

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

BPA NO.

1. CONTRACT ID CODE

PAGE

OF PAGE

1

2

2. AMENDMENT/MODIFICATION NO.

0002

3. EFFECTIVE DATE

SEP 11 2008

4. REQUISITION/PURCHASE REQ. NO.

42-07-481T006M002
09748106012

5. PROJECT NO.(if applicable)

6. ISSUED BY

CODE

3100

7. ADMINISTERED BY (If other than Item 6)

CODE

3100

U.S. Nuclear Regulatory Commission
Div. of Contracts
Attn:Kala Shankar 301-415-6310
Mail Stop TWB B10
Washington, DC 20555

U.S. Nuclear Regulatory Commission
Div. of Contracts
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Washington, DC 20555

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

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 0006

10B. DATED (SEE ITEM 13)

01-14-2008

X

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended, is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

B&R 825-15-171-111; JC: Q-4012; BOC 252A; APPN: 31X0200
Deobligate: -\$98,096

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) Deobligate Funds to reflect reduced level of effort

E. IMPORTANT: Contractor is not, 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 reduce the task order ceiling to reflect a reduced level of effort; deobligate funds in the amount of \$98,096; and extend the performance period.

Task Order Ceiling Amount: \$114,904 (changed)

Total Obligated Amount: \$114,904 (changed)

Period of Performance: 01/14/2008 - 01/13/2011 (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>Neil 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 01/10/09	16B. UNITED STATES OF AMERICA BY <i>Kala Shankar</i> (Signature of Contracting Officer)	16C. DATE SIGNED 9/11/09

The purpose of this modification is to decrease the task order ceiling to reflect a reduced level of effort; deobligate funds from the task order; and change the performance period. Accordingly, the subject task order is hereby modified as follows:

Paragraphs 2 and 3, page 2 of 2 under the base task order 06, is hereby deleted in its entirety and replaced with the following:

Task Order No. 06 shall be in effect from 01/02/2008 through 01/13/2011, with a cost ceiling of \$114,904. The amount of \$107,984 represents the estimated reimbursable costs, and the amount of \$6,920 represents the fixed fee.

The amount obligated by the Government with respect to this task order is \$114,904, of which \$107,984 represents the estimated reimbursable costs, and the amount of \$6,920 represents the fixed fee.

The revised Statement of Work is attached and made part of this task order.

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

Total FY08 Obligation Amount:	\$213,000.00
Total FY09 Obligation Amount:	<u>-\$98,096.00</u>
Cumulative Total of NRC Obligations:	\$114,904.00

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

TASK ORDER STATEMENT OF WORK

JCN/Contract No. Q-4012	Contractor Numark.	Task Order No. 6 (Modification #2)
Applicant UniStar	Design/Site EPR/Calvert Cliffs	Docket No. Project No. 746
Title/Description Review of Containment and Ventilation (SPCV) Systems (CTH) for Reference COL and Application		
TAC No. RX0017	B&R Number 825-15-171-111	SRP Section(s) Containment and Ventilation Sections (see Section 2)
NRC Technical Assistance Project Manager (TAPM) Sally Adams (301) 415-0209 Sally.Adams@nrc.gov		
NRC Technical Monitor (TM) Michelle Hayes DSRA (301) 415-8375 Michelle.Hayes2@nrc.gov		

1.0 BACKGROUND

Combined Operating License (COL) Applications are submitted pursuant to Section 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 staff in determining the adequacy of the COL application relating to the EPR Reference COL.

If directed by the NRC, the initial task will be to perform an Acceptance Review of the Combined License Application (COLA) to determine the completeness and technical sufficiency of the combined license application. This includes identifying major deficiencies in the application that might impact the review process or affect the planned resources and schedule. This review will be conducted in accordance with Office Instruction NRO-REG-100, "Acceptance Review Process for Design Certification and Combined License Applications", [ML071980027], sections 3.2.1, 3.2.3, and Attachment C. This acceptance review will be documented in the table, columns 1-6, 10 and

11, provided in attachment 2 to the original Task Order Statement of Work (SOW).

