

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		BPA NO.	1. CONTRACT ID CODE	PAGE 1 OF 6
2. AMENDMENT/MODIFICATION NO. 0002	3. EFFECTIVE DATE See Block 16C	4. REQUISITION/PURCHASE REQ. NO. NRO-13-102 FAIMIS: N/A		5. PROJECT NO. (if applicable)
6. ISSUED BY U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Valerie Whipple Mail Stop: TWB-01-B10M Washington, DC 20555	CODE 3100	7. ADMINISTERED BY (if other than Item 6) U.S. Nuclear Regulatory Commission Div. of Contracts Mail Stop: TWB-01-B10M Washington, DC 20555		CODE 3100
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) SOUTHWEST RESEARCH INSTITUTE S W R I 6220 CULEBRA RD SAN ANTONIO TX 782385166		(X) 9A. AMENDMENT OF SOLICITATION NO. 9B. DATED (SEE ITEM 11) 10A. MODIFICATION OF CONTRACT/ORDER NO. NRC-HQ-12-C-42-0083 10B. DATED (SEE ITEM 13) 09-10-2012		
CODE 007936842	FACILITY CODE		X	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

- ☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☐ is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:
 (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required) NO FUNDING AT THIS TIME
 FAIMIS: N/A B&R: 13-50-38-4-149
 JOB: J5687 BOC: 252A APPN: 31x0200

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(X)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
X	D. OTHER (Specify type of modification and authority) MUTUAL AGREEMENT OF BOTH PARTIES

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
 See Page 2

Amount Obligated: \$310,000.00 (unchanged)
 Base and Exercised Option Ceiling: \$ 601,736 (changed)
 Base and all options if exercised: \$762,223 (changed)
 Period of Performance: 9/10/2012 - 9/28/2014 with one option year (unchanged)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) R. B. Kalmbach Executive Director, Contracts	15B. CONTRACTOR/OFFEROR <i>R. B. Kalmbach</i> (Signature of person authorized to sign)	15C. DATE SIGNED 05/07/2013	15A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Valerie Whipple Contracting Officer	15B. UNITED STATES OF AMERICA BY <i>Valerie Whipple</i> (Signature of Contracting Officer)	15C. DATE SIGNED 5/8/13
--	--	--------------------------------	--	--	----------------------------

NSN 7540-01-152-8070
 PREVIOUS EDITION NOT USABLE

STANDARD FORM 30 (REV. 10-83)
 Prescribed by GSA - FAR (48 CFR) 53.243

TEMPLATE - ADM001

SUNSI REVIEW COMPLETE

MAY 09 2013 ADM002

The purpose of this modification is to revise the Statement of Work to include additional tasks, increase the contract ceiling, and revise the Contracting Officer's Representative (COR) designation.

Therefore, the following changes are made:

1. Section B.2 CONSIDERATION AND OBLIGATION--COST-PLUS-FIXED-FEE (AUG 2011) ALTERNATE I (AUG 2011), is deleted in its entirety and replaced with the following:

B.2 CONSIDERATION AND OBLIGATION--COST-PLUS-FIXED-FEE (AUG 2011) ALTERNATE I (AUG 2011)

- (a) The total estimated cost to the Government for full performance of this contract is **\$601,736**, of which the sum of [REDACTED] represents the estimated reimbursable costs, and of which [REDACTED] represents the fixed-fee. In the event that Optional Subtask 6 or Option Year 1 is exercised, the total estimated cost to the Government for full performance of this contract will increase as follows:

	<u>Cost</u>	<u>Fee</u>	<u>CPFF</u>
Option Year 1:	[REDACTED]	[REDACTED]	[REDACTED]

- (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 **\$310,000**, of which the sum of [REDACTED] represents the estimated reimbursable costs, and of which [REDACTED] 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 [REDACTED]. This amount is increased as follows should Option Year 1 be exercised.

