

INTERAGENCY AGREEMENT		1. IAA NO. 31310018F0043			PAGE 1 OF 16	
2. ORDER NO.		3. REQUISITION NO. RES-18-0381		4. SOLICITATION NO.		
5. EFFECTIVE DATE 09/10/2018		6. AWARD DATE 09/05/2018		7. PERIOD OF PERFORMANCE 09/10/2018 TO 01/31/2020		
8. SERVICING AGENCY ALBUQUERQUESANDIA NATL LAB ALC: DUNS: 155505027 +4: DOENNSASFO PO BOX 5400 ALBUQUERQUE NM 87185-5400 POC Vanessa Pezzutti TELEPHONE NO. 505-845-7423				9. DELIVER TO MATTHEW HOMIACK US NUCLEAR REGULATORY COMMISSION OFFICE OF NUCLEAR REGULATORY RESEARCH 11555 ROCKVILLE PIKE ROCKVILLE MD 20852		
10. REQUESTING AGENCY ACQUISITION MANAGEMENT DIVISION ALC: 31000001 DUNS: 040535809 +4: US NUCLEAR REGULATORY COMMISSION ONE WHITE FLINT NORTH 11555 ROCKVILLE PIKE ROCKVILLE MD 20852-2738 POC Sandra Nesmith TELEPHONE NO. 301-415-6836				11. INVOICE OFFICE US NUCLEAR REGULATORY COMMISSION ONE WHITE FLINT NORTH 11555 ROCKVILLE PIKE MAILSTOP 03-E17A ROCKVILLE MD 20852-2738		
12. ISSUING OFFICE US NRC - HQ ACQUISITION MANAGEMENT DIVISION MAIL STOP TWFN-07B20M WASHINGTON DC 20555-0001				13. LEGISLATIVE AUTHORITY Energy Reorganization Act of 1974		
				14. PROJECT ID		
				15. PROJECT TITLE MAINTENANCE SUPPORT AND DISTR. OF XLPR VER. 2 PROB		
16. ACCOUNTING DATA 2018-X0200-FEEBASED-60-60D001-60B101-1032-11-6-154-253D-11-6-154-1032						
17. ITEM NO.	18. SUPPLIES/SERVICES	19. QUANTITY	20. UNIT	21. UNIT PRICE	22. AMOUNT	
	Agreement No. NRC-HQ-25-14-D-0005 Task Order No 31310018F0043 Title: Maintenance, Support, and Distribution of the xLPR Version 2 Probabilistic Fracture Mechanics Code The NRC and Sandia National Laboratory (SNL) hereby enter into this Agreement for the project entitled "Maintenance, Support, and Distribution of the xLPR Version 2 Probabilistic Fracture Mechanics Code." Continued ...					
23. PAYMENT PROVISIONS			24. TOTAL AMOUNT \$75,000.00			
25a. SIGNATURE OF GOVERNMENT REPRESENTATIVE (SERVICING)			26a. SIGNATURE OF GOVERNMENT REPRESENTATIVE (REQUESTING) 			
25b. NAME AND TITLE		25c. DATE	26b. CONTRACTING OFFICER SANDRA R. NESMITH		26c. DATE 9/18/18	

Period of Performance: September 10, 2018 -
January 31, 2020

Consideration and Obligations:

(a) Authorized Cost Ceiling \$376,034.00

(b) The amount presently obligated with respect to this DOE Agreement is \$75,000.00. When and if the amount(s) paid and payable to the DOE Laboratory hereunder shall equal the obligated amount, the DOE Laboratory shall not be obligated to continue performance of the work unless and until the NRC Contracting Officer shall increase the amount obligated with respect to this DOE Agreement. Any work undertaken by the DOE Laboratory in excess of the obligated amount specified above is done so at the DOE Laboratory's sole risk.

The following documents are hereby made a part of this Agreement:

Attachment No. 1: Statement of Work

This agreement is entered into pursuant to the authority of the Energy Reorganization Act of 1974, as amended (42 U.S.C 5801 et seq.). This work will be performed in accordance with the NRC/DOE Memorandum of Understanding dated November 24, 1998. To the best of our knowledge, the work requested will not place the DOE and its contractor in direct competition with the domestic private sector.

