussed in the LTC technical report. Incorporate comments and findings into the non-LOCA Methodology TR and the LTC Technical Report**

3. STATEMENT OF WORK TASKS

Task 1. Perform familiarity and acceptance review of the non-LOCA Methodology Topical Report

The contractor shall participate in an initial kick-off meeting to discuss the task order SOW and the schedule with NRC COR. The initial kick-off meeting will be via teleconference and will be initiated by the NRC COR.

After the initial kick-off meeting, the contractor shall familiarize itself with the NuScale design and participate in either an on-site workshop or an electronic reading room review if possible, to be scheduled by the COR after task order award (See Section 11, below).

After completing initial familiarization work with the NuScale reactor design, the contractor shall perform the acceptance review, evaluate the TR and make a recommendation to the COR as to whether or not the overall approach proposed by the Applicant follows regulatory guidance. The contractor shall determine if the information provided in the TR is sufficient for Staff to make a regulatory finding. Based on this evaluation, the contractor will prepare a letter report deliverable to the COR that documents its findings, the plan to review, and its recommendations for Staff to consider in its decision regarding whether or not the TR can be accepted for review in its current condition.

Completion date: See Deliverable Table in Section 6.

Task 2. Review the non-LOCA Methodology Topical Report for completeness, regulatory correctness and overall technical adequacy in three evaluation areas

After the COR accepts the TR for review, the contractor shall further evaluate the TR in the following areas, which correspond to sub-tasks under Task 2:

- 1) **Review the NRELAP5 computer code development, Qualification and Validation**
- 2) **Review the NRELAP5 Evaluation Model Development and Sample Applications**

Task 2.1 Review the NRELAP5 computer code development, Qualification and Validation.

The contractor shall perform a review of NRELAP5 computer code and its specific features developed for the NuScale application. The contractor shall review in detail the new computer models or numerical algorithms incorporated into the code for the NuScale

application regarding the model development, validation and the applicability ranges. The contractor shall review the base version of RELAP5-3D computer code used to develop the NRELAP5 code for the purpose of confirming that the code models, numerical algorithms and base data structures are acceptable for the NuScale non-LOCA application. The contractor shall communicate periodically with the NRC COR and inform the COR immediately of any issues identified during the evaluation. After identifying review issues, the contractor shall draft RAIs and recommendations to be delivered to the COR, for the Staff to proceed with its review. As part of this sub-task, the contractor shall provide to the COR a draft report to be inserted into the final TER.

Completion date: See Deliverable Table in Section 6

Task 2.2 Review the NRELAP5 Evaluation Model Development and Sample Applications.

The contractor shall review the actual NuScale design and its evaluation model (EM) development. This review shall include, but not be limited to: the geometric calculation of each NRELAP5 node; material property; nodalization; and all the control module inputs and boundary conditions. The contractor shall review the application of the NRELAP5 evaluation model to the non-LOCA transients for its proper simulation of the event and the system responses. The contractor shall evaluate sample calculations against the applicable regulatory requirements. The contractor shall communicate periodically with the NRC COR and inform the COR immediately of any issues identified during the evaluation. After identifying the review issues, the contractor shall draft RAIs and recommendations, to be delivered to the COR, for the Staff to proceed with its review. The contractor shall also develop a report about EM model development and the sample applications. This report will be used by the contract to form the final TER.

Completion date: See Deliverable Table in Section 6

Task 3. Prepare for and Participate in an NRC on-site audit.

The contractor shall prepare Power Point presentations and participate in an NRC on-site audit or inspection, when directed by the COR. The contractor shall discuss issues identified on Tasks 1 and 2 with the COR prior to the on-site visit. The NRC estimates that the audit will likely be approximately five (5) days in length, at the at NuScale site, to be determined and scheduled by the COR after task order award. (See Section 11, Special Considerations – Travel). In addition, the contractor shall review supporting documentation provided by the Applicant via the COR prior to the on-site visit.

During the audit, the contractor shall review on-site documents. The contractor shall also interact with NRC staff and NuScale technical staff to resolve issues and identify additional supporting materials needed to issue official RAIs and update the draft TER. At the end of the audit/inspection, the contractor will prepare the draft audit/inspection report for the COR, who will transfer it to NRC staff to finalize.

Completion date: See Deliverable Table in Section 6

Task 4. Perform RAI Response Review and Develop Technical Evaluation Report.

