

SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEMS <i>OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, & 30</i>				1. REQUISITION NUMBER NRR-16-0107		PAGE OF 1 27		
2. CONTRACT NO. NRC-HQ-25-14-E-0006		3. AWARD/ EFFECTIVE DATE	4. ORDER NUMBER NRC-HQ-20-16-T-0001		5. SOLICITATION NUMBER		6. SOLICITATION ISSUE DATE	
7. FOR SOLICITATION INFORMATION CALL:		a. NAME MONIQUE WILLIAMS		b. TELEPHONE NUMBER 301-415-6971 <i>(No collect calls)</i>		8. OFFER DUE DATE/LOCAL TIME		
9. ISSUED BY US NRC - HQ ACQUISITION MANAGEMENT DIVISION MAIL STOP TWFN-5E03 WASHINGTON DC 20555-0001			CODE NRCHQ	10. THIS ACQUISITION IS <input checked="" type="checkbox"/> UNRESTRICTED OR <input type="checkbox"/> SET ASIDE: % FOR:				
			<input type="checkbox"/> SMALL BUSINESS	<input type="checkbox"/> WOMEN-OWNED SMALL BUSINESS				
			<input type="checkbox"/> HUBZONE SMALL BUSINESS	<input type="checkbox"/> (WOSB) ELIGIBLE UNDER THE WOMEN-OWNED SMALL BUSINESS PROGRAM		NAICS: 541690		
			<input type="checkbox"/> SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS	<input type="checkbox"/> EDWOSB				
				<input type="checkbox"/> 8(A)		SIZE STANDARD: \$14.0		
11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED <input type="checkbox"/> SEE SCHEDULE		12. DISCOUNT TERMS		<input type="checkbox"/> 13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)		13b. RATING		
						14. METHOD OF SOLICITATION <input type="checkbox"/> RFQ <input type="checkbox"/> IFB <input checked="" type="checkbox"/> RFP		
15. DELIVER TO US NUCLEAR REGULATORY COMMISSION- MAIL PROCESSING CENTER 4930 BOILING BROOK PARKWAY ROCKVILLE MD 20852			CODE NRCHQ	16. ADMINISTERED BY US NRC - HQ ACQUISITION MANAGEMENT DIVISION MAIL STOP TWFN-5E03 WASHINGTON DC 20555-0001		CODE NRCHQ		
17a. CONTRACTOR/ OFFEROR		CODE 150135445	FACILITY CODE	18a. PAYMENT WILL BE MADE BY US NUCLEAR REGULATORY COMMISSION ONE WHITE FLINT NORTH 11555 ROCKVILLE PIKE MAILSTOP 03-E17A ROCKVILLE MD 20852-2738		CODE NRCPAYMENTS		
INFORMATION SYSTEMS LABORATORIES INC ATTN WILLIAM ARCIERI 11140 ROCKVILLE PIKE ROCKVILLE MD 20852-3106								
TELEPHONE NO. (858) 535-9680								
<input type="checkbox"/> 17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER				<input type="checkbox"/> 18b. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 18a UNLESS BLOCK BELOW IS CHECKED <input type="checkbox"/> SEE ADDENDUM				
19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES			21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT	
	Task Order 7, entitled "Technical Assistance in Support of Harris Unit No. 1, License Amendment Request for Main Steam Safety Valve Lift Setting Tolerance Change, Technical Specifications Sections: 2.2.1, "Limiting Safety System Settings Reactor Trip System Instrumentation Trip Setpoints," 3.4.3, "Pressurizer," and 3.7.1.1, "Turbine Cycle Safety Valves," under Enterprise-wide Contract Number NRC-HQ-25-14-E-0006. This Task Order is fully funded at \$62,021.00 <i>(Use Reverse and/or Attach Additional Sheets as Necessary)</i>							
25. ACCOUNTING AND APPROPRIATION DATA 2016-X0200-FEEBASED-20-20D008-11-4-149-1061-251A					26. TOTAL AWARD AMOUNT <i>(For Govt. Use Only)</i> \$62,021.00			
<input type="checkbox"/> 27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, 52.212-4. FAR 52.212-3 AND 52.212-5 ARE ATTACHED. ADDENDA					<input type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED.			
<input type="checkbox"/> 27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4. FAR 52.212-5 IS ATTACHED. ADDENDA					<input type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED.			
<input type="checkbox"/> 28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN COPIES TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED.				<input type="checkbox"/> 29. AWARD OF CONTRACT: REF. _____ OFFER DATED _____ YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN, IS ACCEPTED AS TO ITEMS:				
30a. SIGNATURE OF OFFEROR/CONTRACTOR				31a. UNITED STATES OF AMERICA (SIGNATURE OF CONTRACTING OFFICER) 				
30b. NAME AND TITLE OF SIGNER <i>(Type or print)</i>			30c. DATE SIGNED	31b. NAME OF CONTRACTING OFFICER <i>(Type or print)</i> KARLA F. FITZ		31c. DATE SIGNED 03/30/2016		

