

ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

22

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

1. DATE OF ORDER 09/29/2017		2. CONTRACT NO. (If any) NRC-HQ-25-14-E-0006		6. SHIP TO: a. NAME OF CONSIGNEE NUCLEAR REGULATORY COMMISSION	
3. ORDER NO. NRC-HQ-20-17-T-0004		4. REQUISITION/REFERENCE NO. NRR-17-0123			
5. ISSUING OFFICE (Address correspondence to) US NRC - HQ ACQUISITION MANAGEMENT DIVISION MAIL STOP TWFN-8E06M WASHINGTON DC 20555-0001				b. STREET ADDRESS NUCLEAR REGULATORY COMMISSION	
				c. CITY WASHINGTON	e. ZIP CODE 20555-0001
7. TO: WILLIAM ARCIERI				f. SHIP VIA	
a. NAME OF CONTRACTOR INFORMATION SYSTEMS LABORATORIES INC				8. TYPE OF ORDER	
b. COMPANY NAME				<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 11140 ROCKVILLE PIKE				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 20852-3106		
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	
13. PLACE OF a. INSPECTION Destination		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 09/28/2019	
b. ACCEPTANCE Destination				16. DISCOUNT TERMS 30	

17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	The NRC hereby awards task order NRC-HQ-25-14-E-0006/NRC-HQ-20-17-T-0004 entitled "Technical Review and Safety Evaluation Input for the North Carolina State University PULSTAR Nuclear Research Reactor License Renewal Application." 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						\$192,316.00
c. CITY ROCKVILLE			d. STATE MD	e. ZIP CODE 20852-2738		17(i) GRAND TOTAL	

22. UNITED STATES OF

AMERICA BY (Signature)

09/29/2017

23. NAME (Typed)

ARACELIS PEREZ-ORTIZ
TITLE: CONTRACTING/ORDERING OFFICER

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

CONTRACT NO.

ORDER NO.

09/29/2017

NRC-HQ-25-14-E-0006

NRC-HQ-20-17-T-0004

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	<p>Total Obligated Amount: \$150,000.00 Total Estimated Cost Base and Exercised Options: \$169,083.00 Total Estimated Cost Base and All Options: \$192,316.00</p> <p>_____ ISL Authorized Official Date Accounting Info: 2017-X0200-FEEBASED-20-20D006-1082-11-4-178- 252A-11-4-178-1082 Period of Performance: 09/29/2017 to 09/28/2019</p>					

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

\$0.00

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SECTION B - SUPPLIES OR SERVICES AND PRICE/COSTS

B.1 BRIEF PROJECT TITLE AND WORK DESCRIPTION

(a) The title of this project is: Technical Review and Safety Evaluation Input for the North Carolina State University PULSTAR Nuclear Research Reactor License Renewal Application

(b) Summary work description: The purpose of this task order is to provide a final safety evaluation (SE) input document for the license renewal application (LRA) for the North Carolina State University PULSTAR Research Reactor, which includes a request to increase the licensed power level from 1,000 kilowatts (kWt) thermal to 2,600 kWt thermal for its PULSTAR Nuclear Research Reactor. This review is to be done in accordance with the guidance provided in U.S. Nuclear Regulatory Commission (NRC) NUREG-1537, "Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors." The contractor's final SE input document will form the basis for the NRC staff's use to complete the Safety Evaluation Report (SER) for the North Carolina State University PULSTAR Research Reactor license renewal application (LRA) review.

End of Clause

B.2 PRICE/COST SCHEDULE

CLIN	DESCRIPTION	ESTIMATED COST
00001	Contractor to provide Technical Assistance in accordance with section C: DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK (Tasks 1-4)	
00001a	Labor	
00001b	Subcontract Costs	
00001c	Consultant Costs	
00001d	Travel Costs	
00001e	ODCs	
00001f	Indirect Cost Pool (includes G&A, Fringe, Overhead and Subcontractor Handling)	
	Total Estimated Costs	
00002	Fixed-Fee	
	Total	\$ 169,083.00

CLIN	DESCRIPTION	ESTIMATED COST
10001	Task 5: Provide Related Technical Support (OPTIONAL TASK)	
10001a	Labor	
10001b	Subcontract Costs	
10001c	Consultant Costs	
10001d	Travel Costs	
10001e	ODCs	
10001f	Indirect Cost Pool (includes G&A, Fringe, Overhead and Subcontractor Handling)	
	Total Estimated Costs	
10001g	Fixed-Fee	
	Total	\$ 23,233.00
	Total Order Cost (Inclusive of Option):	
	Total Fixed-Fee (Inclusive of Option):	
	Total Order Ceiling (Inclusive of Option):	\$ 192,316.00

**B.3 NRCB040A CONSIDERATION AND OBLIGATION—COST-PLUS-FIXED-FEE
ALTERNATE I (AUG 2011)**

- (a) The total estimated cost to the Government for full performance of this task order is **\$169,083.00**, exclusive of optional CLIN 10001, of which the sum of [REDACTED] represents the estimated reimbursable costs, and of which [REDACTED] represents the fixed fee.
- (b) The total estimated cost to the Government for optional CLIN 10001 of this task order is **\$23,233.00** of which the sum of [REDACTED] represents the estimated reimbursable costs, and of which [REDACTED] represents the fixed-fee.
- (c) There shall be no adjustment in the amount of the Contractor's fixed fee.
- (d) The amount currently obligated by the Government with respect to this contract is **\$150,000.00**, of which the sum of [REDACTED] represents the estimated reimbursable costs, and of which [REDACTED] represents the fixed-fee.
- (e) This is an incrementally-funded contract and FAR 52.232-22 - "Limitation of Funds" applies.
- (f) In accordance with FAR 52.216-8 - Fixed Fee, it is the policy of the NRC to withhold payment of fee after payment of 85 percent of the fee has been paid in order to protect the Government's interest. The amount of fixed-fee withheld from the contractor will not exceed 15 percent of the total fee or \$100,000, whichever is less. Accordingly, the maximum amount of fixed-fee that may be held in reserve is [REDACTED].

