| AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT | 1. CONTRACT ID CODE | PAGE 1 OF PAGES 3 |
|---|---|---|

| 2. AMENDMENT/MODIFICATION NO. | 3. EFFECTIVE DATE *(M/D/Y)* | 4. REQUISITION/PURCHASE REQ. NO. | 5. PROJECT NO. *(If applicable)* |
|---|---|---|---|
| M154 | See Block 16C | N/A | |

6. ISSUED BY CODE

**U.S. Department of Energy**
**Office of River Protection**
**P. O. Box 450, MS H6-60**
**Richland, WA 99352**

7. ADMINISTERED BY *(If other than Item 6)* CODE

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

**Bechtel National, Inc.**
**2435 Stevens Center Place**
**Richland, WA 99354**

CODE FACILITY CODE

☐ 9A. AMENDMENT OF SOLICITATION NO.

9B. DATED *(SEE ITEM 11)*

☒ 10A. MODIFICATION OF CONTRACT/ ORDER NO.

**DE-AC27-01RV14136**

10B. DATED *(SEE ITEM 13)*

**December 11, 2000**

## 11. THIS ITEM 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 ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE DATE AND HOUR 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 amendment and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

Various (see page 2)

## 13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS SET FORTH IN ITEM 14.

| CHECK ONE | |
|---|---|
| ☒ | 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.<br>Clause I.82 FAR 52.243-2 CHANGES – COST-REIMBURSEMENT (AUG 1987) – ALTERNATE III (APR 1984)<br>Clause I.83 FAR 52.243-6 CHANGE ORDER ACCOUNTING (APR 1984) |
| ☐ | B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation date, etc.)* SET FORTH IN ITEM 14, PURSUANT TO AUTHORITY OF FAR 43.103(b). |
| ☐ | C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO THE AUTHORITY OF: |
| ☐ | D. OTHER *(Specify type of modification and authority)* |

**E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return 0 copies to the issuing office.**

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

See following page(s)

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)* | | 16A. NAME AND TITLE OF CONTRACTING OFFICER *(Type or print)* | |
|---|---|---|---|
| | | **Thomas M. Williams**<br>**Contracting Officer** | |
| 15B. CONTRACTOR/OFFEROR<br>_____<br>*(Signature of person authorized to sign)* | 15C. DATE SIGNED | 16B. UNITED STATES OF AMERICA<br>BY ORIGINAL SIGNED BY<br>*(Signature of Contracting Officer)* | 16C. DATE SIGNED<br>7-27-09 |

**Modification Purpose:**

The purpose of this modification is to direct BNI to proceed with the Pretreatment Engineering Platform (PEP) dry layup and revise Section C.6, Standard 2, Subparagraph (a)(3)(iii). BNI shall submit a cost proposal as part of the PEP Request for Equitable Adjustment (REA) no later than 24 August 2009. The final cost will be negotiated as part of the REA.

Related correspondence is as follows:

1. 09-WTP-069, Letter from J.R. Eschenberg, ORP to L.J. Simmons, BNI, "Guidance for Waste Treatment and Immobilization Plant (WTP) Pretreatment Engineering Platform (PEP) Layup," dated April 8, 2009.
2. CCN: 192063, Letter from N. F. Grover, BNI, to T.M. Williams, ORP, "Pretreatment Engineering Platform (PEP) Layup Guidance," dated May 5, 2009.
3. CCN: 197814, Letter from N.F. Grover, BNI to T.M. Williams, ORP, "Contract Clause I.84, FAR 52.243-7, Notification of Changes for Pretreatment Engineering Platform Dry Layup Additional Scope," dated July 9, 2009.

**Modification Description:**

1. BNI is directed to proceed with the PEP dry layup as specified in reference 1. The transfer of responsibility for the PEP from the Waste Treatment and Immobilization Plant (WTP) Project to WRPS shall occur by 1 November, 2009, as indicated in letter 09-WTP-106. The cost associated with this direction is not to exceed $600,000.00.

2. Section C – Statement of Work

Section C.6, Standard 2, Subparagraph (a)(3)(iii) is changed as follows:

**From:** Validation of Sludge-Washing Processes: The Contractor shall conduct sludge treatment testing using radioactive samples provided by DOE, and nonradioactive testing to develop and demonstrate process flowsheets and equipment systems to perform sludge washing, caustic leaching and oxidative leaching to minimize the volume of HLW glass produced.

Development testing of the sludge treatment process steps shall include evaluation of process recycles and ultrafilter system cleaning.

The testing results shall be provided to DOE for review and comment. Proposed process steps shall be submitted to DOE for review and approval (Table C.5.1-1, Deliverable 2.10).

**To:** Validation of Sludge-Washing Processes: The Contractor shall conduct sludge treatment testing using radioactive samples provided by DOE, and nonradioactive testing to develop and demonstrate process flowsheets and equipment systems to perform sludge washing, caustic leaching and oxidative leaching to minimize the volume of HLW glass produced.

Development testing of the sludge treatment process steps shall include evaluation of process recycles and ultrafilter system cleaning.

The testing results shall be provided to DOE for review and comment. Proposed process steps shall be submitted to DOE for review and approval (Table C.5.1-1, Deliverable 2.10).

Upon completion of sludge treatment scale-up and confirmatory testing with the Pretreatment Engineering Platform, the test system shall be flushed and dried to facilitate storage and preservation for a period in excess of one year. This condition shall be dry for piping and components that were used in contact with process simulant.

**All other terms and conditions remain unchanged.**

*(End of Modification)*

(iii) Validation of Sludge-Washing Processes: The Contractor shall conduct sludge treatment testing using radioactive samples provided by DOE, and nonradioactive testing to develop and demonstrate process flowsheets and equipment systems to perform sludge washing, caustic leaching and oxidative leaching to minimize the volume of HLW glass produced.

Development testing of the sludge treatment process steps shall include evaluation of process recycles and ultrafilter system cleaning.

The testing results shall be provided to DOE for review and comment. Proposed process steps shall be submitted to DOE for review and approval (Table C.5.1-1, Deliverable 2.10).

Upon completion of sludge treatment scale-up and confirmatory testing with the Pretreatment Engineering Platform, the test system shall be flushed and dried to facilitate storage and preservation for a period in excess of one year. This condition shall be dry for piping and components that were used in contact with process simulant.

(iv) Immobilized Low-Activity Waste Process Testing: The Contractor shall conduct testing to determine the appropriate operating conditions for the LAW melter. Information to be obtained shall include:

(A) Determination of maximum waste loading (including sulfate incorporation) and melter throughput rates for waste envelopes A, B, and C. The Contractor shall continue to investigate glass formulations optimized to incorporate sulfate. These glasses prepared from simulants shall be subjected to the Product Consistency Test and Vapor Hydration Test in accordance with ILAW Specification 2.2.2.17, *Waste Form Testing.* In addition, the process ability of the glass formulation shall be assessed.

(B) Determination of offgas compositions for regulatory purposes and effects on the mass material balance due to recycle streams and secondary waste streams.

(C) Confirmation of the design concept for selected offgas equipment.

(D) Determination of operating conditions or melter feed additive requirements to minimize foaming and process-upset conditions.

(E) Monitor testing to assist in estimating maximum offgas flow requirements in an upset condition.

(F) Determination that glasses produced from a continuously-fed melter meets product specifications and requirements.

(G) Ability to remotely fill and seal full scale packages to Contract requirements (Specification 2).