AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

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

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
0008	See Block 16c	NRO-11-259 dated 6/23/11	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than Item 6)	CODE
U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Morie Gunter-Henderson Mail Stop: TWB-01-B10M Washington, DC 20555	3100	U.S. Nuclear Regulatory Commission Div. of Contracts Mail Stop: TWB-01-B10M Washington, DC 20555	3100

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)	(X)	9A. AMENDMENT OF SOLICITATION NO.
N J NUMARK ASSOCIATES INC NUMARK ASSOCIATES 1220 19TH ST NW STE 500 WASHINGTON DC 200362444		9B. DATED (SEE ITEM 11) 10A. MODIFICATION OF CONTRACT/ORDER NO. NRC-42-07-481 0020
CODE 788247377 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 05-15-2008

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) 2011-25-17-4-118 Q4159 252A 31X0200
Obligate: $54,669.60 FSS #112908-001

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) Mutual Agreement Between the Parties

E. IMPORTANT: Contractor ☐ is not, [X] 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.)

The Purpose of this modification is to (1) increase the level of effort in accordance with the attached SOW, (2) Increase the ceiling and (3) add incremental funds in the amount of $54,669.60.

Contract Ceiling Amount: $598,259.00 (changed)
Contract Obligated Amount: $524,669.60 (changed)
Period of Performance: 05/15/2008 - 06/30/2012 (unchanged)

ALL OTHER TERMS AND CONDITIONS REMAIN 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)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
Paul G. Edelstein, VP Contracts and Admin	Morie Gunter-Henderson Contracting Officer
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED: 26 Jul 2011
16B. UNITED STATES OF AMERICA BY (Signature of Contracting Officer)	16C. DATE SIGNED: 7/26/11

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

JUL 28 2011

ADM002

The purpose of this modification is to (1) increase the level of effort in accordance with the attached SOW, (2) Increase the ceiling by $100,359.00 and, (3) add incremental funds in the amount of $54,669.60.

Page 2, paragraph 2 of Task Order 20 is hereby deleted in it's entirety and replaced with the following paragraph:

"Task Order No. 20 shall be in effect from 5/15/08 through 6/30/2012 with a cost ceiling of $598,259.00. The amount of $566,964.00 represents the estimated reimbursable costs, and the amount of $31,295.00 represents the fixed fee."

Page 2, paragraph 3 of Task Order 20 is hereby deleted in it's entirety and replaced with the following paragraph:

"The amount obligated by the Government in respect to this task order is $524,669.00 of which $497,224.00.00 represents the reimbursable coast, and the amount of $27,446.00 represents the fixed fee."

All other terms and conditions remain unchanged.

MODIFICATION

TASK ORDER STATEMENT OF WORK

JCN	Contractor	Task Order No.
Q-4159	Numark Associates	NRC-42-07-481 (020) 0008
Applicant	Design/Site	Docket No.
AREVA NP Inc	US EPR	052000020
Title/Description		
Evaluation of the AREVA NP Inc., Design Certification Application Section 3.9.2 Regarding the Design and Qualification Basis for the Reactor Pressure Vessel Core Support Structures and Internal Structures.		
TAC No.	B&R Number	SRP Section(s) or ESRP
RX0134	**2011-25-174-118**	SRP 3.9.2
NRC Technical Assistance Project Manager (TAPM)		
Meghan Blair	**(301)-415-5242**	**Meghan.Blair@nrc.gov**
NRC Technical Monitor (TM)		
Yuken Wong	(301)-415-0500	Yuken.wong@nrc.gov

1.0 BACKGROUND

By letters dated December 11, 2007, AREVA NP Inc., submitted applications for a standard design certification (DC) for the evolutionary pressurized (EPR) water reactor referred to as the U.S. EPR design. The purpose of this Task Order is to obtain the necessary technical assistance to support the NRC staff in determining whether or not the subject DC application meets appropriate regulatory requirements.

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

The NRC staff has prepared NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," to provide guidance to the staff in performing safety reviews of standard design applications for nuclear power plants. In addition, the NRC staff developed Regulatory Guide (RG) 1.206, "Combined License Applications for Nuclear Power Plants (LWR Edition)," to provide guidance for submitting information in COL applications. The principal purpose of the SRP and RG is to assure the quality and uniformity of staff safety 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 staff in determining the adequacy of the DC application relating to the US EPR.

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 SER which will document the NRC's technical, safety, and legal basis for approving the COL or design certification application. 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.

This modification is required due to additional rounds of RAIs and the late submittal of ANP-10306P, "Comprehensive Vibration Assessment Program for U.S. EPR Reactor Internals Technical Report," which supports the additional level of effort needed to complete the review.

3.0 WORK REQUIREMENTS, SCHEDULE AND DELIVERABLES

Tasks/Standards	Scheduled Completion	Deliverables
1. REQUIREMENT: Become familiar with Standard Review Plan (SRP) Section(s) 3.9.2. STANDARD: Written confirmation that familiarization is complete	* Two weeks after authorization of work	Documentation that assigned personnel have reviewed references
2. REQUIREMENT: Participate in an orientation/kick-off meeting with the NRC staff to discuss the scope of the work, expectations and contract management STANDARD: Attendance by individuals designated by NRC.	TBD	N/A