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 staff's SER which will document the NRC's technical, safety, and legal basis for approving the [COL] application. The TER must provide sufficient information to adequately explain the NRC staff's rationale for why there is *reasonable assurance* that public health and safety is protected. 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 shall be prepared using the NRC provided SER Template. ~~A sample of the TER format is provided in Attachment 1 to this SOW.~~

The contractor will review the Bellefonte application for the Containment and Ventilation Branch 1 (SPCV) under its purview. The contractor has primary review responsibilities for the following SRP sections:

- 6.2.1 Containment Functional Design
- 6.2.1.2 Subcompartment Analysis
- 6.2.1.3 Mass and Energy Release Analysis for Postulated Loss-of-Coolant Accidents (LOCAs)
- 6.2.1.4 Mass and Energy Release Analysis for Postulated Secondary System Pipe Ruptures
- 6.2.1.5 Minimum Containment Pressure Analysis for Emergency Core Cooling System Performance Capability Studies
- 6.2.2 Containment Heat Removal Systems
- ~~6.2.3 Secondary Containment Functional Design~~
- 6.5.1 ESF Atmosphere Cleanup System
- 6.5.2 Containment Spray as a Fission Product Cleanup System
- 6.5.3 Fission Product Control systems and Structures
- 14.3.11 Containment Systems and Severe Accidents – Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)

In addition, the contractor will review applicable Containment and Ventilation Branch generic issues including NRC Bulletins and Generic Letters, TMI action Items, Task Action Plan, and New Generic Issues. For passive plants, the contractor will review the applicable Containment and Ventilation Branch Regulatory Treatment of Non-Safety systems (RTNSS).

3.0 WORK REQUIREMENTS, SCHEDULE AND DELIVERABLES

Tasks/Standards	Scheduled Completion	Deliverables
<p>1. REQUIREMENT: Become familiar with SRP Sections 6.2.1, 6.2.1.2, 6.2.1.3, 6.2.1.4, 6.2.1.5, 6.2.2, 6.2.3, 6.5.1, 6.5.3, 6.5.2, and 14.3.11.</p> <p>STANDARD: Written confirmation that familiarization is complete.</p> <p>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.</p>	<p>* 10 days after authorization of work</p>	<p>Documentation that assigned personnel have reviewed references.</p>
<p>2. REQUIREMENT: If required, Participate in an orientation/kick-off meeting with the NRC staff to discuss the scope of the work, expectations and task order management.</p> <p>STANDARD: Attendance by individuals designated by NRC.</p>	<p>* 10 days after authorization of work</p>	<p>N/A</p>
<p>3. REQUIREMENT: Acceptance review. Support staff's acceptance review to determine the completeness and technical sufficiency of a combined license application. This includes identifying major deficiencies in the application that might impact the review process or affect the planned resources and schedule.</p> <p>STANDARD: Written documentation that review is complete.</p>	<p>* 15 days after receipt of application</p>	<p>Acceptance review results documented in Attachment 2</p>
<p>4. REQUIREMENT: Review the COL application Sections 6.2.1, 6.2.1.2, 6.2.1.3, 6.2.1.4, 6.2.1.5, 6.2.2, 6.2.3, 6.5.1, 6.5.3, 6.5.2, and 14.3.11 to determine the adequacy of the containment design described in those sections. Determine if the methods and approach proposed by the applicant meet the appropriate review guidance. Identify issues and those aspects of the application that need additional or clarifying information, RAIs. Prepare a Technical Evaluation Report (TER).</p> <p>STANDARD: Completed TER that follows the NRC provided template without deviation. No deviation from the guidance defined in Section III, RAI Guidance of Attachment 1 to the basic contract SOW. One round of comment incorporation acceptable.</p>	<p>* 70 days after authorization to proceed with Task 4</p>	<p>TER, and RAIs if applicable</p>

Tasks/Standards	Scheduled Completion	Deliverables
<p>5. REQUIREMENT: Review responses to the RAI questions and any other submittals to determine if they adequately resolve the outstanding issues. Identify any other open items. Prepare a TER providing the input to the SER with open items (SER/OI).</p> <p>STANDARD: Complete TER with open items</p>	<p>* 30 days after receipt of the responses Or submittals,</p>	<p>Revised TER with open items</p>
<p>6. REQUIREMENT: Review the applicant's response to the open items identified in the SER/OI. Identify any unresolved issues. Prepare a TER providing the input to the final SER describing the resolution to the open items.</p> <p>STANDARD: Complete TER that follows the NRC provided template without deviation.</p>	<p>*45 days after receipt of responses to OIs</p>	<p>SER input with open items resolved</p>
<p>7. REQUIREMENT: Prepare final supplement with no open items.</p> <p>STANDARD: Supplement reviewed and approved by NRC staff.</p>	<p>10 days following ACRS review of supplement</p>	<p>Final supplement.</p>
<p>8a. REQUIREMENT: <i>(If applicable)</i> Prepare for and travel to the applicant's office and participate in an NRC review team to:</p> <ul style="list-style-type: none"> a) Audit the <u>TBD</u> as described in the R-COL for <u>Calvert Cliffs</u>. 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. <p>STANDARD: Complete evaluation as defined in Task. Submit Trip Report within 2 weeks of site review.</p>	<p>*2 weeks after the trip</p>	<p>Trip Report</p>
<p>8b. 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 requested.</p>

