AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

BPA NO.	1. CONTRACT ID CODE	PAGE	OF PAGE
		1	2

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
0002	DEC 29 2008	0748128012	

6. ISSUED BY CODE 3100

U.S. Nuclear Regulatory Commission
Div. of Contracts
Attn:Kala Shankar 301-492-3638
Mail Stop TWB 01-B10M
Washington, DC 20555

7. ADMINISTERED BY (If other than Item 6) CODE 3100

U.S. Nuclear Regulatory Commission
Div. of Contracts
Mail Stop TWB 01-B10M

Washington, DC 20555

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)

N J NUMARK ASSOCIATES INC
NUMARK ASSOCIATES, INC.

1220 19TH ST NW STE 500

WASHINGTON DC 200362444

CODE 788247377 FACILITY CODE

(X) 9A. AMENDMENT OF SOLICITATION NO.

9B. DATED (SEE ITEM 11)

10A. MODIFICATION OF CONTRACT/ORDER NO. NRC-42-07-481 0028

X 10B. DATED (SEE ITEM 13) 09-18-2008

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) 1025-15-171-111; Q-4012; 252A; 31X0200
OBLIGATE: N/A

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 date, 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) Pursuant to FAR 52.243-2, Changes Cost-Reimbursement ALT 1

E. IMPORTANT: Contractor ☐ is not, [X] is required to sign this document and return 2 copies to the issuing office.

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

The purpose of this modification is to reflect an increase to the task order ceiling as a result of additional effort in order to accommodate additional meetings and an audit.

Task Order Ceiling Amount: $389,041 (changed)
Total Obligated Amount: $200,000 (unchanged)
Period of Performance: 09/18/2008 - 01/17/2012 (unchanged)

See continuation page

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)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
Neil J. Numark President		Kala Shankar Contracting Officer	
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED 12/29/09	16B. UNITED STATES OF AMERICA BY Kala Shankar (Signature of Contracting Officer)	16C. DATE SIGNED 12/24/09

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

JAN 11 2010

ADM002

The purpose of this modification is to reflect an increase to the task order ceiling by $107,076, from $281,965 to $389,041 in order to accommodate additional meetings and an audit. Accordingly, the subject task order is hereby modified as follows:

Paragraph 2, page 2 of 2 under the base task order 28, is hereby deleted in its entirety and replaced with the following:

"Task Order No. 28 shall be in effect from 9/18/08 through 1/17/12, with a cost ceiling of $389,041. The amount of $363,590 represents the estimated reimbursable costs, and the amount of $25,451 represents the fixed fee."

A summary of obligations for this task order, from award date through the date of this action is given below:

Total FY08 Obligation Amount:	$120,000.00
Total FY09 Obligation Amount:	$ 80,000.00
Cumulative Total of NRC Obligations:	$200,000.00

ALL OTHER TERMS AND CONDITIONS OF THE SUBJECT TASK ORDER REMAIN UNCHANGED

TASK ORDER STATEMENT OF WORK

JCN	Contractor	Task Order No.
Q – 4012	NJ Numark & Associates	NRC-42-07-481 (28) MODIFICATION 2
Applicant	Design/Site	Docket No.
Unistar Nuclear Energy	US EPR / Calvert Cliffs Nuclear Power Plant, Unit 3	05200016
Title/Description		
Review of FSAR Sections 3.7.1, 3.7.2, and 3.7.3 (Seismic Design) of R-COLA for Calvert Cliffs Nuclear Power Plant, Unit 3.		
TAC No.	B&R Number	SRP or ESRP Section(s)
RX0283	825-15-171-111	3.7.1, 3.7.2, and 3.7.3
NRC Task Order Project Officer (PO)		
Sally Adams	301-415-0209	Sally.Adams@nrc.gov
NRC Technical Monitor (TM)		
Samir Chakrabarti	301-415-1106	Samir.Chakrabarti@nrc.gov

1.0 BACKGROUND

Combined Operating License (COL) Applications are submitted pursuant to Part 52 of Title 10 of the *Code of Federal Regulations* (10 CFR 52), "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants." The U.S. Nuclear Regulatory Commission (NRC) reviews COL Applications based on information furnished by electric utility companies pursuant to 10 CFR 52.79, "Contents of Applications Technical Information."