(End of Clause)

SECTION C – DESCRIPTION/SPECIFICATIONS/STATEMENT OF WORK

1. PROJECT DESCRIPTION

This project is titled: “Technical Review and Safety Evaluation Input for the North Carolina State University PULSTAR Nuclear Research Reactor License Renewal Application”

The purpose of this task order is to provide a final safety evaluation (SE) input document for the license renewal application (LRA) for the North Carolina State University PULSTAR Research Reactor, which includes a request to increase the licensed power level from 1,000 kilowatts (kWt) thermal to 2,600 kWt thermal for its PULSTAR Nuclear Research Reactor. This review is to be done in accordance with the guidance provided in U.S. Nuclear Regulatory Commission (NRC) NUREG-1537, “Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors.” The contractor’s final SE input document will form the basis for the NRC staff’s use to complete the Safety Evaluation Report (SER) for the North Carolina State University PULSTAR Research Reactor license renewal application (LRA) review.

The Statement of Work (SOW) for this Task Order falls within the unrestricted part of NRC indefinite delivery/indefinite quantity (IDIQ) Enterprise-Wide Contract entitled Technical Assistance in Support of Agency Environmental and Reactor Programs, paragraph 3.2, Licensing Support.

2. BACKGROUND

The U.S. Nuclear Regulatory Commission (NRC) has the authority and responsibility to review and evaluate requests for licensing actions made by its licensees. The Office of Nuclear Reactor Regulation (NRR) within the NRC is responsible for the licensing and regulatory oversight of civilian nuclear power reactors and research and test reactors (RTRs) in the United States. NRR implements regulations, as well as, develops and implements policies, programs, and procedures, pertaining to all aspects of licensing and inspection of these facilities.

The North Carolina State University (“NCSU,” “licensee” or “applicant”) submitted an application, dated March 30, 2017 for license renewal of Facility Operating License No. R-120 together with a request to increase the licensed power level from 1,000 kilowatts (kWt) thermal to 2,600 kWt thermal for its PULSTAR Nuclear Research Reactor (PNRR or the facility). As part of the LRA, the licensee provided an updated safety analysis report (SAR), including proposed Technical Specifications (TSs) and an environmental report.

The Research and Test Reactors Licensing Branch (PRLB) within NRR has the responsibility to evaluate and process this application request for license renewal from the NCSU licensee. The NRC staff’s evaluation is documented in a safety evaluation report (SER). This statement of work (SOW) provides the scope of the technical support needed to prepare the SER in order to complete the PNRR LRA review in a timely fashion, not to exceed 18 months. As part of this SOW, the contractor is expected to review the LRA and power uprate request, including the licensee’s PNRR Safety Analysis Report (SAR), Technical Specifications (TS), and Environmental Report (collectively, the “application”). The contractor is also expected to review the NRC’s inspection reports and licensee’s

annual reports for the facility for the previous five years during which the PNRR operated, as a minimum.

The NRC Contracting Officer's Representative (COR) will provide the specified licensee documents to the contractor.

Since the NCSU PNRR application includes a request to increase the licensed power level, a "full" review of the application will be performed consistent with the RTR Interim Staff Guidance (ISG)-2009-001, "Interim Staff Guidance on the Streamlined Review Process for License Renewal of Research Reactors." The licensee's application, supplements, and supporting documentation (SAR, TSs, environmental reports, annual reports, inspection reports, etc.) are to be evaluated using the guidance contained in NUREG-1537, "Guidance for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors," Part 2, Standard Review Plan and Acceptance Criteria, to ensure that the information in the application satisfy the applicable requirements of Title 10 of The *Code of Federal Regulations* (10 CFR). The license renewal process may include public, NRC management, Commission, and Congressional meetings. It may also include a public hearing with the Atomic Safety Licensing Board or the Commission. Issuance of a renewed NCSU facility operating license will authorize operation of the PNRR for a period of 20 years at 2,600 kWt licensed power level.

3. PROJECT OBJECTIVE AND SCOPE

The objective of this task order is to obtain necessary technical services to assist the NRC staff in the review and evaluation of NCSU's application for license renewal with a request for power uprate of its PNRR facility operating license. Specifically, the contractor shall support the NRC staff in determining whether or not the LRA is technically adequate and in accordance with review guidance provided in the "Interim Staff Guidance (ISG) on Streamlined Review Process for License Renewal for Research and Test Reactors." As part of the task, the contractor shall perform, as applicable, confirmatory calculations to verify the applicant's statements in the SAR and TSs. Alternately, the NRC COR may, if circumstances warrant, provide technical direction (TD) to the contractor to perform independent calculations based on engineering judgement and conservative assumptions in lieu of the applicant's information. The contractor shall provide safety evaluation (SE) input that formalizes the evaluation findings and safety and radiological conclusions made by the contractor.

