

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 09/19/2014		2. CONTRACT NO. (If any) NRC-HQ-25-14-E-0005		6. SHIP TO: a. NAME OF CONSIGNEE US NUCLEAR REGULATORY COMMISSION-	
3. ORDER NO. NRC-HQ-20-14-T-0001		4. REQUISITION/REFERENCE NO. See Schedule		b. STREET ADDRESS MAIL PROCESSING CENTER 4930 BOILING BROOK PARKWAY	
5. ISSUING OFFICE (Address correspondence to) US NRC - HQ ACQUISITION MANAGEMENT DIVISION MAIL STOP 3WFN-05-C64MP WASHINGTON DC 20555-0001				c. CITY ROCKVILLE	d. STATE MD
				e. ZIP CODE 20852	
7. TO: a. NAME OF CONTRACTOR ENERGY RESEARCH INC				f. SHIP VIA	
b. COMPANY NAME				8. TYPE OF ORDER <input type="checkbox"/> a. PURCHASE REFERENCE YOUR: <input checked="" type="checkbox"/> 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.	
c. STREET ADDRESS 6189 EXECUTIVE BLVD				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.	
d. CITY ROCKVILLE		e. STATE MD	f. ZIP CODE 208523901		
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE OFF OF NUCLEAR REACTOR REGULATION	

11. BUSINESS CLASSIFICATION (Check appropriate box(es)) <input type="checkbox"/> a. SMALL <input type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB					12. F.O.B. POINT
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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) 03/20/2015	16. DISCOUNT TERMS
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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)
	Task Order No. 2 titled Technical Assistance in Support of Cooper Nuclear Stations (CNS) License Amendment Request to Move Linear Heat Generation Rate (LHGR) Limit from Technical Requirements Manual (TRM) to Technical Specifications (TS), in Continued ...					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)	
	21. MAIL INVOICE TO:							
	a. NAME US NUCLEAR REGULATORY COMMISSION						\$0.00	
	b. STREET ADDRESS (or P.O. Box) ONE WHITE FLINT NORTH 11555 ROCKVILLE PIKE MAILSTOP 03-E17A							
c. CITY ROCKVILLE						d. STATE MD	e. ZIP CODE 20852-2738	17(i) GRAND TOTAL

22. UNITED STATES OF AMERICA BY (Signature) 09/19/2014

23. NAME (Typed)
MARK THOMPSON
TITLE: CONTRACTING/ORDERING OFFICER

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OPTIONAL FORM 347 (Rev. 2/2012)
Prescribed by GSA/FAR 48 CFR 53.213(f)

TEMPLATE - ADM001

SUNSI REVIEW COMPLETE

OCT 21 2014

ADM002

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
09/19/2014

CONTRACT NO.

NRC-HQ-25-14-E-0005

ORDER NO.

NRC-HQ-20-14-T-0001

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	<p>Support of NRC Environmental and Reactor Programs under Enterprise Wide Contract No. NRC-HQ-25-14-E-0005.</p> <p>This Task Order is fully-funded at \$39,214.48.</p> <p>Contracting Officers Representative: Shaun Anderson, email: Shaun.Anderson@nrc.gov, phone: 301-415-2039 Contractor POCs: Business: Tracey Mullinix, Contract Administrator. Email: tlm@eri-world.com. Phone: (301) 881-0866. Technical: Dr. Mohsen Khatib-Rahbar, President. Email: mkrl@eri-world.com. Phone: (301) 881-0866.</p> <p><i>Mohsen Khatib-Rahbar</i> 9/19/14 ERI Authorized Official Date</p> <p>Accounting Info: 2014-X0200-FEEBASED-20-20D008-11-4-149-1128-251A Period of Performance: 09/22/2014 to 03/20/2015</p>					

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

\$0.00

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Prescribed by GSA FAR (48 CFR) 53.213(f)

TASK ORDER 02

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			
	Total			\$39,214.49

NRCB044 CONSIDERATION AND OBLIGATION—INDEFINITE-QUANTITY CONTRACT

(a) The estimated total quantity of this contract for the products/services under this contract is **\$39,214.49** 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 **\$39,214.49**, 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 TASK ORDER 02 – “Technical Assistance in Support of Cooper’s License
Amendment Request to Move Linear Heat Generation Rate (LHGR) Limit from Technical
Requirements Manual (TRM) to Technical Specifications (TS) (ML14203A045)”**

