

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

2. AMENDMENT/MODIFICATION NO. 0006
 3. EFFECTIVE DATE See Block 15c.
 4. REQUISITION/PURCHASE REQ. NO. NRC-42-07-036 T16M6
 0703616160-0908D
 5. PROJECT NO.(if applicable)

6. ISSUED BY CODE 3100
 U.S. Nuclear Regulatory Commission
 Div. of Contracts
 Attn: Jeffrey R. Mitchell, 301-492-3639
 Mail Stop TWB 01-B10M
 Washington, DC 20555
 7. ADMINISTERED BY (if other than Item 6) CODE 3100
 U.S. Nuclear Regulatory Commission
 Div. of Contracts
 Mail Stop TWB 01-B10M
 Washington, DC 20555

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)
 INFORMATION SYSTEMS LABORATORIES, INC
 ISL
 ATTN: DR. JAMES F. MEYER
 11140 ROCKVILLE PIKE, SUITE 500
 ROCKVILLE MD 20852
 CODE 107928806 FACILITY CODE
 9A. AMENDMENT OF SOLICITATION NO. (X)
 9B. DATED (SEE ITEM 11)
 10A. MODIFICATION OF CONTRACT/ORDER NO. NRC-42-07-036 0016
 10B. DATED (SEE ITEM 13) X 01-24-2008

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) 025-15-171-103 Q4160 252A 31x0200.025
 Obligate \$50,000.00

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 43.103(b).
 C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
 D. OTHER (Specify type of modification and authority) Bilateral
 Mutual Agreement of Both Parties
 X

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.)

.....REFER TO ATTACHED PAGE TWO FOR A DESCRIPTION OF MODIFICATION NO. SIX.....

Task Order Ceiling Amount: \$845,277.00 (changed)
 Total Obligated Amount: \$804,838.00 (changed)
 Period of Performance: 01/24/2008 - 09/15/2011 (changed)

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) Bruce B. Mrowca V.P.
 15B. CONTRACTOR/OFFICER (Signature of person authorized to sign)
 15C. DATE SIGNED 9/22/2010
 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Jeffrey R. Mitchell Contracting Officer
 16B. UNITED STATES OF AMERICA BY (Signature of Contracting Officer)
 16C. DATE SIGNED 9/15/2010

NSN 7540-01-152-8070 PREVIOUS EDITION NOT USABLE

STANDARD FORM 30 (REV. 10-83) Prescribed by GSA - FAR (48 CFR) 53.243

SUNSI REVIEW COMPLETE

SEP 24 2010

TEMPLATE - ADM001

ADM002

This confirms the verbal authorization given on September 13, 2010.

The purpose of this modification is to (1) to incorporate the revised task order Statement of Work, (2) increase the contract ceiling by \$90,439.00 from \$754,838.00 to \$845,277.00, (3) provide incremental funding in the amount of \$50,000.00 thereby increasing the total obligations from \$754,838.00 to \$804,838.00 and (4) extend the period of performance from December 31, 2010 to September 15, 2011. Accordingly, the subject task order is modified as follows:

Refer to the Task Order No. 16 "Statement of Work" is here by deleted in its entirety and replaced with the following Statement of Work attached to this Modification No. 6 entitled "Statement of Work Rev 3".

Task Order No. 16 shall be in effect from January 24, 2008 through September 15, 2011, with a cost ceiling of \$845,277.00. The amount of \$787,772.00 represents the estimated reimbursable costs, and the amount of \$57,505.00 represents the fixed fee.

The amount obligated by the Government with respect to this task order is \$804,838.00, of which \$750,084.00 represents the estimated reimbursable costs, and the amount of \$54,754.00 represents the fixed fee.

