

ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1 33

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

1. DATE OF ORDER 04/07/2014		2. CONTRACT NO. (If any) NRC-HQ-50-14-E-0001		6. SHIP TO a. NAME OF CONSIGNEE US NUCLEAR REGULATORY COMMISSION-	
3. ORDER NO NRC-HQ-20-14-T-0002		4. REQUISITION/REFERENCE NO NRR-14-0082			
5. ISSUING OFFICE (Address correspondence to) US NRC - HQ ACQUISITION MANAGEMENT DIVISION MAIL STOP 3WFN-05-C64MP ATTN HUGO ALCANTARA 301-287-0844 WASHINGTON DC 20555-0001				b. STREET ADDRESS MAIL PROCESSING CENTER 4930 BOILING BROOK PARKWAY	
				c. CITY ROCKVILLE	d. STATE MD
				e. ZIP CODE 20852	
7. TO: a. NAME OF CONTRACTOR S W R I				f. SHIP VIA	
b. COMPANY NAME				8. TYPE OF ORDER <input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY	
c. STREET ADDRESS 6220 CULEBRA RD				REFERENCE YOUR: 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 SAN ANTONIO		e. STATE TX	f. ZIP CODE 782385166	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	
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 checked="" 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 <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB					
13. PLACE OF a. INSPECTION Destination		14. GOVERNMENT B/L NO.		12. F.O.B. POINT	
b. ACCEPTANCE Destination				15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)	
				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 Contractor shall provide services in accordance with the Statement of Work entitled "Review of License Amendment Request for the Calvert Cliffs Nuclear Power Plant, Units 1 and 2, Transition to National Fire Protection Association Continued ...					
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						
b. STREET ADDRESS (or P.O. Box) ONE WHITE FLINT NORTH 11555 ROCKVILLE PIKE MAILSTOP 03-E17A				\$0.00		17(i) GRAND TOTAL
c. CITY ROCKVILLE		d. STATE MD	e. ZIP CODE 20852-2738	\$177,840.00		

22. UNITED STATES OF AMERICA BY (Signature) 	04/07/2014	23. NAME (Typed) STEPHEN M. POOL TITLE: CONTRACTING/ORDERING OFFICER
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TEMPLATE - ADM001

SUNSI REVIEW COMPLETE

APR 10 2014

ADM002

ORDER FOR SUPPLIES OR SERVICES
SCHEDULE - CONTINUATION

PAGE NO

2

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

DATE OF ORDER	CONTRACT NO. NRC-HQ-50-14-E-0001	ORDER NO. NRC-HQ-20-14-T-0002
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	<p>Standard 805 (NFPA 805), "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2011 Edition."</p> <p>Task Order Ceiling Amount: \$177,840.00 Task Order Obligation Amount: \$30,000.00 Period of Performance: 04/04/2014 to 02/03/2016</p> <p>NRC Contracting Officer's Representative: Bernard L. Grenier 301-425-2726 Alt. NRC Contracting Officer's Representative: Naeem Iqbal 301-425-3431</p> <p>Accounting Info: 2014-X0200-FEEBASED-20-20D007-11-4-149-1034-252A</p>					

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

\$0.00


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CONTRACTOR ACCEPTANCE OF TASK ORDER NRC-HQ-20-14-T-0002

Acceptance of Task Order No. NRC-HQ-20-14-T-0002 should be made by having an official, authorized to bind your organization, execute two copies of this document in the space provided and return one copy to the Contracting Officer. You should retain the other copy for your records.

Accepted Task Order No. NRC-HQ-20-14-T-0002:



Name R. B. Kalmbach

Executive Director, Contracts

Title

April 03, 2014

Date

SECTION B - Supplies or Services/Prices

NRCB010 BRIEF PROJECT TITLE AND WORK DESCRIPTION

(a) The title of this project is: Review of License Amendment Request for the Calvert Cliffs Nuclear Power Plant, Units 1 and 2, Transition to National Fire Protection Association Standard 805 (NFPA 805), "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2011 Edition

(b) Summary work description: *The objective of this task order is to obtain technical expertise from the CNWRA/SwRI to assist the staff in determining the safety adequacy of the Calvert Cliffs Nuclear Power Plant Units, 1 and 2, 10 CFR 50.48(c) (NFPA 805) LAR in the technical review area of nuclear power plant fire modeling and fire protection programmatic portion of LAR.*

(End of Clause)

PRICE/COST SCHEDULE

BASE PERIOD - April 4, 2014 through February 3, 2016				
CLIN NO	DESCRIPTION OF SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	TOTAL CPFF
00001	Review of License Amendment Request for the Calvert Cliffs Nuclear Power Plant Units, 1 and 2			
Total				\$177,840.00

NRCB040A CONSIDERATION AND OBLIGATION—COST-PLUS-FIXED-FEE ALTERNATE I

(a) The total estimated cost to the Government for full performance of this contract is **\$177,840.00** of which the sum of **\$164,737.00** represents the estimated reimbursable costs, and of which **\$13,103.00** represents the fixed-fee.

