

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>		BPA NO.	1. CONTRACT ID CODE	PAGE 1	OF 2
2. AMENDMENT/MODIFICATION NO. 0012	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO. NRO-12-145 dated: 5/01/2012		5. PROJECT NO. (if applicable)	
6. ISSUED BY U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Morie Gunter-Henderson 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)  N J NUMARK ASSOCIATES INC NUMARK ASSOCIATES, INC.  1220 19TH ST NW STE 500  WASHINGTON DC 200362444			(X)	9A. AMENDMENT OF SOLICITATION NO.	
CODE 7882473				9B. DATED (SEE ITEM 11)	
FACILITY CODE				10A. MODIFICATION OF CONTRACT/ORDER NO. NRC-42-07-481 0009	
			X	10B. DATED (SEE ITEM 13) 04-28-2008	

**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) B&R: 2012-25-17-4-118 JC: Q4159 BOC: 252A APPN: 31X0200  
Obligate: \$27,000.00 SPC: AG51  
FFS: 122166 NAICS Code: 541990

**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 48.103(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,  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 1) increase the task order ceiling by \$22,883.00 to reflect an increase to the level of effort as seen in the attached revised SOW and 2) add incremental funding in the amount of \$27,000.00.

Ceiling Amount: \$409,100 (Changed)  
Obligated Amount: \$409,100 (Changed)  
Period of Performance: 4/28/2008 - 9/30/2012 (Unchanged)

-----CONTINUED ON PAGE 2-----

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

15A. NAME AND TITLE OF SIGNER (Type or print) Neil J. Numark, President	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Morie Gunter-Henderson Contracting Officer
15B. CONTRACTING OFFICER'S SIGNATURE <i>(Signature)</i>	16B. UNITED STATES OF AMERICA BY <i>(Signature)</i> (Signature of Contracting Officer)
15C. DATE SIGNED 6/29/12	16C. DATE SIGNED 6/29/12

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 02 2012

ADM002

NRC-42-07-481  
Task Order 0009  
Modification No. 12  
Page 2 of 2

The purpose of this modification is to (1) increase the task order ceiling by \$22,883.00 to reflect an increase to the level of effort as seen in the attached revised SOW and (2) add incremental funds in the amount of \$27,000.00. Accordingly, this task order is hereby modified as follows:

Page 2, paragraph 2 of Task Order 9 is hereby deleted and replaced with the following:

“Task Order No. 9 shall be in effect from 04/28/2008 through 09/30/2012 with a cost ceiling of \$409,100.00. The amount of \$397,284.00 represents the estimated reimbursable costs, and the amount of \$11,816.00 represents the fixed fee.”

Page 2, paragraph 3 of Task Order 9 is hereby deleted in its entirety and replaced with the following paragraph:

“The amount obligated by the Government in respect to this task order is \$409,100.00 of which \$397,284.00 represents the reimbursable cost, and the amount of \$11,816.00 represents the fixed fee.”

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

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Incorporate results review of the ALL diagrams into Technical Evaluation Report and resolve remaining open item for Task Order No. 9 on Leak Before Break (LBB).

Increase level of effort to provide travel for one person for one day for technical support to the staff during full ACRS meeting on Chapter 3 for the EPR design on May 10, 2012. Prepare presentation and support hearing proceedings if necessary.

**3.0 WORK REQUIREMENTS, SCHEDULE AND DELIVERABLES**

Tasks/Standards	Scheduled Completion	Deliverables
<p>1. REQUIREMENT: Become familiar with SRP Section 3.6.3. STANDARD: Written confirmation that familiarization is complete</p>	<p>* Two weeks after authorization of work.</p>	<p>Documentation that assigned personnel have reviewed references</p>
<p>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.</p>	<p>* Three weeks after authorization of work.</p>	<p>N/A</p>
<p>3. REQUIREMENT: Review the DC application Section 3.6.3 to determine the adequacy of the proposed design. 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 a Technical Evaluation Report. STANDARD: Completed Technical Evaluation Report that follows the NRC provided template without deviation. No deviation from the guidance defined in Section III, RAI Guidance of Attachment1. One round of comment incorporation is acceptable.</p>	<p>* Twelve weeks after the end of Task 2.</p>	<p>Technical Evaluation Report and RAIs, if applicable</p>