Notwithstanding the agreement effective dates and period of performance start dates stated elsewhere in the agreement, the effective date of the agreement and start date of the period of performance are the last date of signature by the parties.

[X] Non-fee Recoverable Work

NRC COR: Matthew Homiack, (301) 415-2427,
matthew.homiack@nrc.gov

Continued ...

DUNS: 040535809	TAS: 31X0200.320
ALC: 31000001	
Master IAA: NRCHQ2514D0005	

STATEMENT OF WORK

NRC Agreement Number NRC-HQ-25-14-D-0005	NRC Agreement Modification Number 	NRC Task Order Number (If Applicable) 31310018F0043	NRC Task Order Modification Number (If Applicable)
Project Title Maintenance, Support, and Distribution of the xLPR Version 2 Probabilistic Fracture Mechanics Code			
Job Code Number 	Cost Center (B&R Number) 	DOE Laboratory Sandia National Laboratories	
NRC Requisitioning Office RES			
NRC Form 187, Contract Security and Classification Requirements <input type="checkbox"/> Applicable <input checked="" type="checkbox"/> Not Applicable		<input type="checkbox"/> Involves Proprietary Information <input type="checkbox"/> Involves Sensitive Unclassified	
<input checked="" type="checkbox"/> Non Fee-Recoverable		<input type="checkbox"/> Fee-Recoverable (If checked, complete all applicable sections below)	
Docket Number (If Fee-Recoverable/Applicable) 		Inspection Report Number (If Fee Recoverable/Applicable) 	
Technical Assignment Control Number (If Fee-Recoverable/Applicable) 		Technical Assignment Control Number Description (If Fee-Recoverable/Applicable) 	

1.0 BACKGROUND

Criterion 4, “Environmental and Dynamic Effects Design Bases,” of Appendix A, “General Design Criteria for Nuclear Power Plants,” to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, “Domestic Licensing of Production and Utilization Facilities,” states, in part, that the dynamic effects associated with postulated reactor coolant system pipe ruptures may be excluded from the design basis when analyses that the NRC has reviewed and approved demonstrate that the probability of fluid system piping rupture is extremely low under conditions consistent with the design basis for the piping. Licensees typically have demonstrated compliance with this probabilistic criterion through deterministic and highly conservative analyses.

NUREG-0800, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition,” Section 3.6.3 provides guidance for the NRC staff’s review of licensee analyses submitted in accordance with 10 CFR Part 50, Appendix A, Criterion 4. NUREG-0800 Section 3.6.3 precludes the assessment of piping systems with active degradation mechanisms. However, it is known that primary water stress-corrosion cracking

(PWSCC) is occurring in systems that have been granted prior NRC approval under 10 CFR Part 50, Appendix A, Criterion 4 to exclude dynamic effects associated with postulated reactor coolant system pipe ruptures from the design basis. Given advances in probabilistic methodologies, the NRC staff and industry concluded that it was more appropriate to perform probabilistic analyses of postulated reactor coolant system pipe ruptures to fully address and quantify uncertainties and directly demonstrate compliance with the probabilistic requirements of 10 CFR Part 50, Appendix A, Criterion 4.

On October 22, 2009, the NRC Office of Nuclear Regulatory Research and the Electric Power Research Institute, Inc. (EPRI) initiated a pilot study under an addendum to a Memorandum of Understanding on Cooperative Nuclear Safety Research signed by NRC and EPRI on March 14, 2007. The objective of the pilot study was to demonstrate the feasibility of a proposed NRC-EPRI cooperative process for developing a probabilistic software tool to address compliance with 10 CFR Part 50, Appendix A, Criterion 4, with particular focus on modelling the effects from active degradation mechanisms, such as primary water stress-corrosion cracking. The pilot study culminated in the development of the Extremely Low Probability of Rupture (xLPR) Version 1 computer code. The namesake for the code stems from language used in the 10 CFR Part 50, Appendix A, Criterion 4.

