

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		BPA NO.	1. CONTRACT ID CODE	PAGE 1	OF 4
2. AMENDMENT/MODIFICATION NO. M011		3. EFFECTIVE DATE See block 15C.	4. REQUISITION/PURCHASE REQ. NO. RES-12-168B Dated 04/05/12	5. PROJECT NO. (if applicable)	
6. ISSUED BY U.S. Nuclear Regulatory Commission Division of Contracts Attn: Aracelis Perez-Ortiz Mail Stop TWB-01B10M Washington, DC 20555	CODE 3100	7. ADMINISTERED BY (If other than Item 6) U.S. Nuclear Regulatory Commission Division of Contracts Mail Stop: TWB-01B10M Washington, DC 20555		CODE 3100	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) BATTELLE MEMORIAL INSTITUTE 505 KING AVENUE COLUMBUS OH 432012696			9A. AMENDMENT OF SOLICITATION NO. 9B. DATED (SEE ITEM 11) 10A. MODIFICATION OF CONTRACT/ORDER NO. GS23F0011L NRC-DR-04-10-146 10B. DATED (SEE ITEM 13) 09-29-2010		
CODE 007901598		FACILITY CODE		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) Obligates: \$150,000.00
 B&R: 2012-60-11-6-154 JC: V6313 BOC: 252A
 NAICS: 541330 FAIMIS: 122760 PSC: R425 AppNo: 31X0200

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:
- X D. OTHER (Specify type of modification and authority) Bilateral- Mutual Agreement

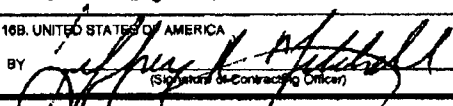
E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return ¹ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
 See Continuous page

Contract Ceiling: \$989,321.00 (changed)
 Total Obligated Amount: \$974,478.00 (changed)
 Period of Performance: 9/30/2010 - 3/31/2013 (changed)

All other terms and conditions under this contract remains 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) Joyce L. Erdman, Contracts Manager		15B. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Jeffrey R. Mitchell Contracting Officer	
15B. CONTRACTING OFFICER Digitally signed by Erdman, Joyce L. DN: cn=Erdman, Joyce L. n autodesk.com, 10.13.46.21.04.00	15C. DATE SIGNED 10 Jul 2012	15B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)	15C. DATE SIGNED 7/6/2012

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

STANDARD FORM 50 (REV. 10-83)
 Prescribed by GSA - FAR (48 CFR) 53.243

SUNSI REVIEW COMPLETE

TEMPLATE - ADM001

JUL 11 2012

ADM002

The purpose of this modification is to:

(1) Section A.4 CONSIDERATION AND OBLIGATION-TASK ORDERS (JUN 1988)

Increase the obligated ceiling amount BY \$164,843.00 from \$824,478.00 to \$989,321.00.

Accordingly, section A.4 (a) is deleted entirely and the following is substituted in-lieu thereof:

“(a) The total estimated amount of this contract (ceiling) for the products/services ordered, delivered, and accepted under this contract is \$989,321.00. The Contracting Officer may unilaterally increase this amount as necessary for orders to be placed with the contractor during the contract period provided such orders are within any maximum ordering limitation prescribed under this contract.”

- (2) Provide incremental funding in the amount of \$150,000.00, thereby increasing the total obligated amount from \$824,478.00 to 974,478.00. According, Section A.4 CONSIDERATION AND OBLIGATION – Task Orders (JUNE 1988), paragraph (b), the first sentence is revised to read as follows: “The amount presently obligated with respect to this contract is \$974,478.00.

- (3) Change the period of performance from September 30, 2010 – September 29, 2012 to September 30, 2010 – March 31, 2013.

- (4) Add two additional task orders under Section B. DESCRIPTION/SPECIFICATION/WORK REQUIREMENTS as follows:

1. Section B.3 SCOPE OF WORK

B.3.5 - Task 5 –xLPR Version 2.0 Code Development

- (A) The contractor shall provide technical support by participating in and providing assistance to the models, inputs, and computational groups. These efforts shall include development of the following portions of the xLPR Version 2.0 computer code:

- Combined pressure and bending crack opening displacement solutions.
- Inclusion of welding residual stress and its associated uncertainty.
- Input data for the primary piping systems of interest.
- Probabilistic methodologies to properly propagate the problem uncertainties.

The contractor shall participate in xLPR team meetings, teleconferences, and information exchange. The contractor shall participate in the configuration management program by developing conceptual documentation, and checking modules for the routines developed in Version 2.0.

B.3.6 - Task 6 – Analyses Using the Experimental Results

- (B) In support of xLPR code development, the contractor shall conduct further analyses using the experimental results generated in the DM weld Fracture Program. These analyses should include, but are not limited to:

ALL OTHER TERMS AND CONDITIONS UNDER THIS CONTRACT REMAIN UNCHANGED

- Predictions of moment-COD, and moment-rotation using a variety of existing J-estimation scheme procedures for the through-wall crack, surface crack and complex crack DM weld experiments. These analyses should investigate the role of the carbon steel and stainless steel base metal strengths and weld metal toughness in the load carrying capacity. The analyses should consider calibrating the blending of the material properties to properly predict the crack driving force as compared to finite element simulations.
- Using the results from above, determine if a simple modification can be made to the existing estimation scheme procedures for making accurate moment-rotation predictions. If not, make recommendations on what modifications are needed.
- Provide a summary report on this effort within 6 month of the contract modification date.

SECTION B. 11 Deliverable Schedule

Task 5 and Task 6 Deliverable Schedule:

- (A) Provide code, conceptual documentation, and corresponding configuration management documentation on the Version 2.0 modules developed within 5 months of contract modification.
- (B) Provide a summary report on the further analyses of DM weld fracture experiments effort within 6 months of the contract modification date.

3. TRAVEL

For proposal preparation purposes, we have estimated \$7,500.00 for travel expenses. Travel to Rockville, MD or NRC-designated location shall be budgeted to provide technical assistance to these tasks.

The following travel requirements are anticipated for this contract:

- Two, two-person trip for one day to NRC headquarters to discuss meetings for each task.

All travel shall be in accordance with the Federal Travel Regulations in effect at the time the travel is undertaken.

The contractor shall be responsible for making all travel arrangements. All travel expenses shall be reasonable and within the Government allowance. The contractor shall submit itemized receipts for travel expenses when invoicing the NRC and shall include supporting documentation for travel such as: lodging statement, copy of airline ticket, copy of rental car receipt, or cab receipt(s).

ALL OTHER TERMS AND CONDITIONS UNDER THIS CONTRACT REMAIN UNCHANGED

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

Fiscal Year 10 Total Obligation Amount:	\$210,000.00
Fiscal Year 11 Total Obligation Amount:	\$494,288.00
Fiscal Year 12 Total Obligation Amount:	<u>\$270,190.00</u>

Cumulative total of NRC Obligations:	\$974,478.00
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ALL OTHER TERMS AND CONDITIONS UNDER THIS CONTRACT REMAIN UNCHANGED
