

AUG 17 2015

INTERAGENCY AGREEMENT		1. IAA NO. NRC-HQ-60-11-D-0002/M0018		PAGE 1 OF 2	
2. ORDER NO.		3. REQUESTION NO. RES-15-0393		4. SOLICITATION NO.	
5. EFFECTIVE DATE 08/07/2015		6. AWARD DATE 08/07/2015		7. PERIOD OF PERFORMANCE 01/31/2011 TO 01/30/2016	
8. SERVICING AGENCY SANDIA NATIONAL LABORATORY SNL ALC: DUNS: +4: DOENNSASFO PO BOX 5400 ALBUQUERQUE NM 87185-5400 POC Dolores Lineback TELEPHONE NO. 505 845-6055		9. DELIVER TO DALE YEILDING 11555 ROCKVILLE PIKE MAIL STOP CSB C4 A21 ROCKVILLE MD 20852			
10. REQUESTING AGENCY ACQUISITION MANAGEMENT DIVISION ALC: 3100001 DUNS: 040535809 +4; US NUCLEAR REGULATORY COMMISSION ONE WHITE FLINT NORTH 11555 ROCKVILLE PIKE ROCKVILLE MD 20852-2738 POC MORIE GUNTER-HENDERSON TELEPHONE NO. 301 415-7924		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 3WFN-05-C64MP WASHINGTON DC 20555-0001		13. LEGISLATIVE AUTHORITY Energy Reorganization Act of 1974			
		14. PROJECT ID N6797			
		15. PROJECT TITLE SEE BLOCK 18			
16. ACCOUNTING DATA 2015-X0200-FEEBASED-60-60D002-11-6-213-1038-253D					
17. ITEM NO.	18. SUPPLIES/SERVICES	19. QUANTITY	20. UNIT	21. UNIT PRICE	22. AMOUNT
	Project Title: Support Development of Implementation Strategy for Use of Developed PRA Tools in Risk-Informed Activities Master IAA: N/A The purpose of this modification is to: (1) increase the level of effort as seen in the attached statement of work, as a result the ceiling is increase by \$175,245.00 from \$1,216,203.00 to \$1,391,448.00 and Continued ...	450	140374 (7000100)	3Z	
		SNL	\$155,339.81		
		58	\$ 4,660.19		
		N6797	(1031375)		
			2015.08.12		
			'00'06-09:25:13		
23. PAYMENT PROVISIONS		24. TOTAL AMOUNT \$160,000.00			
25a. SIGNATURE OF GOVERNMENT REPRESENTATIVE (SERVICING) <i>L. Van Ness</i>		25b. SIGNATURE OF GOVERNMENT REPRESENTATIVE (REQUESTING) <i>Morie E. Gunter-Henderson</i>			
25c. NAME AND TITLE Lindsay Van Ness, Contracting Officer		25d. DATE 8/17/15		25e. CONTRACTING OFFICER MORIE E. GUNTER-HENDERSON	
				25f. DATE 8/17/15	

ANM002

SUNSI REVIEW COMPLETE

TEMPLATE - ANM001

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(2) add incremental funding in the amount of \$160,000.00 thereby increasing the obligation amount from \$1,216,203.00 to \$1,376,203.00.

All other terms and conditions remain unchanged.

TAS: 31X0200.320

DUNS: 040535809

ALC: 31000001

STATEMENT OF WORK

NRC Agreement Number NRC-HQ-60-11-D-0002	NRC Agreement Modification Number M0018	NRC Task Order Number (If Applicable) N/A	NRC Task Order Modification Number (If Applicable) N/A
Project Title Support Development of Implementation Strategy for Use of Developed PRA Tools			
Job Code Number N6797	B&R Number 2012-60-11-6-133	DOE Laboratory Sandia National Laboratory	
NRC Requisitioning Office Office of Research (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) N/A		Inspection Report Number (If Fee Recoverable/Applicable) N/A	
Technical Assignment Control Number (If Fee-Recoverable/Applicable) N/A		Technical Assignment Control Number Description (If Fee-Recoverable/Applicable) N/A	

1.0 BACKGROUND

The commission, by publishing its Final Policy Statement on the Use of Probabilistic Risk Assessment Methods in Nuclear Regulatory Activities reflected its belief that an overall policy on the use of probabilistic risk assessment (PRA) methods in nuclear regulatory activities should be established so that the many potential applications of PRA would be implemented in a consistent and predictable manner that would promote regulatory stability and efficiency. The Commission also recognized and encouraged continuation of industry initiatives to improve PRA methods, applications, and data collection to support increased use of PRA techniques in regulatory activities.

2.0 OBJECTIVE

The objective of this modification is to increase the overall level of effort of this DOE agreement due to the need for additional technical support in calendar year (CY) 2015. Intended additions to the current DOE agreement are shown below.

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 (SOW). The DOE Laboratory must continue to report accomplishments as prescribed in the existing agreement.

The total level effort for this modification is an increase of 658 staff hours.

4.0 SPECIFIC TASKS

The DOE Laboratory must perform the following:

Task 1 Technical Support Work for PRA Standard and PRA Peer Review Guidance

ASME/ANS continue to update and revise the PRA standards. For example, the ASME/ANS Joint Committee on Nuclear Risk Management (JCNR) is releasing new standards on Level 2 and Level 3 PRA, PRA for advanced LWRs, is preparing the new edition to ASME/ANS RA-Sb-2013, and is addressing technical issues associated with this standard, such as the treatment of uncertainties. To help the staff provide input to these standards additional effort is required by the contractor that will be performed in parallel with Task 4 (the increased level of effort under Task 4 includes the effort needed to continue supporting activities under this task).