The contractor shall provide all resources necessary to accomplish the tasks and deliverables described in this SOW. The contractor shall review the information provided in support of the NCSU license renewal and power uprate application and prepare the SE input document based on its review and evaluation. The SE Input document must state the applicable regulations or standards, discuss the applicant's method for satisfying the regulations or standards, provide an analysis of whether or not the applicant's method satisfy the regulations or standards, and conclusions for the acceptability based on the applicable acceptance criteria in NUREG-1537, Part 2.

4. TASK ORDER CONTRACTOR LINE ITEM NUMBER (CLIN) STRUCTURE

The Basic CLIN for this Task Order will encompass all of the tasks outlined below.

The Option CLIN for this Task Order will be for the continuation of all of the tasks outlined below, to be exercised via task order modification, at the discretion of the task order NRC COR.

5. STATEMENT OF WORK TASKS

The contractor shall perform the tasks below in accordance with the deliverable schedule in Section 7. Unless otherwise indicated in Section 7, the tasks associated with developing the SE input document are not intended to be completed sequentially. Where possible, the contractor shall make every effort to simultaneously complete the tasking in the most efficient manner possible with the intent of compressing the scheduled completion. The specific dates for these deliverables will be agreed upon between the NRC COR and the contractor (Task 1) prior to start of work. Any reference to confirmatory calculations in the SOW tasks may also be independent calculations if provided as technical direction from the NRC COR.

Task 1: Post award kickoff meeting and license renewal review plan:

- a. The NRC COR and contractor key personnel for the task order (refer to Section 12) will conduct a post award kickoff meeting in-person or via telephone conference call. The kick-off meeting will be used to discuss the review of the licensee's application. In addition, the NRC COR will provide the contractor with the licensee's application, discuss the review schedule, the SOW deliverables, the process for developing any requests for additional information (RAI), the need for a site visit, and any unique requirements associated with the task order.
- b. For purposes of the kickoff meeting discussion, the contractor shall have already developed a draft license renewal review plan (*initially submitted with proposal response*) proposing the activities and timeline needed to complete the final SE input document. The plan shall illustrate the most efficient method of providing a SE input supported by confirmatory calculations. At a minimum, the scope of the review shall include milestones to be completed, expected completion dates, proposed staffing, site visits, and resources. The plan shall identify any confirmatory calculations dependent on one another and show an efficient approach to complete them. Following the kickoff meeting, the NRC COR will provide review comments to the contractor on the proposed draft license renewal review plan.
- c. The contractor shall provide a final license renewal review plan that incorporates the NRC COR comments. Any subsequent changes to the schedule shall only be permitted if provided via technical direction by the NRC COR. Any such schedule changes shall be documented by the contractor in revisions to the license renewal review plan with an update submitted to the COR, per the technical direction.

Task 2: Perform Confirmatory Calculations of PNR's Analyses

As part of the review, the contractor shall perform confirmatory calculations of the licensee's calculations in order to validate the accuracy of the licensee's submitted information. The contractor shall include a side-by-side comparison of the licensee's and contractor's calculations as part of the SE input document. At a minimum, the contractor shall perform confirmatory calculations and validation of the licensee's thermal-hydraulic analyses,

including departure from nucleate boiling ratio, critical heat flux, maximum cladding fuel temperature and peak fuel temperature, radiation exposures from such radionuclides as, but not limited to, nitrogen-16 and argon-41 and maximum hypothetical accident (MHA) dose for worker and member of the public, as applicable. If any confirmatory calculation is performed using computer codes, the contractor shall provide copies of the code input and output. The codes and correlations chosen for the calculations shall be acceptable to the NRC (including, but not limited to, TRACE or RELAP). The Contractor shall describe the code selection rationale and the NRC COR shall approve the rationale prior to initiation of confirmatory calculations under this task. To the extent that other confirmatory calculations may become necessary, as identified by COR or contractor, the contractor must bring this to the attention of the NRC Contracting Officer's Representative (COR) to obtain written approval prior to beginning performance of these other calculations.

- a. Based on the requirements of 10 CFR Parts 20, 30, 40, 50 and 70 as appropriate, and the guidance contained in NUREG-1537, the contractor shall review the information provided by the NRC staff related to the PNRR LRA review and perform confirmatory calculations to validate information provided in the LRA SAR for core neutronics and thermal hydraulics, as well as supporting radiological dose calculations for routine operation and potential accident scenarios to support preparing draft SE input in conformance with the guidance in NUREG-1537. The confirmatory calculations should use codes and methods currently acceptable to the NRC staff. The contractor shall provide the results of the confirmatory calculations as a presentation of findings to the NRC COR.
 - (1) The confirmatory analyses for the PNRR's nuclear design shall validate the licensee's computational model and calculations, including analyzing potential accident scenarios in the licensee's SAR.
 - (2) The contractor's confirmatory calculations of the thermal hydraulics analyses shall validate, with calculations and/or code runs, the numeric value of the facility's departure from nucleate boiling ratio and maximum fuel temperature at the facility's limiting safety system setting power.
 - (3) The contractor's confirmatory calculations involving the release of fission products for accident analyses shall validate the licensee's analysis of the Maximum Hypothetical Accident (MHA) as the bounding accident for the facility.
 - (4) The confirmatory calculations involving predicting the dose rates and cumulative doses from such radionuclides as argon-41 (Ar-41), nitrogen-16 (N-16), and vapors, aerosols, and airborne radioactive particulates during reactor operations shall validate that the releases, given license conditions on operation, are compliant with the annual constraint of 10 CFR 20.1101(d).
- b. The input decks and all associated data with performing the confirmatory calculations and code runs shall be provided to, and are the property of, the NRC. The input data shall be provided to the NRC with the confirmatory analyses. The input data includes, but is not limited to:
 - (1) Input decks - These could be ASCII [American Standard Code for Information Interchange] text files, SNAP [Symbolic Nuclear Analysis Package] graphical interface models, or equivalent;