Building on the success of the pilot study effort, the NRC and EPRI executed a follow-on addendum on February 4, 2013, to develop xLPR Version 2 ("the Code"). Development of this version was a more detailed, longer-term effort to generalize the analysis capabilities for all primary system piping components, address lessons learned from the pilot study, and resolve more complex technical issues. In March 2018, the NRC and EPRI completed all of the software quality assurance requirements. This milestone signified technical completion of the Code and readiness for the release and maintenance phases of the software lifecycle.

In the February 4, 2013, addendum, the NRC and EPRI committed to determine the most appropriate process for maintaining, supporting, and distributing the Code. The NRC and EPRI fulfilled that commitment by establishing a legally-binding framework as outlined in an addendum ("the Addendum") (NRC Agencywide Documents Access and Accession No. ML18169A206). As part of this addendum, the NRC and EPRI agreed to use a third party contractor ("Custodian") to execute certain maintenance, support, and distribution activities.

2.0 OBJECTIVE

The objective of this task order is to procure services for maintenance, support, and distribution of certain products pertaining to the Code ("Products") as defined in Article III of the Addendum. Tasks 1 through 4 execute NRC's share of the activities described in the Addendum, and for these tasks, the COR will provide direction to the DOE Laboratory consistent with the authority of the NRC "Project Contact" as stated in Article V of the Addendum. The DOE Laboratory will fulfil the role of the Custodian for these tasks, which will be coordinated with the EPRI Project

Contact. Task 5 procures additional NRC-specific services related to Product distribution and technical assistance support that are outside the scope of the Addendum.

3.0 SCOPE OF WORK

The DOE Laboratory must provide all resources necessary to accomplish the tasks and deliverables described in this statement of work.

4.0 SPECIFIC TASKS

The DOE Laboratory shall perform the following specific tasks:

Task 1 – Infrastructure Preparation and Maintenance

Under this task, the DOE Laboratory shall prepare and maintain the infrastructure needed to support Tasks 2, 3, and 4. As such, the activities conducted under this task fall within the scope of the Addendum and all charges incurred against this task shall be billed to the NRC in accordance with the provisions of Section VI.A of the Addendum.

The DOE Laboratory shall prepare a written quality assurance plan that will govern all maintenance activities as required by paragraph III.A.1(b) of the Addendum. The DOE Laboratory shall base the quality assurance plan on the one developed under NRC Task Order NRC-HQ-60-14-T-0007 and include any updates as necessary for the performance of the current task order. Supporting processes and procedures developed under NRC Task Order NRC-HQ-60-14-T-0007 shall be similarly updated. The DOE Laboratory shall provide the updated documents to the Contracting Officer's Representative (COR) for review and incorporate any comments provided.

The DOE Laboratory shall also prepare a user license. The license shall include all of the terms and conditions specified in Exhibit A of the Addendum and any additional terms and conditions proposed by the DOE Laboratory as permitted by paragraph III.A.3(a)(ii) of the Addendum. The DOE Laboratory shall provide the license to the COR for review. Any conflicts of requirements between Exhibit A of the Addendum and DOE requirements shall be resolved prior to use of this license.

Also, if directed to do so, the DOE Laboratory shall pay and secure from the National Institute of Standards and Technology (NIST) rights to distribute portions of the most current NIST standard reference database necessary to determine the thermodynamic properties of water as an integral part of the Code.

In addition, the DOE Laboratory shall prepare supporting hardware and software to fulfil the following core capabilities in accordance with applicable quality assurance plan requirements:

- store and provide on-demand, remote, electronic access to all Products with appropriate access restrictions
- perform automated data backup and recovery for all Products
- execute processes for electronic review and approval of documents
- post a copy of the current license and fees established pursuant to the Addendum and allow members of the public to request access to the Products via a publicly available Web page
- allow users with active licenses to download Products authorized under the terms of those licenses, report errors, and request changes via Web page(s)

Other supporting hardware and software capabilities may be implemented as needed. The DOE Laboratory shall utilize to the extent practical the hardware, architecture, and portal previously developed under NRC Task Order NRC-HQ-60-14-T-0007. The DOE Laboratory shall provide access to COR for review and testing and address any issues identified prior to performing any distribution activities under Task 2.

Task Completion Date: All initial infrastructure preparations shall be completed within 90 days after the kick-off meeting is held. Thereafter, maintenance of the infrastructure shall be completed as necessary until the end of the period of performance.

