

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		BPA NO	1. CONTRACT ID CODE	PAGE 1	OF 2
2. AMENDMENT/MODIFICATION NO. M003	3. EFFECTIVE DATE JUL 1 2010	4. REQUISITION/PURCHASE REQ. NO		5. PROJECT NO. (if applicable)	
6. ISSUED BY U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Michael Mills 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) ENGINEERING MECHANICS CORPORATION OF COLUMBUS EMC2 3516 RIVERSIDE DR STE 202 COLUMBUS OH 43221-735			(X) 9A. AMENDMENT OF SOLICITATION NO.		
CODE 014083163			FACILITY CODE		
			9B. DATED (SEE ITEM 11)		
			10A. MODIFICATION OF CONTRACT/ORDER NO GS10F0145T NRC-DR-04-09-165		
			10B. DATED (SEE ITEM 13) 09-21-2009		

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: 060-15-111-123 JC: N6899 ROC: 252A APPN: 31X0200.060 PFS# RES-C10-572 OBLIGATE: \$25,000.00

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
52.243-3 Changes Time and Material Labor Hour
- 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)

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ 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 incorporate a within-scope change to the Statement of Work under this task order and increase the task order funding and ceiling amount.

Please see page 2 for modification details.

Total Obligated Amount: \$340,000.00 (changed)
Total Order Ceiling: \$859,135.98 (changed)
Period of Performance: 9/21/2009 through 9/20/2012 (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) CMT7 HATI DIRECTOR OF OPERATIONS	15B. CONTRACT/OFFEROR 	15C. DATE SIGNED 7/1/10	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Sheila Rumpass Contracting Officer	16B. UNITED STATES OF AMERICA BY	16C. DATE SIGNED 6/30/10
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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

TEMPLATE - ADM001

JUL 8 2010

ADM002

The purpose of this modification is to (1) incorporate a within scope change to the Statement of Work (2), increase the task order ceiling amount and, (3) provide incremental funding in the amount of \$25,000.00, thereby increasing the obligated amount of the task order from \$315,000.00 to \$340,000.00. Accordingly, the task order is hereby modified as follows:

1. "The attached modification to the Statement of Work is hereby incorporated as part of this task order.
2. Section A.2, Consideration and Obligation—LABOR HOURS (a), change to read" The total estimated amount of this contract (ceiling) for the products/services ordered, delivered, and accepted under this contract is \$859,135.98.
3. (b) The first sentence is deleted and the following sentence is substituted in lieu thereof:

The amount presently obligated with respect to this contract is \$340,000.00."

All other terms and conditions remain unchanged.

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

Total FY09 Obligation Amount:	\$ 40,000.00
Total FY10 Obligation Amount:	\$300,000.00
Cumulative Total of NRC Obligations	\$340,000.00

STATEMENT OF WORK MODIFICATION
MOD 3 to NRC-DR-04-09-165

TITLE: Piping Integrity Analyses and Support

SCOPE OF WORK

The scope of work under this contract shall cover finite element modeling of residual stress profiles of dissimilar metal welds (nickel-based alloys and stainless steel) based on physical mock-ups of actual reactor system components where the information for the mock-ups will be provided, development of a complex crack growth model that more closely models the growth rate and shape of cracks through complex stress fields such as those resulting from residual stresses in welds and weld repairs, hydrostatic testing of pipe specimens made from high density polyethylene piping materials that meet the requirements of ASME Code Case N-755, technical assistance on issues related to piping integrity that may include numerical, analytical, experimental, or meeting support as requested by the project manager, **and revision of NUREG-1903.**

Task 5 – Revise NUREG-1903

This revision of NUREG-1903, "Seismic Considerations for the Transition Break Size," serves as part of the technical basis for Draft Regulatory Guide (DG)-1216, "Plant-Specific Applicability of Transition Break Size Specified in 10 CFR 50.46a". Currently, the DG contains requirements and acceptance criteria based on the existing version of NUREG-1903 and also additional work that has been conducted subsequent to the release on NUREG-1903. This subsequent work is currently contained within Appendices to the DG. Additionally, quality assurance review has identified several errors and inconsistencies in NUREG-1903. This revision will ensure that NUREG-1903 and the DG contain identical information and that some of the information currently in the DG can be placed in NUREG-1903.

The specific revisions to NUREG-1903 and DG-1216 will include the following:

- Correct minor errors in NUREG-1903 calculations so that all results and approach are correct and consistent with DG-1216.
- Include a new section on results using aged stainless steel weld toughness results and modify applicable tabulated results to include this information.
- Include a new section with detailed polynomial fits to the new Z-factor equations so that a user's analysis is consistent with the results from the latest NRCPIPE-Z code.
- Update the NUREG-1903 Appendix A and B tables using these new Z-factor equations and include Appendix B with the 10^{-6} /yr seismic results in DG-1216.
- Finalize the sample problem and put in Appendix C in the NUREG-1903 and Appendix B in DG-1216.
- Update a spreadsheet for the sample problem that will be user friendly, and protect calculation cells. This could be used for NRC staff reviews, or possibly released to industry. Very careful QA is needed on this spreadsheet.

The schedule is to have these revisions initially completed by the end of February 2010. Finalization of all modifications, support for ACRS review, and support for final publication of NUREG-1903 and DG-1216 will be completed by the end of September 2010.

DELIVERABLES/SCHEDULES AND/OR MILESTONES

Add the following:

In addition to the MLSRs, additional deliverables are listed below:

Topic covered at a date to be determined by the program manager.

Task 5 Provide a final version of Regulatory Guide 1903, Revision 1.