(b) There shall be no adjustment in the amount of the Contractor's fixed fee.

(c) The amount currently obligated by the Government with respect to this contract is **\$30,000.00**, of which the sum of **\$27,790.00** represents the estimated reimbursable costs, and of which **\$2,210.00** represents the fixed-fee.

(d) This is an incrementally-funded contract and FAR 52.232-22 - "Limitation of Funds" applies.

(e) 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 **\$1,965.00**.

(End of Clause)

SECTION C - Description/Specifications

Statement of Work for Calvert Cliffs Nuclear Power Plant (Cost Center 1034)

Title: Review of License Amendment Request for the Calvert Cliffs Nuclear Power Plant, Units 1 and 2, Transition to National Fire Protection Association Standard 805 (NFPA 805), "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2011 Edition

Contracting Officer Representative (COR): Bernard L. Grenier, (301) 415-2726;
Bernard.Grenier@nrc.gov

Alternate COR: Naeem Iqbal, (301) 415-3346; Naeem.Iqbal@nrc.gov

Docket No.: 50-317 and 50-318

TAC Numbers: MF2993 and MF2994, Fee Billable

BACKGROUND

The United States Nuclear Regulatory Commission (NRC), Office of Nuclear Reactor Regulation (NRR) is currently implementing a new risk-informed, performance-based rule under Section 50.48(c) of Title 10 of the *Code of Federal Regulations* (10 CFR). This rule endorses the National Fire Protection Association Standard 805 (NFPA 805), "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition.

Constellation Energy Nuclear Group, the licensee for Calvert Cliffs, Units 1 and 2, has submitted a license amendment request (LAR) to adopt 10 CFR 50.48(c) (NFPA 805), and this project-level description of work outlines the requirements for technical assistance to be provided by the Center for Nuclear Waste Regulatory Analysis (CNWRA)/South West Research Institute (SwRI) to the Fire Protection Branch (AFPB) in the Division of Risk Assessment (DRA), NRR, to complete the technical review and develop the Technical Evaluation Report (TER).

This project will require coordination between CNWRA/SwRI, the Pacific Northwest National Laboratory (PNNL), and the NRC staff. PNNL, under a separate contract, will be providing technical expertise in nuclear power plant fire protection and fire protection engineering (FPE), safe-shutdown/circuit analysis (SSD/CA), and probabilistic risk assessment (PRA). The NRC technical staff will perform review of the radiological release portion of the LAR.

OBJECTIVE

The objective of this task order is to obtain technical expertise from the CNWRA/SwRI to assist the staff in determining the safety adequacy of the Calvert Cliffs, Units 1 and 2, 10 CFR 50.48(c) (NFPA 805) LAR in the technical review area of nuclear power plant fire modeling and fire protection programmatic portion of LAR so the NRC staff can make a licensing decision regarding whether or not the LAR is in accordance with 10 CFR 50.48(c); NFPA 805, 2001 Edition; and the guidance provided in the NUREG-0800, Standard Review Plan (SRP) Section 9.5.1.2, "Risk-Informed, Performance-Based Fire Protection Program."

TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

One senior-level Fire Protection or Mechanical Engineer on an intermittent, part-time basis to serve as the Principal Investigator (PI) who has background and experience in nuclear power plant design and operations to include procedures related to operations at full-power conditions and shutdown modes. The PI should also be knowledgeable in the application of NUREC/CR-6850 methods which pertain to nuclear power plant fire protection PRA models. The PI must be able to ensure that the LAR reviews performed by the domain experts (e.g., FPE, Fire PRA, SSD/CA) are integrated and address areas that cross-cut domains, i.e., that the review by one domain expert is integrated with the review by other domain experts). The PI must also ensure that the PRA model that is reviewed by the PRA expert makes assumptions about the fire protection program and that the review of the fire protection program assumptions in the PRA model must be a coordinated/integrated review by both the PRA and FPE experts.

One senior-level Fire Protection Engineer on an intermittent, part-time basis who is knowledgeable of nuclear power plant fire protection programs and has in-depth experience in fire modeling and fire hazard analysis; has in-depth knowledge and experience in the design and operation of nuclear power plant fire protection systems; and, experience in the application of Appendix R compliance.

One senior-level Mechanical or Nuclear Engineer on an intermittent, part-time basis who is knowledgeable of nuclear power plant design and operation to include procedures related to operations at full-power conditions and shutdown modes and who has in-depth knowledge and experience in the design and operation of fire protection systems and programs implemented at nuclear power plants, and experience in the application of Appendix R regulations.