- (2) Calculation notebook - documenting the information in the input decks including source of the information (drawings, tables, etc.) and how it was calculated;
 - (3) Calculated results - including identifying the code and version used in the calculations.
- c. The contractor shall provide final confirmatory calculations and model input data that incorporates the NRC COR comments. If changes to the final confirmatory calculations become necessary, as identified by COR or contractor, the contractor must bring this to the attention of the NRC Contracting Officer's Representative (COR) for written approval. Any subsequent changes to the model shall only be permitted if provided via technical direction from the NRC COR. Any such changes shall be documented by the contractor in revisions to the model, input data, confirmatory calculations and SE input document, as appropriate, and resubmitted to the COR.

Task 3: Develop Draft SE Input Document and Requests for Additional Information

The contractor shall review information provided by the NRC COR for the license renewal and power uprate application for the NCSU PNRR using the requirements of 10 CFR Parts 20, 30, 40, 50, and 70, as appropriate, and the guidance contained in NUREG-1537; and the NRC Interim Staff Guidance (ISG) for the streamlined review process for RTR license renewals (ADAMS Accession No. ML092240244) to evaluate the acceptability of the licensee's application. The contractor shall provide a Draft SE Input document to the NRC COR for review.

- a. The draft SE input document shall follow the content outline provided in NUREG-1537 and the ISG for a full review and shall be as complete as possible, based on the information in the licensee's application that is found to be acceptable by the contractor. The draft SE Input document must state the applicable regulations or standards, discuss the licensee's method for satisfying the regulations or standards, and provide an analysis as to whether or not the licensee's method satisfies the applicable regulations or standards and conclusions for the acceptability.
- (1) The contractor shall provide the Draft SE Input document to the COR as a Word file, and must follow the guidance in NUREG-1379, "NRC Editorial Style Guide," Rev. 2. The Word file must not contain any hidden text or linked fields that may be incompatible with the NRC Word version in use.
 - (2) The Draft SE Input document submitted to the COR must be technically correct, with no spelling or grammatical errors. The NRC COR will review the Draft SE Input document and provide comments back to the contractor. The contractor shall review and evaluate the NRC staff's comments to the draft SE Input document and provide a resolution satisfactorily to the NRC COR, in the form of a revised Draft SE Input document.
- b. During the LRA review, if the contractor identifies any review areas where the licensee's provided information is insufficient for the contractor to complete the review analysis, the contractor shall inform the NRC COR and provide placeholders in the Draft SE Input document (Task 3a.) indicating the specific information needed including traceability to RAI responses that are needed or pending from the licensee, before the review can be completed. For these placeholders, the contractor shall identify and document the applicable regulations in 10 CFR and any associated acceptance criteria in

NUREG-1537, in order to establish a basis to support a written request for additional information (RAI). The contractor shall provide a draft document containing all of the proposed RAIs, including the referenced regulatory basis to the NRC COR as a Word file. The NRC COR will provide review comments to the contractor on the draft RAI document. The contractor shall review and evaluate the NRC staff's comments for the draft RAI document and provide a resolution satisfactorily to the NRC COR, in the form of a revised RAI document.

Task 4: Review RAI Responses and Provide Final SE Input Document–

Upon receiving licensee responses to the RAI, the contractor must perform a review of the licensee's RAI responses. The NRC COR will address any identified issues with the licensee, with support from the contractor, if requested by the COR.

- a. The contractor must perform a review of the licensee's responses to any RAIs and provide the NRC COR with a written assessment indicating whether or not the RAI responses are technically acceptable for the contractor to complete its review. If the contractor finds any RAI responses to be unacceptable to complete the review, the contractor must include, in the written assessment, a description of the deficiencies to the NRC COR. If the contractor's review of the licensee's RAI responses indicate the licensee's supplemental information is incorrect or insufficient to complete the review analysis, the NRC COR will provide the contractor guidance, via technical direction, as to when to use engineering judgement or conservative assumptions in lieu of the applicant's information or whether additional RAIs will be developed.
- b. Following resolution of RAI comments documented in Task 4a, or if directed by the COR, the contractor shall review the Final SE Input document to ensure the licensee's responses have been fully incorporated into the SE input document prior to delivery to the NRC COR for review. If after updating the SE input for Licensee RAI responses, any open issues remain, the contractor must annotate these issues in the SE Input document with traceability to the written RAI assessment provided under Task 4a.

