INTERAGENCY AGREEMENT	1 IAA NO NRC-HQ-25-16-T-0008	PAGE 1 OF 3

2. ORDER NO	3. REQUISITION NO NRO-16-0080	4. SOLICITATION NO

5. EFFECTIVE DATE 10/01/2016	6. AWARD DATE 08/11/2016	7. PERIOD OF PERFORMANCE 10/01/2016 TO 01/31/2019

8. SERVICING AGENCY
OAK RIDGE NATIONAL LAB
ALC:
DUNS: 012075755 +4:
US DEPARTMENT OF ENERGY
OAK RIDGE NATION LABORATORY SITE OFFICE
BUILDING 4500N MS 6269
PO BOX 2008
OAK RIDGE TN 37831-6269
POC Deborah Garland, CO
TELEPHONE NO. (865) 241-9566

9. DELIVER TO
BRAD HARVEY
US NUCLEAR REGULATORY COMMISSION
TWO WHITE FLINT NORTH BUILDING
11545 ROCKVILLE PIKE
MAIL STOP T-10A36
ROCKVILLE MD 20852

10. REQUESTING AGENCY
AMD
ALC: 31000001
DUNS: 040535809 +4:
US NUCLEAR REGULATORY COMMISSION
TWO WHITE FLINT NORTH
11545 ROCKVILLE PIKE
MAIL STOP T-5E3
ROCKVILLE MD 20852
POC Carolyn A. Cooper
TELEPHONE NO. (301)415-6734

11. INVOICE OFFICE
US NUCLEAR REGULATORY COMMISSION
TWO WHITE FLINT NORTH
11545 ROCKVILLE PIKE
MAILSTOP T9-B07
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
REVIEW OF SITE-SPECIFIC PROBABLE MAXIMUM PRECIPITA

16. ACCOUNTING DATA
2016-X0200-FEEBASED-25-25D005-11-4-212-1062-251D

17. ITEM NO.	18. SUPPLIES/SERVICES	19. QUANTITY	20. UNIT	21. UNIT PRICE	22. AMOUNT
	NRC-HQ-25-16-T-0008 The NRC and the DOE Laboratory (Oak Ridge National Laboratories) hereby into this Agreement Task Order NRC-HQ-25-14-D-0004 /NRC-HQ-25-16-T-0008, for the project entitled, "Review of Site-Specific Probable Maximum Precipitation Analyses." NRC COR: Brad Harvey (301)415-4118 ALT COR: Joseph Giacinto (301)415-0714 PI: David Watson (865)241-4749 Continued ...				

23. PAYMENT PROVISIONS	24. TOTAL AMOUNT $25,000.00

25a. SIGNATURE OF GOVERNMENT REPRESENTATIVE (SERVICING)	26a. SIGNATURE OF GOVERNMENT REPRESENTATIVE (REQUESTING)
25b. NAME AND TITLE Deborah L. Garland, Contracting Officer	25c. DATE 8/17/16
26b. CONTRACTING OFFICER MORIE E. GUNTER-HENDERSON	26c. DATE 8/11/16

TEMPLATE - ADM001

SUNSI REVIEW COMPLETE

AUG 25 2016 ADM002

The period of performance of this Agreement Task Order is October 1, 2016 through January 31, 2019.

CONSIDERATION AND OBLIGATION:

(a) Authorized Cost Ceiling $210,000.00
(b) The amount presently obligated with respect to this DOE Agreement Task Order is $25,000.00. When and if the amounts paid and payable to the DOE Laboratory hereunder equals the obligated amount, the DOE Laboratory shall not be obligated to continue performance of the work unless and until the NRC Contracting Officer increases the amount obligated with respect to this Agreement Task Order. 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 incorporated and made a part of this Agreement Task Order:

Attachment No. 1, Statement of Work
Attachment No. 2, DOE Standard Terms and Conditions

TAS: 31X0200.320

The work hereunder is Fee Recoverable. The Technical Assignment Control (TAC) Numbers will be provided at the time the associated Letters of Technical Direction are issued to the laboratory.

Master IAA: NRCHQ2512D0004

00001	New Task Order	210,000.00

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.

Continued ...

The total amount of award: $210,000.00. The obligation for this award is shown in box 24.