Estimated Completion Date: January 30, 2016

Task 2 Glossary

Not changed.

Task 3: Treatment of Uncertainties

The contractor provided support in producing Revision 1 to NUREG-1855, "Guidance on the Treatment of Uncertainties Associated with PRAs in Risk-Informed Decisionmaking." With the publication of Revision 1, the staff plans to co-host with EPRI a 3-day workshop. This workshop is intended to educate users (both internal and external stakeholders) on how to apply the guidance in Revision 1. The contractor will assist the staff in preparing and holding this workshop. This assistance will involve the treatment of model uncertainties and developing case studies (i.e., examples) to illustrate how to apply the guidance.

This workshop is intended for actual users; however, it is also recognized as a means to meet the need to educate managers on the treatment of uncertainty in risk-informed regulatory decision-making. A short course (~1 hour in length) to be developed by the contractor that will be web-based is envisioned as the tool for managers. The contractor will provide input to such a course that focuses on the key aspects of the guidance in NUREG-1855.

The level of effort has increased by 200 staff hours.

Estimated Completion Date: January 30, 2016 NW

Task 4 Support of PRA Technical Acceptability for Risk-Informed Activities

As the new standards are issued for trial use, the staff will update Regulatory Guide (DG) 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," to provide the staff position. These new standards are being issued for trial use. It is the staff intention to provide a draft staff position and issue a draft revision (Revision 3) to RG 1.200. In addition, NEI has update its peer review guidance for internal fire PRA, and has issued peer review guidance for seismic PRA. The staff position on these guides will be provided in the draft revision to RG 1.200. The contractor will support the staff in revising RG 1.200. In providing its staff position, RG 1.200 first provides its position on what constitutes a technically acceptable PRA and a technically acceptable peer review. The contractor will identify where technical information, methods, tools, data, etc. have occurred and therefore, where RG 1.200 needs to be updated regarding what constitutes a technically acceptable PRA.

The level of effort has increased by 229 staff hours.

Estimated Completion Date: January 30, 2016. NW

Task 5 Focused Technical Support

Not changed

5.0 DELIVERABLES AND/OR MILESTONES SCHEDULE

Not changed.

6.0 TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

Timothy A. Wheeler is a Principal Member of Technical Staff at SNL in the Structural Integrity and Licensing Department in the Nuclear Energy & Global Security Technology Center. Since coming to SNL in 1980, he has worked in several areas involving systems safety and risk assessment of NPPs and transportation of radioactive materials. He was the Sandia Principal Investigator for the NRC Aircraft Threat Assessment program, on which he was also the lead BWR systems analyst and also supported PWR systems analyses. He was responsible for the identification of potential target points for threats, special dependencies for SSCs for the NRC's two pilot plant threat assessments and six follow on assessments, and was responsible for the integration of the structural, fire, and shock analyses to form a final damage assessment for the entire plant assessment. He has worked extensively on several programs in support of NRC safety analyses, including system analysis support for NRC Triennial Fire Safety inspections, low power shutdown safety analysis, and plant safety systems analysis for NRC probabilistic risk assessment (PRA) projects including NUREG-1150. He has also supported both NRC and DOE risk analysis for the transportation of radioactive wastes and environmental impact statements for NEPA compliance. His extensive investigation of system dependencies, interactions, and vulnerabilities in support of NRC PRA, Aircraft Threat assessments, and fire safety inspections is highly germane to the requirements for reviewing BOP

systems. He holds a BS in mechanical engineering from the University of New Hampshire and a MS in systems engineering from the University of Virginia.

Matthew R. Denman, Ph.D. is a senior research and development staff member in the Risk and reliability Analysis department of the Nuclear Energy Safety Technologies Group at SNL. His group focuses on the applications of PRA to advanced fuel cycle facility licensing, severe accident analysis and risk management. Currently, Dr. Denman is focusing on improving parameter and model uncertainty characterization for Level 2 PRA analysis as well as developing a new risk-informed accident diagnostic and response tool. Previously, Dr. Denman conducted the statistical portion of the MELCOR uncertainty analysis for the 1F1 meltdown, conducted a dynamic event tree analysis of an integral PWR, led a multi-laboratory initiative to examine and catalog safety and licensing gaps impeding the deployment of the Sodium Fast Reactor, participated in a review of the Attucha II Level 2 PRA, and developed advanced dynamic analysis fault tree formulations to risk-inform severe accident management guidance and passive system reliability.

7.0 ESTIMATED LABOR CATEGORIES AND LEVELS OF EFFORT

Not changed.

8.0 MEETINGS AND TRAVEL

Not changed.

9.0 REPORTING REQUIREMENTS

Not changed.

10.0 PERIOD OF PERFORMANCE

Not Changed

11.0 CONTRACTING OFFICER'S REPRESENTATIVE

Not Changed.

12.0 MATERIALS REQUIRED

Not Changed.

13.0 NRC-FURNISHED PROPERTY/MATERIALS

Not Changed.

14.0 RESEARCH QUALITY

Not Changed.

15.0 STANDARDS FOR CONTRACTORS WHO PREPARE NUREG-SERIES MANUSCRIPTS

Not Changed.

16.0 OTHER CONSIDERATIONS

N/A