TEMPLATE - ADM001

SUNSI REVIEW COMPLETE

MAY 19 2016

ADM002

19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES	21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT
	<p>Period of Performance: March 30, 2016 - July 31, 2016</p> <p>Task Order Ceiling: \$62,021.00</p> <p>Total Obligated Amount: \$62,021.00</p> <p>Contracting Officer's Representative (COR)</p> <p>Name: Will MacFee</p> <p>Phone: 301-415-1326</p> <p>Email: William.MacFee@nrc.gov</p> <p>Contractor POC (Business)</p> <p>Name: Bill Arcieri</p> <p>Phone: 301-255-2275</p> <p>Email: billa@islinc.com</p> <p><i>William Arcieri</i> William Arcieri 2016.03.29 14:46:25 -04'00' 3/29/16</p> <p>ISL Authorized Official Date</p>				

32a. QUANTITY IN COLUMN 21 HAS BEEN

RECEIVED INSPECTED ACCEPTED, AND CONFORMS TO THE CONTRACT, EXCEPT AS NOTED: _____

32b. SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE		32c. DATE	32d. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE	
32e. MAILING ADDRESS OF AUTHORIZED GOVERNMENT REPRESENTATIVE			32f. TELEPHONE NUMBER OF AUTHORIZED GOVERNMENT REPRESENTATIVE	
			32g. E-MAIL OF AUTHORIZED GOVERNMENT REPRESENTATIVE	
33. SHIP NUMBER	34. VOUCHER NUMBER	35. AMOUNT VERIFIED CORRECT FOR	36. PAYMENT	37. CHECK NUMBER
<input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL			<input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL	
38. S/R ACCOUNT NUMBER	39. S/R VOUCHER NUMBER	40. PAID BY.		
41a. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT			42a. RECEIVED BY (<i>Print</i>)	
41b. SIGNATURE AND TITLE OF CERTIFYING OFFICER		41c. DATE	42b. RECEIVED AT (<i>Location</i>)	
			42c. DATE REC'D (<i>YY/MM/DD</i>)	42d. TOTAL CONTAINERS

TASK ORDER – Unrestricted EWC IDIQ for ISL

SECTION B - SUPPLIES OR SERVICES AND PRICE/COSTS

B.1 PRICE/COST SCHEDULE

CLIN	DESCRIPTION OF SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	TOTAL COST PLUS FIXED FEE
0001	Contractor to provide Technical Assistance in accordance with section C: DESCRIPTION/ SPECIFICATIONS/ STATEMENT OF WORK	[REDACTED]	[REDACTED]	[REDACTED]
	Total	[REDACTED]	[REDACTED]	\$62,021.00

NRCB044 CONSIDERATION AND OBLIGATION—INDEFINITE-QUANTITY CONTRACT

- (a) The estimated total quantity of this contract for the products/services under this contract is **\$62,021.00** 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 **\$62,021.00** 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)

DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK

NRC Requisition Office: Office of Nuclear Reactor Regulation (NRR)

Fee Recoverable: Yes

TAC Numbers: MF7195

TASK ORDER STATEMENT OF WORK (SOW)

Review of Harris Nuclear Power Plant

Unit No. 1; Docket Nos. 50-400 & Renewal License No. NPF-63 License Amendment Request for Main Steam Safety Valve Lift Setting Tolerance Change Technical Specifications (TS) Sections: 2.2.1, "Limiting Safety System Settings Reactor Trip System Instrumentation Trip Setpoints"; 3.4.3, "Pressurizer"; and 3.7.1.1, "Turbine Cycle Safety Valves"

1. PROJECT TITLE

"Technical Assistance in Support of Harris Unit No. 1, License Amendment Request for Main Steam Safety Valve Lift Setting Tolerance Change, Technical Specifications Sections: 2.2.1, "Limiting Safety System Settings Reactor Trip System Instrumentation Trip Setpoints," 3.4.3, "Pressurizer," and 3.7.1.1, "Turbine Cycle Safety Valves."

2. BACKGROUND

Pursuant to Title 10 of the Code of Federal Regulations (10 CFR) 50.90, Duke Energy, submitted a request on December 17th, 2015 to amend their Renewed Operating License No. NPF-63 for Harris Nuclear Power Plant Unit No. 1 that includes revisions to various Technical Specifications (TS) related to Pressurizer Safety Valves. Specifically, Duke Energy is proposing the following changes:

- (1) A change to the as-found lift setting tolerance for main steam line code safety valves (MSSVs) in TS 3.7.1.1, Table 3.7-2, from $\pm 1\%$ to $\pm 3\%$.
- (2) To support the MSSV setpoint tolerance change, a reduction to the reactor trip system instrumentation trip setpoint for pressurizer water level-high percentage of the instrument span in TS 2.2.1, Table 2.2-1, from 92% to 87%.
- (3) A reduction to the allowable value of the instrument span in TS 2.2.1, Table 2.2-1, from 93.5% to 88.5%.
- (4) A change to reduce the maximum pressurizer water level limiting condition of operation from less than or equal to 92% of indicated span to less than or equal to 75% of indicated span, which requires a change to TS 3.4.3,

In support of the License Amendment Request, analyses were performed by Duke Energy to demonstrate Reactor Coolant Pressure Boundary (RCPB) integrity with a previously-approved NRC methodology.