All three individuals should be knowledgeable in the preparation of the TER, i.e., input to NRC safety evaluation reports.

The engineers must be able to satisfy the escorted access requirements for the Owner Controlled Area and Protected Area of Calvert Cliffs site. The Calvert Cliffs Nuclear Power Plant is located in Lusby, Calvert County, Maryland. The plant consists of two Combustion Engineering Generation II two-loop pressurized-water reactor nuclear steam supply system.

WORK REQUIREMENTS AND SCHEDULE

Tasks

Scheduled Completion

1. Based on 10 CFR 50.48(c); NFPA 805, 2001 Edition and the guidance provided in the SRP Section 9.5.1.2., review and evaluate the Calvert Cliffs Nuclear Power Plant 10 CFR 50.48(c), (NFPA 805) LAR in the areas of nuclear power plant fire modeling and fire protection programmatic and determine the safety adequacy in the areas listed below to enable the staff to make a licensing decision regarding whether or not the LAR is in accordance with the regulations.

Identify areas where any additional information is needed to determine if the LAR is in accordance with the applicable

regulatory requirements and develop questions for the licensee i.e., request for additional information (RAIs). Prepare a TER utilizing the template and guidance to be provided by the NRC staff.

a. Fire Protection Programmatic Review

- | | | |
|-----|---|---|
| (1) | Prepare a technical report that contains the RAIs. | Four weeks after award. |
| (2) | Incorporate NRC staff comments and submit the final RAIs. | One week after receipt of NRC staff comments. |

b. Fire Modeling

- | | | |
|-----|---|--|
| (1) | Prepare a technical report that contains the RAIs. | Four weeks after completion of Subtask 1.a. (1). |
| (2) | Incorporate NRC staff comments and submit the final RAIs. | One week after receipt of NRC staff comments. |

2. Prepare for and travel to the Calvert Cliffs Nuclear Power Plant site to participate in the an on-site audit of the NFPA 805 LAR in accordance with LIC-111, "Regulatory Audits" to review the same areas of fire modeling and fire protection programmatic review described in Task 1. Provide "on-call, in-office" support as may be necessary. Identify the need for any additional RAIs.

- | | | |
|----|--|---|
| a. | Prepare additional on-site RAIs, if needed. | One day prior to the exit meeting. |
| b. | Prepare an on-site audit trip report. | One week after the on-site audit. |
| c. | Prepare a consolidated audit report which includes Input received from PNNL. | One week from receipt of input from PNNL. |

3. Review and evaluate the RAI responses and determine if the response(s) adequately address the open issues.

a. Review and evaluate the licensee's 60-day RAI responses.

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|-----|---|--|
| (1) | If the response(s) is not acceptable, discuss the RAI response(s) with the NRC staff who may determine that a conference call is needed to discuss the RAI response(s) with the licensee in which case the PI will be notified and a mutually acceptable date to participate in the conference call will be set. If the | Two week after receipt of the RAI response(s). |
|-----|---|--|

- response is deemed inadequate, prepare a technical letter report describing the RAI(s) and the bases.
- (2) If the response is deemed to be adequate, incorporate the results in the TER prepared under Task 1. Two weeks after receipt of the RAI response(s).
- b. Review and evaluate the licensee's 90-day RAI responses.
- (1) If the response(s) is not acceptable, discuss the RAI response(s) with the NRC staff who may determine that a conference call is needed to discuss the RAI response(s) with the licensee in which case the PI will be notified and a mutually acceptable date to participate in the conference call will be set. If the response is deemed inadequate, prepare a technical letter report describing the RAI(s) and the bases. Two weeks after receipt of the RAI response(s).
- (2) If the response is deemed to be adequate, incorporate the results in the TER prepared under Task 1. Two weeks after receipt of the RAI response(s).
- c. Review and evaluate the licensee's 120-day RAI responses.
- (1) If the response(s) is not acceptable, discuss the RAI response(s) with the NRC staff who may determine that a conference call is needed to discuss the RAI response(s) with the licensee in which case the PI will be notified and a mutually acceptable date to participate in the conference call will be set. If the letter report describing the RAI(s) and the bases. Two weeks after receipt of the RAI response(s).
- (2) If the response is deemed to be adequate, incorporate the results in the TER prepared under Task 1. Two weeks after receipt of the RAI response(s).
4. Review "Round 2" RAI responses, if any, and any additional Responses which may be subsequently submitted; update the (TER) utilizing the template and guidance supplied by the NRC.
- a. Draft. Two weeks after all RAIs have been resolved or upon notification by the COR.
- b. Incorporate NRC Comments and prepare the final report. Two weeks after receipt of NRC staff comment.
5. Assemble the entire safety evaluation report from parts provided by NRC. Perform consistency review, reference As mutually agreed upon between the COR and

checks, technical editing and additional tasks as needed per guidance received from the NRC.

the PI.

a. Draft.