A Standard Review Plan (NUREG-0800) is prepared for the guidance of staff reviewers in the Office of New Reactors in performing safety reviews of applications to construct or operate nuclear power plants and the review of applications to approve standard designs and sites for nuclear power plants. The principal purpose of the SRP is to assure the quality and uniformity of staff safety reviews.

An Environmental Safety Review Plan (NUREG-1555) is prepared for the guidance of staff reviewers in performing environmental reviews of applications related to nuclear power plants. The ESRPs are companions to regulatory guides that address siting and environmental issues. As with NUREG-0800 the purpose of the ESRP is to assure the quality and uniformity of environmental reviews.

The staff publishes the results of these reviews in a Safety Evaluation Report (SER).

2.0 OBJECTIVE

The objective of this task order is to obtain technical expertise from the contractor to assist the NRC staff in determining whether or not the subject COL application meets appropriate regulatory requirements relating to Sections 3.7.1, 3.7.2, and 3.7.3 of the FSAR submitted with the application, including any references to, or departures from, the corresponding EPR Certified Design sections. Specifically, a review of SRP subsections 3.7.1, 3.7.2 and 3.7.3 is required to ensure that the seismic analysis and design meet the applicable requirements of 10 CFR Part 50, Appendix S and other applicable regulations. The review shall focus on the (1) seismic design parameters, (2) seismic input, (3) seismic model, (4) seismic system analysis including soil structure interaction analysis, (5) seismic subsystem analysis, and (6) computer programs used in the analysis of seismic category 1 structures. The level of effort for this task order is based on the expectation that the contractor is familiar with the review procedures of the SRP sections in the work scope and the technical reviewer has the required knowledge and

experience in the subject matter as outlined in Section 4 of this document. The specific work scope and schedule required for this task order is provided in Section 3 and the requirements for communicating work progress and status is provided in Section 5.

In addition, the objective of this modification to Task Order No. 28 is to add additional contractor man-hours and travel to support:

1. Participation of contractor reviewers in three (3) additional meetings and/or technical sessions anticipated to be held during the period of performance of the contract.

2. Participation of contractor reviewers in one (1) additional on-site audit to support the project.

3.0 WORK REQUIREMENTS, SCHEDULE AND DELIVERABLES

Tasks/Standards	Scheduled Completion	Deliverables
1. REQUIREMENT: Become familiar with COL Sections 3.7.1 through 3.7.3, and 3.7.5, the related sections of EPR DCD, the basis upon which the staff granted the EPR design certification including pertinent sections of staff's SER for the DC and relevant sections of the SRP. Attend NRC offered training on Regulations and TER development. **(Phase 1 task)** STANDARD: Provide written confirmation that familiarization is complete. The level of effort for Task 1 is based on the volume of materials to be reviewed; this task is for familiarity and not for evaluation.	Two weeks after authorization of work	Documentation that assigned personnel has reviewed references.
2. REQUIREMENT: Participate in an orientation/ kick-off meeting with the NRC staff to discuss the scope of the work, expectations, and task order management. Establish an agreed upon schedule that is consistent and aligned with the NRC's EPM program. **(Phase 1 task)** STANDARD: Attendance by individuals designated by NRC.	Four weeks after authorization of work	A jointly agreed upon schedule

Tasks/Standards	Scheduled Completion	Deliverables
3. REQUIREMENT: Review the COL application Sections 3.7.1, 3.7.2, 3.7.3, and 3.7.5 and related documents/appendices to determine the adequacy of the COL application for the sections. Determine if the methods and approach proposed by the applicant meet the appropriate acceptance criteria. Review the adequacy and acceptability of the methods/data used by the applicant to demonstrate its compliance with the COL action items and interface parameter requirements stipulated in the EPR DC. All deviations from or modifications to the COL action items, Standard Plant Design parameters, Limits Imposed on Acceptance Criteria and interface parameter requirements should be evaluated and justified. Identify issues and those aspects of the application that need additional or clarifying information. (**Phase 1 task**) a. Prepare draft questions as input to a formal Request for Additional Information (RAI). b. Prepare a draft TER for each of the 3.7 sections including a discussion of the RAI contents and their bases. c. Participate in conference call with applicant (if required by TM) to clarify the information to be provided or clarified to bring closure to the open issues. d. Prepare a comparative table of all deviations from EPR DC, and COL applicant's implementation/disposition of the same. STANDARD: Preliminary TER that follows the NRC provided template without deviation. No deviation from the guidance defined in Section III, RAI Guidance of Attachment 1. One round of comment incorporation is acceptable.	Eight weeks after the end of task 2.	a. Preliminary TER with RAI's, if applicable b. An RAI Tracking Table c. A comparative table of all deviations from EPR DC