Duke Energy, requests approval of this proposed amendment by June 17, 2016 with an implementation period of the end of the refueling outage following approval. Implementation of

this proposed amendment is dependent upon physically resetting the pressurizer safety valve lift set-points prior to their installation in the Unit.

3. PROJECT DESCRIPTION AND OBJECTIVE(S)

This Statement of Work for this Task Order falls within the Unrestricted IDIQ entitled Technical Assistance in Support of Agency Environmental and Reactor Programs, paragraph 3.2 entitled, "LICENSING SUPPORT."

The objective of this task order is to obtain technical support in determining the acceptability of the change in lift setting tolerances for safety valves and the change to the reactor trip system setpoint for pressurizer water level proposed by Duke Energy in their license amendment request for Harris Nuclear Power Plant Unit No. 1.

4. STATEMENT OF WORK TASKS

Task 1: Evaluation of the License Amendment Request

Based on the guidance found in NUREG 0800, evaluate the completeness and acceptability of the technical evaluation and technical specification changes outlined in the license amendment request. Determine conformance with the regulatory requirements outlined in the license amendment request and the requirements listed in NUREG-0800 Chapter 5.2.2. Identify the need for additional or clarifying information and formulate requests for additional information (RAIs). See Attachment 2 for guidance in preparing RAIs. Perform confirmatory calculations, if needed.

Subtask 1.A: Review Enclosure 1 of the license amendment request and provide analysis in a technical letter report (TLR) that contains a list of the key issues, a brief summary of each issue and an explanation why the LAR approach is acceptable. If the approach is unacceptable, then formulate RAIs and articulate the bases for each RAI.

Subtask 1.B Review Enclosure 2 of the license amendment request and determine if the proposed changes by the licensee are acceptable or unacceptable. Prepare a TLR that contains a list of the key issues, a brief summary of each issue, and an explanation why the LAR approach is acceptable. If the approach is unacceptable, then formulate RAIs and articulate the bases for each RAI.

Subtask 1.C: Review Enclosure 3 of the license amendment request and provide indication that the changes are acceptable in a TLR that contains a list of the key issues and provide a brief summary of the issue and an explanation why the LAR approach is acceptable. If the approach is unacceptable, then formulate RAIs and articulate the bases for each RAI.

Subtask 1.D: Review Enclosure 4 of the license amendment request and provide indication that the changes are acceptable in a TLR that contains a list of the key issues and provide a brief summary of the issue and an explanation why the LAR approach is acceptable. If the approach is unacceptable, then formulate RAIs and articulate the bases for each RAI.

Subtask 1.E: Obtain written agreement through electronic mail from the COR if computer calculations for confirmatory calculations are needed. Develop input decks for the TRACE computer code using plant specific data for Shearon Harris and then perform the agreed upon

calculations. The contractor shall prepare a TLR that documents all confirmatory calculations including at a minimum a description of key phenomena, input model used, and key results.

Task 2: Audit

The contractor shall perform one audit at either NRC Headquarters or Duke Energy's facility by reading relevant documents to address open items with the submittal and possible paths of resolution for the open item. When conducting the audit, the contractor shall advise NRC staff during discussions of open items with Duke Energy. The contractor shall provide a trip report that contains the summary of the major issues discussed, any agreements reached and the basis/bases for agreement, any actions pending and who has the responsibility for doing what by when, as well as a list of attendees. Include any slides or other presentations made by Duke Energy.

Task 3: Review and Evaluation of RAI Responses

Evaluate RAI responses to see if they address the technical issue in sufficient detail to complete the review. To clarify RAI responses, the COR will arrange for a conference call with Duke Energy. The contractor shall participate in the telephone conference call and/or public meeting with the licensee and COR to discuss and clarify the nature of the RAIs in order to arrive at a mutual understanding of the issue and to reach resolution.

Subtask 3.A: Prepare a TLR that summarizes the conference call and/or public meeting, including the proposed resolution approach for each RAI.

Subtask 3.B: Evaluate RAI responses in a separate TLR. This TLR includes a summary of the RAIs, a summary of the licensee's response to the RAIs, and a summary of why it is acceptable. For RAI responses that are unacceptable, formulate follow-on RAI(s).

Task 4: Prepare Final Technical Evaluation Report

Subtask 4.A: Based on the work performed during the review, the contractor shall prepare a draft technical evaluation report following the format in Attachment 2. The draft technical evaluation report shall contain results of the work performed. NRC staff will provide comments on the draft technical evaluation.

Subtask 4.B: The contractor shall prepare a final technical evaluation report that addresses all comments from the COR on the draft technical evaluation report.

