

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT	1. CONTRACT ID CODE	PAGE 1	OF	PAGES 3
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2. AMENDMENT/MODIFICATION NO. M114	3. EFFECTIVE DATE (M/D/Y) See Block 16C	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
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6. ISSUED BY 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)
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8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP code) Bechtel National, Inc. 2435 Stevens Center Place Richland, WA 99352	<input type="checkbox"/>	9A. AMENDMENT OF SOLICITATION NO.
	<input type="checkbox"/>	9B. DATED (SEE ITEM 11)
	<input checked="" type="checkbox"/>	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)

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.
<input type="checkbox"/>	
<input type="checkbox"/>	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).
<input checked="" type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO THE AUTHORITY OF: FAR 52.243-2, Changes—Cost-Reimbursement
<input type="checkbox"/>	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.)
See Continuation 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) W.S. Elkins BNI Proj Director	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Thomas M. Williams Contracting Officer
15B. CONTRACTOR/OFFEROR ORIGINAL SIGNED BY _____ (Signature of person authorized to sign)	15C. DATE SIGNED 2/12/08
16B. UNITED STATES OF AMERICA ORIGINAL SIGNED BY _____ (Signature of Contracting Officer)	16C. DATE SIGNED 2/13/08

Purpose of Modification:

The purpose of this contract modification is to update Section C, Statement of Work, and Section J/Attachment E, List of Applicable Directives, as shown in the Description of Modification listed below.

Description of Modification:

- 1) C.5 Table C.5-1.1; Deliverables 6.2 and 6.4. Change the Contract Due Date listed under 6.2 from 2008 to 2007. Change the Contract Due Date listed under 6.4 from 2007 to 2008
- 2) Standard 7: Environment, Safety, Quality, and Health; paragraph (e)(1)(ii) and (iii). Replace with the following entries:
 - (ii) The Contractor's non-radiological worker safety and health program shall conform to the DOE oversight program described in RL/REG-2000-04, Industrial Health and Safety Oversight Plan until the plan is superseded by 10 CFR 851, Worker Safety and Health Program, at the effective implementation date of May 15, 2007.
 - (iii) DOE is responsible for the conduct of worker safety and health inspection, and granting variances.

The current entries under sections (iii), (iv), and (v) are deleted.

- 3) Specification 1: Immobilized High-Level Waste Product; 1.2 Requirements. The changes are as follows:
 - (a) Reference 1.2.1.3. Change from Revision 4 to Revision 5; and from January 2002 to May 31, 2007.
 - (b) Reference 1.2.1.4. Replace "Deleted (M047)" with:

WAPS. DOE/EM-0093. Rev. 2. December 1996. *Waste Acceptance Product Specifications for Vitrified High Level Waste Forms (WAPS)*. U.S. Department of Energy, Office of Environmental Management, Washington, D.C.
 - (c) Reference 1.2.1.5. Change from Revision 13 to Revision 18; and from April 22, 2003 to 6/27/06.
 - (d) References 1.2.1.10 for DOE/RW-0511 (IICD) and 1.2.1.11 for MOA are added as shown on Attachment 3.
 - (e) Sub-paragraph 1.2.2.1.1- Product and Disposal Requirements is changed as shown on Attachment 3.
- 4) The following statement is added to C.6, Standard 1, (e)(2) and (3) at the end of each sub-paragraph:

The Contractor shall also adhere to the requirements of the Contractor Requirements Document (CRD) of DOE Manual (M) 231.1-2 and the ORP Supplemental (S) CRD to DOE M 231.1-2.

5) Revise Section J, Attachment E, List of Applicable Directives, as follows:

(a) DOE/EM-0093 (WAPS); ADD "Rev.2" under "12/96" in the DATE column.

(b) DOE/RW-0351P: DELETE the "P" designation and DELETE "04/99" in the DATE column, replacing with "May 31, 2007/Rev. 5".