Using the deliverables from Task 2, the contractor shall further review the submitted RAI responses and issue supplemental RAIs to reach issue resolution. After this is completed, the contractor shall incorporate significant RAI responses into the draft TER. The contractor shall

develop a TER template at the end of the third week after the official starting date of the RAI Response review. After Task 2 is completed, the contractor shall issue the first revision of the TER. Based on NRC staff comments provided by the COR, and the resolution/closure of issues of all RAIs provided to the contractor via the COR, the contractor shall finalize the TER and submit it to the COR as a deliverable for this task.

Completion date: See Deliverable Table in Section 6

Task 5. Provide Support for NRC Meetings and Finalize Draft TER based on NRC Comments.

The contractor shall provide support to the COR by developing draft presentations to the Advisory Committee on Reactor Safeguards (ACRS). These presentations will be reviewed and approved by the NRC COR before presentation to the ACRS. The contractor shall also participate in the ACRS meeting and, at the direction of the COR, shall assist the NRC staff in addressing ACRS comments and questions.

Using Task 4 deliverables, the contractor shall submit the final TER draft to the COR with open items based on ACRS and Staff comments provided by the COR. NRC staff will revise the final draft and the COR will provide comments to the contractor. The contractor shall provide to the COR the final TER with NRC comments incorporated into the report.

Completion date: See Deliverable Table in Section 6

Task 6. Review the applicability of the non-LOCA methodology applied to long term cooling (LTC) events and analysis that are discussed in the LTC technical report. Incorporate comments and findings into non-LOCA Methodology TR and the LTC Technical Report.

Using the deliverables from Task 2, the contractor shall review the non-LOCA initiated events in the LTC Technical Report to: assess the applicability of the non-LOCA methodology for LTC analysis of non-LOCA events, and identify limiting non-LOCA initiated LTC events. The contractor shall work with NRC Staff to resolve issues identified during the review, through RAI or other appropriate processes. After this is completed, the contractor shall incorporate comments, findings and significant RAI responses into the appropriate TER, either, the non-LOCA methodology TR or the LTC technical report. Based on NRC staff comments provided by the COR, and the resolution/closure of issues of all RAIs provided to the contractor via the COR, the contractor shall finalize the TER and submit it to the COR as a deliverable for this task.

Completion date: See Deliverable Table in Section 6

4. APPLICABLE DOCUMENTS AND STANDARDS

Key regulatory requirements are specified in Title 10 of the Code of Federal Regulations, Part 50 – “Domestic Licensing of Production and Utilization Facilities”. Detailed review guidance is provided in the Chapter 15 sections of NUREG-0800, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition - Transient and Accident Analysis” The principal purpose of the SRP is to assure the quality and uniformity of Staff safety reviews, with support in Regulatory Guide 1.203, “Transient and Accident Analysis Methods.”

The above regulatory requirements and review guidance are available on the NRC’s public website at www.nrc.gov.

5. DELIVERABLES AND DELIVERY SCHEDULE/REPORTING REQUIREMENTS

The contractor may elect to provide the deliverables under this task order to the COR via e-mail. For Tasks 2, 4, 5, and 6, the contractor shall provide the deliverables in both Microsoft WORD and Adobe Acrobat formats. The contractor must provide presentation slides for Task 5 in Microsoft PowerPoint format.

<u>TASK</u>	<u>DELIVERABLE</u>	<u>DELIVERY DATE</u>
Task 1. Familiarization & Acceptance Review	Acceptance Review Letter	20 business days after delivery of the docketed report to the contractor, or as directed by the COR.
Task 2.1. NRELAP5	RAIs & Draft Report/TER & Recommendations	100 business days after start of this review task, or as directed by the COR.
Task 2.2. NRELAP5 EM Development	RAIs & Draft Report on EM Model Development and sample analyzes / TER	100 business days after start of this review task, or as directed by the COR.
Task 3. NRC Audit	PP Presentation, RAIs, Update TER, draft Audit Rpt	10 business days after completion of the on-site audit
Task 4. RAIs Response Review & Develop TER	TER Template, Final TER	21 days after start of the review, 200 business days after start of this review task, or as directed by the COR.
Task 5. Support Meetings	Develop PP Presentations, Address ACRS Comments	20 business days after ACRS Meeting, or as directed by the COR.
Task 6.	Review LTC non-LOCA methodology application and events. Update non-LOCA TR and LTC Tech Rpt	February 10, 2017

Acceptance Criteria for Deliverables: The above deliverables shall be submitted to the 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, once accepted by the COR. When mutually-agreed upon between the contractor and the COR, the contractor may submit preliminary or partial drafts to the COR, for the purpose of helping to 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.