Tasks/Standards	Scheduled Completion	Deliverables
3. REQUIREMENT: Review the DC application Section 3.9.2 to determine the adequacy of the technical information submitted. Determine if the methods and approach proposed by the applicant meet the review guidance. Identify issues and the need for any additional or clarifying information (requests for additional information, RAIs). Identify those aspects of the application that need additional or clarifying information (RAIs). Prepare draft questions as input to a formal Request for Additional Information (RAI). Prepare a TER. STANDARD: Completed TER that follows the NRC provided template without deviation. No deviation from the guidance defined in Section III, RAI Guidance (Attachment 1 to basic task ordering agreement statement of work). One round of comment incorporation is acceptable.	*Six weeks after completion of Task 1	Technical Evaluation Report and RAIs, if applicable
4. REQUIREMENT: Review response to the RAIs to determine if they adequately resolve the outstanding issues. Identify any other open items. Incorporate the review results in the evaluation report completed under Task 3. STANDARD: Completed Technical Evaluation Report that follows the NRC provided template without deviation. No deviation from the guidance defined in Section III, (Attachment 1 to basic task ordering agreement statement of work). One round of comment incorporation is acceptable.	*Three weeks after receipt of the responses.	Revised Technical Evaluation Report

Tasks/Standards	Scheduled Completion	Deliverables
5. REQUIREMENT: If needed prepare for and travel to the applicant's office and participate in an NRC review team to: a. Audit the seismic design, piping vibration and reactor internals qualification methodologies as described in the DC for AREVA US EPR. b. Evaluate and discuss the applicant's responses to the unresolved issues identified in Task 4 to determine if the outstanding issues are adequately resolved. c. Prepare a trip report (as an input to NRC Audit Report) to summarize the information reviewed, results of the audit, and meeting discussions. STANDARD: Complete evaluation as defined in the Task. Submit Trip Report within three weeks of site review.	*Three weeks after the trip	Trip Report
6. REQUIREMENT: Review the applicant's response to the open items identified as a result of the design audit (Tasks 4 & 5). Identify any unresolved issues and prepare a safety evaluation report w/open items if any, as a Technical Evaluation Report. STANDARD: Complete Technical Evaluation Report that follows the NRC provided template without deviation.	*Three weeks after receipt of responses	Safety Evaluation Report Input w/open items
7. REQUIREMENT: As needed and requested by the staff, provide technical support to the staff during related Advisory Committee on Reactor Safeguards (ACRS) meetings and hearing proceedings. STANDARD: Ensure presentation materials are reviewed and approved by NRC staff.	TBD	Prepare Presentation Materials. Attend Meetings, if required

* 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 instructions 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:

Up to two senior piping/mechanical engineers with strong background in both flow induced vibration and piping design (expertise in the areas of piping design criteria, piping fatigue analysis, piping dynamic analysis, and reactor internals components testing, including analysis) on an intermittent, part-time basis are needed. Experience with review and audit of piping and pipe support design for previously certified advanced reactor designs is highly desirable.

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 Manager (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-4159; Technical Assignmnet Control No. (TAC), if applicable: RX0134; Task Order No.: 20 ; the licensee: AREVA NP; and, the site: N/A.

1. At the completion of Task 3, submit a Technical Evaluation Report (TER) that contains, for each Sub-section of the SER (see Attachment 1 for the outline, format and content of the report): 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 Requests for Additional Information (RAIs). See Attachment 1 in the base contract SOW for the guidelines for developing RAIs.

2. At the completion of Task 4, submit a TER (see Attachment 1) that contains a summary of the review results and the updated report completed under Task 3 incorporating the findings from the resolution of the RAIs. Include a separate list of the remaining open items and the basis for such determination.

3. At the completion of Task 5, submit a trip report, as an input to NRC audit report, that contains a summary of documents audited, a summary of meeting discussion conducted with, the applicant list of outstanding issues, significance of these issues, and the basis for the conclusion. Incorporate the findings in the report developed under Task 3.

4. At the completion of Task 6, submit a TER (see Attachment 1) that contains a safety evaluation report with open items resulting from the work performed in Task 4 & 5, and update of the Technical Evaluation Report developed under Task 5.

6.0 MEETINGS AND TRAVEL

One, one-person, one-day, working meeting, to kickoff project and contractor orientation*
*At the discretion of the NRC TM, meeting may be conducted via telephone or video conference.

One, ~~one~~**three**-person, ~~one~~**three**-day trip, if needed, to the applicant's facility (Tasks 5).

Two, two-person, one-day meeting, if needed, for hearing or ACRS meeting.

7.0 NRC FURNISHED MATERIAL

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

a. CD-ROM containing DCD sections and the relevant appendices.

8.0 LEVEL OF EFFORT

The estimated level of effort in professional staff days 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)	**Level of Effort FY-12 (hours)**
1	Senior Mech Engineer	96	0	0	0	
2	Senior Mech Engineer	6	0	0	0	
3	Senior Mech Engineer	574	61	0	0	
4	Senior Mech Engineer	0	283	1363	340	**300**
5	Senior Mech Engineer	0	0	240	0	
6	Senior Mech Engineer	0	0	0	264	
7	Senior Mech Engineer	0	0	0	192	**40**
Task 1 - 7	Project Manager	43	44	69	30	**15**
Total		719	388	1672	926	**355**

9.0 PERIOD OF PERFORMANCE

The projected period of performance continues through 6/30/2012.

10.0. OTHER APPLICABLE INFORMATION

a. License Fee Recovery

All work under this task order is fee recoverable and must 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 Sections 3.9.2.

The level of effort for Task 4 is based on the assumption that there will be 167 RAIs and it will take, on the average, 2.5 hours to review and address each response.

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

The level of effort for Task 6 is based on the need to resolve 10 open items and it will take, on the average, 4 hours to review and resolve each open item, and prepare an SER.

The level of effort in Task 7 is based on requiring **two trips** to NRC headquarters.

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.

Attachments:

Outline, Format and Content for the TER Input

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