(c) ADD a new entry:

DOE/RW-0511	Volume I Rev. 3	Integrated Interface Control Document (IICD), High-Level Radioactive Waste and U.S. Department of Energy and Naval Spent Nuclear Fuel to the Civilian Radioactive Waste Management System (M114)
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6) The changes made to Section C are included as attachments 1-4. The changes made to Section J/Attachment E are included as attachment 5.

7) All other terms and conditions remain the same.

6.2	IHLW Product Compliance Plan	Standard 6 [Std. 2 (a) (3)(vii)(B), Std. 6 (b), (c)(2) & (4), Std. 5 (f)(1)(ii), C.7(d)(2)(i), Spec. 1 (1.4)]	K	D	HCA	2004, 2005, 2007, and as required thereafter (M114)
6.3	ILAW Product Compliance Plan	Standard 6 [Std. 2 (a)(3)(v)(B), Std. 5 (f)(1)(ii), Std. 6(b) & (c)(1) & (4), Spec. 2.2.2.11, Spec. 2.4, Spec. 13.2]	K	D	HCA	2004, 2006, 2008, and as required thereafter
6.4	IHLW Product Qualification Report	Standard 6 [Std. 6 (c)(5) & (6),	C/K	D	HCA	Plan in 2004, report in 2008 and as required thereafter (M114)
6.5	Production Documentation for IHLW Product	Standard 6 [Std 6 (c)(9)]	K	D	HCA	at time of production
6.6	ILAW Product Qualification Report	Standard 6 [Std. 6(c)(5) Spec. 2.2.2.6 & 7]	C/K	D	HCA	Plan in 2004, report in 2007 and as required thereafter
6.7	Production Documentation for ILAW Product	Standard 6 [Std 6(c)(9) Spec. 2.2.2.7]	C/K	D	HCA	at time of production
6.8	Compliance Report for Estimated Quantities of IHLW and ILAW Products per envelope D batches	Standard 6 [Spec 12.4]	K	D	HCA	2004, 2008 and as required thereafter
6.9	Reserved					
6.10	Secondary Wastes Production Documentation	Standard 6 [Std. 6(c)(9)]	C/K	D	HCA	at time of production
7.0	Non-radiological Worker Safety and Health	Standard 7 [Std 7(e)(1)]	R	D	HCA	per Standard 7.a(1)
7.1	Radiological, Nuclear and Process Safety	Standard 7 [Std 7(e)(2)]	R	D	HCA	per Table S7-1
7.2	Quality Assurance	Standard 7 [Std 7(e)(3)]	A/R	D	HCA	4/15/01
7.3	Environmental Plan	Standard 7 [Std 7(e)(4)]	K	D	HCA	3/15/2001 and as required thereafter

management program shall reflect proven principles of safety management and work planning that promotes accident prevention, employee involvement, and sound hazard analysis and control.

- (ii) The Contractor's non-radiological worker safety and health program shall conform to the DOE oversight program described in RL/REG-2000-04, *Industrial Health and Safety Oversight Plan*. This plan has been superseded by 10 CFR 851, Worker Safety and Health Program, at the effective implementation date of May 15, 2007. **(M114)**
 - (iii) DOE is responsible for the conduct of worker safety and health inspection, and granting variances. **(M114)**
- (2) Radiological, Nuclear, and Process Safety (Table C.5-1.1, Deliverable 7.1):
- (i) The Contractor shall develop and implement an integrated standards-based safety management program to ensure that radiological, nuclear, and process safety requirements are defined, implemented, and maintained. Radiological, nuclear, and process safety requirements shall be adapted to the specific hazards associated with the Contractor's WTP activities.
 - (ii) The Contractor's integrated standards-based safety management program shall be developed to comply with the specific nuclear safety regulations defined in the effective rules of the 10 CFR 800 series of nuclear safety requirements and with the regulatory program established in the following four documents:
 - (A) DOE/RL-96-0003, *DOE Process for Radiological, Nuclear, and Process Safety Regulation of the RPP Waste Treatment Plant Contractor*;
 - (B) DOE/RL-96-0004, *Process for Establishing a Set of Radiological, Nuclear, and Process Safety Standards and Requirements for the RPP Waste Treatment Plant Contractor*
 - (C) DOE/RL-96-0005, *Concept of the DOE Process for Radiological, Nuclear, and Process Safety Regulation of the RPP Waste Treatment Plant Contractor*; and
 - (D) DOE/RL-96-0006, *Top-Level Radiological, Nuclear, and Process Safety Standards and Principles for the RPP Waste Treatment Plant Contractor*.