Tasks/Standards	Scheduled Completion	Deliverables
<p>3a. REQUIREMENT: Increase the level of effort to review the Leak Rate Determination Method for the Surge Line (SL). Provide a confirmatory analysis for the SL at the following locations:</p> <ul style="list-style-type: none"> <li>• Pressurizer surge nozzle end</li> <li>• Hot-leg nozzle end</li> </ul> <p>Increase level of effort to compare results of confirmatory analysis with AREVA KRACKFLO and PICEP using rectangular and elliptical crack openings, reference stress/strain values that are applicable to ASME SA-106 material, surface roughness and number of turns.</p> <p>Include those aspects of AREVA's analysis and assumptions that require clarifying information through additional RAI's and telecons.</p> <p>NOTE: Results of confirmatory analysis will be documented in the completed Technical Evaluation Report on LBB.</p>	<p>Twelve weeks after obtaining necessary data from AREVA.</p>	<p>Technical Letter Report, RAIs (if applicable) and input to Technical Evaluation Report</p>
<p>3b. REQUIREMENT: Support an additional trip to Rockville to discuss results of testing reruns and come to an agreeable conclusion.</p> <p>STANDARD: Complete Technical Letter Report of the trip to Rockville to audit the confirmatory analysis.</p>	<p>Twelve weeks after obtaining necessary data from AREVA.</p>	<p>Technical Letter Report</p>
<p>4. REQUIREMENT: Review responses 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.</p> <p>STANDARD: Completed Technical Evaluation Report that follows the NRC provided template without deviation. No deviation from the guidance defined in Section III, RAI Guidance of Attachment1. One round of comment incorporation is acceptable.</p>	<p>* Three weeks after receipt of the responses.</p>	<p>Revised Technical Evaluation Report</p>

Tasks/Standards	Scheduled Completion	Deliverables
<p>5. REQUIREMENT: (If applicable) Prepare for and travel to the applicant's office and participate in an NRC review team to:</p> <ul style="list-style-type: none"> <li>a. TBD If Required, Audit the information/calculations as described in the DCD application.</li> <li>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.</li> <li>c. Prepare a trip report (as an input to NRC Audit Report) to summarize the information reviewed, results of the audit, and meeting discussions.</li> </ul> <p>STANDARD: Complete evaluation as defined in Task. Submit Trip Report within <u>two (2)</u> weeks of site review.</p>	<p>* Five weeks after receipt of response.</p> <p>Two weeks after the trip.</p>	<p>Trip Report</p>
<p>6. REQUIREMENT: Review the applicant's response to the open items identified as a result of the design audit (Tasks 4 &amp; 5). Identify any unresolved issues and prepare a safety evaluation report w/open items if any, as a Technical Evaluation Report.</p> <p>STANDARD: Complete Technical Evaluation Report that follows the NRC provided template without deviation.</p>	<p>* Twelve weeks after receipt of responses.</p>	<p>Safety Evaluation Report Input w/open items</p>
<p>7. REQUIREMENT: As needed and requested by the staff, provide technical support to the staff during related ACRS meetings and hearing proceedings.</p> <p>STANDARD: Ensure presentation materials are reviewed and approved by NRC staff.</p>	<p>TBD</p>	<p>Prepare Presentation Materials. Attend Meetings, if required</p>
<p>8. REQUIREMENT: As needed resolve remaining open items and prepare a technical evaluation report (TER) addressing the open items.</p>	<p>TBD</p>	

\* 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:

**A senior-level Materials Engineer with experience in fracture mechanics.**

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-4159; Technical Assignment Control No. (TAC): RX0235; Task Order No.: 009; 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, three-day working meeting to kickoff project and contractor orientation.\*
- (If required) One, one-person, five-day trip to the applicant's facility (Tasks 5).
- One one-person, three-day working meeting at NRC headquarters to review deliverables\*
- One four-person, one-day working meeting at NRC headquarters to discuss results (Task 3b.)
- One, one-person, three-day meeting, if needed, for hearing or ACRS meeting.
- **One, one person, 1 day trip to support ACRS meeting on May 10, 2012.**

\*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 R-COL Sections and the relevant Appendices from the R-COL application.
- b. CD-ROM containing the Final Safety Evaluation Report of the DCD.