Tasks/Standards	Scheduled Completion	Deliverables
4. REQUIREMENT: a. Review responses to the RAI questions to determine if they adequately resolve the outstanding issues identified in Task 3. Identify any other open items. Develop input to new or supplemental RAIs as necessary. Incorporate the review results in the TER completed under Task 3. Update the RAI tracking table. b. Prepare a list of documents to be audited and issues to be discussed during an audit under Task 5. c. As a result of review efforts in Task 5, review responses to the RAI questions to determine if they adequately resolve the outstanding issues. As necessary, develop input to new or supplemental RAIs. Update the RAI tracking table. Continue this process until closing of all open items at the end of Task 7. (**Phase 2 & 3 task**) STANDARD: Update TER with open items and RAI tracking table as RAI's are reviewed and resolved.	a. Review of RAI response within three weeks after receipt of the responses. b. Updated TER, RAI tracking table, and audit list to be prepared two weeks prior to Task 5. c. On going review and response to RAI within three weeks after receipt of the applicant's responses.	a. Updated RAI tracking table and TER with open items b. Audit List c. Input to new or supplemental RAIs d. Updated RAI tracking table monthly

Tasks/Standards	Scheduled Completion	Deliverables
5. REQUIREMENT: Prepare for and travel to the applicant's designated facilities and participate in **two NRC review teams** to accomplish the following: (**Phase 2 task**) a. Audit key supporting documentation that forms the basis for the applicant's determination, that all EPR DC stipulated COL action items/interface parameter requirements are fully implemented or complied with. This includes review of documentation for site specific seismic category I structures. b. As applicable, audit key supporting documentation that forms the basis for the applicant's taking exceptions or providing alternatives to the EPR DC stipulated COL action items/interface parameter requirements. c. Evaluate and discuss the findings resulting from 5.a and 5.b above. Identify any open items and plans for their resolution. d. Evaluate and discuss the applicant's responses to the unresolved issues identified in Task 4 to determine if the outstanding issues are adequately resolved. Prepare input to new or supplemental RAIs as necessary. e. Prepare a COL Action Items/Interface Parameter Requirements Audit Summary Table as part of the trip report. f. Prepare a trip report (as an input to NRC Audit Report) to summarize the information reviewed, results of the audit, list of open/action items, plan for closure of the open/action items, and meeting discussions. STANDARD: Participate in audit. Submit: (1) a Trip Report and (2) Input to RAIs in accordance with NRC guidance.	Trip duration is one week Deliverables due two weeks after the trip	a. Trip Reports b. Input to new or supplemental RAIs