Changes to the four documents will be analyzed under RL/REG-98-14, *Regulatory Unit Position on New Safety Information and Back-fits*, and, if implemented, dispositioned in accordance with the Section I Clause entitled, *Changes*.

The integrated standards-based safety management program shall integrate the appropriate planning and practices elements specified in 29 CFR 1910.119, *Occupational Safety and Health Act of 1970, Process Safety Management of Highly Hazardous Chemicals*, to the extent that highly hazardous chemicals are present in quantities covered by 29 CFR 1910.119.

Specification 1: Immobilized High-Level Waste Product

- 1.1 Scope: This Specification defines requirements for the IHLW product, a waste product. The IHLW product is a vitrified borosilicate glass waste form for ultimate disposal in the proposed geologic repository.
- 1.2 Requirements:
- 1.2.1 References:
- 1.2.1.1 DOE. May 1998. *Civilian Radioactive Waste Management Systems Requirements Document*, Rev. 4. U.S. Department of Energy, Office of Civilian Radioactive Waste Management, Washington, D.C.
 - 1.2.1.2 DOE Manual 435.1-1. July 9, 1999. *Radioactive Waste Management Manual*. U.S. Department of Energy, Washington, D.C.
 - 1.2.1.3 WASRD. DOE/RW-0351. Rev. 5. May 31, 2007. Waste Acceptance System Requirements Document (WASRD). U.S. Department of Energy, Office of Civilian Radioactive Waste Management, Washington, D.C. **(M047) (M114)**
 - 1.2.1.4 WAPS. DOE/EM-0093. Rev. 2. December 1996. *Waste Acceptance Product Specifications for Vitrified High Level Waste Forms (WAPS)*. U.S. Department of Energy, Office of Environmental Management, Washington, D.C. **(M047) (M114)**
 - 1.2.1.5 QARD. DOE/RW-0333P. Rev. 18. June 27, 2006. Quality Assurance Requirements and Description for the Civilian Radioactive Waste Management Program. (QARD). U.S. Department of Energy, Office of Civilian Radioactive Waste Management, Washington, D.C. **(M099) (M114)**
 - 1.2.1.6 40CFR268. *Land Disposal Restrictions*. Code of Federal Regulations. U.S. Environmental Protection Agency, Washington, DC.
 - 1.2.1.7 WAC 173-303. *Dangerous Waste Regulations*. Washington Administrative Code, as amended.
 - 1.2.1.8 HWMA. *Hazardous Waste Management Act*.
 - 1.2.1.9 RCRA. *Resource Conservation and Recovery Act*.
 - 1.2.1.10 IICD. DOE/RW-0511 Integrated Interface Control Document, Volume 1, Rev 3, High-Level Radioactive Waste and U.S. Department of Energy and Naval Spent Nuclear Fuel to the Civilian Radioactive Waste Management System, U.S. Department of Energy, Washington DC. **(M114)**
 - 1.2.1.11 MOA. Rev. 2. February 2007 Memorandum of Agreement for Acceptance of Spent Nuclear Fuel and High-Level Nuclear Waste (MOA). between Environmental Management (EM) U.S. Department of Energy (DOE), Washington, DC. and Office of Civilian Radioactive Waste Management (DOE-RW or OCRWM), U.S. DOE, Washington, D.C. **(M114)**