5. APPLICABLE DOCUMENTS AND STANDARDS

NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: Light Water Reactor Edition," Section 5.2.2, Revision 3, "Overpressure Protection," provides guidance to determine whether the systems that provide overpressure protection to the RCPB satisfies the requirements of General Design Criteria (GDCs) 15 "Reactor Coolant System Design" and 31 "Fracture Prevention of Reactor Coolant Pressure Boundary," and will perform its intended functions during all plant operating and accident conditions

GDC15, "Reactor Coolant System Design," specifies the overpressure protection system must maintain RCS pressure within acceptable design limits during certain analyzed transients.

Application of GDC 15 to the overpressure protection system provides assurance that the RCPB will have an extremely low probability of failure during transients. Satisfaction of GDC 15 requires that the reactor coolant system and associated auxiliary, control, and protection systems are designed with sufficient margin to assure that the design conditions of the reactor coolant pressure boundary are not exceeded during any condition of normal operation, including anticipated operational occurrences. The pressurizer safety valves are the primary components that assure sufficient margin is maintained to maximum pressure safety limits. Remaining below the safety limit is evaluated by review of safety related calculations of the pressure response during limiting operational transients.

American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section III, Article NB-7000, "Overpressure Protection," and Article NB-7311, "Relieving Capacity of Pressure Relief Devices," specifies that the overpressure protection system provide sufficient relief capacity to prevent a pressure increase greater than 10% above the RCPB design pressure, accounting for losses through piping and other components. This requirement is also stated in NUREG-0800.

GDC 31, "Fracture Prevention of Reactor Coolant Pressure Boundary," specifies the reactor coolant pressure boundary shall be designed with sufficient margin to assure that when stressed under operating, maintenance, testing, and postulated accident conditions (1) the boundary behaves in a nonbrittle manner and (2) the probability of rapidly propagating fracture is minimized. The design shall reflect consideration of service temperatures and other conditions of the boundary material under operating, maintenance, testing, and postulated accident conditions and the uncertainties in determining (1) material properties, (2) the effects of irradiation on material properties, (3) residual, steady state and transient stresses, and (4) size of flaws.

Section 50.36 of 10 CFR, "Technical specifications," provides the regulatory requirements for the content required in the TSs. As stated in 10 CFR 50.36(c)(1)(i)(A), safety limits for nuclear reactors are limits upon important process variables that are found to be necessary to reasonably protect the integrity of certain of the physical barriers that guard against the uncontrolled release of radioactivity. In addition, pressurizer safety valves must satisfy 10 CFR 50.36(c)(2)(ii), Criterion 3.

NUREG-1431, "Standard Technical Specifications, Westinghouse Plants," Revision 4.0, April 2012

6. DELIVERABLES AND DELIVERY SCHEDULE/REPORTING REQUIREMENTS

The below 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. 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.

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

Deliverable Schedule

Deliverable	Deliverable	Deliverable Format	Completion Date
1	Monthly Status Letter Report (MSLR) per Section F.3 and Attachment 5 of the base contract. Detail the work effort by labor category	Word Document	20 th calendar day of the following month
2	Technical Letter Report as detailed in Subtask 1.A.	Word Document	Three working days after receipt of the LAR
3	Technical Letter Report as detailed in Subtask 1.B.	Word Document	Three working days after completion of Subtask 1.A.
4	Technical Letter Report as detailed in Subtask 1.C	Word Document	Three working days after completion of Subtask 1.B
5	Technical Letter Report as detailed in Subtask 1.D	Word Document	Three working days after completion of Subtask 1.C
6	Technical Letter Report as detailed in Subtask 1.E	Word Document	As required, Agreed upon by the COR and PI
7	Trip Report as detailed in Task 2	Word Document	One week after the trip concludes
8	Technical Letter Report as detailed in Subtask 3.A	Word Document	Agreed upon between the COR and PI
9	Technical Letter Report as detailed in Subtask 3.B	Word Document	One week after receipt of RAI Responses
10	Draft Technical Evaluation Report as Detailed in Subtask 4.A	Word Document	Two weeks after resolution of last RAI
11	Final Technical Evaluation Report as detailed in Subtask 4.B	Word Document	Three working days after receipt of COR comments

7. REQUIRED LABOR CATEGORIES/ ESTIMATED LEVEL OF EFFORT(Except for Information Technology Services)

This estimate is advisory only and not to be considered as the sole basis for development of a staffing plan.

Labor categories/Level of effort table

Labor Category	SKILLSETS	Minimum Qualification Requirement	Estimated Labor Hours
Sr. Tech Reviewer (STR)	Previous experience with NRC licensing actions	-Minimum Education: Master of Science Degree in Mechanical or Nuclear Engineering -Minimum Experience: Ten Years of work in experience and extensive knowledge in one or more of the following areas: nuclear power plant systems, Accident Analysis, thermal hydraulics, Neutronics and Westinghouse Standard Technical Specifications (STS). -Ability to run the computer code RELAP or TRACE	240
Technical Reviewer	Previous experience with NRC licensing actions	Minimum Education: Master of Science Degree in Mechanical or Nuclear Engineering Minimum Experience: Extensive knowledge of one or more of the following areas: nuclear power plant systems, Accident Analysis, thermal hydraulics, Neutronics and Westinghouse Standard Technical Specifications (STS). -Ability to run the computer code RELAP or TRACE.	100
Project Manager			20
Administrative Support			10
TOTAL ESTIMATED LOE			370

8. GOVERNMENT-FURNISHED PROPERTY

N/A

9. PERIOD OF PERFORMANCE

The period of performance for this task order is March 30, 2016 – July 31, 2016 from the effective date of this task order award.

