

**AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT**

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

2. AMENDMENT/MODIFICATION NO. 0001	3. EFFECTIVE DATE <b>NOV 24 2008</b>	4. REQUISITION/PURCHASE REQ. NO. 42-07-481 TO21M1 09748121159	5. PROJECT NO. (If applicable)
6. ISSUED BY U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Kala Shankar 301-415-6310 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  1220 19TH ST NW STE 500  WASHINGTON DC 200362444	(X)	9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
		10A. MODIFICATION OF CONTRACT/ORDER NO. NRC-42-07-481 0021
	X	10B. DATED (SEE ITEM 13) 06-19-2008
CODE 788247377	FACILITY CODE	

**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) 825-15-171-103; Q-4159; 252A; 31X0200  
DEOBLIGATE: (\$80,805)

**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 OF BOTH PARTIES

**E. IMPORTANT:** Contractor  is not,  is required to sign this document and return <sup>2</sup> 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) incorporate the revised scope of work to reflect the reduced level of effort; 2) change the performance period; 3) reduce the task order ceiling and 4) deobligate funds in the amount of \$80,805.

Task Order Ceiling Amount: \$64,195 (changed)  
Total Obligated Amount: \$64,195 (changed)  
Period of Performance: 06/19/2008 - 12/18/2008 (changed)

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) <i>Nest J. Numark President</i>	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Kala Shankar Contracting Officer
15B. CONTRACTOR/OFFEROR <i>[Signature]</i> (Signature of person authorized to sign)	15C. DATE SIGNED 11/24/08
16B. UNITED STATES OF AMERICA BY <i>Kala Shankar</i> (Signature of Contracting Officer)	16C. DATE SIGNED 11/21/08

The purpose of this modification is to 1) incorporate the revised statement of work to reflect the reduced level of effort; 2) reduce the task order ceiling; and 3) change the task order period of performance, and 4) deobligate funds in the amount of \$80,805. Accordingly, the subject task order is hereby modified as follows:

Paragraphs 2 and 3, page 2 of 2 under the base task order 21, are hereby deleted in their entirety and replaced with the following:

Task Order No. 21 shall be in effect from 06/19/08 through 12/18/08, with a cost ceiling of \$64,195. The amount of \$62,037 represents the estimated reimbursable costs, and the amount of \$2,158 represents the fixed fee.

The amount obligated by the Government with respect to this task order is \$64,195, of which approximately \$62,037 represents the estimated reimbursable costs, and the amount of \$2,244 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:	\$145,000.00
Deobligation:	<u>( \$80,805.00)</u>
Cumulative Total of NRC Obligations:	\$64,195.00

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

## TASK ORDER STATEMENT OF WORK

JCN Q-4159	Contractor Numark	Task Order No. NRC-42-07-481 (021) <b>REVISION 1</b>
Applicant AREVA	Design/Site EPR/NA	Docket No. 052000020
Title/Description Review of US EPR DCD Section 3.12 Pertaining to Piping Design		
TAC No. RX0140	B&R Number 825-15-171-103	SRP Section(s) or ESRP 3.12
NRC Technical Assistance Project Manager (TAPM) David D'Abate (301) 415-0667 <a href="mailto:David.DAbate@nrc.gov">David.DAbate@nrc.gov</a>		
NRC Technical Monitor (TM) Kaihua (Robert) Hsu (301) 415-4088 <a href="mailto:Kaihua.Hsu@nrc.gov">Kaihua.Hsu@nrc.gov</a>		

### 1.0 BACKGROUND

By letters dated December 11, 2007, AREVA NP Inc. (AREVA), submitted applications for a standard design certification (DC) for the Evolutionary Pressurized Reactor (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.

Standard design certifications (DC) 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 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 DC applications and 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. In addition, the NRC staff has prepared Regulatory Guide 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 has reviewed Topical report, ANP-10264(NP) Revision 0, "U.S. EPR Piping Analysis and Pipe Support Design," and issued the results of this review in a SER. The above mention topical report does cover ASME Class 1, 2, and 3 piping design except reactor coolant loop and surge line design.

### 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 DC application meets appropriate regulatory

requirements. Specifically, technical assistance is required to review reactor coolant loop and surge line Class 1 piping analyses in addition to the Topical report, ANP-10264(NP) Revision 0, "U.S. EPR Piping Analysis and Pipe Support Design".

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 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.

### 3.0 WORK REQUIREMENTS, SCHEDULE AND DELIVERABLES

Tasks/Standards	Scheduled Completion	Deliverables
<p>1. REQUIREMENT: Become familiar with SRP Sections 3.12 and related sections and Appendices and Topical Report</p> <p>STANDARD: Written confirmation that familiarization is complete</p>	<p>One week 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</p> <p>STANDARD: Attendance by individuals designated by NRC.</p>	<p>TBD</p>	<p>N/A</p>

Tasks/Standards	Scheduled Completion	Deliverables
<p>3. <b>REQUIREMENT:</b> Review the EPR DC application Section 3.12, including other related sections of DCD Section 3.7.3, Section 3.9, Appendices, and Topical report to determine the adequacy of applicant's piping analysis methods and design criteria. 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.</p> <p><b>STANDARD:</b> Prepare a draft Technical Evaluation Report that follows the NRC provided template without deviation. No deviation from the guidance defined in Section III, RAI Guidance of Attachment 1.</p>	<p>Five weeks after completion of Task 1</p>	<p>A draft Technical Evaluation Report and RAIs, if applicable</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 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:

Up to two senior piping/mechanical engineers on an intermittent part-time basis with strong background in both engineering mechanics and piping design (expertise in the areas of piping design criteria, piping fatigue analysis, piping dynamic analysis, pipe support design). Experience with review 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 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), if applicable, RX0140; Task Order No.: 21; the licensee: AREVA; 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.

## 6.0 MEETINGS AND TRAVEL

One to Two-person, 1-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.

## 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 is apportioned among the tasks and by labor category as follows:

Task(s)	Labor Category	Level of Effort FY-08 (hours)	Level of Effort FY-09 (hours)
1	Piping/Mech Engineers	20	
2	Piping/Mech Engineers	16	
3	Piping/Mech Engineers	347	12
Task 1-3	Project Manager	20	20
Task 1-3	Administrative Support	16	20
Total		419	52

## 9.0 PERIOD OF PERFORMANCE

The projected period of performance is 6 months from date of task order award.

## 10.0. OTHER APPLICABLE INFORMATION

### a. License Fee Recovery

All work under this task order is/is not 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 3.12, 3.7.3, and 3.9.

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: \*\*\*refer RFP for a copy of the attachment\*\*\*

### 1. Outline, Format, and Content for the TER Input