Option Year 1: \$1,770

2. The contract is revised to remove the terms "project officer" and "technical monitor" and replace with COR and Alternate COR; to replace the Emarsha Whitt with Gerry Stirewalt as COR and to add Emarsha Whitt as Alternate COR. Therefore, Section G.1 2052.215-71 CONTRACTING OFFICER'S REPRESENTATIVE (COR) AUTHORITY (NOVEMBER 2006) is deleted in its entirety and replaced with the following:

(a) The **COR** (formerly referred to as the Project Officer) for this contract is:

Name: Gerry Stirewalt

Address: U.S. Nuclear Regulatory Commission
Mail Stop TWFN 7D17
Washington, DC 20555

Telephone Number: (301) 415-3698

(a) The **Alternate COR** for this contract is:

Name: Emarsha Whitt

Address: U.S. Nuclear Regulatory Commission
Mail Stop TWFN 9F29
Washington, DC 20555

Telephone Number: (301) 415-0558

(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 (SOW) or changes to specific travel identified in the SOW), fills in details, or otherwise serves to accomplish the contractual SOW.

(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, approval of 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 as 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 the 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 thereto 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.

(4) Assist the contractor in obtaining the badges for the contractor personnel.

(5) Immediately notify the Security Branch, Division of Facilities and Security (SB/DFS) (via e-mail) when a contractor employee no longer requires access authorization and return of any NRC issued badge to SB/DFS within three days after their termination.

(6) Ensure that all contractor employees that require access to classified Restricted Data or National Security Information or matter, access to sensitive unclassified information (Safeguards, Official Use Only, and Proprietary information) access to sensitive IT systems or data, unescorted access to NRC controlled buildings/space, or unescorted access to protected and vital areas of nuclear power plants receive approval of SB/DFS prior to access in accordance with Management Directive and Handbook 12.3.

(7) For contracts for the design, development, maintenance or operation of Privacy Act Systems of Records, obtain from the contractor as part of closeout procedures, written certification that the contractor has returned to NRC, transferred to the successor contractor, or destroyed at the end of the contract in accordance with instructions provided by the NRC Systems Manager for Privacy Act Systems of Records, all records (electronic or paper) which were created, compiled, obtained or maintained under the contract.

3. The Statement of Work is hereby deleted in its entirety and replaced with the attached, revised Statement of Work dated March 29, 2013.

A summary of obligations under this task order, from date of award through this modification, is given below:

Obligated amount at award: \$150,000

Obligated amount Mod 0001: \$160,000

Total obligated amount: \$310,000

This modification does not add funds.

All other terms and conditions under this task order remain unchanged

STATEMENT OF WORK
March 29, 2013

Project Title: Seismic Hazard Review for Western United States Nuclear Power Plants (WUS) (Diablo Canyon, Columbia, Palo Verde and San Onofre), Review of Seismic Walkdown Submittal Reports, and Development of Flood Hazard Integrated Assessment Staff Guidance Applicable to United States Nuclear Power Plants

Job Code: Q-4291

Task Area: Seismic Hazard Assessment, Integrated Assessment for External Flooding, and Seismic Walkdowns

Task Order #: XX-XX

Budget Structure Code: 2013-25-11-4-212

NRC Issuing Office: Office of New Reactor Reactors

Contracting Officer's Representative (COR): Gerry Stirewalt, 301-415-3698
Gerry.Stirewalt@nrc.gov

Alternate COR: Emarsha Whitt, 301-415-0558
Emarsha.Whitt@nrc.gov

Fee Recoverable: Yes, in part

TAC Numbers: N/A

Performing Organization: Center for Nuclear Waste Regulatory Analyses

1.0 BACKGROUND

To address the lessons learned from the accident at the Fukushima Dai-ichi Nuclear Power Plant caused by the March 2011, Tohoku earthquake and subsequent tsunami, the Commission established a Near-Term Task Force (NTTF) to conduct a systematic review of U.S. Nuclear Regulatory Commission (NRC) processes and regulations and to determine if the agency should make additional improvements to its regulatory system. The NTTF developed a set of recommendations intended to clarify and strengthen the regulatory framework for protection against natural phenomena. NTTF Recommendation 2.1, as amended by the staff requirements memoranda (SRMs) associated with SECY-11-0124 and SECY-11-0137, instructs the NRC staff to issue requests for information to licensees pursuant to Sections 161.c, 103.b, and 182.a of the Atomic Energy Act of 1954, as amended, and 10 CFR 50.54(f). This information request is for licensees and holders of construction permits under 10 CFR Part 50 to reevaluate the seismic and flood hazards at their sites against present-day NRC requirements and guidance. Based upon this information, the NRC staff will determine whether additional

regulatory actions are necessary (e.g., update the design basis and SSCs important to safety) to protect against the updated hazards.