10. PLACE OF PERFORMANCE

The work to be performed under this task order, except for the travel described in Section 11.0 of this statement of work, will be performed at the contractor's facility.

11. SPECIAL CONSIDERATIONS

TRAVEL/MEETINGS

The contractor will be authorized travel expenses consistent with the 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.

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>.

As directed by the COR, the contractor may be required to take the following trips:

Two, 2- Person, 2-Day trips to NRC Headquarters, Rockville, MD or Licensee Facility in New Hill, NC

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

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 shall either destroy the documents or return them to the NRC. If they are destroyed, please confirm this in an e mail to the COR with a copy to the CO and include the date and manner in which the documents were destroyed.

KEY PERSONNEL

NAME	LABOR CATEGORY/POSITION
Dr. Mahmoud Massoud	Senior Technical Reviewer
Dr. Daniel Prelewicz	Technical Reviewer
Mr. Lance Larsen	Technical Reviewer

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 March 30, 2016 and will expire on July 31, 2016. (See FAR 52.216-18 - Ordering).

(End of Clause)

SECTION H - Special Contract Requirements

2052.215-70 KEY PERSONNEL. (JAN 1993)

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

Dr. Mahmoud Massoud	Senior Technical Reviewer
Dr. Daniel Prelewicz	Technical Reviewer
Mr. Lance Larsen	Technical Reviewer

*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:

NRC COR:

Name: William MacFee

Office: NRC/NRR

Street Address (Include Office Symbol): 11555 Rockville Pike, OWFN

City, State and Zip code: Rockville, MD 20852, Mail Stop O12D20

E-Mail: William.MacFee@nrc.gov

Phone: 301-415-1326

NRC Alternate COR:

Name: Evan Davidson

Office: NRC/NRR

Street Address (Include Office Symbol): 11555 Rockville Pike, OWFN

City, State and Zip code: Rockville, MD 20852, Mail Stop O10F04

E-Mail: Evan.Davidson@nrc.gov

Phone: 301-415-1342

(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. Guidance for Preparing Requests for Additional Information (RAIs)
2. Content, Outline, and Format for Technical Evaluation Report
3. Monthly Letter Status Report Template
4. Cost Reimbursement Billing Instructions

Guidance for Preparing Requests for Additional Information (RAIs)

Additional information necessary to resolve open or unresolved items identified during the review of the information associated with the License Amendment Request needs to be requested in a manner that is unambiguous, has an adequate basis, and is necessary for the safety review. The technical letter report described in Technical Reporting Requirements should provide a list of RAIs using the following guidance:

1. An RAI shall include the appropriate basis for requesting the information. The basis shall explain why the information is needed, including how it will be used to help make a reasonable assurance finding.
2. Judgmental language shall be avoided.
 - a. Questions shall not make adequacy determinations.
 - b. Words like "unacceptable," "deficient," and "deviation" shall be avoided. Likewise, avoid using phrases like "the staff will require," since it is premature to require anything when asking questions.
3. Questions shall be focused, not open-ended.
 - a. The RAI shall be in the form of a question or an imperative to provide what is needed to complete the review. When the reviewer needs specific information or the underlying issue may not be apparent, the RAI shall clearly identify the information requested and/or the underlying issue.

After the RAIs have been forwarded to the applicable COR, teleconferences and/or public meetings may be held before issuing the RAIs:

- a. These discussions prevent misunderstandings of the intent of the questions.
- b. If a draft RAI is clarified or resolved before issuance, the NRC staff will prepare a documented record of the resolution (i.e., minutes of a public meeting or a teleconference summary).

After the RAIs have been issued, the licensee may request a telephone conference and/or a public meeting:

- a. The teleconferences and/or meetings provide additional clarification of the intent of the RAIs and will help the licensee prepare satisfactory responses.

- b. To ensure that the response appropriately addresses the RAI, the licensee may submit a draft response (which the NRC Project Manager docket in the Agency-Wide Documents Access and Management System (ADAMS)) and may request a follow-up teleconference and/or meeting.

After receiving the licensee's response to the RAI, the COR may hold a teleconference and/or a public meeting. The purpose of discussing a response with the licensee is to better understand the response and/or clarify areas of disagreement. If the resolution of a response relies on information not submitted to the NRC, the licensee shall submit the information on the docket. Only docketed information will be taken into consideration when determining the staff's conclusion.

Content, Outline, and Format for Technical Evaluation Report

1.0 Introduction

Summary of Work Performed: Describe the requested action. Outline the methodology used by the contractor for evaluating the license amendment request.

2.0 Regulatory Evaluation and Criteria

Describe the regulatory guidance found in NUREG 0800 for evaluation of the technical adequacy of the license amendment request methods.

