

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE

PAGE 1 OF 30

2. AMENDMENT/MODIFICATION NO.
M033

3. EFFECTIVE DATE (M/D/Y)
See Block 16C

4. REQUISITION/PURCHASE REQ. NO.

5. PROJECT NO. (If applicable)

6. ISSUED BY CODE

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

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

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

**Bechtel National, Inc.
2435 Stevens Center Place
Richland, WA 99352**

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

CODE

FACILITY CODE

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.

- 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 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:
Mutual Agreement of the Parties and Clause I.82, FAR 52.243-2 Changes - Cost Reimbursement (AUG 1987) Alt. III (APR 1984)
- 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 attached pages.

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)

James P. Henschel, Project Director

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

Roy J. Schepens, Manager

15B. CONTRACTOR/OFFEROR

ORIGINAL SIGNED BY

(Signature of person authorized to sign)

15C. DATE SIGNED

10/15/03

16B. UNITED STATES OF AMERICA

ORIGINAL SIGNED BY

(Signature of Contracting Officer)

16C. DATE SIGNED

10/21/03

Block 14 Continuation:

Description of the Modification.

- 1) Section C, Statement of Work (SOW) is revised for changes to Table C.5-1.1 "Deliverables," and to the underlying portions of the SOW that are impacted by the changes in the Table. The changes to the Table relate primarily to: changes to the "Action Party" column; revising selected elements under the "Contract Due Date" column; removing some items from the table that are sufficiently discussed elsewhere in the contract. The SOW is also revised to effect the combination of ICD 19 and 20.

The SOW is revised to correct Table S7-1 for a typographical error. Remove the existing Table S7-1 (Page C-69) and replace with the attached Table S7-1 (Page C-69).

The SOW is revised to reflect changes to Section J, Attachment E "List of Applicable Directives." The revisions are detailed in item number 4 below.

See attached pages for specific changes, text portions of the contract that are modified are identified by right margin markings. Remove the following pages from the contract document and replace them with the attached pages:

Reference	Remove Pages	Replace With Pages
Table C.5-1.1 Deliverables	C-10 through C-16	C-10 through C-16
Delete reference to Manual 232.1-1A and replace with Order 231.1A	C-26	C-26
Change review requirements for Deliverables 3.1 and 3.2	C-35	C-35
Delete reference to Deliverable 3.5	C-37	C-37
Change review requirement for Deliverable 3.6	C-40	C-40
Delete reference to Deliverable 3.10	C-42	C-42
Change DOE Order from 425.1B to 425.1C. Change requirement for Deliverable 5.1 from 24 months to 12 months. Change DOE Order from 425.1B to 425.1C.	C-46 - C-48	C-46 - C-48
Change review requirements for Deliverables 6.1, 6.2, 6.3, 6.4 and 6.6.	C-58 - C-59	C-58 - C-59
Delete reference to ORP M440.1-2 and replace with RL/REG-2000-004.	C-65	C-65
Change reference to DOE/RW-0333P from Revision 11 to Revision 13	C-70	C-70
Revise review requirement for Deliverable 7.3.	C-72	C-72
Delete reference to ICD 20	C-77	C-77
Change title for ICD 19 to "Waste Feed" and change ICD 20 to "Reserved".	C-117	C-117

- 2) Section G, clause G.2 is revised to change Contracting Officer to Jeff Short. See attached pages for specific changes, text portions of the contract that are modified are identified by right margin markings. Remove existing page G-1 and replace with the attached page G-1.
- 3) Section J, Attachment E is revised to add/delete certain directives, as follows:
 - a. Remove "DOE O 232.1-1A" and "7/21/97" and "Occurrence Reporting and Processing of Operations Information". Replace with DOE O 231.1A" and "8/19/03" and "Environment, Safety, and Health Reporting".
 - b. Remove "ORP M 440.1-2" and "08/10/01" and "Industrial Health and Safety Oversight Plan for the Waste Treatment Plant Contractor". Replace with "RL/REG-2000-04" and "07/03" and "Industrial Health and Safety Oversight Plan".
 - c. Remove "DOE 425.1B" and "12/21/00". Replace with "DOE O 425.1C" and "03/13/03".

See attached pages for specific changes, text portions of the contract that are modified are identified by right margin markings. Remove pages J-9 and J-10 from the contract document and replace them with the attached pages J-9 and J-10.

- 4) Section J, Attachment F is revised to add/delete Key Personnel. The following are deleted: Ronald F. Naventi; Anton R. Veirup. The following are added: James P. Henschel; Alan Beckman.