1.2.2 Product Requirements:

1.2.2.1 Immobilized High-Level Waste:

1.2.2.1.1 Product and Disposal Requirements: The IHLW product shall meet the requirements established in the Waste Acceptance Product Specifications (WAPS) , and the supporting documents Waste Acceptance Systems Requirements Document (WASRD) , and Integrated Interface Control Document (IICD). The WAPS, WASRD, and IICD identify the requirements of DOE-RW for acceptance of IHLW for disposal at a federal geologic repository. A Memorandum of Agreement for Acceptance of Department of Energy Spent Nuclear Fuel and High-Level Nuclear Waste, (MOA) sets forth, specifies, and lists the programmatic protocols, technical data, specifications and requirements for producing an acceptable IHLW waste form for disposal at a federal geologic repository. The Quality Assurance Requirements and Description for the Civilian Radioactive Waste Management Program (QARD) established the minimum QA requirements for compliance with the US Department of Energy, Office of Civilian Radioactive Waste Management (DOE-RW, or OCRWM). These requirements must be met before the IHLW waste glass canisters will be accepted by the DOE Office of River Protection (ORP) for onsite interim storage and later formal acceptance by DOE-RW for final disposal. **(M047) (M114)**

1.2.2.1.2 Canister System: The reference canister system used to contain the IHLW product shall be a 4.5-meter long by 0.61-meter diameter canister system with a neck and flange design similar to that used at the West Valley Demonstration Project.

1.2.2.1.3

1. "Fill Height: Fill height shall be equivalent to at least 87% of the volume of the empty canister. The average fill height over all the canisters shall be at least 95% of the volume of the empty canister."
2. "Maximum Heat Generation Rate: The maximum heat generation rate for any single canister shall not exceed 1500 watts per canister when delivered to DOE."
3. "Surface Contamination Limitations: Removable contamination on the external surfaces of the package shall not exceed 3,670 Bq/m² for alpha and 36,700 Bq/m² for beta-gamma. **(M047)**

1.2.2.1.4 Condition at Delivery: At time of delivery to DOE, the HLW form shall stand upright without support on a flat horizontal surface and properly fit into a right-circular, cylindrical cavity (64-cm diameter and 4.51-m length).

1.2.2.1.5 Dangerous and Hazardous Waste Requirements: The WTP shall be designed, constructed, and operated so that the IHLW product does not designate as characteristic or criteria for dangerous waste or extremely hazardous waste pursuant to WAC 173-303-070, and is not restricted from land disposal pursuant to WAC 173-303-140 and 40CFR268, *Land Disposal Restrictions*.

Electronic Data:

- (xviii) Earned value data provided via compact disc for the following: (a) Engineering Performance and Progress Report data files; (b) Quantity Unit Rate Report data files; (c) COBRA data files and reports; (d) baseline P3 schedule; (e) Current P3 schedules; (f) and Cost and Commitment Log; (g) Earned Purchase Order Value (EPOV) data; (h) Bechtel Estimating Tool Kit (BETK); (i) Commodity Curves; and (j) Trends and Trend reports. Earned value data is to be provided on the last Tuesday of the month following the data cutoff to the Contracting Officer and the Contracting Officer's Representative:
- (2) Occurrence Reporting: The Contractor shall adhere to DOE O 231.1A, *Environment, Safety, and Health Reporting*, with Hanford Site-specific requirements and methods for notification (Table C.5-1.1, Deliverable 1.8). The Contractor shall also adhere to the requirements of the Contractor Requirements Document (CRD) of DOE Manual (M) 231.1-2 and the ORP Supplemental (S) CRD to DOE M 231.1-2. **(M114)**
- (3) Environment, Safety, and Health Reporting: In addition to *Occupational Safety and Health Act of 1970*, and the *Price Anderson Amendments Act of 1988* (10 CFR 820) reporting requirements, the Contractor shall report all events and information specified in DOE O 231.1A. The process and form of reporting will meet the requirements of this Order and DOE M 231.1-1A, *Environment, Safety and Health Reporting Manual*. The Contractor process will specify this requirement in contracts down to the lowest-tier subcontractor. The Contractor process will accumulate and provide a single report responding to required information for both the Contractor and all subcontractors (Table C.5-1.1, Deliverable 1.9). The Contractor shall also adhere to the requirements of the Contractor Requirements Document (CRD) of DOE Manual (M) 231.1-2 and the ORP Supplemental (S) CRD to DOE M 231.1-2. **(M114)**
- (4) Accident Investigation: The Contractor and, as necessary, all subcontractors shall support Type A and Type B accident investigations for accidents that may occur during Contractor activities. The Contractor and all its subcontractors shall establish and maintain readiness to respond to accidents, mitigate potential consequences, assist in collecting and processing evidence, and assist with the accident investigation. This shall include preserving the accident scene and providing support to the accident investigation board.