Four weeks after receipt of all SE parts from the NRC.

b. Incorporate NRC comments and prepare the final report.

Two weeks after receipt of NRC comments.

LEVEL OF EFFORT

The estimated level of effort in professional staff hours apportioned among the tasks by labor category is as follows:

<u>Tasks</u>	<u>Labor Category</u>	<u>Level of Effort</u>
1.	Sr. Engineer (Fire Protection (FP))	240
	Sr. Engineer (Mechanical)	<u>40</u>
	Subtotal	280
2.	Sr. Engineer (FP)	56
	Sr. Engineer (Mechanical)	<u>8</u>
	Subtotal	64
3.	Sr. Engineer (FP)	96
	Sr. Engineer (Mechanical)	<u>4</u>
	Subtotal	100
4.	Sr. Engineer (FP)	100
	Sr. Engineer (Mechanical)	<u>4</u>
	Subtotal	104
5.	Sr. Engineer (FP)	96
	Total Technical Review	644
	Project Management	45
	Program Support	<u>54</u>
	Subtotal	99
Total by Labor Category:		
	Sr. Engineer (FP)	492
	Sr. Engineer (Mechanical)	<u>152</u>
	Total Technical Review	644

PERIOD OF PERFORMANCE

The projected period of performance is 22 months from issuance of the task order.

DELIVERABLES

Technical Reporting Requirements

NOTE: All reports are to be prepared in Microsoft Word 2007 or compatible format and submitted electronically to the COR. The transmittal letter and cover page shall contain the Job Code Number (JCN), the Task Order Number, and Title.

1. At the completion of Subtasks 1.a. and 1.b, submit a technical letter report, draft and final as appropriate, that the list of questions which clearly articulate the bases of the need for further information or discussion. See Attachment 1 for guidance in the preparation of RAIs.
2. At the completion of Subtask 2.a., submit a technical letter report that contains RAIs uncovered while performing the audit.
3. At the completion of Subtask 2.b., submit audit trip report that contain summary of the activities performed during the audit and a summary of significant highlights, observations, insights, and findings. Include the title and description of any documents, slides, or other materials reviewed on the trip. As appropriate, describe possible resolution of the findings/observations, noting disposition responsibility (if appropriate) of the items presented and reviewed.
4. At the completion of Subtask 2.c., submit consolidated audit report that contain summary of the activities performed during the audit and a summary of significant highlights, observations, insights, and findings. Include the title and description of any documents, slides, or other materials reviewed on the trip. As appropriate, describe possible resolution of the findings/observations, noting disposition responsibility (if appropriate) of the items presented and reviewed.
5. At the completion of review of each Subtask under Task 3, for those responses deemed to be not acceptable, provide a verbal response followed by submission of a technical letter report that contains the RAI(s) which clearly articulates the bases for the need for further information or discussion.
6. At the completion of Task 4, prepare a TER, draft and final as appropriate, that contains the results of the evaluation, findings and conclusions following the template and guidance provided by the NRC.
7. At the completion of Task 5, submit a technical letter report, draft and final, that contains the assembled safety evaluation report.

Monthly Letter Status Reporting (MLSR) Requirements

Add Alex.Klein@nrc.gov to the distribution list.

A budget is to be developed for each Task based on the agreed upon allocation of the level of effort among the Tasks. Separate expenditures for each Task will be reported in the MLSR against the budget using the following format:

Authorized Cost Ceiling: \$ _____			Funds Obligated to date: \$ _____	
Expenditures			Task Expenditures	Percentage
<u>Tasks</u>	<u>Planned Budget</u>	<u>for the Period</u>	<u>Cumulative</u>	<u>vs. Budget</u>
1.	\$	\$	\$	%
2.	\$	\$		\$ %
3.	\$	\$		\$ %
4.	\$	\$		\$ %
5.	\$	\$		\$ %
6.	\$	\$		\$ %
7.	\$	\$		\$ %
Total	\$ _____	\$ _____	\$ _____	_____ %

A monthly expense variance greater than 10 percent must be explained in the "Problem/Resolution," section.

NOTE: Once a variance reaches 15 percent, prior approval is required in writing from the NRC COR, or a Modification is to be processed.

MEETINGS AND TRAVEL

One, one-person, five-day on-site audit trip to the Calvert Cliffs Nuclear Power Plant located in Lusby, Calvert County, Maryland.

NRC-FURNISHED MATERIALS

The Calvert Cliffs Nuclear Power Plant, Units 1 and 2, NFPA 805 LAR can be found on NRC web site under ADAMS Accession Nos. ML13301A673, ML13301A674 and ML13301A676 and will be forwarded electronically after contact award.