3.0 Technical Evaluation

3.1. Document your evaluation of the approach and changes outlined in the license amendment request

3.2. Document any independent calculations performed in support of assessing the license amendment request. Provide a direct comparison of your independent results to those presented in the license amendment request.

3.3. Include a summary of any RAIs and corresponding responses in the appropriate sections of the TER.

3.4. Document the basis (or bases) for acceptability of the methodology.

4.0 Conclusion

Clearly define any limitation or conditions related to the future application of the methodology.

COST-REIMBURSEMENT TYPE CONTRACTS (JUL 2015)

General: During performance and through final payment of this contract, the contractor is responsible for the accuracy and completeness of data within the System for Award Management (SAM) database and for any liability resulting from the Government's reliance on inaccurate or incomplete SAM data.

The contractor shall prepare invoices/vouchers for reimbursement of costs in the manner and format described herein. FAILURE TO SUBMIT INVOICES/VOUCHERS IN ACCORDANCE WITH THESE INSTRUCTIONS MAY RESULT IN REJECTION OF THE INVOICE/VOUCHER AS IMPROPER.

Standard Forms: Reimbursement requests shall be submitted on the payee's letterhead, invoice/voucher, or on the Government's Standard Form 1034, "Public Voucher for Purchases and Services Other than Personal," and Standard Form 1035, "Public Voucher for Purchases Other than Personal--Continuation Sheet."

Electronic Invoice/Voucher Submissions: The preferred method of submitting invoices/vouchers is electronically to the U.S. Nuclear Regulatory Commission, via email to: NRCPayments@nrc.gov.

Hard-Copy Invoice/Voucher Submissions: If you submit a hard-copy of the invoice/voucher, a signed original and supporting documentation shall be submitted to the following address:

NRC Payments
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mailstop O3-E17A
Rockville, MD 20852-2738

Purchase of Capital Property: *(\$50,000 or more with life of one year or longer)*

Contractors must report to the Contracting Officer, electronically, any capital property acquired with contract funds having an initial cost of \$50,000 or more, in accordance with procedures set forth in NRC Management Directive (MD).

Agency Payment Office: Payment will continue to be made by the office designated in the contract in Block 12 of the Standard Form 26, or Block 25 of the Standard Form 33, whichever is applicable.

Frequency: The contractor shall submit requests for reimbursement once each month, unless otherwise authorized by the Contracting Officer.

Format: Invoices/Vouchers shall be submitted in the format depicted on the attached sample form entitled "Invoice/Voucher for Purchases and Services Other Than Personal". Alternate formats are permissible only if they address all requirements of the Billing Instructions. The instructions for preparation and itemization of the invoice/voucher are included with the sample form.

Task Order Contracts: The contractor must submit a separate invoice/voucher for each individual task order with detailed cost information. This includes all applicable cost elements and other items discussed in paragraphs (a) through (s) of the attached instructions. In addition, the invoice/voucher must specify the contract number, and the NRC-assigned task/delivery order number.

Billing of Costs after Expiration of Contract: If costs are incurred during the contract period and invoiced after the contract has expired, you must cite the period during which these costs were incurred. To be considered a proper expiration invoice/voucher, the contractor shall clearly mark it "EXPIRATION INVOICE" or "EXPIRATION VOUCHER".

Final invoices/vouchers shall be marked "FINAL INVOICE" or "FINAL VOUCHER".

Currency: Invoices/Vouchers must be expressed in U.S. Dollars.

Supersession: These instructions supersede previous Billing Instructions for Cost-Reimbursement Type Contracts.

**INVOICE/VOUCHER FOR PURCHASES AND SERVICES OTHER THAN PERSONAL
(SAMPLE FORMAT - COVER SHEET)**

1. Official Agency Billing Office

NRC Payments
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Mailstop O3-E17A
Rockville, MD 20852-2738

2. Invoice/Voucher Information

a. Payee's DUNS Number or DUNS+4. The Payee shall include the Payee's Data Universal Number (DUNS) or DUNS+4 number that identifies the Payee's name and address. The DUNS+4 number is the DUNS number plus a 4-character suffix that may be assigned at the discretion of the Payee to identify alternative Electronic Funds Transfer (EFT) accounts for the same parent concern.

b. Taxpayer Identification Number. The Payee shall include the Payee's taxpayer identification number (TIN) used by the Internal Revenue Service (IRS) in the administration of tax laws. (See IRS Web site:

[http://www.irs.gov/Individuals/International-Taxpayers/Taxpayer-Identification-Numbers-\(TIN\)](http://www.irs.gov/Individuals/International-Taxpayers/Taxpayer-Identification-Numbers-(TIN))).

c. Payee's Name and Address. Show the name of the Payee as it appears in the contract and its correct address. Where the Payee is authorized to assign the proceeds of this contract in accordance with the clause at Federal Acquisition Regulation (FAR) 52.232-23 Assignment of Claims, the Payee shall require as a condition of any such assignment, that the assignee shall register separately in the System for Award Management (SAM) database at <http://sam.gov> and shall be paid by EFT in accordance with the terms of this contract. See FAR 52.232-33 Payment by Electronic Funds Transfer-System for Award Management.

d. Contract Number. Insert the NRC contract number (including Enterprise-wide Contract (EWC)), GSA Federal Supply Schedule (FSS), Governmentwide Agency Contract (GWAC) number, or Multiple Agency Contract (MAC) number, as applicable.

e. Task Order Number. Insert the task/delivery order number (If Applicable). **Do not include more than one task order per invoice or the invoice may be rejected as improper.**

f. Invoice/Voucher. The appropriate sequential number of the invoice/voucher, beginning with 001 should be designated. Contractors may also include an individual internal accounting number, if desired, in addition to the 3-digit sequential number.