STATEMENT OF WORK (SOW)

NRC Agreement Number	NRC Agreement Modification Number	NRC Task Order Number (If Applicable)	NRC Task Order Modification Number (If Applicable)
NRCHQ2514D0004		NRC-HQ-25-16-T-0008	

Project Title
Review of Site-Specific Probable Maximum Precipitation Analyses

Job Code Number	B&R Number	Servicing Agency
1062	2016-25-11-4-212	Oak Ridge National Laboratory

NRC Requisitioning Office	Period of Performance
Office of New Reactors	10/01/2016 – 01/31/2019
NRC Form 187, Contract Security and Classification Requirements ☒ Applicable ☐ Not Applicable	☐ Involves Proprietary Information ☒ Involves Sensitive Unclassified
☐ Non Fee-Recoverable	☒Fee-Recoverable (If checked, complete all applicable sections below)
Docket Number (If Fee-Recoverable/Applicable) To be provided in associated Letters of Technical Direction	**Inspection Report Number (If Fee Recoverable/Applicable)** Not applicable
Cost Activity Code Number (If Fee-Recoverable/Applicable) To be provided in associated Letters of Technical Direction	**Technical Assignment Control Number Description (If Fee-Recoverable/Applicable)** To be provided in associated Letters of Technical Direction

DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

1.0 BACKGROUND

Probable Maximum Precipitation (PMP) is defined as theoretically the greatest depth of precipitation for a given duration that is physically possible over a given size storm area at a particular geographical location at a certain time of year. It is a deterministic analysis approach that provides design rainfall depths as a function of area size and duration. The PMP values are used as input for estimating site-scale flooding due to short duration, local intense precipitation (LIP) events and for estimating longer-duration watershed-scale (WS) storm events.

General Design Criterion 2 in Appendix A of Part 50 states that structures, systems, and components (SSCs) important to safety at nuclear power plants (NPPs) must be designed to withstand the effects of natural phenomena such as floods without loss of capability to perform their intended safety functions. The design bases for these SSCs are to reflect appropriate consideration of the most severe natural phenomena that have been historically reported for the site and surrounding area. The design bases are also to have sufficient margin to account for the limited accuracy, quantity, and period of time for which the historical data have been accumulated. Section 2.4.2, "Floods" (ML070100647) and Section 2.4.3, "Probable Maximum Flood (PMF) on Streams and Rivers" (ML070730405) of NUREG-0800, "Standard Review Plan" (SRP) states that the NRC staff's estimates of flooding potential are based on PMP estimates from appropriate Hydrometeorological Reports (HMRs) published by the National Oceanic and Atmospheric Administration (NOAA).

Rather than relying on the generalized PMP estimates presented in the HMRs, a number of NRC licensees have chosen to perform site-specific PMP estimates as part of their Flood Hazard Reevaluation Report (FHRRs) submittals in response to NRC's request for information (50.54(f)) letter (ML12053A340) connected with implementing the Near-Term Task Force (NTTF) lessons-learned from the 2011 accident at the Fukushima Dai-ichi NPP (ML111861807). The NRC is anticipating that additional site-specific PMP estimates may be submitted by its licensees as part of revised FHRRs, mitigating strategies assessments (MSAs), focus evaluations (FEs), integrated assessments (IAs), and other submittals related to removing conservatisms in implementing the next phases of their response to the Fukushima accident. Licensees may also be submitting license amendment requests (LARs) seeking changes to their current design basis (CDB) flood protection mechanisms. NRC applicants for Early Site Permits (ESP) and Combined Licensees (COLs) may also be submitting site-specific PMP analyses in support of their new plant applications. Consequently, there is a potential need to review future NRC licensee and applicant submittals that may include site-specific PMP estimates in support of NPP flood evaluations.

2.0 OBJECTIVE

The objective of this task order is to obtain technical expertise from the Servicing Agency to assist the NRC in reviewing site-specific PMP analyses contained in submittals such as responses to Fukushima-related activities (e.g., revised FHRRs, MSAs, FEs, and IAs), LARs, and new NPP applications (e.g., ESPs and COLs). These reviews should determine if the resulting site-specific PMP estimates are reasonable and consistent in scope with the site-specific PMP reviews that the staff needs to do under the respective submittal.

3.0 SCOPE OF WORK

The Servicing Agency shall provide all resources necessary to accomplish the tasks and deliverables described in this Statement of Work (SOW).

Letters of Technical Direction (LTDs) will be issued by the NRC which will indicate the site-specific PMP analysis to be reviewed. The primary deliverables will be Technical Evaluation Reports (TERs) and Technical Review Documents (TRDs).