NOTE: Some of these documents contain proprietary information and must be safeguarded against unauthorized disclosure. After completion of work, the documents should either be destroyed or returned to NRC. If they are destroyed, please confirm this in an E-mail to the COR and include the date and manner in which the documents were destroyed.

NRC-FURNISHED MATERIALS (CONTINUED)

The NRC COR will provide those NRC documents related to licensing activities (for example, any Non-Publicly available safety evaluation reports, audit reports, and related documents) that are readily available. The NRC COR will provide access to pertinent NFPA 805 LAR reviews or other NRC documents and docketed correspondence on related issues. The CNWRA/SwRI staff shall identify any additional NRC documentation that is needed and the COR will determine

whether these will be provided by the NRC or obtained directly by the CNWRA/SwRI from Agency-Wide Documents Access and Management System (ADAMS), NRC public document room or the NRC website at www.nrc.gov.

OTHER APPLICABLE INFORMATION

License Fee Recovery

The work specified in this SOW is license fee recoverable under TAC Nos. MF2993 and MF2994.

Assumptions and Understandings

It is understood that the level of effort for each Task contains sufficient effort to conduct telephone conference calls with the NRC staff. Such phone calls, for example, might be arranged by the NRC COR with the Licensing Project Manager and other NRC staff to discuss the RAIs and to reach an understanding with the licensee. Comments might be provided such that the RAIs may have to be resubmitted.

It is understood that preparation of the TER will occur at the completion of each Subtask under Task 1 and Task 3 though a deliverable of the TER is not required; a summary of the work performed will be provided in the MLSR.

It is understood that preparation for the audit includes minimal participation in a conference call ("go-to-meeting") and effort to make travel arrangements.

It is understood that the "on-site" RAIs means RAIs that were developed on site as a result of the audit; they are in addition to those developed under Task 1.

The level of effort assumption for the audit under Task 2 is based on eight hours for preparation and travel to the site, 40 hours to participate in the audit for one person and return travel, eight hours for "in-office" on-call support and eight hours for documentation: trip report and consolidated audit report.

It is understood that draft RAI responses may be available for review prior to their formal submittal.

Unless otherwise approved by Letter of Technical Direction or by a Modification, the level of effort among the Tasks cannot be exceeded by more than 15 percent.

It is understood that this project will require coordination between CNWRA/SwRI, PNNL, and the NRC staff since all three will be providing technical expertise and input for the review of the LAR.

It is understood that the actual time it will take to complete Task 3 may span up to 3 months after receipt of the initial RAIs.

It is understood that CNWRA/SwRI has copies of the following documents needed to perform the review:

1. Regulatory Guide 1.205, "Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants."
2. NUREG-0800, Standard Review Plan, Section 9.5.1.2, "Risk-Informed, Performance-Based Fire Protection Program."
3. Office of Nuclear Reactor Regulation, Office Instruction, Revision 0 of LIC-111, "Regulatory Audits."
4. Office of Nuclear Reactor Regulation, Office Instruction, Revision 3 of LIC-101, "License Amendment Review Procedures."
5. NEI 04-02, Guidance for Implementing a Risk-Informed, Performance-Based Fire Protection Program Under 10 CFR 50.48(c), Revision 2, Nuclear Energy Institute, Washington, DC, April 2008.
6. NFPA 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition, National Fire Protection Association, Quincy MA.
7. NUREG/CR-6850, "EPRI/NRC-RES, Fire PRA Methodology for Nuclear Power Facilities," Volumes 1 and 2, USNRC, September 2005.
8. Regulatory Guide 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," ML070240001 (Clarification to RG 1.200, Revision 1, ML071940235) (Draft Revision 1 was issued as DG-1161, 09/2006, ML062480134) (Revision 0, 02/2004, ML040630078, was issued with SRP Chapter 19.1, ML040630300) (Draft Revision 0 was issued as DG-1122, 11/02, ML023360076)
9. NUREG-1824, "Verification and Validation of Selected Fire Models for Nuclear Power Plant Applications," U.S. Nuclear Regulatory Commission, Washington, DC, May 2007.
10. Regulatory Guide 1.174, Revision 1, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis".
11. NRC NUREG-0800, Standard Review Plan, Chapter 19.2, "Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance," Revision 0, June 2007.
12. NEI 00-01, "Guidance for Post Fire Safe Shutdown Analysis," Revisions 1 & 2, Nuclear Energy Institute, Washington, DC.
13. Templates for development of various technical review related documents including but not limited to Audit Reports, RAIs, Safety Evaluations, Technical Specifications, etc.
14. Other NRC guidance such as Frequently Asked Questions (FAQs), historical documents related to previous 10 CFR 50.48(c) reviews, etc.

