



**OFFICE OF RIVER PROTECTION**

P.O. Box 450, MSIN H6-60  
Richland, Washington 99352

16-CPM-0085

Ms. L.W. Baker, Business Services Manager  
Bechtel National, Inc.  
2435 Stevens Center Place  
Richland, Washington 99354

Ms. Baker:

CONTRACT NO. DE-AC27-01RV14136 – TRANSMITTAL OF CONTRACT MODIFICATION NO. 371 – CHANGE ORDER TO CONDUCT SUPPLEMENTARY ANALYSIS OF VESSELS RLD-VSL-00007 AND RLD-VSL-00008 BEYOND THE WASTE TREATMENT AND IMMOBILIZATION PLANT CODE OF RECORD, AND MODIFY THE RLD-VSL-00007 AND RLD-VSL-00008 VESSEL DESIGN.

Reference: BNI letter from L.W. Baker to R.L. Dawson, ORP, “Impact of Direction to Evaluate Recommendations from the Bechtel National, Inc. Chartered Independent Expert Review Team on Design and Fabrication of Vessels RLD-VSL-00007 and RLD-VSL00008,” CCN: 278606, dated March 31, 2016.

The purpose of this letter is to transmit a signed original of Contract Modification No. 371. The modification directs Bechtel National, Inc. to conduct supplementary vessel analysis with respect to High Level Waste Facility black cell vessels RLD-VSL-00007 and RLD-VSL-00008, per recommendation of the Independent Expert Review Team, modify the design of these vessels as necessary, and incorporate fabrication risk mitigation strategies. The modification establishes a not-to-exceed (NTE) value of \$1,500,000 for the change order.

BNI is requested to provide notification to the Contracting Officer at which time the total costs are expected to reach 75 percent of the NTE value as detailed in the enclosed contract modification.

If you have any project-related questions, please contact William F. Hamel at (509) 438-1176. For contract-related questions, please contact Ron Cone at (509) 376-5583.

A handwritten signature in blue ink that reads "Ronald E. Cone Jr." in a cursive style.

Ronald E. Cone Jr.  
Contracting Officer

CPM:REC

Attachment

cc w/attach:  
BNI Correspondence Control

Attachment  
to  
16-CPM-0085

Contract Modification No. 371  
(total pages including this cover sheet, 7)



14. DESCRIPTION OF AMENDMENT/MODIFICATION (Continued)

**Purpose of Modification:**

The purpose of this modification is to make the following changes:

1. Section C, *Statement of Work*, is revised to conduct supplementary Vessel Analysis with respect to the High Level Waste Facility black cell vessels RLD-VSL-00007 and RLD-VSL-00008, per recommendation of the Independent Expert Review Team (IERT), modify the design of these vessels as necessary, and incorporate fabrication risk mitigation strategies.

This change is based on ORP letter from R.L. Dawson and W.F. Hamel, ORP-WTP, J.M. St. Julian, BNI, "Direction to Evaluate Recommendations from the Bechtel National, Inc. Chartered Independent Expert Review Team on Design and Fabrication of Vessels RLD-VSL-00007 and RLD-VSL-00008," 15-WTP-0099, dated September 2, 2015. In this letter, BNI is directed to evaluate the IERT recommendations in the vessels RLD-VSL-00007 and RLD-VSL-00008 and modify the vessel design as necessary.

2. The Contractor is directed to proceed with the work scope in Section C, *Statement of Work, Standard 3 Design*, and paragraph (j) below. The contractor is authorized to incur costs up to a not-to-exceed (NTE) value of \$1,500,000 consistent with the other contract terms and conditions and pending definitization of this change.
3. Negotiations will commence within 90 days of the date of this change order. A bi-lateral modification definitizing this change order shall be executed as soon as possible after the date of the change order, not to exceed 180 days.
4. The Contractor shall provide change order accounting in accordance with Clause I.83, FAR 52.243-6, Change Order Accounting (APR 1984).
5. This modification does not add additional funds to the contract. Accordingly, work under the contract, such as that described herein, must be performed within the amount of funds which have been incrementally allotted to the contract in accordance with clause B.2, *Obligation and Availability of Funds and Contract Value*, and clause I.66, FAR 52.232-22 Limitation of Funds (Apr 1984).