In accordance with the 10 CFR 50.54(f) information request, licensees of plants located in the Western United States (WUS) should develop an updated, site-specific probabilistic seismic hazard assessment (PSHA) in order to characterize the seismic hazard for their sites. Consistent with Regulatory Guide (RG) 1.208, "A Performance-Based Approach to Define the Site-Specific Earthquake Ground Motion," addressees should use a Senior Seismic Hazard Analysis Committee (SSHAC) study, as described in NUREG/CR-6372, "Recommendations for Probabilistic Seismic Hazard Analysis: Guidance on Uncertainty and Use of Experts." Consistent with current practice, as described in NUREG-2117, "Practical Implementation Guidelines for SSHAC Level 3 and 4 Hazard Studies," a SSHAC Level 3 study should be performed.

Analogously, in accordance with the 10 CFR 50.54(f) information request, licensees of operating nuclear plants and holders of construction permits should reevaluate the hazard from all appropriate external flooding sources, including the effects from local intense precipitation on the site, probable maximum flood (PMF) on streams and rivers, storm surge, seiche, tsunami, and dam failure. The reevaluation should apply present-day regulatory guidance and methodologies that are being used for early site permit (ESP) and combined license (COL) application reviews. Existing regulatory guidance is contained in Regulatory Guide 1.59, "Design Basis Floods for Nuclear Power Plants," which was originally issued in 1973 (with revision in 1977 and errata dated 1980). NRC staff is in the process of updating RG 1.59 to address advances in flooding analysis since the last revision of the guide was published. Although the update to RG 1.59 is not complete, NUREG/CR-7046, "Design Basis Flood Estimation for Site Characterization at Nuclear Power Plants in the United States of America" (published in November 2011) documents present-day methodologies used by the NRC to review ESPs and COL applications.

To implement NTF Recommendation 2.1, the staff has defined a process that asks each licensee to provide information about the current hazard and potential risk posed by seismic and flood events. Depending on the comparison between the reevaluated seismic hazard and the current design basis, licensees will perform, if necessary, a further seismic risk evaluation. Risk evaluation approaches acceptable to the staff include a seismic probabilistic risk assessment (SPRA), or a seismic margin assessment (SMA). Similarly, depending on the comparison between the reevaluated flood hazard at the site and the current design basis, licensees will perform an integrated assessment to determine the effectiveness of the existing flood design basis and any other planned or installed features for the protection and mitigation of flood conditions for the entire duration of the flood event. The integrated assessment procedures will be developed through interactions between NRC staff and industry.

Enclosure 3 of the 50.54(f) requests information regarding the seismic walkdowns to address Recommendation 2.3. Within 120 days of the date of the 50.54(f) letter, applicants confirmed their intention to use the NRC-endorsed walkdown procedures. NRC, applicants, and the Nuclear Energy Institute (NEI) worked together to develop a walkdown procedure. This NEI-written, NRC-endorsed details how the walkdowns should be performed, what information is to be collected, and the final report to be provided to NRC.

Applicants were given 180 days from the date of the NRC endorsement of the walkdown procedure to submit its final response to the information request. The walkdown submittal

reports were submitted by the applicants on November 27, 2012. All applicants provided a walkdown submittal report to NRC, which will be reviewed and used to determine what, if any, further regulatory actions should be taken.

The staff also issued TI-2515/188, "Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdowns," to enable resident inspectors to observe the walkdowns directly and note any identified issues in the quarterly inspection reports. These reports are expected to be submitted to headquarters in January 2013.

