

INTERAGENCY AGREEMENT		1. IAA NO. NRC-HQ-60-17-T-0023			PAGE OF 1 3	
2. ORDER NO.		3. REQUISITION NO. RES-17-0417		4. SOLICITATION NO.		
5. EFFECTIVE DATE 08/28/2017		6. AWARD DATE 08/30/2017		7. PERIOD OF PERFORMANCE 08/28/2017 TO 06/30/2022		
8. SERVICING AGENCY ENERGY IDAHO OPERATIONS OFFICE UNITED STATES DEPT OF ALC: DUNS: 048105530 +4: 1955 FREMONT AVE IDAHO FALLS ID 834021510  POC TELEPHONE NO.				9. DELIVER TO US NUCLEAR REGULATORY COMMISSION ATTN MICHELLE GONZALEZ 11555 ROCKVILLE PIKE ROCKVILLE MD 20852		
10. REQUESTING AGENCY ACQUISITION MANAGEMENT DIVISION ALC: 31000001 DUNS: 04053580 +4: US NUCLEAR REGULATORY COMMISSION ONE WHITE FLINT NORTH 11555 ROCKVILLE PIKE ROCKVILLE MD 20852-2738  POC Jeffrey R. Mitchell TELEPHONE NO. 301-415-5074				11. INVOICE OFFICE US NUCLEAR REGULATORY COMMISSION ONE WHITE FLINT NORTH 11555 ROCKVILLE PIKE MAILSTOP O3-E17A ROCKVILLE MD 20852-2738		
12. ISSUING OFFICE US NRC - HQ ACQUISITION MANAGEMENT DIVISION MAIL STOP TWFN-5E03 WASHINGTON DC 20555-0001				13. LEGISLATIVE AUTHORITY Energy Reorganization Act of 1974		
				14. PROJECT ID		
				15. PROJECT TITLE SPAR MODEL TECHNICAL SUPPORT FOR MODEL USERS AND R		
16. ACCOUNTING DATA 2017-X0200-FEEBASED-60-60D002-11-6-213-1052-253D						
17. ITEM NO.	18. SUPPLIES/SERVICES		19. QUANTITY	20. UNIT	21. UNIT PRICE	22. AMOUNT
	<p>The NRC and the DOE Lab Idaho National Laboratories (INL) hereby enter into this Task Order NRC-HQ-60-17-T-0023 under Agreement, NRC-HQ-60-17-D-0005 for the project entitled, "SPAR Model Technical support for Model users and Risk Informed Programs".</p> <p>The performance period for this agreement shall commence on August 28, 2017 and will expire on June 30, 2022.</p> <p>Consideration and Obligations: Continued ...</p>					
23. PAYMENT PROVISIONS				24. TOTAL AMOUNT \$70,000.00		
25a. SIGNATURE OF GOVERNMENT REPRESENTATIVE (SERVICING)				25a. SIGNATURE OF GOVERNMENT REPRESENTATIVE (REQUESTING) 		
25b. NAME AND TITLE		25c. DATE	26b. CONTRACTING OFFICER JEFFREY R. MITCHELL		26c. DATE 08/30/2017	

(a) Authorized Cost Ceiling \$2,594,682.00.

(b) The amount presently obligated with respect to this DOE Agreement is \$70,000.00. 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 part of this Agreement:

Attachment No. 1: Statement of Work

NRC CONTRACTING OFFICERS REPRESENTATIVE (COR):  
Michelle Gonzalez (Primary) Suzanne Dennis (Alternate)

INL PROJECT MANAGER: [REDACTED]  
Master IAA: NRCHQ6017D0005

Request a proposal for Task 3 Routine SPAR Model Updates and provide initial funding for the work.

00001

Authorized Cost Ceiling  
Total Obligated Amount: \$2,594,682.00  
Incrementally Funded Amount: \$70,000.00

2,594,682.00

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.

- Fee Recoverable Work
- Non-fee Recoverable Work

Notwithstanding the agreement effective dates and period of performance start dates stated elsewhere in the agreement, the effective date of Continued ...

the agreement and start date of the period of performance are the last date of signature by the parties.

ALC: 31000001  
DUNS: 040535809  
TAS: 31X0200.320

The total amount of award: \$2,594,682.00. The obligation for this award is shown in box 24.

