

2. AMENDMENT/MODIFICATION NO. M0002	3. EFFECTIVE DATE See Block 16C	4. REQUISITION/PURCHASE REQ. NO. ZEROREQ-RES-17-0185	5. PROJECT NO. (If applicable)
6. ISSUED BY CODE US NRC - HQ ACQUISITION MANAGEMENT DIVISION MAIL STOP TWFN-8E06M 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 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-60-15-E-0002 NRC-HQ-60-15-T-0001
CODE 621211259 FACILITY CODE		10B. DATED (SEE ITEM 13) 09/28/2015

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)
N/A

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 CHANGES - COST REIMBURSEMENT. (AUG 1987) - ALTERNATE V (APR 1984)

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.)
Task Order NRC-HQ-60-15-T-0001 Entitled, "Multi-Source Integrated Site PRA," under Contract Number NRC-HQ-60-15-E-0002.
The purpose of this modification is to extend the period of performance by eighteen (18) months, from September 29, 2017 to March 1, 2019 and (2) to revise Sections 4 and 5 of the Statement of Work to better clarify the work now required and to identify deliverables and deliverable due dates. Both changes to the task order are at no cost impact.

Accordingly, see continuation pages to this modification for Revised SECTION C - DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK, Sections 4 (Specific Tasks) and 5 (Deliverables and Delivery Schedule). Also, SECTION F, NRCF030A entitled, "PERIOD OF PERFORMANCE ALTERNATE I," is hereby replaced with the following:

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) SHARLENE M. MCCUBBIN
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED
	16B. UNITED STATES OF AMERICA  (Signature of Contracting Officer)
	16C. DATE SIGNED 08/08/2017

CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED
 NRC-HQ-60-15-E-0002/NRC-HQ-60-15-T-0001/M0002

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NAME OF OFFEROR OR CONTRACTOR
 ENERGY RESEARCH INC

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>The order shall commence on September 30, 2015 and will expire on March 1, 2019. (See FAR 52.216-18 Ordering).</p> <p>Total Task Order Ceiling: \$109,816.82 (Unchanged) Total Obligated Amount: \$109,816.82 (Unchanged) Period of Performance: 09/30/2015 to 03/01/2019 (Changed)</p> <p>All other terms and conditions of the task order remain unchanged.</p> <p>Period of Performance: 09/30/2015 to 03/01/2019</p>				

4. SPECIFIC TASKS

The contractor shall provide technical assistance as requested by the COR to support the NRC in the development of a multisource integrated site PRA model. This model shall encompass all major site radiological sources for a specified commercial nuclear power plant site, including all operating reactor units, SFPS, and DCS. This support shall support include participation in the following work activities:

- Selection and implementation of a method for multi-source integrated site PRA model development and integration
- Multi-source integrated site PRA model accident sequence delineation
- Multi-source integrated site PRA Model accident sequence quantification

The contractor shall provide support for the above work activities in consideration of: the Level-1, Level-2, and Level-3 analyses; all hazards, all modes of operation; and all major site radiological sources, including all operating reactor units, SFPs, and DCS. This support shall also include necessary interfacing with the relevant personnel supporting prior development of individual single-source PRA models that comprise the inputs to the multi-source integrated site PRA model. The contractor shall review reports developed by the NRC Technical Staff and respond to questions from the NRC Technical Staff as provided by the COR. If requested, the contractor shall provide a technical letter report detailing the contractor's analysis and support of that work activity. These reports shall include, at a minimum, the following elements:

- Sources of information used and a description of each information source
- Information about any data that was used (e.g. parameter values, uncertainty distributions, basis for a given parameter value and uncertainty distribution)
- Modeling assumptions including the bases for a given modeling assumption and the impact, potential or actual, on the PRA
- Sources of model uncertainty, a description of the sources of model uncertainty, and the impact on PRA from a given source of model uncertainty

The NRC shall provide relevant documentation templates to the contractor, which include the minimum report requirements, as described above.

If requested by the COR, support NRC staff in its presentation to the Level 3 PRA Project Technical Advisory Group and ACRS of work performed under this task order. Support may include: (1) prepare, or review NRC staff developed PowerPoint slides; (2) attend the meeting(s) and assist NRC staff in responding to questions raised during the meeting(s); and (3) assist NRC staff with addressing any outstanding questions or issues, if any, which result from the meeting(s).

5. DELIVERABLES AND DELIVERY SCHEDULE

The contractor shall provide the deliverables stated in the table below in electronic format unless otherwise directed by the COR. The deliverables shall be in the format as directed by the COR.

Deliverable	Due Date	Format	Submit to
MLSR	20 th calendar day of the following month	PDF	CO/COR
Contributions (Review of NRC Technical Staff Reports, Written Response to NRC questions, and Technical Letter Reports) to Integrated Site PRA pilot application: Reactor, Low-Power/Shutdown, Internal Events Level 1 PRA	7 calendar days after receipt of request from COR	DOC and/or PDF	COR
Contributions (Review of NRC Technical Staff Reports, Written Response to NRC questions, and Technical Letter Reports) to development of frequency- and consequence-based screening criteria to evaluate potential risk contributors for inclusion in Integrated Site PRA model	7 calendar days after receipt of request from COR	DOC and/or PDF	COR
Contributions (Review of NRC Technical Staff Reports, Written Response to NRC questions, and Technical Letter Reports) to development of methods for systematically identifying potential multi-source accident scenarios that could be missed by relying solely on single-source PRA models as inputs	7 calendar days after receipt of request from COR	DOC and/or PDF	COR
Contributions (Develop or Review NRC Staff Slides) to presentations to Level 3 PRA Project Technical Advisory Group (TAG)	7 calendar days after receipt of request from COR	PPT and/or PDF	COR
Contributions (Develop or Review NRC Staff Slides) to presentations to Advisory Committee on Reactor Safeguards (ACRS)	7 calendar days after receipt of request from COR	PPT and/or PDF	COR
Contributions (Comments and Track Changes) to draft report on Integrated Site PRA task developed by NRC Staff	No later than 30 calendar days before end of task order or as directed by COR	DOC and/or PDF	COR

A Monthly Letter Status Report (MLSR) shall be provided by the contractor by the 20th of each month. This report will be used by the Government to assess the adequacy of the resources proposed by the contractor to accomplish the work contained in the contract and provide status of contractor progress in achieving tasks and producing deliverables. The report shall include contract/order summary information, work completed during the specified period, milestone schedule information, problem resolution, travel plans, and staff hour summary. The MSLR shall be delivered via email in PDF format.