The Center for Nuclear Waste Regulatory Analyses (CNWRA) has the appropriate expertise to assist the NRC staff in performing reviews of licensee submittals in response to the 10 CFR 50.54(f) information request for seismic walkdowns, hazard reevaluations and the associated seismic risk evaluations and integrated assessments for external flooding.

2.0 OBJECTIVE

The objectives of this contract are to obtain technical expertise from CNWRA to support NRC staff in reviewing seismic hazard reevaluations (Task 1); reviewing seismic walkdown submittal reports for addressing Recommendation 2.3 (Task 2); and developing review guidance and reviewing the integrated assessments for external flooding (Task 3).

3.0 SCOPE OF WORK

CNWRA staff will assist NRC Staff in the review of WUS NPPs updated seismic hazard evaluations. The contractor will support the NRC in the following specific tasks:

- Attend SSHAC Level 3 Workshops
- Prepare summary and evaluation of SSHAC Level 3 workshops
- Review PSHA submittals and prepare technical evaluation reports

CNWRA staff will assist NRC staff in the review of the seismic walkdown submittal reports received in response to the 50.54(f) request for information. The contractor will support the NRC in the following specific tasks:

- Review Walkdown submittal reports and resident inspector reports, including development of any necessary requests for additional information (RAIs) and other input to the technical evaluation report (TER)
- Participate in site audits, as requested
- Prepare TERs including discussion of review and audit, where appropriate

CNWRA staff will assist NRC staff in developing: (1) guidelines for the implementation of the integrated flood assessments evaluations for flooding, and (2) guidance for the review of licensee integrated assessment submittals. The contractor will support the NRC in the following specific tasks:

- As requested by NRC, attend and participate in public meetings to support NRC staff with the development of integrated assessment implementation guidelines
- Review of previously developed risk models for external flood hazards
- Development of integrated assessment implementation and associated guidelines

- If required, assist in the review of Category 1 (hazard reviews submitted to NRC on approximately March 2013) integrated flood assessment evaluations

The COR/Alternate COR may issue technical direction during the duration of the contract. Technical direction must be within the general statement of work (SOW) stated in the contract, and shall not constitute new assignments of work or changes of such nature as to justify an adjustment in cost or period of performance.

Any modifications to the scope of work, cost, or period of performance of the contract must be issued by the Contracting Officer and will be coordinated with the Project Officer.

4.0 SPECIFIC TASKS

The four specific tasks described below associated with **Task 1** (Seismic Hazard Assessments) shall be performed in accordance with the requirements, standards, deliverables, and completion timeframes specified.

Subtasks/Standards	Scheduled Completion	Deliverables
1. Review appropriate regulatory guidance and background including: 10 CFR 50.54(f) information request letter (ML 12056A046), RG 1.208, "A Performance-Based Approach to Define the Site-Specific Earthquake Ground Motion.", NUREG-2117 "Practical Implementation Guidelines for SSHAC Level 3 and 4 Hazard Studies."	One week after authorization of work	N/A
2. Participate in SSHAC Level 3 Workshops (A total of (3) workshops will be held for each WUS NPP)		N/A
a. Diablo Canyon (final meeting)	2013	N/A
b. Columbia, Palo Verde and San Onofre	2014	N/A
3. Prepare Summary and Evaluation of SSHAC Level 3 Workshops		
a. Brief summary after each workshop	2 weeks after each workshop	Preliminary Technical Evaluation Report
b. Evaluation report	4 weeks after final workshop	Final Report

Subtasks/Standards	Scheduled Completion	Deliverables
4. Review SSHAC Level 3 PSHA for WUS NPP Sites	TBD	Technical Evaluation Report
a. Prepare RAIs	8 weeks after receipt of the licensee submittal	Technical Letter Report
b. (1) Review responses to supplemental RAIs (2) Incorporate NRC comments and prepare final report.	(1) Four weeks after receipt of the responses to the RAIs (2) Two weeks after receipt of NRC comments	Final Technical Evaluation Report

The four tasks described below associated with Task 2 (Review of Seismic Walkdown Submittals) shall be performed in accordance with the requirements, standards, deliverables, and completion timeframes specified.