**Modification Description**

1. Section C, *Statement of Work, Standard 3 Design*, is revised to incorporate the following language:  
(j) Supplemental analysis of HLW vessels RLD-VSL-00007 and RLD-VSL-00008:

Conduct supplementary analysis of vessels RLD-VSL-00007 and RLD-VSL-00008 beyond the WTP Code of Record and modify the RLD-VSL-00007 and RLD-VSL-00008 vessel design as follows:

- (1) Perform supplementary structural analysis to the requirement of ASME BPVC Section VIII, Division 2 (2013), specifically:
    - a. Perform Fatigue Analysis using Structural Stress method (SSM).
    - b. Perform Buckling analysis (both global and local)
    - c. Modify the design, including all applicable models, drawings, calculations, and purchase orders as a result of the supplementary analysis.
  - (2) Revise the process and the mechanical cyclic calculations to reduce the number of vessel Pulse Jet Mixer (PJM) operations to mitigate the risk of design changes to the ongoing fabrication.
  - (3) Increase the PJM shell thickness, as necessary, to mitigate the risk of buckling failure.
2. A Not-to-Exceed value of \$1,500,000 is hereby established. As a result, the table in Section B, *Supplies or Services and Prices/Costs*, Section B.2, *Obligation and Availability of Funds and Contract Value*, paragraph (c) is revised as follows:
- The Total Estimated Contract Cost (TECC) is increased by \$1,500,000, from \$10,854,733,790 to \$10,856,233,790.
  - The Total Estimated Contract Price (TECP) is increased by \$1,500,000, from \$11,492,600,886 to \$11,494,100,886.
3. Section B, *Supplies or Services and Prices/Costs*, is updated to make the following change:
- a. The table in Section B, *Supplies or Services and Prices/Costs*, Contract Clause B.2, *Obligation and Availability of Funds and Contract Value*, paragraph (c) is deleted in its entirety and replaced in full as follows:

**Cost:**

A	Total Estimated Contract Cost (TECC) through <b>Mod 371</b>		<b><u>\$10,856,233,790</u></b>
B	Total Estimated Contract Cost ( <b>350</b> )		
B.1	CLIN 2: DFLAW Facility Modifications ( <b>350</b> )	TBD	
	SUB-CLIN 2.1: DFLAW Design (Target Cost)	\$75,000,000	\$42,568,556 *
<b>Revised Total Estimated Contract Cost through Mod 371</b>			<b><u>\$10,898,802,346</u></b>

**Fee:**

A	Final Fee Determination – Pre-Mod No. A143	\$102,622,325
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B	Maximum Available Award Fee (See Table B-2-B-1)		\$105,676,215
B.1	Project Management Incentive	\$63,630,997	
B.2	Cost Incentive	\$36,647,560	
B.3	REA Settlement	\$5,397,658	
C	Schedule Incentive Fee		\$227,000,000
C.1	Activity Milestone Completion	\$173,000,000	
C.2	Facility Milestone Completion	\$54,000,000	
D	Operational Incentive Fee		\$91,000,000
D.1	Cold Commissioning	\$45,000,000	
D.2	Hot Commissioning	\$46,000,000	
E	Enhancement Incentive Fee		\$60,000,000
E.1	Enhanced Plant Capacity	\$15,000,000	
E.2	Sodium Reduction	\$15,000,000	
E.3	Enhanced Plant Turnover	\$15,000,000	
E.4	Sustained Production Achievement	\$15,000,000	
F	Performance-Based Incentive for DFLAW Design Completion (350)		\$9,000,000

**Total Maximum Available Fee (346) (350) (369)**

**\$595,298,540**

**Total Estimated Contract Price (TECP) (371)**

**\$11,494,100,886**

\* Sub-CLIN 2.1 DFLAW (Target Cost) amount decreased by total amount of Change Orders 329, 330 & 339 (\$32,431,444) definitized in Modification 350. \$75,000,000 - \$32,431,444 = \$42,568,556.