CC 1128	Contractor Energy Research, Inc.	Task Order No. NRC-HQ-25-14-E-0005 TO #02
Applicant Nebraska Public Power District	Site Cooper Nuclear Station	Docket No. 05000298
Title/Description Technical Assistance in Support of Cooper Nuclear Station’s (CNS) License Amendment Request to Move Linear Heat Generation Rate (LHGR) Limit from Technical Requirements Manual (TRM) to Technical Specifications (TS) (ML14203A045) - Task Order 2		
TAC No. MF4485	B&R Number 11-4-149	SRP or ESRP Section(s) N/A
NRC Contracting Officer Representative (Administrative) See Section H, Clause 2052.21571 PROJECT OFFICER AUTHORITY		
NRC Contracting Officer Representative (Technical) See Section H, Clause 2052.21571 PROJECT OFFICER AUTHORITY		

1.0 PROJECT DESCRIPTION

This project is titled, “Technical Assistance in Support of Cooper’s License Amendment Request to Move Linear Heat Generation Rate (LHGR) Limit from Technical Requirements Manual (TRM) to Technical Specifications (TS) (ML14203A045).” The objective of this task order is to obtain technical expertise to assist the U.S. Nuclear Regulatory Commission (NRC) staff in determining the technical adequacy of the license amendment request (LAR) submitted by Nebraska Public Power District) to revise Cooper’s Move Linear Heat Generation Rate (LHGR) Limit from TRM to TS. This project falls under Section C.3.2, “Licensing Support,” of the base contract.

2.0 BACKGROUND

10 CFR 50.36(c)(2)(ii)(B) Criterion 2 requires the inclusion in TS any process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. Prior to CNS cycle 23 the Average Planar Linear Heat Generation Rate (APLHGR) thermal limit in TS 3.2.1 was a composite limit of the Emergency Core Cooling System (ECCS) Loss of Coolant Accident (LOCA) limits and the thermal mechanical LHGR limits used to protect the primary fission product barrier (cladding). This allowed the APLHGR TS to meet the requirements for monitoring the ECCS LOCA limits as well as the thermal mechanical limits of the cladding.

Since the implementation of PANAC11 in cycle 23, the application of the APLHGR limits are based solely on the ECCS criteria. Thermal mechanical limits are monitored independently with LHGR. Since the limits are now separate, both limits must reside in the TS and have a unique Condition for Operation (LCO) for each. LHGR is presently monitored and controlled per the TRM. This change is needed to allow the TS to comply with the Code of Federal Regulations which will be satisfied by the addition of TS 3.2.3, LHGR.

This amendment is required to revise the CNS Operating License to add the definition for LHGR, add the LCO, Actions and Surveillance Requirements for LHGR, revise the Recirculation Loops Operating LCO, revise the Main Turbine Bypass System LCO and revise the requirements for the Core Operating Limits Report (COLR).

3.0 OBJECTIVE

The contractor must provide all resources necessary to accomplish the tasks and deliverables described in this statement of work (SOW).

The contractor must perform a review and evaluation of the technical and regulatory basis for the LAR. The contractor must provide technical evaluation report (TER) that will be used as input for the NRC staff's safety evaluation report (SER) that documents the NRC's technical, legal, and safety basis for approving the license amendment.

4.0 SPECIFIC TASKS

The contractor must perform the following tasks:

Task 1 Kickoff Meeting

1. a Preparation for Kickoff Meeting

Become familiar with the LAR submittal by CNS.

1. b Attend Kickoff Meeting

Attend a one-time kick-off meeting (either in person or via conference call) to discuss the scope of work, expectations, task order management, and performance requirements of the task order. The kick-off meeting shall be held within ten (10) working days after contractor receipt of LAR materials.

Task 2 Review LAR Submission

2. a Evaluate the LAR Submittal

Using the criteria and guidelines found in Standard Review Plan (SRP), review the LAR submitted by CNS to determine the technical accuracy and regulatory compliance of the request.

2. b Prepare Draft Technical Evaluation Report

Prepare a draft Technical Evaluation Report (TER) that incorporates the results of the review and evaluation. The TER must be organized to parallel the applicable sections in NRC's SRP, Chapters 9. The TER may include other relevant information that is not included in the SRP. Only input to SER sections requiring revision must be included in the TER. The TER must contain draft text, tables, and illustrations, as appropriate, suitable for inclusion in NRC's SER. The TER must provide sufficient information to adequately support the NRC staff's rationale for why there is reasonable assurance that public health and safety is protected. It must be written so that a person with either non-nuclear technical background or non-technical background can understand the basis for conclusions cited.