Tasks/Standards	Scheduled Completion	Deliverables
6. REQUIREMENT: Incorporate the results of the review efforts in Task 4c and update the TER as input to the staff's SER w/ OI for Section 3.7. The TER should summarize information reviewed, key technical issues evaluated/ resolved, any confirmatory analysis performed, significant staff evaluation findings and their technical bases covering the staff review of the COL section 3.7. (**Phase 2 task**) STANDARD: Complete TER that follows the NRC provided template without deviation. Update the RAI tracking table following the NRC template.	Four weeks after completion of Task 4c, or as agreed upon with the TM to accommodate ACRS schedule.	a. Updated TER with open items b. Updated comparative table with COL specifics and RAI tracking table
7. REQUIREMENT: As needed and requested by the TM, provide technical support to the staff during ACRS review and/or hearing meeting. (**Phase 3 task**) STANDARD: Ensure presentation materials are reviewed and approved by NRC staff. Attend meetings, if requested.	TBD based on project schedule	Prepare presentation materials. Attend meetings, if requested.
8. REQUIREMENT: Prepare final TER with no OI's (as an input to staff's FSER) including addressing any ACRS questions, and participate in ACRS review meetings as requested by the TM. (**Phases 4 and 5 tasks**) STANDARD: Complete TER that follows the NRC provided template without deviation. Attend meetings, if requested.	TBD based on project schedule	Final TER with no open items
9. REQUIRMENT: As needed and requested by the staff, provide technical support to the staff to prepare the FSER (**Phase 6 task**) STANDARD: Provide technical support, if requested.	TBD as needed	N/A
10. REQUIREMENT: Attend and participate in meetings as requested by the TM, or participate in technical sessions at the NRC HQ. (All Phases) **STANDARD: Attend meeting, prepare presentation materials, perform review, and provide technical support, as needed.**	**TBD as needed**	**Presentation material, input to new or supplemental RAI, if needed.**

* These Work Schedules are subject to change by the NRC Contracting Officer (CO) to support the needs of the NRC Licensing Program Plan.

The Technical Monitor may issue technical instruction from time to time throughout the duration of this task order. Technical instructions must be within the general statement of work delineated in the task order and shall not constitute new assignments of work or changes of such a nature as to justify an adjustment in cost or period of performance. The contractor shall refer to Section G.1 of the base contract for further information and guidance on any technical directions issued under this task order.

Any modifications to the scope of work, cost or period of performance of this task order must be issued by the CO and will be coordinated with the NRO Project Officer.

4.0 TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

As specified in the base contract, the contractor shall provide individuals who have the required educational background and work experience to meet the objectives of the work specified in this task order. Specific qualifications for this effort include:

Senior structural engineers with knowledge and experience in vibration analyses, development of seismic ground motion spectra and consistent time histories, soils-structure interaction analyses, development of in-structure floor response spectra, linear and non-linear dynamic and seismic analysis of systems, structures and components of nuclear power plants using sophisticated computer codes.

The contractor shall provide a contractor project manager (PM) to oversee the effort and ensure the timely submittal of quality deliverables so that all information is accurate and complete as defined in the base contract.

The NRC will rely on representations made by the contractor concerning the qualifications of the personnel assigned to this task order, including assurance that all information contained in the technical and cost proposals, including resumes, is accurate and truthful. The resume for each professional proposed to work under this task order (contractor, subcontractor, or consultant) shall describe the individual's experience in applying his or her area of engineering specialization to work in the proposed area. The use of particular personnel on this contract is subject to the NRC technical monitor's (TM's) approval. This includes any proposed changes to key personnel during the life of the task order.

5.0 REPORTING REQUIREMENTS

Task Order Progress Report

The contractor shall provide a bi-weekly progress report summarizing accomplishments, expenditures, contractor staff hours expended, percent completed for each task under this task order, and any problems encountered by the contractor. The report shall be sent via e-mail to the NRC TM, Task Order Project Officer (PO) and CO.

Please refer to Section F of the basic contract award document for contract reporting requirements.

Technical reporting requirements

Unless otherwise specified above, the contractor shall provide all deliverables as draft products. The NRC TM will review all draft deliverables (and coordinate any internal NRC staff review, if needed) and provide comments back to the contractor. The contractor shall revise the draft deliverable based on the comments provided by the TM, and then deliver the final version of the deliverable. When mutually agreed upon between the contractor and the TM, the contractor may submit preliminary or partial drafts to help gauge the contractor's understanding of the

particular work requirement.

The contractor shall provide the following deliverables in hard copy and electronic formats. The electronic format shall be provided in MS Word or other word processing software approved by the TM. For each deliverable, the contractor shall provide one hard copy and electronic copy to both the PM and the TM. The schedule for deliverables shall be contained in the approved project plan for the task order effort.

In all correspondence, include identifying information: JCN No.: Q-4012; Technical Assignment Control No. (TAC): RX0283; Task Order No.: 028; the licensee: UNISTAR NUCLEAR ENERGY; and, the site: Calvert Cliffs Nuclear Power Plant, Unit 3.