Subtasks/Standards	Scheduled Completion	Deliverables
<p>1. Phase 1: REQUIREMENT: Participate in orientation and kickoff meeting with NRC staff and other participating laboratories to discuss scope of work, expectations, schedule, and management of the agreement.</p> <p>Familiarization with walkdown guidance, other regulatory documents and TER template. Become familiar with:</p> <ul style="list-style-type: none"> a. EPRI 1025286, Seismic Walkdown Guidance b. TI-2515/188, Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdowns <p>STANDARD: Attendance by individuals designated by NRC.</p>	<p>2 weeks after authorization of work</p>	<p>E-mail to COR documenting assigned personnel have reviewed references</p> <p>Contractor staff performing reviews are to read provided background material and attend a 1-day GoTo Meeting</p>
<p>2. Phase 2: REQUIREMENT: Review walkdown submittal reports and resident inspector reports as directed by NRC. Attachment 1 contains the list of possible sites to be reviewed. Actual sites and the number of sites reviewed will be determined after the NRC receives the submittals. It is anticipated that the center will be requested to review 20 submittals.</p> <p>Develop and review Requests for Additional Information (RAIs) and other inputs to TER for Task 4. Review applicant's response to the RAIs to determine if they adequately resolve the outstanding issues.</p> <p>STANDARD: Complete the review pursuant to the guidance provided in the TER template, NEI 12-07, and other NRC guidance. Prepare RAIs in accordance with the RAI Guidance (Attachment 1). One round of comment incorporation is acceptable. Completed RAI response evaluation report. RAIs will not be submitted for every site. Most questions will be addressed through conference calls. Any RAIs will be processed by NRC staff.</p>	<p>All reviews complete 3 months after receipt of resident inspector reports; average 2 weeks per review</p>	<p>Draft questions provided to NRC staff for processing as RAIs</p>

Subtasks/Standards	Scheduled Completion	Deliverables
<p>3. Phase 3: REQUIREMENT: Audit selected sites.</p> <p><i>(If applicable) Prepare for and travel to the applicant's office and participate in an NRC review team to:</i></p> <ol style="list-style-type: none"> Audit the selected site to examine the site for issues identified in walkdown submittal or resident inspection reports. Evaluate and discuss the applicant's responses to the issues identified in Task 2 to determine if the outstanding issues are adequately resolved. Prepare a trip report (as an input to NRC Audit Report) to summarize the information reviewed, results of the audit, and meeting discussions. <p>STANDARD: Complete evaluation as defined in Task. Submit Trip Report within <u>one</u> week of site review.</p>	<p>3 months after report reviews start; average one week per audit</p> <p>One week after completion of the audit</p>	<p>Trip Report</p>
<p>4. Phase 3: REQUIREMENT: Finalize Technical Evaluation Report (TER)</p> <p>Write TER per template and orientation. TER will include sections pertaining to:</p> <ul style="list-style-type: none"> - Walkdown package completeness - Consistency with the EPRI guidance - Quality - Resident inspector report <p>STANDARD: TER includes all required information as required by the TER template, and other NRC guidance. One round of comment incorporation is acceptable.</p>	<p>4 weeks after completion of Task 3</p>	<p>Submit a TER that contains the review results of the RAI response (RAI resolutions and unresolved issues) including the basis for the conclusions.</p>

The five specific tasks (plus one optional task) described below associated with Task 3 (Integrated Assessment for External Flooding) shall be performed in accordance with the requirements, standards, deliverables, and completion timeframes specified.