See attached pages for specific changes, text portions of the contract that are modified are identified by right margin markings. Remove page J-11 from the contract document and replace it with the attached page J-11.

- 5) The specific changes depicted on the attached pages are hereby incorporated into the contract.

Contractor's Statement of Release

The Contractor hereby releases the Government from any and all liability under this Contract for further equitable adjustments attributable to the Contract revisions reflected in this Modification.

Table C.5-1.1, Deliverables

Solicitation Note: Contract due dates shown assume a Contract award of 1/15/2001 or earlier.

Item No.	Deliverable	Reference	Action Required	DOE Action Party	Point of Delivery	Contract Due Date
C.5.1	Select a Commissioning Contractor	Section C.5 [C.5(a)(4)]	A	D	HCA	4/15/01
1.1	Plan for Transition	Standard 1 [Std. 1(a)]	K	D	HCA	2/15/2001
1.2	Project Execution Plan	Standard 1 [Std. 1(b)]	K	D	HCA	4/15/2001 and updates as required
1.3	Project Control System Description	Standard 1 [Std. 1(c)(2) & (3)]	K	D	HCA	4/15/2001 with updates as required
1.4	Interface Management Plan	Standard 1 [Std. 1(c)(4)]	K	D	HCA	6/29/2001 with updates as required
1.5	WTP Project Baseline	Standard 1 [Std. 1(d)(1) & (4)]	K	D	HCA	4/15/2001
1.6	WTP Risk Assessment	Standard 1 [Std.1(d)(3)]	K	D	HCA	7/1/2001 with quarterly-updates as required
1.7	Monthly Status Report	Standard 1 [Std. 1(d)(4), Std. 4(f)(2)]	I	D	HCA	Last Tuesday of each month.
1.8	Occurrence Reporting	Standard 1 [Std. 1(f)(3)]	K	D	HCA	as required
1.9	ES&H Reporting	Standard 1 [Std. 1(f)(4)]	K	D	HCA	as required
1.10	Reserved					
1.11	WTP Baseline Change Control Program Plan	Standard 1 [Std. 1(e), (d)(4)]	K	D	HCA	05/15/03 with updates as required
2.1	Updated Research and Technology Program Plan	Standard 2 [Std. 2 (a)(1)(ii)]	K	D	HCA	4/15/2001 with annual updates through 2004
2.2	R&T Test Plans	Standard 2 [Std. 2 (a)(2)(i), (a)(3)(ix)]	I	D	HCA	as required
2.3	R&T Test Reports	Standard 2 [Std. 2 (a)(2)(ii), (a)(3)(ix)]	C	D	HCA	as required
2.4	Regulatory Data Quality Objective (DQO)	Standard 2 [Std. 2 (3)(i)(D)]	K	D	HCA	TBD as negotiated

Item No.	Deliverable	Reference	Action Required	DOE Action Party	Point of Delivery	Contract Due Date
2.5	Operations Research Assessment	Standard 2 [Std. 2 (b)1.]	C	D	HCA	12/19/2002, with annual updates thereafter
2.6	WTP Tank Utilization Assessment	Standard 2 [Std. 2 (b)2.]	C	D	HCA	12/19/2002, with annual updates thereafter
2.7	Material Balance and Process Flowsheet	Standard 2 [Std. 2 (b)3.]	C	D	HCA	12/19/2002, with annual updates thereafter
2.8	Technical Report on Oxidative Leaching	Standard 2 [Std. 2 (a)(3)(ix)]	C	D	HCA	TBD
2.9	Test Report on Oxidative Leaching	Standard 2 [Std. 2 (a)(3)(ix)]	C	D	HCA	TBD
3.1	Design Process	Standard 3 [Std. 3(a)(2)]	<u>C</u>	D	HCA	2/15/2001 1/15/2004
3.2	Functional Specification	Standard 3 [Std. 3(b)(1)]	<u>K</u>	D	HCA	8/20/2001 and update as required
3.3 (a)	Basis of Design	Standard 3 [Std. 3(b)(2)]	K	D	HCA	8/20/2001 and update as required
3.3 (b)	Design Criteria Database	Standard 3 [Std. 3(b)(3)]	M	D	HCA	30 days after issue of Basis of Design, and update as required
3.4	Operations Requirements Document	Standard 3 [Std. 3(b)(4)]	K for bolded document text and M for non-bolded document text	D	HCA	8/20/2001
3.5	Design Products	Standard 3 [Std. 3 (c)]	M	D	HCA	ongoing
3.6	Analytical Laboratory Design Requirements	Standard 3 [Std. 3 (c)(18) & C.7(a)(9)]	<u>CK</u>	D	HCA	10/1/2001 and as required thereafter