**COVER PAGE ADDENDUM TO:  
 STATEMENT OF WORK (SOW)**

<b>NRC Agreement Number</b>  NRC-HQ-60-17-D0005	<b>NRC Agreement Modification Number</b>  	<b>NRC Task Order Number (If Applicable)</b>  NRC-HQ-60-17-T-0023	<b>NRC Task Order Modification Number (If Applicable)</b>  
<b>Project Title</b> SPAR MODEL TECHNICAL SUPPORT FOR MODEL USERS AND RISK INFORMED PROGRAMS			
<b>Job Code Number</b>  	<b>B&amp;R Number</b>  2017-60-11-6-213-1052	<b>Servicing Agency</b>  INL	
<b>NRC Requisitioning Office</b>  Research		<b>Period of Performance</b>  August 28, 2017- June 30, 2022	
<b>NRC Form 187, Contract Security and Classification Requirements</b>  <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)	
<b>Docket Number (If Fee-Recoverable/Applicable)</b>  		<b>Inspection Report Number (If Fee Recoverable/Applicable)</b>  	
<b>Technical Assignment Control Number (If Fee-Recoverable/Applicable)</b>  		<b>Technical Assignment Control Number Description (If Fee-Recoverable/Applicable)</b>  	



## **CONTRACTING OFFICER'S REPRESENTATIVE**

### Contracting Officer's Representative

Michelle Gonzalez

Agency: U. S. Nuclear Regulatory Commission

Mail Stop TWFN 10A12

Washington, D. C. 20555-0001

Phone: (301) 892-8133

Email: (michelle.gonzalez@nrc.gov)

### Alternate Contracting Officer's Representative

Name: Suzanne Dennis

Agency: U.S. Nuclear Regulatory Commission

Office: RES

Mail Stop: T10A14

Washington, DC 20555-0001

E-Mail: Suzanne Dennis

Phone: (301) 415-0752

--- End of Executive Summary ---

## STATEMENT OF WORK (SOW)

### Contents

- 1.0 Background
- 2.0 Objective
- 3.0 Scope of Work/Tasks
- 4.0 List of Deliverables
- 5.0 Estimated Labor Categories, Key Personnel and Levels of Effort
  - 5.1 Labor Categories, Requirements and Key Personnel
  - 5.2 Level-of-Effort (in hours)
- 6.0 Certification and License Requirements
- 7.0 Meetings and Travel
- 8.0 Reporting Requirements
  - 8.1 Monthly Letter Status Report (MLSR)
  - 8.2 Final Report
- 9.0 Required Materials, Facilities, Hardware/Software
- 10.0 Applicable Publications (Current Editions)
- 11.0 Data Rights

## **DESCRIPTION/SPECIFICATIONS/WORK STATEMENT**

### **1.0 BACKGROUND**

The purpose of this project is to provide technical support services for NRC (and NRC contractor) model users to answer help desk questions and investigate issues that arise from the use of the Standardized Plant Analysis Risk (SPAR) models by NRC staff analysts.

This new project is follow-on work for the projects in fiscal years (FY) 2004 through 2006 under Job Code W6467, FY 2007 and 2008 under Job Code N6075 which covered the original effort to develop the SPAR models, FY 2008 through FY 2011 under Job Code N6755, and FY 2013 through FY2017 under Job Code V6365, SPAR model Technical Support for Model Users and Risk Informed Programs, which this SOW replaces. The main purpose of these projects was improvement of the SPAR models via cut-set level reviews (i.e., comparing licensee PRA model cut-sets to SPAR model cut-sets). During this time, Idaho National Laboratory (INL) also provided technical support to SPAR model users in support of risk informed programs under the same contract. Since that project is nearing completion, a separate technical support contract is being established to provide NRC (and NRC contractor) model users SPAR model technical assistance in support of the staffs risk informed activities.

NRC staff analysts use the SPAR models in their regulatory activities as follows:

- Promptly assess the risk significance of events to identify regulatory actions. [Office of Nuclear Reactor Regulation (NRR) and the Regional Offices]
- Evaluate the significance of inspection findings in Phase 3 of the Significance Determination Process (SDP). [NRR and the Regional Offices]
- Support risk-informed technical reviews of proposed license amendments [NRR]
- Support decisions to issue generic communications. [NRR]
- Establish plant-specific thresholds for unreliability and unavailability performance indicators (PIs). [NRR and the Office of Nuclear Regulatory Research (RES)]
- Evaluate the effectiveness of regulatory requirements. [RES]
- Estimate the risk associated with operational events/conditions as part of the ASP Program. [RES]
- Perform regulatory analyses to resolve generic issues. [RES]

### **2.0 OBJECTIVE**

The primary objective of this effort to provide technical support services for NRC (and NRC contractor) SPAR model users to answer help desk questions and investigate issues that arise from the use of the revised SPAR models by NRC staff analysts.