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 LAR needs to be requested in a manner that is unambiguous, has an adequate basis, and is necessary for the safety review. RAIs should be developed using the following guidance:

1. An RAI should include the appropriate basis for requesting the information. The basis should explain why the information is needed, including how it will be used to help make a reasonable assurance finding.
2. Judgmental language should be avoided.
 - a. Questions should not make adequacy determinations.
 - b. Words like “unacceptable” or “deficient” and “deviation” should be avoided. Likewise, avoid using phrases like “*the staff will require*” since it is premature to require anything when asking questions.
3. Questions should be focused, not open-ended.
 - a. The RAI should 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 should clearly identify the information requested and/or the underlying issue.
 - b. “If ... then” questions (questions that could lead to follow-on questions) should provide both parts of the question.

After the RAIs have been forwarded to the applicable NRC PM, 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 docket in the ADAMS) and may request a follow-up teleconference and/or meeting.

After receiving RAI response(s) from the licensee, the NRC may hold a teleconference and/or a public meeting:

Guidance for Preparing Requests for Additional Information (Continued)

- a. 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 should submit the information on the docket. The submission is not intended to be another RAI or a means to minimize the number of safety evaluation report open items, but frequently reduces the number of SER open items.
- b. If the areas of disagreement remain, the unresolved RAI becomes a safety evaluation report open item.

SECTION D - Packaging and Marking

NRCD020 BRANDING

The Contractor is required to use the statement below in any publications, presentations, articles, products, or materials funded under this contract/order, to the extent practical, in order to provide NRC with recognition for its involvement in and contribution to the project. If the work performed is funded entirely with NRC funds, then the contractor must acknowledge that information in its documentation/presentation.

Work Supported by the U.S. Nuclear Regulatory Commission (NRC), Office of Nuclear Reactor Regulation, under Contract/order number NRC-HQ-50-14-E-0001/NRC-HQ-20-14-T-0002.

(End of Clause)

NRCD010 PACKAGING AND MARKING

(a) The Contractor shall package material for shipment to the NRC in such a manner that will ensure acceptance by common carrier and safe delivery at destination. Containers and closures shall comply with the Surface Transportation Board, Uniform Freight Classification Rules, or regulations of other carriers as applicable to the mode of transportation.

(b) On the front of the package, the Contractor shall clearly identify the contract number under which the product is being provided.

(c) Additional packaging and/or marking requirements are as follows: None.

(End of Clause)

SECTION E - Inspection and Acceptance

2052.215-71 PROJECT OFFICER AUTHORITY (OCT 1999)

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

Name: Bernard L. Grenier
Address: Mail Stop: OWFN 13-E10
Washington, DC 20555
Telephone Number: 301-415-2726

(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 F - Deliveries or Performance

NRCF032 TASK/DELIVERY ORDER PERIOD OF PERFORMANCE (SEP 2013)

This order shall commence on April 4, 2014 and will expire on February 3, 2016.

(End of Clause)

NRCF010 PLACE OF DELIVERY-REPORTS

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

- a. Name: Bernard L. Grenier (1 Electronic Copy)
- b. Contracting Officer's Representative (COR)
- c. Address: Bernard.Grenier@nrc.gov (1 hard copy)

- d. Name: Hugo Alcantara (1 Electronic Copy)
- e. Contract Specialist (CS)
- f. Address: Hugo.Alcantara@nrc.gov (1 hard copy)

(End of Clause)

SECTION G - Contract Administration Data

NRCG030 ELECTRONIC PAYMENT (SEP 2014)

The Debt Collection Improvement Act of 1996 requires that all payments except IRS tax refunds be made by Electronic Funds Transfer. Payment shall be made in accordance with FAR 52.232-33, entitled "Payment by Electronic Funds-Central Contractor Registration".

To receive payment, the contractor shall prepare invoices in accordance with NRC's Billing Instructions. Claims shall be submitted on the payee's letterhead, invoice, 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." The preferred method of submitting invoices is electronically to: NRCPayments@nrc.gov.

(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:

<u>Name</u>	<u>Title</u>
Lane Howard	Program Manager
Dr. Marc Janssens	Principal Investigator

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)

2052.215-78 TRAVEL APPROVALS AND REIMBURSEMENT (OCT 1999) - ALTERNATE I (OCT 1999)

(a) Total expenditure for travel may not exceed **\$1,733.00** 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)

NRCH480 USE OF AUTOMATED CLEARING HOUSE (ACH) ELECTRONIC PAYMENT/REMITTANCE ADDRESS

The Debt Collection Improvement Act of 1996 requires that all Federal payments except IRS tax refunds be made by Electronic Funds Transfer. It is the policy of the Nuclear Regulatory Commission to pay government vendors by the Automated Clearing House (ACH) electronic funds transfer payment system. Item 15C of the Standard Form 33 may be disregarded.