Item No.	Deliverable	Reference	Action Required	DOE Action Party	Point of Delivery	Contract Due Date
3.7	Site Layout Drawings	Standard 3 [Std. 3 (c)(19)]	K on initial deliverable and C for any subsequent updates, except any significant changes in the location of any of the LAW, HLW, or PT facilities is K	D	HCA	4/15/2001 and as required thereafter
3.8	Optimization Study	Standard 3 [Std. 3(d)]	K	D	HCA	3/15/2001
3.9	Design Overview Activities	Standard 3 [Std. 3(e)]	M	D	HCA	ongoing
3.10	Design Overviews	Standard 3 [Std. 3(e)]	C	D	HCA	Bi-monthly through 12/2003 or as needed thereafter; February, April, June, August, October, December
4.1	Construction, Procurement, and Acceptance Testing Plan	Standard 4 [Std. 4(a), (f)(3) & (i)]	K on initial Deliverable and I for any subsequent updates	D	HCA	As Required
4.2	Purchasing System	Standard 4 [Std. 4(b)(2)]	A	D	HCA	As required
4.3	Construction Bid and Work Packages	Standard 4 [Std. 4(c)]	I	D	HCA	As required
4.4	Construction and Acceptance Testing Program	Standard 4 [Std. 4(f)(1)]	K	D	HCA	Prior to start of construction
4.5	Construction Overview Meetings	Standard 4 [Std. 4(h)]	M	D	HCA	Ongoing
4.6	Construction Emergency Response Plan	Standard 4 [Std. 4(j)]	I	D	HCA	Prior to Start of Limited Construction
5.1	Commissioning Plan	Standard 5 [Std. 5(b)]	K	D	HCA	24-12 months prior to start of commissioning, as required thereafter
5.2	Commissioning Review Board Meetings	Standard 5 [Std. 5(d)]	M	D	HCA	ongoing

Item No.	Deliverable	Reference	Action Required	DOE Action Party	Point of Delivery	Contract Due Date
5.3	Waste Form Qualification Tests	Standard 5 [Std. 5 (f)(1)(i)]	P	D	HCA	during cold commissioning
5.4	Design Capacity Performance Tests	Standard 5 [Std. 5 (f)(1)(ii)]	K	D	HCA	during cold commissioning
5.6	Resultant Products from Cold Commissioning	Standard 5 [Std. 5 (f)(1)]	P	D	HCA	during cold commissioning
5.7	Environmental Performance Test	Standard 5 [Std. 5(f)(5)]	K	D	HCA	during cold commissioning
5.8	Cold Commissioning Results	Standard 5 [Std. 5(f)(8)]	K	D	HCA	prior to hot commissioning
5.9	Certification of Completion of Cold Commissioning	Standard 5 [Std. 5(f)(9)]	K	D	HCA	when complete
5.10	Certification of Readiness for Hot Commissioning Start	Standard 5 [Std. 5(g)(1)]	K	D	HCA	prior to hot commissioning
5.11	Certification of Hot Commissioning Start	Standard 5 [Std. 5(g)(3)]	K	D	HCA	Upon receipt of Tank Farm waste feed
5.12	Hot Commissioning Performance Tests	Standard 5 [Std. 5(g)(4)]	K	D	HCA	during hot commissioning
5.13	Reserved					
5.14	Hot Commissioning Results and Documentation	Standard 5 [Std. 5(g)(5)]	K	D	HCA	upon completion of hot commissioning
5.15	Certification of Completion of Hot Commissioning	Standard 5 [Std. 5(g)(6)]	K	D	HCA	when complete
5.16	Facility Turnover	Standard 5 [Std. 5(k)]	K	D	HCA	after successful commissioning
5.17	WTP Commissioning Methodology for Demonstrating Plant Performance,	Standard 5 [Std. 5 (g)(4)]	A	D	HCA	04/15/03 and as required
6.1	Secondary Wastes Compliance Plan	Standard 6 [Std. 5 (f)(1)(ii), Std. 6(b), (c)(3), C.7(d)(3)(i), Spec. 9. 2.2.5, Spec 13.1]	K	D	HCA	8/15/2003 and update annually thereafter 2004, 2006, 2008, and as required thereafter