An additional, but crucial objective is to ensure the SPAR models are of sufficient quality for performing SDP Phase 3, ASP and MD 8.3 event assessments of operational events in support of the staffs risk informed activities.

### **3.0 SCOPE OF WORK/TASKS**

INL must provide all resources necessary to accomplish the tasks and deliverables described in this Statement of Work (SOW).

INL shall provide technical support services to NRC (and NRC contractor) model users to answer help desk questions and investigate issues that arise from the use of the SPAR models by staff analysts. These tasks shall be performed in accordance with the following:

- Risk Assessment of Operational Events Handbook, Volume 3 – SPAR Model Reviews, Review Checklists – Key Assumptions and Technical Issues, Revision 3, November 2011.
- United States Nuclear Regulatory Commission Standardized Plant Analysis Risk (SPAR) Model Quality Assurance Plan, June 1, 2013, Revision 1 (ML13141A333) or as revised.
- Coordination and Integration of SPAR Models Project, V6364, NRC-HQ-60-13-D0002 and/or follow on project.

The activities that must be completed by INL are listed below.

#### **Task 1: SPAR Model Technical Assistance**

This task provides technical support services for NRC (and NRC contractor) model users to answer help desk questions and investigate issues that arise from the use of the SPAR models by staff analysts.

INL shall provide telephone and/or electronic (e.g, email) support to SPAR model users to answer only SPAR models related questions. INL shall respond within 4 hours during a normal business work day. If the question involves a complex issue (one that cannot be resolved instantly and might involve significant modelling changes), INL must provide a resolution within 3 working days (24 hours of labor). NRC COR approval is required prior to providing complex issue resolution. Technical support provided (questions and issue resolution) must be recorded and reported at the end of each year.

Deliverable: (1) Annual detailed report summarizing issues addressed through the help desk.  
(2) Monthly: Basic summary on the interaction with users and issues identified, shall be contained in the Monthly Letter Status Reports.

#### **Task 2: Workshop Support on SPAR Models**

This task includes preparing and presenting a workshop on use of the SPAR models to be given at each of the Senior Reactor Analyst (SRA) Counterparts Meetings (twice a year). INL is



expected to provide support and attend the 2.5 days of meetings held at NRCs headquarters or one of the Regional offices.

INL shall prepare slides for requested topic for the SRA counterpart meeting and present during the meetings. The workshop, will cover the use of the SPAR models in performing regulatory activities and related modeling issues that are of specific interest to the SRAs. INL support for the workshops shall be provided either physically (taking into consideration travel arrangements) or remotely (e.g, teleconference).

In support of these meetings, INL shall provide at least one INL person, and no more than two when necessary.

Deliverable: (1) Provide workshop slides (Power Point presentations) to the COR a week ahead of the SRA Counter Part meeting.  
(2) Provide a summary of the presentation outcome as the workshops occur. These will be identified on the next subsequent Monthly Letter Status Report.

### **Task 3: Revise SPAR Manuals / Reports**

This task includes investigating, researching and resolving model technical issues before analysis of a given operational event/condition can be performed by the NRC staff. Examples of this in the past include development of generic test and maintenance data, development of common cause failures (CCF) parameters for auxiliary feed-water (AFW) pumps, and enhancements to the reactor coolant pump seal failure models.

INL shall investigate emergent issues arising from changes in plant configuration that might have an impact on the analysis of a given operational event/condition. Issues to be examined might include operating data parameters, specific CCF data, common cause failure groups (CCGs) among others as needed. It is expected that a minimum of at least one and a maximum of three issues are to be addressed yearly.

NRC COR approval is required prior to providing this technical support if significant effort (i.e., more than a 24 hours of labor) is required.

Deliverable: Revised SPAR manuals or other necessary SPAR reports as needed.

### **Task 4: SPAR Models Modifications**

Provide support to the SPAR model user by addressing SPAR modelling changes required by the analyst to perform a risk assessment. NRC COR approval is required prior to providing this type of technical support if significant effort (i.e., more than 24 hours of labor) is required.