Expected Travel: None.

Task 2 – Distribution

The DOE Laboratory shall execute “Distribution” activities delegated to the Custodian as described in the Addendum. As such, all charges incurred against this task shall be billed to the NRC in accordance with the provisions of Section VI.A of the Addendum. Task 2 shall not begin until the initial infrastructure preparations under Task 1 are complete.

The DOE Laboratory shall intake and process all requests for access to the Products. Prior to initial acceptance for processing, each request must include a completed and signed license. Within a target period of 2 business days of receipt of a complete request, the DOE Laboratory shall conduct an initial review to determine whether the request has been properly completed. Any issues identified shall be communicated back to the requestor to remediate. Once the DOE Laboratory has identified that the request has been properly completed, it shall promptly forward the document to the COR for review.

If the COR approves of the request, he or she will notify the DOE Laboratory in writing. The DOE Laboratory shall then notify the requestor within a target period of 2 business days after obtaining all required approvals and proceed to collect any applicable fees established pursuant to Section VI.B of the Addendum. Within a target period of 2 business day of receipt of payment, the DOE Laboratory shall provide access to the authorized Products and proceed to issue a license key for each installation instance of the Code set to expire at the end of the term specified in the license. If the request is not approved, the DOE Laboratory shall notify the requestor accordingly.

At least 30 days before the end of the term specified in the license, the DOE Laboratory shall notify the licensee of the upcoming expiration of its license. Within 1 business day after expiration of the license, the DOE Laboratory shall terminate access to all Products and notify the licensee accordingly.

Throughout the term of each license, the DOE Laboratory shall provide the licensee access to any authorized Product updates. The DOE Laboratory shall also communicate the availability of any newly issued Product updates to users with active licenses within 5 business days.

As part of this task, the DOE Laboratory shall maintain copies of all executed licenses. It shall also maintain current an accurate listing of all requests received along with their approval status, amount of any fee collected, associated license keys, license expiration date, and any other information identified as necessary by the COR. An updated version of this list shall be included in the Monthly Letter Status Report (MLSRs).

Task Completion Date: Until the end of the period of performance.

Expected Travel: None.

Task 3 – Maintenance

The DOE Laboratory shall execute “Maintenance” activities delegated to the Custodian as described in the Addendum. As such, all charges incurred against this task shall be billed to the NRC in accordance with the provisions of Section VI.A of the Addendum. The DOE Laboratory shall conduct all maintenance activities in accordance with the most recent version of the approved quality assurance plan under the terms of paragraph III.A.1 of the Addendum. Task 3 shall not begin until the initial infrastructure preparations under Task 1 are complete.

Prior to performing any distribution activities under Task 2, the DOE Laboratory shall perform the following maintenance:

- If required by NIST as part of the distribution agreement, the DOE Laboratory shall retain the NIST name in all relevant advertising, manuals, and screens and the NIST copyright statement in all manuals and screens of the Products.
- As identified by the COR in accordance with the provisions of paragraph III.D.2(a) of the Addendum, the DOE Laboratory shall revise certain Products to include any copyright or other intellectual property notices.

Within 10 business days of the receipt of a user-reported problem or change request, the DOE Laboratory shall complete an initial evaluation and develop a proposed plan for resolution within the targeted duration period associated with the user submission. The targeted duration for completion of the tasks associated with a user-reported problem or change request will be based on an expected level of importance (e.g. standard, elevated, critical). The resolution plan shall identify the severity of any adverse issues or the expected benefits of any change requests, the Products likely impacted, the extent of potential changes to those Products, and an estimate of the level of effort and schedule required for implementation of the changes. This information shall be provided to the COR for review and approval per paragraph III.A.1 of the Addendum prior to completing any additional work. If authorized to proceed, the DOE Laboratory shall notify the COR any time it becomes aware of any potential or actual deviations from the resolution plan. At that point, the COR may request additional information prior the authorization of any further work. The DOE Laboratory may report problems and request changes the same as any other user.

All final changes to the Products shall be subject to approval by the COR per paragraph III.A.1 of the Addendum. Additionally, some maintenance activities may require the involvement of subject matter experts. The DOE Laboratory shall propose appropriate subject matter experts to the COR for approval.