The NRC COR will provide feedback to the contractor on the draft SE Input document, and the COR and Contractor shall mutually resolve any outstanding issues. After resolution of any outstanding issues from the licensee's RAI responses, the NRC COR shall perform a final acceptance review of the draft SE document, and the contractor shall provide a final SE Input document.

Following resolution of all COR comments, the contractor's technical editor shall review and edit, as necessary, the Final SE Input document for conformance with the deliverable standards of this task, prior to delivery to the NRC COR. The contractor must provide the Final SE Input document to the NRC COR after the technical editing is complete.

The contractor must provide the Final SE Input document to the COR as a Word file, and following the guidance in NUREG-1379, "NRC Editorial Style Guide," Rev. 2. The Word file must not contain any hidden text or linked fields as these

may not be compatible with the NRC Word version in use, unless approved by the COR.

The contractor must deliver a technically acceptable Final SE Input document on time, without spelling or grammatical errors, and in the specified format to the COR as a task order deliverable (Task 4b).

Task 5: Provide Related Technical Support (Optional CLIN)–

If requested by the COR, as confirmed by exercising this optional task, the contractor shall provide technical support to the NRC staff following delivery of the Final SE Input document. This technical support may, for example, consist of tasks such as: responding to questions on the final deliverable; attending meetings with NRC Management, or any hearings, to discuss the results of the license renewal; and, assisting NRC staff in resolution of outstanding issues arising from these meetings.

The scope of the related support activity and amount of hours/Level of Effort (LOE) to be used must be agreed upon between the contractor and the NRC COR before starting the activity. The NRC COR will confirm the request, assistance due date, and estimated LOE for the specific activity by e-mail to the contractor with a carbon copy to the NRC Contracting Officer (CO).

6. APPLICABLE DOCUMENTS AND STANDARDS

The NRC COR will provide the specific documents related to the NCSU PNRR license renewal with the request for a power uprate at the commencement of the task order. Some of the licensee's information is considered PROPRIETARY and should be handled in accordance with the appropriate NRC guidance. Other documents needed are publicly available on the NRC Website. ANSI/ANS standards include the ANSI/ANS-15 series applicable to research and test reactors, which the contractor will have to procure on its own. The NRC COR cannot provide those, due to copyright restrictions.

The NRC COR will provide the necessary information in an electronic format, or if the contractor requests, it can be provided in paper form.

7. DELIVERABLES AND DELIVERY SCHEDULE/REPORTING REQUIREMENTS

The contractor must provide to the NRC COR all contract deliverables as stated in the schedule table below, both in hard copy and electronic format, unless otherwise directed by the COR. The electronic format must be provided using a Microsoft-based product, (e.g., Outlook, Word, Excel, PowerPoint) unless the COR and the contractor specifically agree in writing, via technical direction, on another format. All deliverables must be in the format of draft version, revision version with redline/strikeout with a change-control appendix, and a revised version which can be the final version. The contractor must maintain appropriate revision control in an electronic format.

For each deliverable (e.g., preliminary, draft, or final) that accomplishes a specific portion of a subtask activity, the contractor must provide an electronic copy to the COR. The

contractor must explicitly state in its submittal that the product provided is the deliverable for Task/Subtask XX, as further described below.

The schedule for deliverables must be contained in the approved Project Plan for the task order effort, which is included as a deliverable under Task 1.

The contractor must develop maintain, and control data, all necessary files, information, and deliverables pursuant to this task order. Copies of the confirmatory or independent calculations, including input deck and output, must be provided to the COR as a deliverable.

Deliverable Schedule

The License renewal review plan and schedule were required and evaluated as part of the contractor's proposal. The COR and contractor will review and update the schedule as part of the contract kick off meeting.

Task Deliverable	Description	Quantity	Completion Date
1	License Renewal Review Plan	- 1 hard copy - 1 electronic Word file copy	At contract kick off meeting
2a	confirmatory or independent calculation analyses	- 1 hard copy - 1 electronic Word file copy	Per the approved License Renewal Review Plan
2b	Input deck, code runs, and output files associated with any confirmatory or independent calculations	- 1 hard copy - 1 electronic file copy (either plain text, Word file, or pdf format).	Per the approved License Renewal Review Plan
3a	Draft SE Input document	- 1 hard copy - 1 electronic Word file copy	Per the approved License Renewal Review Plan
3b	RAIs	- 1 hard copy - 1 electronic Word file copy	Per the approved License Renewal Review Plan
4	Final SE Input document	- 1 hard copy - 1 electronic Word file copy	Per the approved License Renewal Review Plan
5	Related Technical Support	As applicable	As requested by COR
--	Monthly Letter Status Report	Estimate at 24	15 th of each month

NOTE: The COR may elect to make changes to the delivery schedule above via technical direction provided the contractor agrees to proposed change.

The contractor shall submit above deliverables to the task order COR and task order Contracting Officer (CO). 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 be considered the Final Version. More than one round of drafts may be needed if the contractor does not successfully incorporate the

COR's comments on an earlier draft. If deemed necessary by the COR, the contractor shall submit preliminary or partial drafts to help the COR assess or gauge the contractor's understanding of the particular work requirement.