- g. Date of Invoice/Voucher. Insert the date the invoice/voucher is prepared.
- h. Billing Period. Insert the beginning and ending dates (day, month, year) of the period during which costs were incurred and for which reimbursement is requested.
- i. Description of Deliverables. Provide a brief description of supplies or services, quantity, unit cost, and total cost.
- j. Work Completed. Provide a general summary description of the services performed or products submitted for the invoice period and specify the section or Contract Line Item Number (CLIN) or SubCLIN in the contract pertaining to the required deliverable(s).
- k. Shipping. Insert weight and zone of shipment, if shipped by parcel post.
- l. Charges for freight or express shipments. Attach prepaid bill if shipped by freight or express.
- m. Instructions. Include instructions to consignee to notify the Contracting Officer of receipt of shipment.
- n. For Indefinite Delivery contracts, the final invoice/voucher shall be marked "FINAL INVOICE" or "FINAL VOUCHER".
- o. Final invoices must include the name of the NRC Contracting Officer's Representative (COR) and Contracting Officer.
- p. Direct Costs. Insert the amount billed for the following cost elements, adjustments, suspensions, and total amounts, for both the current billing period and for the cumulative period (from contract inception to end date of this billing period).

- (1) Direct Labor. This consists of salaries and wages paid (or accrued) for direct performance of the contract itemized as follows:

<u>Labor Category</u>	<u>Hours Billed</u>	<u>Rate</u>	<u>Total</u>	<u>Cumulative Hours Billed</u>
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- (2) Fringe Benefits. This represents fringe benefits applicable to direct labor and billed as a direct cost. Where a rate is used indicate the rate. Fringe benefits included in direct labor or in other indirect cost pools should not be identified here.

- (3) Contractor-acquired property (\$50,000 or more). List each item costing \$50,000 or more and having a life expectancy of more than one year. List only those items of equipment for which reimbursement is requested. For each such item, list the following (as applicable): (a) an item description, (b) manufacturer, (c) model number, (d) serial number, (e) acquisition cost, (f) date of purchase, and (g) a copy of the purchasing document.

(4) Contractor-acquired property (under \$50,000), Materials, and Supplies. These are equipment other than that described in (3) above, plus consumable materials and supplies. List by category. List items valued at \$1,000 or more separately. Provide the item number for each piece of equipment valued at \$1,000 or more.

(5) Premium Pay. This enumeration in excess of the basic hourly rate. (Requires written approval of the Contracting Officer.)

(6) Consultant Fee. The supporting information must include the name, hourly or daily rate of the consultant, and reference the NRC approval (if not specifically approved in the original contract).

(7) Travel. Total costs associated with each trip must be shown in the following format:

<u>Start Date</u>		<u>Destination</u>		<u>Costs</u>
From	To	From	To	\$

(Must include separate detailed costs for airfare, per diem, and other transportation expenses. All costs must be adequately supported by copies of receipts or other documentation.)

(8) Subcontracts. Include separate detailed breakdown of all costs paid to approved subcontractors during the billing period.

(9) Other Costs. List all other direct costs by cost element and dollar amount separately.

q. Indirect Costs (Overhead and General and Administrative Expense). Cite the formula (rate and base) in effect in accordance with the terms of the contract, during the time the costs were incurred and for which reimbursement is requested.

r. Fixed-Fee. If the contract provides for a fixed-fee, it must be reimbursed as indicated in the contract. Cite the formula or method of computation. Include this information as it applies to individual task orders as well.

(1) The NRC will withhold payment of 15% of the negotiated contract fixed-fee amount, not to exceed \$100,000.

(2) If the fee withholding amount has reached \$100,000, the contractor may resume billing the NRC for the balance of its fee under subsequent invoices for work completed.

(3) Any fee amounts withheld by the NRC will be paid to the contractor during contract closeout in increments, following the submission/settlement of indirect rate proposals in accordance with FAR 52.216-8, "Fixed Fee" (JUN 2011).

s. Total Amount Billed. Insert columns for total amounts for the current and cumulative periods.

t. Adjustments. Insert columns for any adjustments, including outstanding suspensions for deficient or defective products or nonconforming services, for the current and cumulative periods.

u. Grand Totals.

3. Sample Invoice/Voucher Information

Sample Invoice/Voucher Information (Supporting Documentation must be attached)

This invoice/voucher represents reimbursable costs for the billing period from _____ through _____.