Subtasks/Standards	Scheduled Completion	Deliverables
--------------------	----------------------	--------------

Subtasks/Standards	Scheduled Completion	Deliverables
1. Attend project initiation meeting with the NRC staff to discuss the scope of work, expectations, schedules and the project plan	Two weeks after authorization of work	N/A
2. Review appropriate regulatory guidance and background including: 10 CFR 50.54(f) information request letter (ML 12056A046), RG 1.59, "Design Basis Floods for Nuclear Power Plants," RG 1.102, "Flood Protection for Nuclear Power Plants," and NUREG/CR-7046, "Design Basis Flood Estimation for Site Characterization at Nuclear Power Plants in the United States of America"	One month after authorization of work	N/A
3. [As requested by NRC] Attend and participate in public meetings to support NRC staff in development of integrated assessment implementation guidelines	TBD	N/A
4. Develop staff guidance and/or examples related to evaluation of flood protection to support staff reviews of the integrated assessment. Work should emphasize identification of potential failure modes of flood protection features commonly found in operating NPPs (e.g., seals, exterior walls, flood doors/hatches/gates). Develop examples and staff review guidance (as appropriate) for the integrated assessment.	July 2013	Technical Evaluation Report or draft staff review guidance

Subtasks/Standards	Scheduled Completion	Deliverables
<p>5. Provide feedback on industry's example of a scenario-based evaluation of mitigation capability under the integrated assessment to support NTO staff review (e.g., provide feedback on whether the integrated assessment ISG has been followed).</p> <p>[If needed] Support NRC review of the lead plant integrated assessment: Depending on NRC staff's involvement as the lead plant performs the integrated assessment, provide support to staff, including a review of assessment performed by the licensee.</p> <p>[If needed] Assist in review of the Category 1 (March 2013 hazard review) integrated flood assessment evaluations.</p>	<p>March 2013</p>	<p>Technical Evaluation Report</p>

5.0 TECHNICAL REPORTING REQUIREMENTS FOR SEISMIC HAZARD AND RISK ANALYSIS REVIEW

Typically, reports will involve:

- Trip reports with meeting summaries, observations and recommendations;
- Technical letter reports;
- Draft and final technical evaluation reports (TER's) that summarize the work performed, results attained, findings, conclusions and recommendations.

In all correspondence, include the following identifying information:

- JCN No.
- Licensee's Name
- Plant Name
- Site Name

Communications with the NRC and among CNWRA staff may be subject to hearing file requirements under 10 CFR Part 2. In this circumstance, the NRC COR/Alternate COR will identify the type of records that must be provided to the NRC for inclusion in the hearing file.

Unless otherwise specified above, the CNWRA shall provide all deliverables as draft products. The NRC COR/Alternate COR will review all draft deliverables (and coordinate any internal NRC staff review, if needed) and provide comments back to the CNWRA. The CNWRA shall revise the draft deliverable based on the comments provided by the COR/Alternate COR, and then deliver the final version of the deliverable. When mutually agreed upon between the

CNWRA and the COR/Alternate COR, the CNWRA may submit preliminary or partial drafts to help gauge its understanding of the particular work requirement.

The CNWRA shall provide the following deliverables in electronic format. The electronic format shall be Microsoft Word, Microsoft Excel or other word processing software approved by the COR/Alternate COR. For each deliverable, the CNWRA shall provide an electronic copy to both the COR/Alternate COR. The schedule for deliverables shall be contained in the approved project plan for the contract effort.

6.0 PERSONNEL REQUIREMENTS

CNWRA shall provide individuals who have the required educational background and work experience to meet the objectives of the work specified in this contract. Specific qualifications for this effort include:

- Seismologists with experience in performing probabilistic seismic hazard analysis, relevant ground motion prediction models, and seismic source characterization, as well as knowledge of contributing geologic conditions for the Western United States (WUS).
- Geologists with experience in characterizing seismic sources and geologic conditions, particularly in the WUS, including surface and subsurface materials, surface and near-surface folding and faulting, paleoseismic investigations, paleoliquefaction features, and correlation of seismicity with potential tectonic structures.
- Senior seismic risk engineers with knowledge of nuclear plant systems, seismic fragility, and risk assessment techniques (seismic probabilistic risk analysis and seismic margins analysis).
- Hydrologists with experience characterizing hazards from a range of external flooding sources, including the effects from local intense precipitation on the site, probable maximum flood (PMF) on streams and rivers, storm surge, seiche, tsunami, and dam failure.
- Senior risk analysts/ Civil Engineers with knowledge of the effects of flood hazards on nuclear power plant systems, including plant system response, flood protection feature (e.g. flood walls/doors, levees, temporary protective measures) performance, and manual actions as described in the integrated assessment ISG.
- Senior level Mechanical or Structural Engineer with strong academic background and work experience in performing seismic engineering design and analysis as it relates to nuclear power plant safety.