INL shall address SPAR users emerging requests to make necessary changes to the SPAR model in support to a specific risk analysis. The requested changes may include updates to reflect plant changes such as modifications, procedure changes, or plant performance (data). INL shall upload the updated model to the "Test/Limited Use Models" space in SAPHIRE.

Deliverable: (1) Annual detailed report summarizing the modifications to the SPAR models.

(SPAR Model Modification Log and SPAR model trouble Log).  
 (2) Monthly: Basic summary on the modifications to the SPAR models, shall be contained in the Monthly Letter Status Reports.

#### 4.0 LIST OF DELIVERABLES

Task Number	Deliverable and Acceptance Criteria	Deliverable Format	Due Date
1	INL shall provide an annual report summarizing the technical assistance provided through the Help Log for the past year.	Annual Report	12/1/18
			12/1/19
			12/1/20
			12/1/21
1	Basic summary on the interaction with users and issues identified, shall be contained in the Monthly Letter Status Reports.	MLSR	Monthly
2	Workshop presentation slides	Power Point Presentation	One week in advanced of each of the meetings
2	Provide a summary of the presentation outcome as the workshops occur. These will be identified on the next subsequent Monthly Letter Status Report.	MLSR	As occurred
3	Revised manuals and/or other reports	Report	3 months after issue identification
4	Report summarizing : 1. SPAR Model Modification Log 2. SPAR Trouble Log, to include corrective actions	Annual Report	12/1/18
			12/1/19
			12/1/20
			12/1/21
4	Basic summary on the modifications to the SPAR models, shall be contained in the Monthly Letter Status Reports.	Monthly	As occurred

Monthly letter status reports (MLSRs) shall be included as project deliverables. The SOW for each task order shall state who will receive the MLSR electronically in the program office, and that copies shall also be sent to the Acquisition Management Division [ContractsPOT.Resource@nrc.gov](mailto:ContractsPOT.Resource@nrc.gov).

## 5.0 KEY PERSONNEL



## 6.0 CERTIFICATION AND LICENSE REQUIREMENTS – N/A

## 7.0 MEETINGS AND TRAVEL

Travel might be necessary in support of SRA Counterpart meetings and other project related meetings, therefore two 5 day trips to Rockville for two staff members (per year) have been anticipated for a total of 10 trips for the duration of this project.

## 8.0 REPORTING REQUIREMENTS

INL is responsible for structuring the deliverables to current agency standards. INL must submit deliverables free of spelling and grammatical errors and shall conform to requirements stated in this section.

### 8.1 Monthly Letter Status Report (MLSR)

INL shall provide a Monthly Letter Status Report which consists of a technical progress report and financial status report. This report will be used by the NRC to assess the adequacy of the resources utilized by INL to accomplish the work contained in this SOW and to provide status of INL's progress in achieving tasks and producing deliverables.

In accordance with Management Directive 11.7, NRC Procedures for Placement and Monitoring of Work with the U.S. Department of Energy, INL shall electronically submit a Monthly Letter Status Report (MLSR) by the 20<sup>th</sup> day of each month to the COR with copies to the Contracting Officer (CO) and the Office of Administration/Acquisition Management Division to [ContractsPOT.Resource@nrc.gov](mailto:ContractsPOT.Resource@nrc.gov). Once task orders are awarded, a separate MLSR shall be submitted for each task order, even if no work has been performed during a reporting period.

The MLSR shall include the following:

- agreement number;
- task order number,
- job code number if applicable,
- title of the project;
- project period of performance,
- task order period of performance, if applicable,
- agreement/order summary information,
- work completed during the specified period,
- milestone schedule information,
- problem identification and resolution,
- travel plans,
- staff hour summary,
- 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

#### **9.0 REQUIRED MATERIALS, FACILITIES, HARDWARE/SOFTWARE – N/A**

#### **10.0 APPLICABLE PUBLICATIONS (CURRENT EDITIONS) – N/A**

#### **11.0 DATA RIGHTS**

The NRC shall have unlimited rights to and ownership of all deliverables provided under this agreement/order, including reports, recommendations, briefings, work plans and all other deliverables. All documents and materials, to include the source codes of any software, produced under this agreement/order are the property of the NRC with all rights and privileges of ownership/copyright belonging exclusively to the NRC. These documents and materials may not be used or sold by the servicing agency without prior written authorization from the CO. All materials supplied to the NRC shall be the sole property of the NRC and may not be used for any other purpose. This right does not abrogate any other Government rights.