Amount Billed

	<u>Current Period</u>	<u>Cumulative</u>
(a) Direct Costs		
(1) Direct labor \$ _____	\$ _____	
(2) Fringe benefits (% of direct labor)	\$ _____	\$ _____
(3) Government property (\$50,000 or more)	\$ _____	\$ _____
(4) Government property, Materials, and Supplies (under \$50,000 per item)	\$ _____	\$ _____
(5) Premium pay (NRC approved overtime)	\$ _____	\$ _____
(6) Consultants Fee \$ _____	\$ _____	
(7) Travel	\$ _____	\$ _____
(8) Subcontracts	\$ _____	\$ _____
(9) Other costs \$ _____	\$ _____	
Total Direct Costs:	\$ _____	
\$ _____		

(b) Indirect Costs (provide the rate information applicable to your firm)

(10) Overhead ___ % of _____ (Indicate Base)	\$ _____	\$ _____
(11) General and Administrative (G&A) ___ % of _____ (Indicate Base)	\$ _____	\$ _____
Total Indirect Costs:	\$ _____	\$ _____

(c) Fixed-Fee:

- (12) Fixed-Fee Calculations:
- i. Total negotiated contract fixed-fee percent _____ and amount \$ _____
 - ii. 85% allowable fee amount \$ _____
 - iii. Cumulative fee billed on prior invoices \$ _____

- iv. Fee due this invoice (not to exceed 85% of fee earned based upon negotiated contract fee percentage) \$_____.

Note: The fee balance withheld by NRC may not exceed \$100,000.

Total Fixed-Fee: \$_____ \$_____

(d) Total Amount Billed \$_____

(e) Adjustments (+/-) \$_____

(f) Grand Total \$_____

(The invoice/voucher format provided above must include information similar to that included below in the following to ensure accuracy and completeness.)

SAMPLE SUPPORTING INFORMATION

The budget information provided below is for format purposes only and is illustrative.

Cost Elements:

1) Direct Labor - \$2,400

Labor Cumulative Category	Hours Billed	Rate	Total	Hours Billed
Senior Engineer I	100	\$14.00	\$1,400	975
Engineer	50	\$10.00	\$ 500	465
Computer Analyst	100	\$ 5.00	\$ 500	320
\$2,400	1,760 hrs.			

2) Fringe Benefits - \$480

Fringe @ 20% of Direct Salaries

Labor Category	Salaries	Fringe Amount
Senior Engineer I	\$1,400	\$280

Engineer	\$ 500	\$100
Computer Analyst	<u>\$ 500</u>	<u>\$100</u>
	\$2,400	\$480

3) Government-furnished and contractor-acquired property (\$50,000 or more) - \$60,000

Prototype Spectrometer - item number 1000-01 = \$60,000

4) Government-furnished and contractor-acquired property (under \$50,000), Materials, and Supplies - \$2,000

10 Radon tubes @ \$110.00	= \$1,100
6 Pairs Electrostatic gloves @ \$150.00	= <u>\$ 900</u>
	\$2,000

5) Premium Pay - \$150

Walter Murphy - 10 hours @ \$10.00 Per Hour (Reg. Pay) = \$100 x 1.5 OT rate = \$150
(EX: Premium pay for this individual was approved and authorized under this contract by the NRC Contracting Officer by letter dated 6/1/2011.)

6) Consultants' Fee - \$100

Dr. Carney - 1 hour fully-burdened @ \$100 = \$100

7) Travel - \$2,640

(i) Airfare: (2 Roundtrip trips for 1 person @ \$300 per r/t ticket)

<u>Start Date</u>	<u>End Date</u>	<u>Days</u>	<u>From</u>	<u>To</u>	<u>Cost</u>
	4/1/2011	4/7/2011	7	Philadelphia, PA	Wash, D.C.
\$300					
	7/1/2011	7/8/2011	8	Philadelphia, PA	Wash, D.C.
\$300					

(ii) Per Diem: \$136/day x 15 days = \$2,040

8) Subcontracting - \$30,000

Company A	= \$10,000
Company B	= <u>\$20,000</u>
	\$30,000

(EX: Subcontracts for Companies A & B were consented to by the Contracting Officer by letter dated 6/15/2011.)

9) Other Costs - \$5,100

Honorarium for speaker at American Nuclear Society conference = \$5,000
Nuclear Planet Journal subscription fee = \$100

10) Overhead Expense - \$41,148

Overhead @ 40% of Total Direct Costs

11) General and Administrative (G&A) Expense - \$22,784

G&A @ 20% of Total Costs, excluding subcontracts and consultants

12) Fixed-Fee - \$8,218

Fixed-Fee applied to Total Costs @ 5%

Fixed-Fee Calculations:

- i. Total contract fixed-fee \$100,000
- ii. 85% allowable fee \$85,000
- iii. Cumulative fee billed on prior invoices \$85,000
- iv. Fee due this invoice (*not to exceed 85% of fee earned based upon negotiated contract fee percentage*) \$8,218

Total Amount Billed	\$175,020
Adjustments (+/-)	- <u>\$8,218</u>
Grand Total	\$166,802