**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:

<u>Task(s)</u>	<u>Labor Category</u>	<u>Level of Effort FY-08 (hours)</u>	<u>Level of Effort FY-09 (hours)</u>	<u>Level of Effort FY-10 (hours)</u>	<u>Level of Effort FY-12 (hours)</u>
1	Senior Materials Engineer	40			
2	Senior Materials Engineer	40			
3	Senior Materials Engineer	250			
3a & b	Senior Materials Engineer	250	250-507	30-500	



<b>Task(s)</b>	<b>Labor Category</b>	<b>Level of Effort FY-08 (hours)</b>	<b>Level of Effort FY-09 (hours)</b>	<b>Level of Effort FY-10 (hours)</b>	<b>Level of Effort FY-12 (hours)</b>
4	Senior Materials Engineer	40			
5	Senior Materials Engineer	72			
6	Senior Materials Engineer	100			
7	Senior Materials Engineer	0	40		4
8	Senior Materials Engineer	0	50		38
Task 1 - 8	Project Manager	50	25-75	40-75	25
Task 1 - 8	Administrative Support		35	5-35	
<b>Total</b>		<b>842</b>	<b>707</b>	<b>45-610</b>	<b>67</b>

## **9.0 PERIOD OF PERFORMANCE**

The projected period of performance continues through **09/30/2012**.

## **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 (ESRP/SRP) Sections 3.6.3.

The level of effort for Task 4 is based on the assumption that there will be 50 RAs 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 two, two-person, five-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 20 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 one trip to the site and one trip 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:**

1. Outline, Format, and Content for the TER Input
  2. Guidelines for Requests for Additional Information (RAIs)
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**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  
**Guidelines for Requests for Additional Information (RAIs)**

Additional information necessary to resolve open or unresolved items identified during the review of the information associated with the steam dryer failure and modification needs to be requested in a manner that is unambiguous, has an adequate basis, and is necessary for the safety review. The technical letter report should provide a list of RAIs using the following guidance:

1. An RAI should include the appropriate basis for requesting the information. The basis should explain why the information is needed, including how it will be used to help make a reasonable assurance finding.
2. Judgmental language should be avoided.
  - a. Questions should not make adequacy determinations.
  - b. Words like "unacceptable" or "deficient" and "deviation" should be avoided. Likewise, avoid using phrases like "*the staff will require*" since it is premature to require anything when asking questions.
3. Questions should be focused, not open-ended.
  - a. The RAI should be in the form of a question or an imperative to provide what is needed to complete the review. When the reviewer needs specific information or the underlying issue may not be apparent, the RAI should clearly identify the information requested and/or the underlying issue.
  - b. "If ... then" questions (questions that could lead to follow-on questions) should provide both parts of the question.

After the RAIs have been forwarded to the applicable NRC Project Manager, teleconferences and/or public meetings may be held before issuing the RAIs:

- a. These discussions prevent misunderstandings of the intent of the questions.
- b. If a draft RAI is clarified or resolved before issuance, the NRC staff will prepare a documented record of the resolution (i.e., minutes of a public meeting or a teleconference summary).

After the RAIs have been issued, licensee may request a telephone conference and/or a public meeting:

- a. The teleconferences and/or meetings provide additional clarification of the intent of the RAIs and will help licensees prepare satisfactory responses.
- b. To ensure that the response appropriately addresses the RAI, the licensee may submit a draft response (which the NRC Project Manager docket in the Agency-Wide Documents Access and Management System (ADAMS)) and may request a follow-up teleconference and/or meeting.

After receiving licensee's response to the RAI, the NRC Project Manager may hold a teleconference and/or a public meeting:

- a. The purpose of discussing a response with licensee is to better understand the response and/or clarify areas of disagreement. If the resolution of a response relies on information not submitted to the NRC, the licensee should submit the information on the docket. The submission is not intended to be another RAI or a means to minimize the number of SE open items, but frequently reduces the number of SE open items.
- b. If the areas of disagreement remain, the unresolved RAI becomes an SE open item.