The TERs will be used by the NRC staff to generate its Safety Evaluation or Staff Assessment, as appropriate. The TER shall contain (a) a description of the information proposed by the licensee, including the assumptions for the analysis, design, and references to consensus standards and (b) review findings (including the basis for the findings), as a result of comparison with the review guidelines. The TER should be written in a manner whereby a person with either non-nuclear technical background or non-technical background could understand the basis for the NRC staff's conclusions. The form, content, and regulatory conclusion of the associated TER deliverable will be provided in the associated LTD.

The TRD will document the basis for the key TER conclusions and will include, as appropriate, calculation packages and input and output files.

4.0 TASKS AND DELIVERABLES

The following table lists the Tasks and Acceptance Criteria, Schedule, and Deliverables for each review assigned to the Servicing Agency via a LTD:

Task #	Task and Acceptance Criteria	Schedule	Deliverable(s)
1.	**Orientation**		
1.a	TASK: Orientation Prepare for and participate in an orientation/kick-off meeting with the NRC staff to discuss the scope of work,	Within 10 working days of receiving the LTD	1. Participation in meeting

Task #	Task and Acceptance Criteria	Schedule	Deliverable(s)
	expectations, and contract management. ACCEPTANCE CRITERIA: Attendance by individuals involved in the assigned review		
2.	**pTER and RAIs**		
2.a	TASK: Electronic Reading Room (ERR) Review the applicant's/licensee's submittal to determine if there is a need for an ERR. If yes, generate a list of documents that should be provided in the ERR. ACCEPTANCE CRITERIA: 1. Provide a list of documents which should be placed in an ERR	The list of documents for the ERR shall be submitted within 10 working days after receipt of the LTD	1. List of documents to be included in the ERR
2.b	TASK: Audit Determine if an audit would be helpful in expediting the review. If approved, participate in the audit. ACCEPTANCE CRITERIA: 1. Assist the NRC staff in developing a list of Information Needs for the audit 2. Participate in the audit 3. Assist the NRC staff in closing out the Information Needs and completing an audit report	Date, time, and location of audit TBD	1. List of information needs for an audit 2. Participation in audit 3. Input to audit report
2.c	TASK: Draft pTER and RAIs Complete an independent analysis as requested by the NRC staff and develop a draft preliminary TER (pTER). Identify the issues and needs for additional or clarifying information in the pTER and assist in the development of draft Requests for Additional Information (RAIs). Participate in meetings as requested to resolve the RAIs. ACCEPTANCE CRITERIA 1. Complete the draft pTER following the guidance provided in the associated LTD 2. Develop the RAIs following guidance to be provided in a LTD	Draft pTER and associated RAIs to be provided as documented a LTD	1. Draft pTER 2. Draft RAIs (NOTE: several rounds of RAIs may be necessary)

Task #	Task and Acceptance Criteria	Schedule	Deliverable(s)
2.d	TASK: Final pTER Incorporate NRC staff comments and finalize pTER. ACCEPTANCE CRITERIA 1. Finalize pTER that incorporates NRC staff comments	Final pTER shall be submitted within 10 working days of receipt of NRC staff comments	1. Final pTER
3.	**FTER and TRD**		
3.a	TASK: Draft FTER and TRD Review Licensee's responses to RAIs to determine if they adequately resolve the outstanding issues. Update independent analyses discussed in the pTER based on the licensee's responses. Incorporate the review results into the final TER (FTER) and generate a TRD. ACCEPTANCE CRITERIA 1. Complete the draft FTER following the guidance provided in the associated LTD 2. Complete the draft TRD	Draft FTER and TRD shall be provided as documented in the LTD	1. Draft FTER 2. Draft TRD
3.b	TASK: Final FTER and TRD Incorporate NRC Staff comments and finalize FTER and TRD. ACCEPTANCE CRITERIA: 1. Final FTER that incorporates NRC Staff comments 2. Final TRD that incorporates NRC Staff comments	Final FTER and TRD shall be submitted within 10 working days of receipt of NRC Staff comments	1. Final FTER 2. Final TRD
4.	**ACRS Meetings**		
4.a	TASK: ACRS Meetings Prepare presentation materials (e.g., slides) to be presented to the Advisory Committee on Reactor Safeguards (ACRS). Optional: Travel to the NRC HQ to attend ACRS meetings (ACRS meeting participation may be available via webinar) ACCEPTANCE CRITERIA: Prepare materials to be presented to the ACRS and participate in ACRS meetings	TBD	1. Slides 2. Presentation at ACRS meetings