Technical Directions

The COR may issue Technical Directions (TDs) from time to time throughout the duration of the task order. These TDs must be within scope of the task order SOW and must not constitute new assignments of work or changes of such a nature as to constitute a change to the task order cost or period of performance. Any modifications to the scope of work, cost, or period of performance of this task order must be issued by the task order CO and must be coordinated with the task order COR. The COR may issue TDs for the purpose of making adjustments or clarifications to the timing and performance of the tasks/sub-tasks (if applicable) and/or the milestone schedule/delivery schedule of the documents/deliverables within this task order. The COR may also issue a TD to provide the contractor guidance as to when to use engineering judgement or conservative assumptions in lieu of the applicant's information if the applicant's information is incomplete or unable to be confirmed.

In the event that the contractor believes that a TD issued against this task order has an impact in terms of changing the scope, cost, or period of performance of the task order, the contractor shall immediately inform the task order CO and request appropriate guidance prior to taking action on the TD in question.

8. REQUIRED LABOR CATEGORIES/ ESTIMATED LEVEL OF EFFORT

The LOE for this task order takes into consideration the contractor's knowledge gained through previous experience with RTR license renewal reviews and licensing actions reviews; and familiarity with the NRC's RTR license renewal review process. The estimated LOE shown above includes the LOE needed to support the meetings and travel specified in this SOW.

Labor Categories/Level of Effort Estimate

BASIC CLIN Labor Category	Minimum Qualification Requirement
Project Manager (PM)	1) B.S. in Engineering, Physics or similar technical field, and 2) Minimum 10 years research and test reactor operating experience.
Senior Technical Reviewers	3) B.S. in Engineering, Physics or similar technical field, and 4) Minimum 5 years RTR operating experience, including one or more of the following areas: <ul style="list-style-type: none"> • RTR Operations • RTR Effluents • RTR Experiments • RTR TSs • RTR Neutronic/Hydraulic and Dose Reviews
Subject Matter Expert (SME)	1. B.S. in Engineering, Physics or similar technical field, and 2. Minimum 10 years Technical Expertise in Dose Calculations, including: <ul style="list-style-type: none"> • Dose Calculations (e.g. Accident Dose and Effluent Dose (Ar-41) Calculations) • RTR Experiments
Administrative Support (ADMIN)	Experience with MS Word and Technical Editing

9. GOVERNMENT-FURNISHED PROPERTY

No government-furnished property is expected to perform this task order.

10. PERIOD OF PERFORMANCE

Refer to section F.2 NRCF030A PERIOD OF PERFORMANCE ALTERNATE I.

11. PLACE OF PERFORMANCE

The work will be performed at the contractor's site.

12. SPECIAL CONSIDERATIONS

12.1 CONTRACTOR COMMUNICATIONS

Routine telephone conversations between the NRC COR and the contractor will occur as necessary throughout the contract period.

As the NRC COR determines necessary, telephone conference calls may be conducted between the contractor, licensee, and the NRC COR. If the contractor believes conference calls or other communications with the licensee are necessary, the contractor must notify the NRC COR. The contractor shall not contact the licensee directly for this task order.

All communication directed to the licensee by the contractor must be conducted through the NRC COR. If communication is conducted through a site visit (in-person) or telephone conference, the contractor must conduct the communication in a professional manner. The contractor must not mandate the analytical methods used by the licensee. The contractor may reference accepted guidance found in NRC Regulatory Guides, NUREGs or NRC staff-endorsed ANSI/ANS documents, as applicable, to the licensee.

12.2 TRAVEL/MEETINGS

A site visit to NCSU will be necessary for the contractor to complete this work. However, if during the review, the COR and contractor mutually agree that an additional site visit would be advantageous to more expeditiously complete the LRA review; a second site visit will be indicated by technical direction from the NRC COR. Travel funding has been designated for two (2) site visits to NCSU. However, the NRC anticipates that the majority of the contractor's review will be performed in-office from documents provided by the NRC COR.

- **Trip purpose and associated task:** The purpose of this travel would be to conduct a site visit on the LR review of NSCU license renewal and power uprate for the PNRR facility.
- **Frequency:** Two (2) trips.
- **Destination:** NCSU site in Raleigh, North Carolina.
- **Number of Staff:** Up to three (3) contractor's staff.
- **Number of Days:** Up to three (3) days.

All travel requires prior written approval from the COR.

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 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>.

12.3 SECURITY

Work on this task order will involve the handling of documents that contain proprietary information. The contractor must 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 these documents, the contractor must 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.

12.4 KEY PERSONNEL

Refer to section H.1 2052.215-70 KEY PERSONNEL.

12.5 LICENSE FEE RECOVERY

The work specified in this SOW is not license fee recoverable.

12.6 DATA RIGHTS

The NRC retains unlimited rights to and ownership of all deliverables provided under this contract/order, including reports, recommendations, briefings, work plans and all other deliverables. As per FAR 52.227-14, "Rights in Data-General" on the underlying IDIQ contract, all documents and materials, to include the source codes of any software, produced under this task order are the property of the Government with all rights and privileges of ownership/copyright belonging exclusively to the Government. All Task Order Deliverables supplied by the Contractor to the Government under this task order are the sole property of the Government and may not be used for any other purpose. These documents and materials may not be used or sold by the contractor without prior written authorization from the CO.

