

2. AMENDMENT/MODIFICATION NO. 450	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 99354	<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
	<input checked="" type="checkbox"/>	10B. DATED (SEE ITEM 13) December 11, 2000

CODE 396A5 FACILITY CODE 153392068

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)
 See Schedule Net Increase

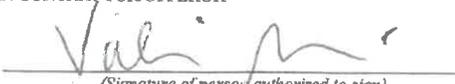
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS SET FORTH IN ITEM 14.

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 type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO THE AUTHORITY OF:
<input checked="" type="checkbox"/>	D. OTHER (Specify type of modification and authority) FAR 43.103 Types of Contract Modifications (a) Bilateral - Mutual Agreement of the Parties

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 Continuation Page(s)
 Period of Performance: 12/11/2000 to 12/31/2022

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) Valerie McCain Project Director	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Katie A. Mair Robert Butrier Contracting Officer
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED 4 APR 19
16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)	16C. DATE SIGNED 4-8-19

Purpose of Modification:

The purpose of this modification is to make the following changes at no cost or schedule impacts:

1. Revise Contract Section C, *Statement of Work*, as follows:
 - a. Standard 9, Nuclear Safety, is revised to clarify contract requirements associated with the implementation of document 24590-LAW-DSA-NS-18-0001, Documented Safety Analysis for the Low-Activity Waste Facility, Rev. 0a, and 24590-LAW-TSR-NS-18-0001, Low-Activity Waste Facility Technical Safety Requirements, Rev. 0a, as required by 10 CFR 830, Safety Basis. This change also relaxes the periodicity of some submittals.
 - b. Section C.3, Interactions with the Waste Treatment and Immobilization Plant Contractor, item (a)(11) is revised to change the “One System” organization title to “Mission Integration”.
2. Section I, Contract Clauses, Contract Clause I.29B, FAR 52.222-2 Payment for Overtime Premium (JUL 1990) is updated to include FY 2019 estimated premium overtime value.

Description of Modification:

- 1(a). Revise Contract Section C, *Statement of Work*, Standard 9, Nuclear Safety as follows:

Standard 9: Nuclear Safety (Table C.5-1.1, Deliverable 9.1) (257) (293) (384) (417) (450)

- (a) The Contractor’s safety basis documents and maintenance process shall be developed and implemented to comply with the specific nuclear safety requirements established in 10 CFR 830, Subpart B, *Safety Basis Requirements*, DOE-STD-3009-94 CN3, *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analyses*, and the ORP technical direction on nuclear safety methodology as reflected in the approved Implementation Plan documented in item (gh).
- (b) The Contractor shall prepare and submit to DOE for review and approval the nuclear safety-related deliverables required by 10 CFR 830, Subpart B, as well as the following:
 - (1) Safety Evaluation Process procedure,
 - (2) Change Packages for PDSA (previously known as Authorization Basis Amendment Requests), *DSA, or TSR*, which require DOE approval as defined in the Safety Evaluation Process procedure,
 - (3) An Implementation Plan to manage PDSAs and to develop, review, and implement DSAs and TSRs,
 - (4) DSA specific Implementation Plans, and

(5) A Criticality Safety Program Description Document.

The Contractor shall prepare and submit to DOE for information the following:

(6) An annual letter summarizing the changes made to each PDSA, DSA, and TSR in the previous 12 months,

(7) Quarterly listings of Safety Evaluation and Unreviewed Safety Question screenings, determinations, PISA evaluations, and PDSA, DSA, and TSR changes, and

(8) Criticality Safety Evaluations thirty (30) days prior to their approval by the Contractor.

(c) The Contractor shall submit the DSA for each facility no less than six (6) months prior to the need for ORP approval, and associated hazards analysis documents for information, to support commissioning activities for those facilities.

(d) The Contractor shall manage changes to the DSA prior to the effective date of the DSA and TSRs as specified in the DSA specific implementation plan. A 10 CFR 830 compliant USQ process shall be implemented by the Contractor when specified by the DSA specific implementation plan and prior to the effective date of the DSA and the TSRs. The effective date for the DSA and associated TSRs will be identified for each DSA in the DSA specific Implementation Plan.

(e) The Contractor shall establish and implement a program to maintain PDSAs, DSAs, and TSRs current as defined in item (ef). The program shall consist of a process to screen and evaluate proposed changes to the design of facilities based on the potential to impact the hazards and accident analyses, and SSC as defined in the PDSAs, DSAs, and TSRs. The Contractor shall facilitate ORP access for review of engineering documents reviewed by the Contractor for safety design basis and safety basis impacts. The Safety Evaluation Process and Unreviewed Safety Question Process procedures that implements these programs shall be approved by DOE.

(f) The Contractor shall identify and maintain the list of documents that constitute the PDSA safety design basis and safety basis, as applicable, for each facility. This list will be used by qualified screeners and evaluators to determine if a proposed design change requires DOE approval. Changes that are determined to require DOE approval in accordance with the DOE approved Safety Evaluation Procedure or DOE approved Unreviewed Safety Question Procedure shall be submitted to DOE for review and approval prior to implementation.

Maintaining PDSAs and DSAs current means that all Contractor approved changes (i.e., those within the analyzed safety design basis and safety basis document) will be incorporated into each PDSA or DSA via a direct page change. For PDSAs the page changes will be incorporated within 180 days of contractor approved design changes, unless a delay is approved by ORP. Under the Safety Evaluation process for unimplemented DSAs, the page changes will be incorporated within 180 days of completed Safety Evaluations and will include those changes resulting from negative safety evaluation. Annually, The Contractor shall submit a letter to ORP summarizing all changes made to the PDSA, DSA, or TSR in the previous 12 months. When the DSA has been implemented and the USQ process is implemented, the page changes if any will be incorporated during the annual update.