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

3.0 WORK REQUIREMENTS, SCHEDULE AND DELIVERABLES

Tasks/Standards	Scheduled Completion	Deliverables
<p>1. Become familiar with SRP Chapter 15. and all the TMI action items, Generic Safety Issues (GSI), Unresolved Safety Issues (USI), Generic Letter (GL) and Bulletins (BL) documented in Chapter 15, Regulatory Guide 1.206.</p> <p>STANDARD: Written confirmation that familiarization is complete</p>	<p>One week after authorization of work.</p>	<p>A memo documenting the completion of reading the SRP Chapter 15 and TMI action items, GSI, USI, GL and BLs.</p>
<p>2. Participate in an orientation/kick-off meeting with the NRC staff and AREVA to become familiar with the Chapter 15 of DCD submittals and relevant material related to GSI, USI, GL, BL and TMI action items.</p> <p>STANDARD: Attendance by individuals designated by NRC technical monitor.</p>	<p>Two weeks after authorization of work.</p>	<p>N/A</p>
<p>3. Review the DCD application Chapter 15 to determine the completeness and overall technical adequacy of the DCD submittals. Communicate immediately with staff regarding any issues related to the completeness and technical adequacy of DCD.</p>	<p>Five weeks after authorization of work or directed by the technical monitor.</p>	<p>A memo documenting the results of acceptance review.</p>

Tasks/Standards	Scheduled Completion	Deliverables
<p>4. Review Chapter 15.0-15.4 and all GSI related action items (GSI, USI, GLs, BLs and TMI action items).</p> <p>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). Evaluate the applicant analysis using NRC's confirmatory analysis results of TRACE EPR model. Thoroughly review AREVA SRELAP-5 EPR model and its development process. Based on the review, prepare a Technical Evaluation Report (TER).</p> <p>STANDARD: Complete Technical Evaluation Report that follows the NRC provided template without deviation. However, if deviation is needed, prior approval of the template from NRC technical monitor is needed.</p>		
<p>a. Prepare and participate the NRC on-site review activity to interact with AREVA technical staff and identify additional supporting materials needed to support the official RAI and TER development.</p>	<p>Two weeks after the initiation of official DCD review or notified by the NRC technical monitor.</p>	<p>Trip report with the list of additional technical reports and draft RAIs, which identify the potential technical issues.</p>

Tasks/Standards	Scheduled Completion	Deliverables
<p>b. Review the submitted DCD material and supporting technical reports and develop 1st round of RAIs and participate meetings with staff and AREVA personals.</p> <p>Identify the most limiting accident scenarios for LOCA, AOO and RIA events. Recommend the confirmatory analysis cases to the staff.</p>	<p>Starting from the official initiation of DCD review for ten working weeks.</p>	<ol style="list-style-type: none"> 1. Provide weekly status reports. 2. Deliver draft RAIs identifying potential technical issues. 3. Deliver 1st draft TER following NRC's SER template. 4. Provide a summary report documenting the identified confirmatory cases.
<p>c. Evaluate and discuss the applicant's responses to the 1st round of RAIs identified in Task 4.b to determine if the outstanding issues are adequately resolved.</p>	<p>Eleventh to sixteenth week into the DCD review.</p>	<ol style="list-style-type: none"> 1. Provide weekly status reports. 2. Incorporate the resolved RAIs into the draft TER.
<p>c1. Review AREVA Boron Precipitation Technical report. Prepare 2nd round of RAIs and prepare TER as part of Section 15.6.5 TER development.</p>	<p>Complete the work before May 30, 2009. Follow-up support if Tech Report is revised- complete by 7/1/2010</p>	<p>Phase-2 TER.</p>
<p>c2. Review three topical report SEs (LBLOCA, Fuel Mechanical and Set Point Methodology). Identify the limitations and evaluate the impacts of these limitations to Chapter 15 analysis. Develop technical constraints and proper ITTAC and follow-up conditions and items.</p>	<p>Complete the work before May 30, 2009. Follow-up support if Tech Report is revised- complete by 7/1/2010</p>	<p>Phase 2 TER.</p>

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The amount obligated by the Government with respect to this task order is \$804,838.00, of which \$750,084.00 represents the estimated reimbursable costs, and the amount of \$54,754.00 represents the fixed fee.