The DOE Laboratory shall maintain current an accurate listing of all reported problems and requested changes to the Products along with their resolution status and any other information identified as necessary by the COR. An updated version of this list shall be included in the MLSRs.

Task Completion Date: Until the end of the period of performance.

Expected Travel: None.

Task 4 – Support

The DOE Laboratory shall execute “Support” activities delegated to the Custodian as described in the Addendum. As such, all charges incurred against this task shall be billed to the NRC in

accordance with the provisions of Section VI.A of the Addendum. Task 4 shall not begin until the initial infrastructure preparations under Task 1 are complete.

As defined in the Addendum, “Support” includes, but is not limited to, activities such as providing technical assistance to public users regarding installation, licensing, and reporting and correction of issues in the Products. However, no services for modeling and analysis support shall be provided under this task.

The DOE Laboratory shall also provide assistance with establishing a “User’s Group” as described in the Addendum. To foster participation in the User’s Group, the DOE Laboratory shall plan and hold up to 3 meetings or workshops per year. The purpose of these events will be primarily to provide information about the Code, present and discuss applications and best practices, provide updates regarding maintenance, and other related information. The events may be held either in-person or virtually; however, only one event per year may be held in-person. The plans and budgets for such events shall be provided to the COR at least 90 days in advance.

The DOE Laboratory shall coordinate all activities related to the events including, but not limited to:

- scheduling and logistics
- advance identification of presenters and topics of interest
- developing and sending communications to attendees
- developing the agenda and coordinating the submission of all presentation materials
- preparing a summary of the event proceedings

Draft agendas and presentation materials prepared by the DOE Laboratory shall be provided to the COR at least 15 business days before an event and finalized after addressing any comments provided by the COR. Draft summaries shall be provided to the COR for review within 5 business days after an event. The DOE Laboratory shall finalize the summary within 5 business days of receipt of any comments.

In addition, the DOE Laboratory shall periodically solicit interest from users regarding services that would be of interest as part of a for-fee User’s Group membership. Example services could include training sessions, additional online collaboration tools, preferential processing of maintenance requests, etc. The DOE Laboratory shall report on such solicitation activities and any responses in the MLSRs. If interest in a User’s Group membership is identified, the DOE Laboratory shall work with the interested parties to draw-up terms and provide them to the COR for review and approval per paragraph VI.B.2 of the Addendum.

Task Completion Date: Until the end of the period of performance.

Expected Travel: Once per year for 3 DOE Laboratory staff of up to 3 days duration to locations at distances similar to NRC Headquarters from the DOE Lab. (Total of 3 Trips)

Task 5 – NRC Distribution and Technical Assistance Support

Under this task, the DOE Laboratory shall distribute the Products and provide technical assistance support related to proper use of the Code to the NRC staff and its technical assistance contractors, as requested. The activities conducted under this task do not fall within the scope of the Addendum; therefore, all charges incurred against this task shall be billed to the NRC in full.

Product requests from the NRC staff and its technical assistance contractors should be handled in the same manner as requests from members of the public as described under Task 2 to the extend practical; however, no fees shall be collected. Instead, the DOE Laboratory shall charge associated time and other costs against this task. The DOE Laboratory shall receive approval from the COR prior to distributing any Products to the NRC staff or its technical assistance contractors.

The DOE Laboratory shall respond to all NRC staff and contractor requests for technical assistance support within 1 business day. Technical assistance includes, but is not limited to, assistance with:

- software installation and optimization
- preparing, optimizing, and troubleshooting issues with inputs
- analyzing and interpreting results
- conducting sensitivity studies and other statistical analyses
- investigating and implementing custom changes to the Code to accommodate analysis needs as required
- providing support for resolution of emergent issues

Technical support shall be provided via phone, email, or both as appropriate to facilitate the most expeditious resolution. When the total time required to respond to a request is anticipated to or actually exceeds 2 hours, the DOE Laboratory shall notify the COR. Thereafter, any further technical assistance provided related to the request shall be limited to the time authorized by the COR.

Task Completion Date: Until the end of the period of performance.

Expected Travel: None.