1. At the completion of Task 1, submit a TLR indicating that assigned personnel has reviewed the required references.
2. At the completion of Task 2, submit a project schedule.
3. At the completion of Task 3, submit a TER that contains, for each sub-section of the SER: the regulatory acceptance criteria, a description of the information proposed by the applicant including the assumptions for the analysis, design, and references to consensus standards, review findings (including the basis for the findings), as a result of comparison with the review guidelines, and a list of RAIs. Submit a tracking table for the RAIs and a comparative table of all deviations from the EPR DC. See Attachment 1 to this SOW for the outline, format and content of the TER report. See Attachment 1 in the base contract SOW for the guidelines for developing RAIs. See Attachment 2 to this SOW for the format of the RAI tracking table.
4. At the completion of Task 4.a, submit an update to the TER completed under Task 3 that incorporates review results and the findings from the resolution of the RAIs. Submit new or supplemental RAIs. Submit updated RAI tracking table.
5. At the completion of Task 4.b, submit an audit list.
6. During the performance of Task 4.c, submit RAIs as necessary and an updated RAI tracking table monthly.
7. At the completion of Task 5, submit a Trip Report to summarize the information reviewed, results of the audit, meeting discussions, a list of outstanding issues, and significance of these issues. Submit RAIs as necessary.
8. At the completion of Task 6, submit an update to the TER developed in Task 4.a including the review information developed in Task 5, and the RAI responses reviewed under Task 4.c. This will be the input to the staff's SER with open items. Submit a TLR with updated comparative table with COL specifics and the RAI tracking table.
9. At the completion of Task 8, update the TER developed in Task 6 including closure of all the open items and the responses to ACRS questions, as necessary. Submit the final TER with no open items which forms the input to the staff's final safety evaluation report (FSER).
10. At the completion of Task 9, review the staff's FSER for adequacy and completion and provide written comments.
11. During the performance of Tasks 7 and 9, describe each request for assistance and the information provided in the MLSR under the "Work Performed" section.
12. For the RAI tracking table and the TLRs, submit only electronic copies to the TM and PO.

6.0 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 TM after discussion with the contractor PM. Travel in excess of the total number of person-trips must be approved by the NRC TAPM; travel within the work scope limits will be approved by the NRC TM.

- One, two-person, one-day working meeting to kick off project and laboratory orientation (Task 2)
- **Two (2)**, two-person, five-day trip to the applicant's facility to implement a COL review team audit (Tasks 5)
- One, two-person, one-day working meetings at NRC headquarters to discuss the preparation of the TER with open items (Task 6)
- Two, one-person, one-day meetings, if needed, for an ACRS meeting and a plant site hearing (Task 7 and 8)
- **Three, two-person, one-day trip to NRC headquarters, or applicant's facility at Rockville, MD, to attend meetings or participate in technical sessions (Task 10)**

*At the discretion of the NRC TM, meeting may be conducted via telephone or video conference.

7.0 NRC FURNISHED MATERIAL

The following NRC furnished materials will be provided to the contractor together with SOW:

a. CD-ROM containing COL Sections and the relevant Appendices from the COL application.

b. CD-ROM containing the Final Safety Analysis Report (EPR FSAR) of the DCD including Sections 3.7.1 through 3.7.3 and the associated appendices.

The contractor staff will identify any additional NRC documentations that are needed to perform the work, and the TM will determine whether it will be provided by the NRC or obtained directly by the contractor from NUDOCS, ADAMS, NRC public document room on the NRC website at www.nrc.gov.