(End of Clause)

NRCH470 GREEN PURCHASING (SEP 2013)

(a) In furtherance of the sustainable acquisition goals included in Executive Order 13514, "Federal Leadership in Environmental, Energy, and Economic Performance," products and services acquired under this contract/order shall be energy-efficient (Energy Star or Federal Energy Management Program (FEMP) designated), water-efficient, biobased, environmentally preferable (e.g., Electronic Product Environmental Assessment Tool (EPEAT) certified), non-ozone depleting, recycled content, and non-toxic or less toxic alternatives, to the maximum extent practicable in meeting NRC contractual requirements.

(b) See NRC's Green Purchasing Plan (GPP) at: <http://pbadupws.nrc.gov/docs/ML1219/ML12191A130.pdf> and the General Service Administration's (GSA) Green Procurement Compilation at: <http://www.gsa.gov/portal/content/198257>.

(c) The contractor shall flow down this clause into all subcontracts and other agreements that relate to performance of this contract/order.

(End of Clause)

NRCH410 WHISTLEBLOWER PROTECTION FOR NRC CONTRACTOR AND SUBCONTRACTOR EMPLOYEES

(a) The U.S. Nuclear Regulatory Commission (NRC) contractor and its subcontractor are subject to the Whistleblower Employee Protection public law provisions as codified at 42 U.S.C. 5851. NRC contractor(s) and subcontractor(s) shall comply with the requirements of this Whistleblower Employee Protection law, and the implementing regulations of the NRC and the Department of Labor (DOL). See, for example, DOL Procedures on Handling Complaints at 29 C.F.R. Part 24 concerning the employer obligations, prohibited acts, DOL procedures and the requirement for prominent posting of notice of Employee Rights at Appendix A to Part 24 entitled: "Your Rights Under the Energy Reorganization Act".

(b) Under this Whistleblower Employee Protection law, as implemented by regulations, NRC contractor and subcontractor employees are protected from discharge, reprisal, threats, intimidation, coercion, blacklisting or other employment discrimination practices with respect to compensation, terms, conditions or privileges of their employment because the contractor or subcontractor employee(s) has provided notice to the employer, refused to engage in unlawful practices, assisted in proceedings or testified on activities concerning alleged violations of the Atomic Energy Act of 1954 (as amended) and the Energy Reorganization Act of 1974 (as amended).

(c) The contractor shall insert this or the substance of this clause in any subcontracts involving work performed under this contract.

(End of Clause)

NRCH400 SECURITY REQUIREMENTS RELATING TO THE PRODUCTION OF REPORT(S) OR THE PUBLICATION OF RESULTS UNDER CONTRACTS, AGREEMENTS, AND GRANTS

Review and Approval of Reports

(a) Reporting Requirements. The contractor/grantee shall comply with the terms and conditions of the contract/grant regarding the contents of the draft and final report, summaries, data, and related documents, to include correcting, deleting, editing, revising, modifying, formatting, and supplementing any of the information contained therein, at no additional cost to the NRC. Performance under the contract/grant will not be deemed accepted or completed until it complies with the NRC's directions. The reports, summaries, data, and related documents will be considered draft until approved by the NRC. The contractor/grantee agrees that the direction, determinations, and decisions on approval or disapproval of reports, summaries, data, and related documents created under this contract/grant remain solely within the discretion of the NRC.

(b) Publication of Results. Prior to any dissemination, display, publication, or release of articles, reports, summaries, data, or related documents developed under the contract/grant, the contractor/grantee shall submit them to the NRC for review and approval. The contractor/grantee shall not release, disseminate, display or publish articles, reports, summaries, data, and related documents, or the contents therein, that have not been reviewed and approved by the NRC for release, display, dissemination or publication. The contractor/grantee agrees to conspicuously place any disclaimers, markings or notices, directed by the NRC, on any articles, reports, summaries, data, and related documents that the contractor/grantee intends to release, display, disseminate or publish to other persons, the public, or any other entities. The contractor/grantee agrees, and grants, a royalty-free, nonexclusive, irrevocable worldwide license to the government, to use, reproduce, modify, distribute, prepare derivative works,

release, display or disclose the articles, reports, summaries, data, and related documents developed under the contract/grant, for any governmental purpose and to have or authorize others to do so.