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Tasks/Standards	Scheduled Completion	Deliverables
<p>5. Use the EPR TRACE and RELAP-5 models developed by NRC Office of Regulatory Research to perform EPR cold leg and hot leg large break LOCA analysis.</p> <p>a. Update the EPR model using the latest information provided by AREVA. Meet with NRC TM to discuss the status of the work.</p> <p>a1. Update the EPR model to perform confirmatory studies regarding Heavy Reflector Flow and Long Term Cooling Credits.</p> <p>b. Finalize the model change with detailed steady state calculation and document all the changes in a complete written report with a proper QA review.</p> <p>c. In parallel of Task 5.c, use the EPR model to perform the EPR cold leg and hot leg large break LOCA scoping analyses until the long term cooling is achieved.</p> <p>c1. Update the EPR model to perform confirmatory studies regarding Long Term Cooling.</p> <p>d. After the completion of Task 5.b and Task 5.c, finalize the EPR LBLOCA analysis and prepare a complete written report with a proper QA review. The detailed calculation report shall describe the detailed progression of the LBLOCA scenario and consolidate Task 5.b report with this report.</p> <p>e. Provide a Power Point presentation summarizing the calculation results of the final EPR calculation report and meet with NRC technical staff to discuss any findings.</p> <p>f. Travel to NRC to participate in a meeting with ACRS. Prepare a summary meeting notes.</p>	<p>One week after authorization of work or receiving the latest AREVA EPR information.</p> <p>Three weeks after authorization of work.</p> <p>Three weeks after initiation of Task 5.a.</p> <p>Three weeks after authorization of work.</p> <p>Five weeks after authorization of work.</p> <p>Four weeks after completion of Task 5.c</p> <p>One week after completion of Task 5.c1</p> <p>Per TM direction</p>	<p>Provide a summary sheet documenting the model changes.</p> <p>Provide a complete model update report.</p> <p>Provide a complete model update report.</p> <p>Provide a calculation summary sheet documenting the key changes.</p> <p>Provide a complete EPR LBLOCA analysis report.</p> <p>Provide a complete EPR LBLOCA analysis report.</p> <p>Power Point presentation.</p> <p>ACRS meeting notes.</p>

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

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:

1. All key technical staff including the project manager must have the following technical qualifications:

- Extensive expertise of using RELAP-5 and TRACE code to perform PWR steady state, LOCA and AOO analyses;

Minimum qualification: Each of the proposed personnel should have analyzed at least four different PWR units. For each unit, the proposed candidate should have analyzed at least SBLOCA and LBLOCA and two most DNBR limiting transients. The qualification statements shall be substantiated by technical reports prepared by the proposed personnel.

- Extensive knowledge of RELAP-5 and TRACE code internal numerical schemes and physical models;

Minimum qualification: Each of the proposed personnel should have at least participated in the RELAP-5 code and TRACE code development work. The work experience needs to be substantiated by technical reports prepared by the proposed personnel. The reports need to demonstrate the depth of the numerical scheme and the model development work, the impact of the model on code performance and the associated assessment work. Technical papers or reports, including publications are considered essential evidence to demonstrate the person's qualification.

- Extensive regulatory analysis and review experience with SRP Chapter 15 and associated PWR safety systems.

Minimum qualification: The review work performed by the proposed staff is related to PWR Chapter 15 submittals. The qualification needs to be substantiated by TER reports or other relevant technical reports.

2. The project manager shall be on a part time basis (30% of his/her full time work load).

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) and Contracting Officer (CO) 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, 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 TAPM 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-4160; TAC No.: RX0149; Task Order: 16 the applicant: AREVA.

7.0 MEETINGS AND TRAVEL

Two three-person, one-day working meeting to kickoff project and contractor orientation at NRC headquarters.

One two-person, 5-day on-site DCD review trip to Lynchberg, VA.

One three-person, two-day meeting to discuss topical report review.

One three-person, two-day meeting with ACRS

One person 5-day computer analysis using NRC's HP workstation.

Note: At the discretion of the NRC TM, meetings may be conducted via telephone or video conference or changed.

8.0 NRC FURNISHED MATERIAL

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

- a. CD-ROM containing AREVA EPR DCD Chapter 15 sections and the relevant supporting materials from the DCD application.
- b. CD-ROM containing the Final Safety Evaluation Report of the DCD.

9.0 PERIOD OF PERFORMANCE

The period of performance is from January 24, 2008 through September 15, 2011.

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 is based on the volume of materials to be reviewed; Task 1. is for familiarity and not for evaluation.
- The level of effort for Task 4 is based on the assumption that the contractor is familiar with the review procedures of SRP 15.0-15.4.
- All meetings and travels are estimated based on the current project plan which may subject to change.
- It is assumed that the contractor has access to the NRC furnished material.
- 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.