DOCUMENT NUMBER	DATE	TITLE
DOE M 435.1-1	07/09/99	Radioactive Waste Management Manual
RL/REG-2000-04	07/03	Industrial Health and Safety Oversight Plan
DOE N 471.3	04/13/01	Reporting Incidents of Security Concern
DOE M 205.1-2	06/26/05	Clearing, Sanitization, and Destruction of Information System Storage Media, Memory Devices, and Related Hardware Manual (M067)
CRD O 210.2	06/12/06	DOE Corporate Operating Experience Program (M077)
DOE O 221.1	03/22/01	Reporting Fraud, Waste, and Abuse to the Office of Inspector General ¹
DOE O 221.2	03/22/01	Cooperation with the Office of Inspector General ¹
DOE O 226.1A	07/31/07	Implementation of Department of Energy Oversight Policy (M108)
DOE O 241.1	08/17/98	Scientific and Technical Information Management
DOE O 350.1, Chg 1	05/08/98	Contractor Human Resource Management Programs
DOE O 414.1C	06/17/05	Quality Assurance
DOE O 425.1C	03/13/03	Start and Restart of Nuclear Facilities
DOE O 413.3A	07/28/06	Program and Project Management for the Acquisition of Capital Assets
DOE M 413.3-1	03/28/03	Project Management for the Acquisition of Capital Assets
DOE O 442.1A & Supplemented Rev. 1	02/01/99	Department of Energy Employee Concerns Program
DOE O 475.1	12/10/04	Counterintelligence Program
SCSP	05/09/06	Richland Regional Office Site Counterintelligence Support Plan Hanford Site – Bechtel National Inc.
DOE O 551.1A Chg 1 ²	11/08/02	Official Foreign Travel
DOE/EM-0093	12/96	Waste Acceptance Product Specifications for Vitrified High Level Waste Forms (WAPS)- Revision 2
DOE/ORP-2000-06	09/27/00	River Protection Project, Project Management Plan
DOE/RL-88-21	10/01/96 12/21/99	Double-Shell Tank Unit Permit Application
DOE/RL-94-02	04/95	Hanford Emergency Response Plan
DOE/RL-96-0002	02/96	Top-Level Safeguards and Security Requirements for TWRS Privatization
DOE/RW-0333P	6/27/06	Quality Assurance Requirements and Description for the Civilian Radioactive Waste Management Program (QARD) – Revision 18
DOE/RW-0351	5/31/2007	Waste Acceptance System Requirements Document (WASRD)- Revision 5
HFID 232-1B	09/08/99	Notification and Reporting of Operations Information
PL-W375-MG00004	02/22/00	Safeguards and Security Program
DOE M 442.1-1	11/16/06	Differing Professional Opinions Manual for Technical Issues Involving Environment, Safety and Health. Attachment 1- Contractor Requirements Document. (M095)
DOE M 450.4-1	11/01/06	Integrated Safety Management System Manual. Attachment 1- Contractor Requirements Document. (M097)
DOE/RW-0511, Volume I, Rev. 3	01/2007	Integrated Interface Control Document (IICD), High-Level Radioactive Waste and U.S. Department of Energy and Naval Spent Nuclear Fuel to the Civilian Radioactive Waste Management System (M114)