It shall be the responsibility of the contractor to assign qualified technical staff, employees, and subcontractors, who have the required educational background, experience, or combination thereof, to meet both the technical and regulatory objectives of the work specified in this SOW. The NRC will rely on representation made by the contractor concerning the qualifications of the

personnel proposed for assignment to this contract including assurance that all information contained in the technical and cost proposals, including resumes and conflict of interest disclosures, is accurate and truthful.

7.0 ESTIMATED LEVEL OF EFFORT - REMOVED

8.0 MEETINGS AND TRAVEL

The following travel assumptions should be considered in planning the work effort. It is likely that a smaller group than the entire review team will be necessary to accomplish some activities; the actual travel contingent will be determined by the NRC COR/Alternate COR after discussion with the CNWRA PM (and PTL). Travel in excess of the total number of person-trips must be approved by the NRC COR/Alternate COR; travel within the work scope limits will be approved by the NRC COR/Alternate COR.

Ten 3-day trips to attend each of the SSHAC Level 3 Workshop per site. This estimate assumes three trips for two persons for three of the plants and one trip for two persons for Diablo Canyon's final workshop.

Eight 2-day trips to NRC headquarters located in Rockville, Maryland to review and discuss development of the seismic risk assessment guidance and review findings (two persons per trip).

Two three-day trips to NRC headquarters located in Rockville, Maryland to discuss development of the integrated flood assessment through participation in workshops and public meetings (two persons per trip).

Five, one-person, three-day trips, as required for seismic walkdown site audits. At the discretion of the NRC COR (Technical), meetings, including monthly progress may be conducted via telephone.

CNWRA shall coordinate all travel arrangements in advance with the COR/Alternate COR. Off-normal travel time may be required to ensure timely arrival at the site, as scheduled by the COR/Alternate COR.

9.0 NRC FURNISHED MATERIAL

Documents required to prepare for the analyses and reviews will be provided by the COR/Alternate COR as discussed in Section 4 above.

Whipple, Valerie

From: Whipple, Valerie
Sent: Wednesday, May 08, 2013 10:35 AM
To: Oberson, Greg; Kuntz, Robert; Criscione, Lawrence; Yilma, Haimanot; Reed, Wendy; Dunn, Darrell; George, Mathews; Velazquez-Lozada, Alexander; Trefethen, Jean; Stang, Annette; Stirewalt, Gerry; Grenier, Bernard; Rogers, Billy; Dozier, Jerry; DuBose, Brenda; Gwo, Jin-Ping; Pineda, Christine; DeMarco, Deborah; Jacobs, Christian; Faraz, Yawar App, Daniel; Whipple, Valerie
Cc:
Subject: May 6, 2013 Letter from WPatrick "Changes in Key Personnel Under Various NRC Contracts"
Attachments: CHANGES IN KEY PERSONNEL.PDF

All,

Attached please find letter dated May 6, 2013 from Dr. Patrick regarding changes in Key Personnel for your SwRI contract/task order. Please review the resume of the proposed replacement for your project to ensure that the replacement possess required expertise and experience to successfully perform your technical assistance needs. Let me know no later than Tuesday, May 14th if the replacement is acceptable or not. If acceptable, you will need to submit a RFPA to the Division of Contracts so a modification can be executed. If the replacement is not acceptable, please explain why so I can inform SwRI.

Thank you in advance.

Valerie

Confidentiality Notice: The above email message, together with any forwarded emails or attachment(s), is for the sole use of the intended recipient(s) and may contain information that is sensitive, privileged, confidential or otherwise protected from disclosure under applicable federal law. Any unauthorized use or disclosure of the email message and any associated attachment(s) is prohibited. If you believe that you have received this email in error, please notify the sender immediately and delete it from your system. Thank you.