5.0 DELIVERABLES AND/OR MILESTONES SCHEDULE

Task Number	Deliverable/Milestone Description	Due Date
1	Updated quality assurance plan and supporting processes and procedures and user license	30 days from date kick-off meeting held
1	Updated quality assurance plan and supporting processes and procedures and user license with comments incorporated	30 days from receipt of comments
1	Secure distribution rights to NIST standard reference database, as required	30 days from date kick-off meeting held
1	Prepare supporting hardware and software	30 days from date kick-off meeting held
1	Supporting hardware and software with comments incorporated	30 days from receipt of comments
2	Updated list of Product requests and status	Included in MLSRs
3	Maintenance of the Products necessary to: (1) retain the NIST name in all relevant advertising, manuals, and screens and the NIST copyright statement in all manuals and screens, and (2) include any copyright or other intellectual property notices	15 days from approval of the updated quality assurance plan or receipt of distribution rights to the NIST standard reference database, whichever occurs later
3	Updated list of all reported problems and requested changes to the Products along with their resolution status	Included in MLSRs
3	Resolution plans for maintenance activities	10 business days from receipt of user-reported problem or change request
4	Event plans and budgets	90 days in advance of event
4	Draft event agendas and presentation materials prepared by the DOE Laboratory	15 business days before event
4	Final event agendas and presentation materials prepared by the DOE Laboratory with comments incorporated	Before event held
4	Draft event summaries	5 business days after event
4	Final event summaries	5 business days from receipt of comments
4	Summary of User's Group member solicitation activities and responses	Included in MLSRs

6.0 TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

Staff performing this work shall have experience and/or education -- at a minimum a Bachelor's degree in engineering/science or equivalent experience and at least 10 years of related experience (combined of all staff) in one or more of the following key technical areas:

- expertise in probabilistic computer code development,

- detailed knowledge of probabilistic risk assessment
- detailed knowledge of uncertainty characterization methodologies
- detailed knowledge of primary system piping fracture issues
- detailed knowledge of NRC regulations as they pertain to leak-before-break in primary system piping in pressurized water reactors
- detailed knowledge of corrosion, primary water stress-corrosion cracking, thermal and mechanical loadings, and resulting stresses
- expertise in the use of GoldSim (<http://www.goldsim.com>) probabilistic risk assessment software

7.0 KEY PERSONNEL

Key personnel proposed for this task order include the following:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

8.0 MEETINGS AND TRAVEL

The DOE Laboratory shall hold regular meetings via conference call or other virtual means for coordination purposes and to provide the status on activities being performed under Tasks 1 through 4. These meetings will nominally be held monthly, but may be held more a less frequently as needed. The DOE Laboratory shall develop the agenda for the meetings and provide it to the COR at least 3 business days ahead of the meeting. The DOE Laboratory shall also develop a summary to be provided to the COR within 3 business days of each meeting. The DOE Laboratory shall revise the meeting summary within 3 business days of receipt of any comments.

In addition, the following trips are identified:

Kick-Off Meeting: Once for up to 4 DOE Laboratory staff of up to 3 days duration to locations at distances similar to NRC Headquarters from the DOE Laboratory. (Total of 1 Trips)

Task 4: Once per year for up to 3 DOE Laboratory staff of up to 3 days duration to locations at distances similar to NRC Headquarters from the DOE Laboratory. (Total of 3 Trips)

All travel requires written Government approval from the COR.

Since these meetings support tasks that fall within the scope of the Addendum, all charges related to these meetings shall be billed to the NRC in accordance with the provisions of Section VI.A of the Addendum.

Foreign travel for the DOE Laboratory personnel requires a 60-day lead time for NRC approval. For prior approval of foreign travel, the DOE laboratory shall submit an NRC Form 445, "Request for Approval of Official Foreign Travel." NRC Form 445 is available in the MD 11.7 Documents library and on the NRC Web site at: <http://www.nrc.gov/reading-rm/doc-collections/forms/>. Foreign travel is approved by the NRC Executive Director for Operations (EDO).