Prepare final draft TER that incorporates comments provided by the Contracting Officer's Representative (COR).

As directed by the COR, participate in conference calls with CNS to discuss the LAR materials.

2. c Prepare Requests for Additional Information

Identify unresolved issues and any additional or clarifying information needed in the LAR submission. Prepare draft Request for Additional Information (RAIs) for use by NRC in requesting more information from CNS to clarify issues raised during review of the LAR. Prepare final RAIs that incorporate comments provided by the COR.

As directed by the COR, participate in conference calls with CNS to discuss additional information to be provided or clarified with the LAR.

2. d Review RAI Responses and Update TER

Review CNS's responses to the RAIs to determine whether they adequately resolve the outstanding issues.

Update the draft TER prepared under Task 2.b to incorporate CNS's RAI responses and revise related portions of the draft text, tables, and illustrations in the TER. Prepare a final updated TER that incorporates comments provided by the COR.

As directed by the COR, participate in conference calls with CNS to discuss the responses of the RAIs.

5.0 APPLICABLE DOCUMENTS AND STANDARDS

NUREG-0800 SRP


6.0 DELIVERABLES AND DELIVERY SCHEDULE/REPORTING REQUIREMENTS

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

Deliverable Number	Deliverable and Acceptance Criteria	Deliverable Due Date
1	For Task 2.b, Draft TER Acceptance Criteria: Report must have the required content and follow the required format	NLT 4 weeks after award of task order
2	For Task 2.b, Final Draft TER Acceptance Criteria: All COR comments are addressed in the TER.	NLT 1 week after receipt of COR comments
3	For Task 2.c, Draft RAIs Acceptance Criteria: RAIs are technically sound, adequately address identified issues, and include a regulatory basis for each request.	NLT 4 weeks after award of task order
4	For Task 2.c, Final RAIs Acceptance Criteria: All COR comments are reflected in the RAIs.	NLT 1 week after receipt of COR comments
5	For Task 2.d, Draft Updated TER Acceptance Criteria: Deliverable contains required content and incorporates all responses to RAIs from the licensee	NLT 2 weeks after receipt of RAI responses
6	For Task 2.d, Final Updated TER Acceptance Criteria: All COR comments are addressed in the updated TER	NLT 1 week after receipt of COR comments

All of the above deliverables shall be submitted electronically to task order COR.

7.0 REQUIRED LABOR CATEGORIES/ ESTIMATED LEVEL OF EFFORT

Labor Category	Minimum Qualification Requirement	Estimated Labor Hours
Project Manager & Technical Reviewer	Extensive knowledge in nuclear power plant systems and GE Standard Technical Specifications (10 years), thermal hydraulics, Neutronics; Master's Degree in Mechanical or Nuclear Engineering	

8.0 GOVERNMENT-FURNISHED PROPERTY

N/A

9.0 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.

10.0 PLACE OF PERFORMANCE

Work will be performed at the contractor's site.

11.0 SPECIAL CONSIDERATIONS

11.1 TRAVEL/MEETINGS

The 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 task order. All travel requires prior written approval from the COR.

The following travel may be required under this task order:

One, 1-Person, 2-Day Trip to NRC Headquarters or Licensee Facility

At the discretion of the COR, meetings may be conducted via telephone or video conference.

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>

11.2 SECURITY

These documents contain proprietary information and they must be safeguarded against unauthorized disclosure. After completion of work, the documents should either be destroyed or returned to the NRC COR. 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.

12.0 NRC FURNISHED MATERIAL

The following NRC furnished materials will be provided to the contractor under Section J, below:

Electronic copy of the MLSR

13.0 OTHER APPLICABLE INFORMATION

a. 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 September 22, 2014 and will expire on March 20, 2015. (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:

Project Manager	M. Khatib-Rahbar
Tech Reviewer	C. Kimura
Tech Reviewer	M. LibbyW. Schofield
Tech Reviewer	W. Schofield

*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: Shaun Anderson
Address: US NRC
Office of Reactor Regulation
MS-O-10E01
Washington DC 20555
Telephone Number: 301-415-2039
Email: Shaun.Anderson@nrc.gov

The alternate contracting officer's representative is:

Name: Andrew Proffitt
Address: US NRC
Office of Reactor Regulation
Washington DC 20555
Telephone Number: 301-415-1418
Email: Andrew.Proffitt@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