(g) DOE shall have access to all Contractor nuclear safety related document development activities. DOE may observe Contractor design reviews and question the presenters as ex-officio members. These observations provide DOE with continuing information concerning the safety aspects of the evolving design and do not constitute ORP approval of the matters discussed.

(h) The Contractor shall submit to DOE for review and approval an Implementation Plan to manage PDSAs, DSAs and TSRs completion and implementation. The Implementation Plan shall identify and reflect the current ORP technical direction on nuclear safety methodology and shall identify the

process for reviews of PDSAs, DSAs and TSRs. The Implementation Plan shall be updated and submitted for approval when deemed appropriate by BNI or as directed by DOE.

- (h)(i) The Contractor shall submit to DOE for review and approval a DSA and TSR Implementation Plan. The Plans will be submitted with the initial submittal of each DSA and TSR to DOE for approval. The Implementation Plan for each DSA will identify when the DSA and TSRs are to be implemented. The Implementation Plans shall be updated and submitted for approval when deemed appropriate by BNI or as directed by DOE.
- (i)(j) The Contractor shall provide quarterly, a listing of screenings, determinations, Potential Inadequacy of the Documented Safety Analysis evaluations, and PDSA, DSA, and TSR changes prepared in accordance with the Safety Evaluation Process procedure or unreviewed safety question process procedure discussed above.
- (i)(k) The Contractor shall maintain the SRD consistent with the design of WTP facilities. Changes to the SRD will be processed consistent with the Safety Evaluation Process procedure or USQ procedure discussed above as applicable to each WTP facility.
- (i)(l) The Contractor shall develop a Criticality Safety Program Description Document consistent with 10 CFR 830, Subpart B, applicable DOE orders and standards, and national standards, and shall submit the document to ORP for review and approval. Criticality Safety Evaluations shall be submitted to ORP for review and comment thirty (30) days prior to their approval by the Contractor.

[NOTE: PREVIOUS TABLE S9-1 IS DELETED IN ITS ENTIRETY]

1(b). Revise Contract Section C, *Statement of Work*, Section C.3, Interactions with the Waste Treatment and Immobilization Plant Contractor, item (a)(11) to revise the “One System” organization title to “Mission Integration” as follows:

- (11) To facilitate partnering as defined in this subparagraph for the specific interfaces between the WTP and the TOC, the Contractor shall participate with the TOC in staffing and managing a joint ~~One-System~~ Mission Integration organization. The WTP and TOC shall jointly prepare and issue for DOE approval a ~~One-System~~ Mission Integration organization charter outlining the scope, roles, responsibilities, and authorities of the organization. The governance structure shall include ORP management as designated by ORP. The ~~One-System~~ Mission Integration charter shall include the following scope:
(450)
 - (i) Provide ~~One-System~~ Mission Integration organization support to manage the coordination and integration of programmatic activities needed to more effectively and efficiently conduct the transition to WTP startup and commissioning, initially focused on DFLAW program integration. Develop and drive the implementation of programs including safety management programs across the various affected Hanford contractors.
 - (ii) Identify and implement program integration activities with TOC needed for commissioning and operating the WTP.
 - (iii) Identify changes for contract order and directive alignment with TOC and help maintain that alignment.
 - (iv) Identify and implement alignment with TOC of nuclear safety methods and assumptions.

- (v) Provide support for DFLAW work scope, including ICDs, waste feed acceptance criteria, optimization of the interfaces between TOC and WTP, operational readiness, and related activities.
- (vi) Identification and management for DOE of the integrated RPP flowsheet including gap analysis, identification of interface improvement opportunities, flowsheet optimization opportunities, and feed vector optimization opportunities.
- (vii) Provide ~~One System~~ **Mission Integration** organization support to help develop national laboratory knowledge of the RPP flowsheet and its components to better enable national laboratories to provide long-term support to ORP over the life-cycle mission of the WTP.
- (viii) Develop and maintain the integrated strategy and the corresponding plan and schedules for achieving initial plant hot operations. Also develop and maintain the strategy, plan, and schedule for the overall ORP mission.
- (ix) Maintain interface risk register, as derived from the WTP and TOC risk registers.
- (x) Identify and implement areas of collaboration and resource sharing that benefit DOE. This includes software and software management activities.
- (xi) Manage the ICD program.
- (xii) Perform other scope in this contract as assigned.

The Contractor shall provide the resources necessary to establish and implement the partnering approach, including the requirements of Section H, "Special Contract Requirements," Clause H.34, "Alternative Dispute Resolution," throughout the Contract period of performance. The Contractor shall be responsible for actively participating in the partnering approach in a constructive manner.

2. Section I, Contract Clauses, Contract Clause I.29B, FAR 52.222-2 Payment for Overtime Premium (JUL 1990) is updated to include FY 2019 estimated premium overtime value of \$14.517M. Contract Clause I.29B (a) is revised as follows:

- (a) The use of overtime is authorized under this contract if the overtime premium does not exceed ~~\$14.517M~~ ***\$14.517M** for ~~FY19 (M321)(369)(391)(419)(450)~~ or the overtime premium is paid for work—

3. All other terms and conditions remain unchanged.

(End of Modification)