Task #	Task and Acceptance Criteria	Schedule	Deliverable(s)
5.	**Monthly Letter Status Report**		
5.a	TASK: Monthly Letter Status Report Generate Monthly Letter Status Reports (MLSRs) ACCEPTANCE CRITERIA: 1. MLSR contains all required information	By the 20th of the following month	1. MLSR

Task 2.a involves reviewing the licensee's submittal to ensure that it contains sufficient technical information, both in scope and depth, for the Servicing Agency to begin its detailed technical review. Any missing information shall be identified, including a list of documents that should be placed in an ERR. ERRs are intended to serve the purpose of a "virtual" audit of the licensee's calculation packages and other non-docketed materials. The materials in a reading room can only be viewed; they cannot be printed or saved. The Servicing Agency should use these reading rooms to fullest extent possible.

In the process of preparing the pTER as part of Task 2.c, it may become necessary to seek additional information from the licensee explaining or amplifying a particular matter. RAIs are necessary when the information is not included in the submittal or cannot be reasonably inferred from the information available to the laboratory. The request for hard and electronic copies of any materials (e.g., input and output files, datasets, better quality figures etc.) may require a RAI.

5.0 ESTIMATED LABOR CATEGORIES, KEY PERSONNEL AND LEVELS OF EFFORT

Labor Categories, Requirements and Key Personnel. Personnel working under this agreement/order shall meet the minimum requirements for experience and education, as follows:

LABOR CATEGORY	POSITION MINIMUM REQUIREMENTS	KEY PERSONNEL* (YES OR NO)
Project Manager	Bachelor's Degree in Engineering or Science	Yes
Key Staff (Mid-level Technical)	Adequate academic background and work experience in performing and reviewing site-specific PMP analyses	Yes
Support Staff (Junior Technical)	Adequate academic background and work experience in performing and reviewing site-specific PMP analyses	Yes

6.0 CERTIFICATION AND LICENSE REQUIREMENTS

N/A

7.0 MEETINGS AND TRAVEL

At the discretion of the COR, most meetings, including the orientation and audits, will be held via webinars and/or conference calls.

The following travel assumptions should be considered in planning the work effort. For each site-specific PMP review assigned to the servicing agency, assume:

- One 2-person, 2-day meeting at the NRC Headquarters in Rockville, MD, to participate in an ACRS meeting

Servicing agency personnel will be authorized travel expenses consistent with the Federal Travel Regulation (FTR) and the limitation of funds specified for the travel within this agreement/order. All travel requires prior written approval from the COR.

8.0 REPORTING REQUIREMENTS

The Servicing Agency is responsible for structuring the deliverables to current agency standards. Deliverables shall be submitted free of spelling and grammatical errors and shall conform to requirements stated in this section.

Monthly Letter Status Report (MLSR)

The Servicing Agency 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 Staff to assess the adequacy of the resources utilized by the Servicing Agency to accomplish the work contained in this SOW and to provide status of the Servicing Agency progress in achieving tasks and producing deliverables. The report shall include agreement/order summary information, work completed during the specified period, milestone schedule information, problem identification and resolution, travel plans, and staff hour summary. Copies shall be sent to the COR and AMD at ContractsPOT.Resource@nrc.gov.

9.0 CONTRACTING OFFICER'S REPRESENTATIVE

Contracting Officer's Representative
Name: Brad Harvey
Agency: U.S. Nuclear Regulatory Commission
Office: Office of New Reactors
Mail Stop: T-7F27
Washington, DC 20555-0001
E-Mail: Brad.Harvey@nrc.gov
Phone: 301-415-4118

Alternate Contracting Officer's Representative
Name: Joseph Giacinto
Agency: U.S. Nuclear Regulatory Commission
Office: Office of New Reactors
Mail Stop: T-7F27
Washington, DC 20555-0001
E-Mail: Joseph.Giacinto@nrc.gov
Phone: 301-415-0714

10.0 NRC-FURNISHED PROPERTY/MATERIALS

N/A

11.0 REQUIRED MATERIALS, FACILITIES, HARDWARE/SOFTWARE

N/A

12.0 APPLICABLE PUBLICATIONS (CURRENT EDITIONS)

N/A

13.0 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.

14.0 SECURITY REQUIREMENTS

Some of the information used and generated under this agreement may be designated as Sensitive Unclassified Non-Safeguards Information (SUNSI) because it may discuss the design and/or operation of upstream and nearby dams, water flows, and/or water level heights following dam failure(s). The Servicing Agency is responsible for properly protecting SUNSI from public release in accordance with NRC Policy for Handling, Marking, and Protecting SUNSI documents.