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

4.0 TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

As specified in the basic task ordering agreement, 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:

- Mechanical engineers or fluid systems engineer(s) or analysts with extensive experience in reviewing containment heat removal systems, mass and energy release for postulated loss of coolant accidents (LOCAs) and secondary system pipe ruptures and subcompartment analysis.
- Analysts should be familiar with and be able to run GOTHIC, an industry code, and CONTAIN and MELCOR which are NRC codes.
- Mechanical engineers or fluid systems engineer(s) or analysts with extensive experience in reviewing atmospheric cleanup systems, containment spray as a fission product cleanup system and pressure suppression pool as a fission product cleanup system.

The contractor shall provide a 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 (principal investigators, technical staff, employees, consultants, specialists or subcontractors) 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 task order is subject to the NRC technical monitor's (TM's) approval and the resume for each shall be provided. 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, TAPM 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 WordPerfect 10.0 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; Task Order No.: 6; the licensee: UniStar; and, the site: Calvert Cliffs.

- A. At the completion of Task 4, submit a 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.
- B. At the completion of Task 5, submit a TER (see Attachment 1) that contains a summary of the review results and the updated report completed under Task 4 incorporating the findings from the resolution of the RAIs. Include a separate list of the remaining open items and the basis for such determination.
- C. At the completion of Task 8a, submit a trip report, as an input to NRC audit report, that contains a summary of documents audited, the audit results of the design reports and design calculations, a summary of meeting discussions 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 4.
- D. At the completion of Task 6, submit a TER (see Attachment 1) that contains a safety evaluation report with open items resolved and update of the TER developed under Task 5.

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, 3-person, 2-day working meeting to kickoff project and contractor orientation (Task 2)~~
- (If required) one, 2-person, 3-day trip to the applicant's facility (Task 8a)
- One, 1-person, 2-day working meeting at NRC headquarters to review deliverables (task 8b)
- Two, 1-person, 2-day meetings, if needed, for hearing or ACRS meeting. (Task 8b)

At the discretion of the NRC TM, quarterly progress meetings may be conducted at the contractor's office or via telephone or video conference.

7.0 NRC FURNISHED MATERIAL

8.0 LEVEL OF EFFORT

The estimated level of effort in professional staff hours apportioned among the subtasks and by labor category for the RCOL is as follows:

Task(s)	Labor Category	Level of Effort FY 2008 (hrs)	Level of Effort FY 2009 (hrs)	Level of Effort FY 2010 (hrs)	Level of Effort FY 2011 (hrs)
1	Fluid systems engineers / analysts	8	0	0	
2	Fluid systems engineers / analysts	0	0	0	
3	Fluid systems engineers / analysts	14	0	0	
4	Fluid systems engineers / analysts	68	24	0	
5	Fluid systems engineers / analysts	0	24	0	
6	Fluid systems engineers / analysts	0	0	36	
7	Fluid systems engineers / analysts	0	0	0	72
8	Fluid systems engineers / analysts	0	0	72	64
9	Project Manager	20	20	20	20
10	Senior Administrative Assistant	16	16	16	16
Total	RCOL: 526 hours	126	84	144	172

9.0 PERIOD OF PERFORMANCE

The projected period of performance is **36 months** from authorization of work.

10.0 OTHER APPLICABLE INFORMATION

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).

Assumptions and Understandings:

- The level of effort for Tasks 3 and 4 is based on the assumption that the contractor is familiar with the review procedures of the SRP Sections.
- ~~The level of effort for Task 5 is based on the assumption that there will be 50 RAIs and it will take, on the average, 2.5 hours to review and address each response.~~
- ~~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 for the visit to the applicant's site, if necessary, is based on one, two-person, three-day trip (including travel time) plus four days to prepare for the trip and to write the trip reports.
- The level of effort in Task 8b is based on requiring three, two-day 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.
- The technical reviewer(s) for both the DCD application and the COLA will be the same for the respective sections.