SECTION F - Deliveries or Performance

F.1 NRCF010 PLACE OF DELIVERY-REPORTS

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

- 1) Contracting Officer's Representative (COR) and Alternate COR as designated in section G.1 2052.215-71 PROJECT OFFICER AUTHORITY.
- 2) Contracting Officer Aracelis Perez-Ortiz, via e-mail at Aracelis.Perez-Ortiz@nrc.gov.

(End of Clause)

F.2 NRCF030A PERIOD OF PERFORMANCE ALTERNATE I

This order shall commence on September 29, 2017, and will expire on September 28, 2019.
(See FAR 52.216-18 - Ordering).

(End of Clause)

SECTION G - Contract Administration Data

G.1 2052.215-71 PROJECT OFFICER AUTHORITY (OCT 1999)

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

Name:	Duane Hardesty, Contracting Officer Representative (COR)
Address:	U.S. Nuclear Regulatory Commission Office of Nuclear Reactor Regulation Mail Stop: OWFN 12D20 Washington DC 20555
Telephone Number:	301-415-3724
Email:	Duane.Hardesty@nrc.gov

Name:	Linh Tran, Alternate COR
Address:	U.S. Nuclear Regulatory Commission Office of Nuclear Reactor Regulation Mail Stop: OWFN 12D20 Washington DC 20555
Telephone Number:	301-415-4103
Email:	Linh.Tran@nrc.gov

(b) Performance of the work under this contract is subject to the technical direction of the NRC COR. The term technical direction is defined to include the following:

- (1) Technical direction to the contractor which shifts work emphasis between areas of work or

tasks, authorizes travel which was unanticipated in the Schedule (i.e., travel not contemplated in the Statement of Work or changes to specific travel identified in the Statement of Work), fills in details, or otherwise serves to accomplish the contractual statement of work.

(2) Provide advice and guidance to the contractor in the preparation of drawings, specifications, or technical portions of the work description.

(3) Review and, where required by the contract, approve technical reports, drawings, specifications, and technical information to be delivered by the contractor to the Government under the contract.

(c) Technical direction must be within the general statement of work stated in the contract. The project officer does not have the authority to and may not issue any technical direction which:

(1) Constitutes an assignment of work outside the general scope of the contract.

(2) Constitutes a change as defined in the "Changes" clause of this contract.

(3) In any way causes an increase or decrease in the total estimated contract cost, the fixed fee, if any, or the time required for contract performance.

(4) Changes any of the expressed terms, conditions, or specifications of the contract.

(5) Terminates the contract, settles any claim or dispute arising under the contract, or issues any unilateral directive whatever.

(d) All technical directions must be issued in writing by the COR or must be confirmed by the COR in writing within ten (10) working days after verbal issuance. A copy of the written direction must be furnished to the contracting officer. A copy of NRC Form 445, Request for Approval of Official Foreign Travel, which has received final approval from the NRC must be furnished to the contracting officer.

(e) The contractor shall proceed promptly with the performance of technical directions duly issued by the project officer in the manner prescribed by this clause and within the COR's authority under the provisions of this clause.

(f) If, in the opinion of the contractor, any instruction or direction issued by the COR is within one of the categories defined in paragraph (c) of this section, the contractor may not proceed but shall notify the contracting officer in writing within five (5) working days after the receipt of any instruction or direction and shall request that contracting officer to modify the contract accordingly. Upon receiving the notification from the contractor, the contracting officer shall issue an appropriate contract modification or advise the contractor in writing that, in the contracting officer's opinion, the technical direction is within the scope of this article and does not constitute a change under the "Changes" clause.

(g) Any unauthorized commitment or direction issued by the COR may result in an unnecessary delay in the contractor's performance and may even result in the contractor expending funds for unallowable costs under the contract.

(h) A failure of the parties to agree upon the nature of the instruction or direction or upon the

contract action to be taken with respect to the instruction or direction is subject to 52.233-1 - Disputes.

(i) In addition to providing technical direction as defined in paragraph (b) of the section, the COR 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)

**G.2 2052.215-78 TRAVEL APPROVALS AND REIMBURSEMENT (OCT 1999) -
ALTERNATE I (OCT 1999)**

(a) Total expenditure for travel may not exceed \$12,000.00 without the prior approval of the contracting officer.

(b) All foreign travel must be approved in advance by the NRC on NRC Form 445, Request for Approval of Official Foreign Travel, and must be in compliance with FAR 52.247-63 Preference for U.S. Flag Air Carriers. The contractor shall submit NRC Form 445 to the NRC no later than 30 days prior to the commencement of travel.

(c) The contractor will be reimbursed only for travel costs incurred that are directly related to this contract and are allowable subject to the limitations prescribed in FAR 31.205-46.

(d) It is the responsibility of the contractor to notify the contracting officer in accordance with the FAR Limitations of Cost clause of this contract when, at any time, the contractor learns that travel expenses will cause the contractor to exceed the travel ceiling amount identified in paragraph (a) of this clause.

(e) Reasonable travel costs for research and related activities performed at State and nonprofit institutions, in accordance with Section 12 of Pub. L. 100-679, must be charged in accordance with the contractor's institutional policy to the degree that the limitations of Office of Management and Budget (OMB) guidance are not exceeded. Applicable guidance documents include OMB Circular A-87, Cost Principles for State and Local Governments; OMB Circular A-122, Cost Principles for Nonprofit Organizations; and OMB Circular A-21, Cost Principles for Educational Institutions.