8.0 LEVEL OF EFFORT

The estimated level of effort is **1372** man-hours. The effort professional staff hours apportioned among the tasks and by labor category is as follows:

Task(s)	Labor Category	Level of Effort FY-08 (hours)	Level of Effort FY-09 (hours)	Level of Effort FY-10 (hours)	Level of Effort FY-11 (hours)
1	Senior Structural Engineer	[redacted]			
2	Senior Structural Engineer				
3	Senior Structural Engineer				
4	Senior Structural Engineer		[redacted]		
5	Senior Structural Engineer			[redacted]	
6	Senior Structural Engineer				
7	Senior Structural Engineer				[redacted]
8	Senior Structural Engineer				
9	Senior Structural Engineer				
10	**Senior Structural Engineer**			[redacted]	[redacted]

Task(s)	Labor Category	Level of Effort FY-08 (hours)	Level of Effort FY-09 (hours)	Level of Effort [redacted]-10 (hours)	Level of Effort FY-11 (hours)
Tasks 1-~~9~~ 10	Project Manager	40	40	24	10
Tasks 1-~~9~~ 10	Administration	17	[redacted]	10 [redacted]	[redacted]
Total		[redacted]	[redacted]	[redacted]	157

9.0 PERIOD OF PERFORMANCE

The projected period of performance is 40 months from date of task order award.

10.0. OTHER APPLICABLE INFORMATION

a. License Fee Recovery

All work under this task order is fee recoverable under 10 CFR Part 170 and shall be charged to the appropriate TAC number(s).

b. Assumptions and Understandings:

The level of effort for Task 1 is based on the volume of materials to be reviewed; this task is for familiarity and not for evaluation.

The level of effort for Task 3 is based on the assumption that the contractor is familiar with the review procedures of SRP Section 3.7.

The level of effort for Task 4 is based on the assumption that there will be 50 RAIs including supplemental RAIs. Five days are allocated for updating the preliminary TER prepared in Task 3 to incorporate RAI responses.

The level of effort for Task 5 is based on two (2), two-person, five-day trip (including travel time) plus four days to prepare for the trip and to write the trip reports.

The level of effort for Task 7 is based on one, two-person trip to NRC headquarters for an ACRS meeting, and time needed to prepare presentation material.

The level of effort for Task 8 is based on one, two-person trip to NRC headquarters for an ACRS meeting, and time needed to prepare the final TER with no open items as input to the staff's FSER.

It is assumed that the contractor has access to the NRC furnished material available on the Internet.

It is understood that the scope of the review consists of conference calls with the NRC staff, and with the NRC staff and the applicant, to discuss open items in an attempt to obtain additional information or reach resolution.

During the course of the review, the Technical Monitor, and possibly other NRC personnel, may travel to the contractor site to discuss the status of the review and participate in the resolution of open items. It is assumed that the level of effort covers such a meeting.

The primary deliverable, or output of this regulatory review, shall be the Technical Evaluation Report (TER). The TER will serve as input to the NRC's Safety Evaluation Report (SER) which will document the NRC's technical, safety, and legal basis for approving the COL. The TER documents the contractor's technical evaluation of a proposed design against relevant regulatory criteria. The technical evaluation should include a description of the proposed design and an analysis of the proposal in terms of regulatory requirements, established NRC positions

(e.g., SRP or regulatory guides), industry standards, or other relevant criteria. The Contractor should explain the method used in its review of the design (e.g., a comparison of applicant's proposal against regulatory criteria, a review of input assumptions combined with use of approved methodology, or an independent calculation to confirm results presented by an applicant). The technical evaluation should be specific as to what information is relied on to form the basis for approving or denying the proposed design. The technical evaluation should also contain the contractor's specific conclusion that the proposed design is technically acceptable and meets regulatory guidance or other industry standards or reasons why the proposed design is unacceptable. The TER, and ultimately the SER, should be written in a manner whereby a person with a technical (non-nuclear) background and unfamiliar with the applicant's request could understand the basis for the staff's conclusions. The TER format is described in Attachment 1 to this Task Order Statement of Work (SOW).

Attachments:

1. Outline, Format, and Sample for the TER (draft SER input)
2. Sample Request for Information (RAI) Tracking Table
3. Sample Outline and Format for the Confirmatory Analysis Summary Report (if required)

Attachment 1
Outline, format, and sample for the TER (draft SER input)

X.Y.Z Title of Section

X.Y.Z.1 Regulatory Criteria

Develop an outline that follows the format and topics presented in the AREAS OF REVIEW section of the appropriate SRP section. This information will correspond to the SRP sections that are the subject of this Task Order. For each unique SRP review area contained in the TER, the contractor should specify the acceptance criteria that were used for its review. Summarize the applicable regulations and other regulatory references, including regulatory guides, generic letters, or NRC staff positions, that are relevant to this topic.