(c) Identification/Marking of Sensitive Unclassified Non-Safeguards Information (SUNSI) and Safeguards Information (SGI). The decision, determination, or direction by the NRC that information possessed, formulated or produced by the contractor/grantee constitutes SUNSI or SGI is solely within the authority and discretion of the NRC. In performing the contract/grant, the contractor/grantee shall clearly mark SUNSI and SGI, to include for example, OUO-Allegation Information or OUO-Security Related Information on any reports, documents, designs, data, materials, and written information, as directed by the NRC. In addition to marking the information as directed by the NRC, the contractor shall use the applicable NRC cover sheet (e.g., NRC Form 461 Safeguards Information) in maintaining these records and documents. The contractor/grantee shall ensure that SUNSI and SGI is handled, maintained and protected from unauthorized disclosure, consistent with NRC policies and directions. The contractor/grantee shall comply with the requirements to mark, maintain, and protect all information, including documents, summaries, reports, data, designs, and materials in accordance with the provisions of Section 147 of the Atomic Energy Act of 1954 as amended, its implementing regulations (10 CFR 73.21), Sensitive Unclassified Non-Safeguards and Safeguards Information policies, and NRC Management Directives and Handbooks 12.5, 12.6 and 12.7.

(d) Remedies. In addition to any civil, criminal, and contractual remedies available under the applicable laws and regulations, failure to comply with the above provisions, and/or NRC directions, may result in suspension, withholding, or offsetting of any payments invoiced or claimed by the contractor/grantee.

(e) Flowdown. If the contractor/grantee intends to enter into any subcontracts or other agreements to perform this contract/grant, the contractor/grantee shall include all of the above provisions in any subcontracts or agreements.

(End of Clause)

SECTION I - Contract Clauses

52.217-8 OPTION TO EXTEND SERVICES (NOV 1999)

The Government may require continued performance of any services within the limits and at the rates specified in the contract. These rates may be adjusted only as a result of revisions to prevailing labor rates provided by the Secretary of Labor. The option provision may be exercised more than once, but the total extension of performance hereunder shall not exceed 6 months. The Contracting Officer may exercise the option by written notice to the Contractor within 15 days.

(End of clause)

SECTION J - List of Documents, Exhibits and Other Attachments

BILLING INSTRUCTIONS FOR COST-REIMBURSEMENT TYPE CONTRACTS (MAY 2013)

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) 13.1, IV, C – "Reporting Requirements" (revised 2/16/2011).

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 (July 2011).

**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/Businesses/Small-Businesses-&Self-Employed/Employer-ID-Numbers-\(EINs\)\)](http://www.irs.gov/Businesses/Small-Businesses-&Self-Employed/Employer-ID-Numbers-(EINs)))).

c. Payee's Name and Address. Show the name of the Payee as it appears in the contract and its correct address. If the Payee assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, 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 Federal Acquisition Regulation (FAR) 52.232-33(g) Payment by Electronic Funds Transfer - Central Contractor Registration (October 2003).

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. 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>Cumulative</u> <u>Total</u>	<u>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.

p. 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.

q. 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).

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

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

t. 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 _____

		<u>Amount Billed</u>	
		<u>Current Period</u>	<u>Cumulative</u>
(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) <u>Indirect Costs</u>	<i>(provide the rate information applicable to your firm)</i>		
(10)	Overhead _____ % of _____ (Indicate Base)	\$ _____	\$ _____
(11)	General and Administrative (G&A) _____ % of _____ (Indicate Base)	\$ _____	\$ _____
	Total Indirect Costs:	\$ _____	\$ _____
(c) <u>Fixed-Fee:</u>			
(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 (<i>not to exceed 85% of fee earned based upon negotiated contract fee percentage</i>) \$ _____		
	<u>Note:</u> The fee balance withheld by NRC may <u>not</u> 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

SOUTHWEST RESEARCH INSTITUTE®

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Refer to: 20.19918.01
April 3, 2014

U.S. Nuclear Regulatory Commission
Acquisition Management Division
Mail Stop: 3WFN-05-C64MP
Washington, DC 20555-0001

Attention: Hugo Alcantara
Contract Specialist
Materials, Security and Administration Branch

Subject: Awarded Task Order No. 2
Contract No. NRC-HQ-50-14-E-0001
Order No. NRC-HQ-20-14-T-0002
SwRI® Project No. 20.19918.01

Dear Mr. Alcantara:

This is to acknowledge receipt of and thank you for subject awarded contract. Pursuant to your email dated March 26, 2014, enclosed is one (1) copy of the subject contract executed on behalf of SwRI. Please fully execute and return one copy for our records.

If you have any questions, please contact Mr. Paul Maldonado at 210/522-6836, by facsimile at 210/522-5155, or via e-mail at pmaldonado@swri.org.

Sincerely,



R. B. Kalmbach
Executive Director, Contracts

RBK/PM/of

cc: W. Patrick, GED
L. Howard, CNWRA
B. DeWispelare, SwRI

P. Maldonado, GED
Library, GED



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