(End of Clause)

SECTION H - Special Contract Requirements

H.1 2052.215-70 KEY PERSONNEL. (JAN 1993)

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

Name	Labor Category

*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)

SECTION J - List of Documents, Exhibits and Other Attachments

Attachments:

1. Monthly Letter Status Report Template
2. Billing Instructions for Cost-Reimbursement Type Contracts

MONTHLY LETTER STATUS REPORT (MLSR)

PROJECT TITLE: [Project Title]

CONTRACT NO.: [Contract No.]

A. TASK ORDER IDENTIFICATION AND FINANCIAL SUMMARY INFORMATION

Note: There shall be 1 MLSR for every Task Order

TASK ORDER TITLE: [Task Order Title]

TASK ORDER NO.: [TO#]

JOB CODE NO. (JCN): [JCN#]

**TECHNICAL ASSIGNMENT
CONTROL NUMBER (TAC):** [TAC#]

PERIOD OF PERFORMANCE: [TO start date to TO finish date]

PERIOD COVERED: [Month 1st to Month 31st]

NRC CONTRACTING OFFICERS REPRESENTATIVE: [Name of COR]

CONTRACTOR TASK MANAGER: [Contractor Lead Reviewer]

CONTRACTING ORGANIZATION: [Contractor Business Name]

1.	Task Order Amount:	\$
2.	Funds Obligated to Date:	\$

		Cost This Period	Cumulative Cost to Date
3.	Total Direct Costs Invoiced	\$	\$
4.	Total Indirect Costs Invoiced	\$	\$
5.	Fee Invoiced	\$	\$
6.	Total Cost Invoiced [Item3+Item4+Item5]	\$	
7.	Percent Expended (%) [Item6/Item2]		\$
8.	Balance of Obligation Funds Remaining based on Invoiced Cost [Item2-Item6]		\$
9.	Total Actual Costs (Invoiced Cost and Cost Not Yet Invoiced (e.g., Pending/Outstanding Subcontractor /Consultant Costs)		\$
10.	Balance of Obligated Funds Remaining based on Actual Cost [Item2-Item9]		\$
11.	Balance of Funds Required for Completion [Item 1 – Item 10]		\$

Spending Plan:

Month/Year	Oct 12	Nov 12	Dec 12	Jan 13	Feb 13	Mar 13	Apr 13	May 13	Jun 13	Jul 13	Aug 13	Sep 13
------------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

Planned (\$)												
Revised (\$)												
Actual (\$)												

Month/Year	Oct 13	Nov 13	Dec 13	Jan 14	Feb 14	Mar 14	Apr 14	May 14	Jun 14	Jul 14	Aug 14	Sep 14
Planned (\$)												
Revised (\$)												
Actual (\$)												

Month/Year	Oct 14	Nov 14	Dec 14	Jan 15	Feb 15	Mar 15	Apr 15	May 15	Jun 15	Jul 15	Aug 15	Sep 15
Planned (\$)												
Revised (\$)												
Actual (\$)												

Plan Total: \$ [Sum of planned(\$)]
Revised Total: \$ [Sum of Revised(\$)]
Actual Total: \$ [Sum of Actual(\$)]

B. EPM SCHEDULE MILESTONE INFORMATION (If Applicable)

SER DEVELOPMENT

Milestone		Percent Complete				
		0%	30%	60%	90%	100%
ACCEPTANCE REVIEW						
AR	Planned Date					
	Actual Date					
SER DEVELOPMENT						
P1	Planned Date					
	Actual Date					
P2	Planned Date					
	Actual Date					
P3	Planned Date					
	Actual Date					
P4	Planned Date					
	Actual Date					
P5	Planned Date					
	Actual Date					
P6	Planned Date					
	Actual Date					

Note: Input date where appropriate. Refer to Attachment 1.1 for description.

C. WORK PERFORMED/ DESCRIPTION

Title	Description

D. PROBLEM(S)/ RESOLUTION(S)

1.	
2.	
3.	
4.	

E. TRAVEL FOR THIS PERIOD

Staff	Start Date	End Date	Destination/ Activity

Print out from contractor's data collection program is acceptable if equivalent to above table.

F. PLANS FOR NEXT PERIOD

1.	
2.	
3.	
4.	

G. STAFF HOURS SUMMARY

Subtask/ Phase	Staff Assigned	Hours Budgeted	Hours Expended This Period	Total Cumulative Hours Expended	Note(s)

Print out from contractor's data collection program is acceptable if equivalent to above table.

**BILLING INSTRUCTIONS FOR
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</u> <u>Category</u>	<u>Hours</u> <u>Billed</u>	<u>Rate</u>	<u>Total</u>	<u>Cumulative</u> <u>Hours Billed</u>
---------------------------------	-------------------------------	-------------	--------------	--

(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	
		Current Period	Cumulative
(a)	<u>Direct Costs</u>		
(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:
- Total negotiated contract fixed-fee percent ____ and amount \$ _____
 - 85% allowable fee amount \$ _____
 - Cumulative fee billed on prior invoices \$ _____
 - 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

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

2) Fringe Benefits - \$480

Fringe @ 20% of Direct Salaries

<u>Labor Category</u>	<u>Salaries</u>	<u>Fringe Amount</u>
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