9.0 REPORTING REQUIREMENTS

The DOE Laboratory is responsible for structuring the deliverables to follow agency standards. The current agency standard is Microsoft Office Suite 2013. The current agency Portable Document Format (PDF) standard is Adobe Acrobat Pro DC. Deliverables must be submitted free of spelling and grammatical errors and conform to the requirements stated in this section.

Monthly Letter Status Reports

In accordance with Management Directive 11.7, NRC Procedures for Placement and Monitoring of Work with the U.S. Department of Energy, the DOE Laboratory must electronically submit a MLSR by the 20th day of each month to the COR with copies to the Contracting Officer (CO) and the Office Administration/Division of Contracts to ContractsPOT.Resource@nrc.gov. If a project is a task ordering agreement, a separate MLSR must be submitted for each task order with a summary project MLSR, even if no work has been performed during a reporting period. Once NRC has determined that all work on a task order is completed and that final costs are acceptable, a task order may be omitted from the MLSR.

Additional copies of the MLSRs are to be distributed to:

- Patrick Raynaud (Patrick.Raynaud@nrc.gov)
- Raj Iyengar (Raj.Iyengar@nrc.gov)

The MLSR must include the following: agreement number; task order number, if applicable; job code number; title of the project; project period of performance; task order period of performance, if applicable; COR's name, telephone number, and e-mail address; full name and address of the performing organization; principal investigator's name, telephone number, and e-

mail address; and reporting period. At a minimum, the MLSR must include the information discussed in Attachment 1 plus any information specified in Section 4.0. The preferred format for a MLSR can also be found in Attachment 1.

10.0 PERIOD OF PERFORMANCE

Award – January 31, 2020

11.0 CONTRACTING OFFICER'S REPRESENTATIVE

The COR monitors all technical aspects of the agreement/task order and assists in its administration. The COR is authorized to perform the following functions: assure that the DOE Laboratory performs the technical requirements of the agreement/task order; perform inspections necessary in connection with agreement/task order performance; maintain written and oral communications with the DOE Laboratory concerning technical aspects of the agreement/task order; issue written interpretations of technical requirements, including Government drawings, designs, specifications; monitor the DOE Laboratory's performance and notify the DOE Laboratory of any deficiencies; coordinate availability of NRC-furnished material and/or GFP; provide site entry of DOE Laboratory personnel; and authorize travel.

Contracting Officer's Representative

Name: Matthew Homiack
Agency: U.S. Nuclear Regulatory Commission
Office: Office of Nuclear Regulatory Research
Mail Stop: T10-A36
Washington, DC 20555-0001
E-Mail: Matthew.Homiack@nrc.gov
Phone: 301-415-2427

Alternate Contracting Officer's Representative

Name: Patrick Raynaud
Agency: U.S. Nuclear Regulatory Commission
Office: Office of Nuclear Regulatory Research
Mail Stop: T10-A36
Washington, DC 20555-0001
E-Mail: Patrick.Raynaud@nrc.gov
Phone: 301-415-1987

12.0 MATERIALS REQUIRED

GoldSim Pro software, Version 11.1 initially and later versions as required to support maintenance activities.

13.0 NRC-FURNISHED PROPERTY/MATERIALS

The NRC shall furnish the Products to which it has rights as delineated in the Addendum.

14.0 RESEARCH QUALITY

The quality of NRC research programs is assessed each year by the Advisory Committee on Reactor Safeguards. Within the context of their reviews, the definition of quality research is based upon several major characteristics:

- Results meet the objectives (75% of overall score)

- Justification of major assumptions (12%)

- Soundness of technical approach and results (52%)

- Uncertainties and sensitivities addressed (11%)

- Documentation of research results and methods is adequate (25% of overall score)

- Clarity of presentation (16%)

- Identification of major assumptions (9%)

It is the responsibility of the DOE Laboratory to ensure that these quality criteria are adequately addressed throughout the course of the research that is performed. The COR will review all research products with these criteria in mind.

15.0 OTHER CONSIDERATIONS

Billing Requirements

As such, the activities conducted under Tasks 1 through 4 fall within the scope of the Addendum. As such, all DOE Laboratory costs incurred against these tasks shall be billed to the NRC in accordance with the provisions of Section VI.A of the Addendum. All DOE Laboratory costs incurred against Task 5 shall be billed to the NRC in full.