Technical reviewers are encouraged to use the descriptions of acceptance criteria from previously issued Safety Evaluation Reports for completed design certifications (e.g., NUREG-1793 for the AP1000 Final Safety Evaluation Report) when applicable.

X.Y.Z.2 Summary of Technical Information

Describe the key technical points that were made in the application. It is not necessary to restate the application verbatim or to address all the details in the application.

X.Y.Z.3 Technical Evaluation

Document the contractor's evaluation of the application against the relevant regulatory criteria. The evaluation should support the contractor's conclusions as to whether the regulations are met. State what the contractor did to evaluate the applicant's submittal. The contractor's evaluation may include verification that the applicant followed applicable regulatory guidance, performance of independent calculations, and validation that the appropriate assumptions were made. The contractor may state that certain information provided by the applicant was not considered essential to the contractor's review and was not reviewed by the contractor. While the contractor may summarize the information offered by the applicant in support of its application, the contractor should clearly articulate the bases for its conclusions.

Contractor should provide a clear and concise description of any request for additional information (RAIs). The description should include a justification of the requested information that the requested information is not provided in the application and is absolutely needed to determine or confirm whether the relevant regulatory requirements (articulate specific requirements) have been met. The contractor should discuss its technical evaluation of the licensee's response to the RAIs and determine whether it is acceptable. The contractor should clearly articulate the bases for its acceptance or rejection. If the RAI response is not acceptable, it will be classified as an 'open item'. All open items will be resolved in Phase 3.

X.Y.Z.4 Conclusions

Summarize the contractor's conclusions regarding the application, including words such as the following. As set forth above in Sections X.Y.Z.2 and X.Y.Z.3 of this report, [provide specific bases for conclusions that follow]. Accordingly, the staff concludes that the application meets [or, if applicable, does not meet] the relevant requirements of 10 CFR Part XX and is [or, if applicable, is not] acceptable.

X.Y.Z.5 References

Attachment 2

Sample Request for Additional Information (RAI) Tracking Table

RAI Tracking Table
AREVA NP U.S. EPR Design Certification – SER Section 3.7

RAI Number	Question Summary	Full RAI Text / Applicant Response / Staff Assessment
3.7-xx	Provide a summary of the question	Text: *Provide full text of RAI* [Applicant Response] (xx/xx/0x): *Summarize applicant response* Staff Assessment: *Provide a detail description of the staff assessment, technical basis, and conclusion* ***[resolved/unresolved]*** Supplemental RAI (if any) Repeat the above entries.

Attachment 3

Sample Outline and Format for the Confirmatory Analysis Summary Report

In preparing the Confirmatory Analysis Summary Report provide the following information as a minimum.

1. Introduction

Summarize the background information for the overall technical assistance efforts. Describe the contractor's evaluation efforts and the role of the confirmatory analysis. Describe the arrangement of the report.

2. Scope and Purpose of Confirmatory Analysis

Explain the purpose and the objectives of the confirmatory analysis. Describe the scope of the analysis and its adequacy to provide reliable insight into the applicant's design. Explain how the objectives are achieved.

3. Evaluation of Applicant's Analyses

Summarize AREVA's seismic model for analyzing the Nuclear Island structures and other Category I structures. Describe the computer codes used, modeling assumptions, modeling parameters used in input, boundary conditions, and some key results. Provide the contractor's assessment of the adequacy of the above information.

4. Confirmatory Analysis

Describe the confirmatory analysis features including modeling of foundation soil, combined foundation structure dynamic model, computer codes used, assumptions, boundary conditions, & input earthquake time histories. Summarize key results of the confirmatory analysis, including seismic response and floor response spectra at key locations such as foundation mat, Reactor Vessel support, etc.

5. Analysis Results Assessment

Provide comparisons between the confirmatory analysis results and those submitted by the applicant. Highlight agreement in results and identify and discuss deviations. Explain the technical bases for the deviations and their significance. Provide conclusions in terms of the adequacy of the applicant's design.

6. Summary and Conclusions

Summarize the evaluation findings and conclusions based on the efforts detailed in this report.