The contractor shall provide at a minimum, monthly MLSRs to the NRC CCOR and the Contracting Officer by the 15th day of each month. The contractor must also send copies of the MLSR to the Acquisition Management Division at ContractsPOT.Resource@nrc.gov. The MLSR report shall provide the technical and financial status of the effort.

The technical status section of the MLSR shall contain the following: a summary of the work performed during the reporting period, and milestones reached, or if missed, an explanation why; an explanation of any problems or delays encountered or anticipated, along with recommendations for resolution; as well as plans for the next reporting period. The MLSR shall also include information on contractor travel during the period, including trip start and end dates, destination, and traveler(s) for each trip.

The financial status section of the MLSR shall include the following information: the total task order ceiling amount; funds obligated to-date; total costs incurred in the reporting period,; and total cumulative costs incurred-to date. The MLSR shall also contain the balance of obligated funding remaining at the end of the reporting period, and the balance of funds required to complete the effort under this task order.

Additionally, if applicable, the MLSR shall address the status of the Contractor Spending Plan (CSP), showing the percentage of project completion and any significant changes in either projected expenditures or percentage of completion. The MLSR should also identify the acquisition cost, description (model number, manufacturer) and acquisition date of any property/equipment acquired for the project during the month with an acquisition cost more than \$500.00.

In the event that the data in the MLSR indicates a need for additional funding beyond that already obligated to the task order for that reporting period, the contractor shall use this information only to support the official request for funding notification letter to the CO, required in accordance with the Limitation of Cost (LOC) Clause (FAR 52.232 20) or the Limitation of Funds (LOF) Clause FAR 52.232 22.

6. GOVERNMENT-FURNISHED PROPERTY

None

7. PERIOD OF PERFORMANCE

See **NRCF030A PERIOD OF PERFORMANCE ALTERNATE I**, below.

8. PLACE OF PERFORMANCE

All work shall be performed at the contractor's site, with the exception of:

- Task 1, which must be performed at the applicant's U.S. office in either Corvallis, Oregon or Rockville, MD
- Task 3, which must be performed at the applicant's U. S. office in either Corvallis, Oregon, or Rockville, MD and
- Task 5, which will be held at NRC's Rockville, Maryland Headquarters.

9. SPECIAL CONSIDERATIONS

TRAVEL/MEETINGS

- Task 1:** One 4-person, 3-day meeting at NuScale site,
Task 3: One 4 person, 5 day audit at NuScale site,
Task 5: One 4-person, 2-day meeting at the NRC's Rockville, Maryland headquarters

Contractor will be authorized travel expenses consistent with the substantive provisions of the Federal Travel Regulation (FTR) and the limitation of funds specified in this contract/order. All travel requires written Government approval from the CO, unless otherwise delegated to the COR.

Travel will be reimbursed in accordance with FAR 31.205-46, "Travel costs" and the General Services Administration's Federal Travel Regulations at:
<http://www.gsa.gov/portal/content/104790>

All travel requires prior written approval from the COR.

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 the contractor elects to destroy the documentation, the contractor shall they are destroyed, please confirm this in anvia e -mail to the COR with a copy to the CO and include the date and manner in which the documents were destroyed.

KEY PERSONNEL

See, 2052.215-70 KEY PERSONNEL. (JAN 1993) below.

CONFLICT OF INTEREST

The contractor must disclose any potential organizational conflict of interest (including by subcontractors), considering current work, planned work and past work for non-NRC entities, (i) in the same technical area, or (ii) on the same or similar matter, as the NRC project scope of work. Non-NRC entities include, but are not limited to, NRC licensees, vendors, industry groups or research institutes that represent or are substantially comprised of nuclear utilities. In addition, the contractor shall provide disclosures for any concurrent and contemplated work for NuScale or its contractors. Each disclosure for NRC review shall include a copy of an official scope of work/purchase order, the dollar value of the work, and the period of performance. It is understood that NRC shall make all determinations concerning OCOI.

LICENSE FEE RECOVERY

All work under this task order is 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.

SECTION F - Deliveries or Performance

NRCF030A PERIOD OF PERFORMANCE ALTERNATE I

This order (Base plus Option CLINS) shall commence on September 30, 2016 and will expire on December 31, 2019. (See FAR 52.216-18 - Ordering).

Base Period (CLINS 00001 & 00002): September 14, 2016 through December 31, 2018.
 Option Period (CLINS 10001 & 10002): January 1, 2019 through December 31, 2019.

(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:

Position	Name
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

*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:

[REDACTED]

The alternate contracting officer's representative is:

[REDACTED]

(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