

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE

RES-98-039

PAGE OF PAGES

1

2. AMENDMENT/MODIFICATION NO.

M007

3. EFFECTIVE DATE

9/26/01

4. REQUISITION/PURCHASE REQ. NO.

RES-C01-536

5. PROJECT NO. (If applicable)

6. ISSUED BY

CODE

U.S. Nuclear Regulatory Commission
Division of Contracts and Property Mgt.
Attn: T-7-I-2
Contract Management Branch
Washington DC 20555

7. ADMINISTERED BY (If other than Item 6)

CODE

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)

Battelle Memorial Institute
Columbus Operations
Attn: Mr. Ules Jackson
550 King Avenue
Columbus OH 43201-2693

(X) 9A. AMENDMENT OF SOLICITATION NO.

9B. DATED (SEE ITEM 11)

10A. MODIFICATION OF CONTRACT/ORDER NO.

NRC-04-98-039

10B. DATED (SEE ITEM 13)

X 11-29-1997

CODE

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 of 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 No.: 16015110105; Job Code: W6854; BOC: 252A;
Appn. No.: 31X0200.160; Amount Obligated: \$99,870.00

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 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:

52.243-2 Changes - Cost Reimbursement (Aug 1987)
Alternate I (Apr 1984)

X

D. OTHER (Specify type of modification and authority)

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.)

Please see the attached 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 CONTRACTING OFFICER
ULES J. JACKSON
CONTRACTING OFFICER

16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)

Mary H. Mace
Contracting Officer

15B. CONTRACTOR/OFFEROR

(Signature of person authorized to sign)

15C. DATE SIGNED

9/26/01

16B. UNITED STATES OF AMERICA

BY:

(Signature of Contracting Officer)

16C. DATE SIGNED

09-25-2001

STANDARD FORM 30 (REV. 10-83)

TEMPLATE-ADM 001

ADM02

This modification is issued to: (1) add subtasks 6a and 6b in accordance with the attached pages; and (2) increase the contract ceiling and obligated amounts by \$99,870 from \$492,732 to \$592,602. The contract is therefore modified as follows:

1. Paragraphs (a), (c) and (d) of Section B.4, CONSIDERATION AND OBLIGATION—COST PLUS FIXED FEE (JUN 1988) ALTERNATE I (JUN 1991), are hereby deleted in their entirety and replaced with the following:
 - “(a) The total estimated cost to the Government for full performance of this contract is \$592,602, of which the sum of \$549,824 represents the estimated reimbursable costs, and of which \$42,778 represents the fixed fee.
 - (c) The amount currently obligated by the Government with respect to this contract is \$592,602, of which the sum of \$549,824 represents the estimated reimbursable costs, and of which \$42,778 represents the fixed fee.
 - (d) It is estimated that the amount currently allotted will cover performance through 11/30/01.”

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

FY1998 Obligation Amount:	\$100,000
FY1999 Obligation Amount:	\$100,000
FY2000 Obligation Amount:	\$ 98,186
FY2001 Obligation Amount:	\$294,416
 Cumulative NRC Total Obligations	 \$592,602

This modification obligates FY01 funds in the amount of \$99,870 .

All other terms and conditions remain the same.

MODIFICATION TO THE STATEMENT OF WORK RES-98-039

TITLE: TECHNICAL SUPPORT FOR REGULATORY GUIDE FOR
LEAK-BEFORE-BREAK EVALUATION PROCEDURES

NRC PROJECT MANAGER: Chuck Hsu
(301) 415-6356

NRC TECHNICAL MONITOR: Carolyn J. Fairbanks
FOR TASK 6 (301) 415-6719

ORDER PERIOD OF PERFORMANCE: 09/15/01 - 11/30/01

LEVEL OF EFFORT: 0.8 person years

BACKGROUND

Due to changing NRC needs and priorities the scope of the CY 2001 SOW is being modified to additionally perform piping evaluation for nuclear power plant systems to include analysis and technical support for alternatives for risk-informing 10 CFR 50.46 and large-break loss of coolant accident (LBLOCA) requirements.

OBJECTIVE

The objective of this project is to provide technical support to the NRC staff as they develop a regulatory guide on leak-before-break evaluation procedures based on previous research, industry applications and prior rulemaking.

TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

The technical work requires a thorough knowledge of the procedures used for performing LBB analysis for commercial nuclear power reactors, the research performed through NRC-sponsored research programs addressing pipe cracking, and the previous regulatory guidance provided to the licensees regarding LBB analysis.

SCOPE OF WORK

The following subtasks 6a and 6b shall be added to the SOW:

Task 6: Technical Support for Risk-Informing 10 CFR 50.46

Develop and initiate an analytic approach to support risk-informing 10 CFR 50.46 and LBLOCA requirements. The approach shall include: assessment of existing information; identification of areas of insufficient information; review of available codes (including identification of strengths and weaknesses); updating/developing computer codes; uncertainty analysis; sample plant evaluations; and QA of codes and results. Provide references and supporting documentation.

Concurrent to plan development, assist in supporting a series of up to three one-day public meetings to communicate the plan, technical developments and issues, as well as providing technical expertise and support for internal meetings.

Subtask 6a: Revision of SQUIRT Code

Revise the existing SQUIRT software code, which presently is only for two-phase flow of subcooled water, as follows: (a) extend SQUIRT to all steam and all liquid flow, (b) assess crack opening displacement (COD) accuracy by benchmarking against existing finite element COD analyses, (c) include COD crack morphology in the model, and (d) update the program to a windows formatted environment.

Subtask 6b: Review of Industry LBLOCA Analyses

Review Westinghouse SRRA software code and characterize it relative to the PC-PRAISE and NUREG/CR-6004 probabilistic codes. Summarize deficiencies and necessary improvements to obtain appropriate probabilistic solutions with realistic deterministic model considerations.

DELIVERABLES/SCHEDULE AND/OR MILESTONES

<u>Subtask No.</u>	<u>Description/Deliverable</u>	<u>Date</u>
6a	Submit revised SQUIRT Code with technical letter report, detailing code revisions to NRC PM.	11/30/01
	Submit technical letter report on analysis of COD accuracy.	11/30/01
6b	Submit technical letter report summarizing review of industry LBLOCA analyses.	11/30/01

MEETINGS AND TRAVEL

None.

NRC FURNISHED MATERIAL

No NRC-furnished material is required.

REPORTING REQUIREMENTS

A monthly letter status reports (MLSR) shall be submitted by the 20th of the month to the RES PM, Chuck Hsu, with copies provided to the following:

- Michael E. Mayfield, Director, Division of Engineering Technology, M/S T10-D20
- Nilesh C. Chokshi, Chief, Materials Engineering Branch, M/S T10-E10
- Edwin M. Hackett, Assistant Chief, Materials Engineering Branch, M/S T10-E10
- Carolyn J. Fairbanks, Materials Engineer, Materials Engineering Branch, M/S T10-E10
- Division of Contracts and Property Management, Office of Administration, M/S T7-I2

The MLSR will identify the title of the project, the job code, the Principal Investigator, the period of performance, the reporting period, summarize each month's technical progress, list monthly spending, total spending to date, and the remaining.