4. Contract Section J, *List of Attachments*, Attachment J, *Advance Understanding on Costs*, Table 13-B, *Not-to-Exceeds Not Included in Modification No. A143 Definitization (M155)*, is deleted in its entirety and replaced in full as follows:

<b>13-B. Not-To-Exceeds Not Included in Modification No. A143 Definitization (M155)</b>		
DOCUMENT ID.	TITLE	DEFINITIZATION MODIFICATION NO.
BCP-24590-06-02279	Expansion of DWP Requirements (permit Modifications) (M122) (M130)	A193
ORP 08-NSD-011 (05/20/08) (CCN 179512) TN 24590-06-03487	ORP Direction to Implement New Preliminary Safety Analysis Report (PSAR) Updates (M136)	A164
ORP 08-NSD-057 (10/09/08) (CCN 188218) TN 24590-06-03752	Direction to Implement New Safety Classification Process for the Waste Treatment and Immobilization Plant (WTP) (M141)	276
ORP 08-NSD-059 (10/15/08) (CCN 188217) TN 24590-06-03753	Direction to Implement New Justification for Continued Design, Procurement, and Installation (JCDPI) (M152)	A164

Modification M090 & 09-AMD-205 (07/18/08) (CCN 202423)  TN 24590-06-02145 & -02381	Direction to Implement DOE 205.1A, Cyber Security Management Program (M155)	217
Modification M154  TN 24590-06-04133	Direction to Implement Pretreatment Engineering Platform (PEP) dry layup (M155)	A167
Modification M196 BCP 24590-06-04489 BCP 24590-06-04784 BCP 24590-06-05085	Direction to Implement Multiple Operational Readiness Strategy (218)	282
Modification M196 BCP 24590-06-04853 ORP 10-AMD-139 (05/06/10; CCN 218244)	Direction to Implement CXP Equipment Option (218)	317
Modification 221 ORP 11-WTP-219 (06/17/11; CCN 236247); Modification 247 ORP 11-WTP-437 (12/01/11; CCN 242351); Modification 264 ORP 12-WTP-0109 (03/15/12; CCN 245985); Modification 286 ORP 12-WTP-317 (09/24/12)	Direction to Proceed with Large Scale Testing (MOD 221, MOD 247, MOD 264, MOD 286)	299 - Partial
Modification 273	Direction to participate in the Hanford Site Organizational Climate and Safety Conscious Work Environment (SCWE) Survey	290
Modification 245 ORP 11-WTP-429	Direction to proceed with the implementation of DOE Order (O) 420.1B, <i>Facility Safety</i> , Chapter V, <i>Systems Engineer Program</i> . (245)	276
Modification 300 ORP 13-CPM-0099 (05/06/13); Mod 304 ORP 13-CPM-0133 (06/05/13); Modification 313 ORP 13-CPM-0299 (11/25/13)	Direction to Proceed with Full Scale Vessel Testing Program in lieu of the existing Computational Fluid Dynamics and Large Scale Vessel testing Program as a Design Verification Tool (300, 304, 313)	
Modification 329 ORP 14-CPM-0172	Direction to proceed with Section C, Statement of Work, Standard 3 Design, paragraph (i) Design of BOF Utility Modifications	350
Modification 330 ORP 14-CPM-0181	Direction to proceed with Section C, Statement of Work, Standard 3 Design, paragraph (j) Design of BOF Effluent Management Facility	350

Modification 334 ORP 14-CPM-0228, ORP 15-CPM-0300 (358)	Direction to proceed with Pretreatment Facility vessel mixing design verification.	
Modification 339 ORP 15-CPM-0008	Direction to proceed with Section C, Statement of Work, Standard 3 Design, paragraph (k) Design of Balance of Facilities Underground and Site-Wide Modifications necessary to support the Direct Feed of LAW (DFLAW)	350
Modification 342 ORP 15-CPM-0064, ORP 16-CPM 0012 (364)	Direction to proceed with the implementation of DOE Order (O) 433.1B, Maintenance Management Program for DOE Facilities and DOE/RL-92-36, Hoisting and Rigging Manual. (342)	
Modification 344 ORP 15-CPM-0092	Direction to proceed with initiation of procurement of BOF modifications and LAW Valve Vault materials to support DFLAW; add Interface Control Documents 30 and 31	
Modification 348 ORP 15-CPM-0128	Direction to proceed with initiation of BOF isolation construction to support DFLAW	
Modification 349 ORP 15-CPM-0136	Direction to proceed with the implementation of DOE Order (O) 414.1D, CRD, Chg. 1, Quality Assurance. (349)	
Modification 354 ORP 15-CPM-0195	Direction to proceed with procurement of Effluent Management Facility (EMF) equipment and effluent transfer lines and limited EMF construction (354)	
Modification 371 ORP-CPM-0085	Conduct supplementary analysis of vessels RLD-VSL-00007 and RLD-VSL-00008 beyond the WTP Code of Record and modify the RLD-VSL-00007 and RLD-VSL-00008 vessel design.	

6. All other terms and conditions remain unchanged.

**(End of Modification)**