Item No.	Deliverable	Reference	Action Required	DOE Action Party	Point of Delivery	Contract Due Date
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	05/15/2003 and update annually thereafter 2004, 2005, 2008, and as required thereafter
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	03/15/2003 and update annually thereafter 2004, 2006, 2008, and as required thereafter
6.4	IHLW Product Qualification Report	Standard 6 [Std. 6 (c)(5) & (6),	C/K	D	HCA	11/15/2003 and update annually thereafter Plan in 2004, report in 2007 and as required thereafter
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	9/15/03 and update annually thereafter 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	8/15/2003 and updated annually thereafter 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
6.11	QA Provisions Document	Standard 6 [Spec 1.3, Spec 2.3, Spec 12.3]	K on initial Deliverable and I for any subsequent updates	D	HCA	7/15/2001 and update annually as required thereafter
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

Item No.	Deliverable	Reference	Action Required	DOE Action Party	Point of Delivery	Contract Due Date
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 update annually as required thereafter
7.4	Dangerous Waste Permit Application Implementation Plan	Standard 7	K	D	HCA	Requirement Deleted
7.5	Dangerous Waste Permit Application	Standard 7 [Std 7 (e)(4)(vi)(B)]	K	D	HCA	as required
7.6	Risk Assessment Work Plan	Standard 7 [Std 7 (e)(4)(vi)(C)]	K	D	HCA	as required
7.7	Notice(s) of Construction	Standard 7 [Std 7 (e)(4)(vi)(D)]	K	D	HCA	150 days prior to submission to the regulators
7.8	Prevention of Significant Deterioration (PSD) Permit Application	Standard 7 [Std 7 (e)(4)(vi)(E)]	K	D	HCA	150 days prior to submission to the regulators
7.9	Petition for Exemption or Exclusion for IHLW	Standard 7 [Std 6(c)(7), Std 7 (e)(4)(vi)(F)]	K	D	HCA	12/2003
7.10	Petition for a New Treatment Standard	Standard 7 [Std 6 (c)(8), Std 7 (e)(4)(vi)(G)]	K	D	HCA	8/2003
8.0	Safeguards and Security	Standard 8	K	D	HCA	see Table S8-1
C.9.1	Interface Control Documents	Section C.9	J	D	HCA	7/15/2001, 3/15/2002, and every 6 months as described below
	- Product Delivery Group - IDCs 14 and 15	Section C.9				11/15/03 and annually as required thereafter
	- Infrastructure Group - ICDs 1, 2, 9, 11, 12, and 28	Section C.9				11/15/03 and annually as required thereafter
	- Waste Management Group - ICDs 3, 5, & 6	Section C.9				8/15/2003 and annually as required thereafter
	- Waste Feed Group - ICDs 19, 20, and 23	Section C.9				8/15/2003 and annually as required thereafter
H.1	Environmental Permit Applications	Clause H.26	K	D	HCA	ongoing
H.2	Litigation Management Plan	Clause H.33	A	D	HCA	4/15/01

Item No.	Deliverable	Reference	Action Required	DOE Action Party	Point of Delivery	Contract Due Date
H.3	Plan for Transition to Operations	Clause H.36	K	D	HCA	start of commissioning

Legend Definitions:

- A Approval — The deliverable shall be provided to DOE for review and approval. DOE will review the deliverable and provide comments in writing. Comments will be discussed through the partnering process and the Contractor is required to provide written responses using Review Comment Records. Documents shall be re-written to incorporate all DOE mandatory comments. Once a deliverable or document has been approved by DOE, it shall be placed under change control and no changes to that document shall be made, without DOE approval.
- C Review and Comment — The deliverable shall be provided to DOE for review and comment. DOE will have the option for reviewing the information and providing comment. The Contractor shall respond to all written comments in Review Comment Records form. DOE comments that cannot be resolved in the appropriate partnering team shall be elevated to the Project Management Team for resolution.
- D U.S. Department of Energy, Office of River Protection.
- F Provisional Fee Determination — The deliverable shall be provided to DOE. DOE will review the deliverable as part of the process of determining that acceptable invoices for Provisional Fee payments are provided by the Contractor, as well as for assessing the need for adjustments to the Provisional Fee payments.
- HCA Head of the Contracting Activity
- I Information — The deliverable shall be provided for information purposes only. DOE will have the option of reviewing the information and providing comments through the partnering process. Such comments do not require resolution under the Contract.
- J Jointly Developed, Review and Comment — The ICDs shall be jointly developed with DOE, the Tank Farm Contractor, and Hanford Site contractors. The deliverable shall be provided to DOE for review and comment. DOE will have the option for reviewing the information and providing comment. The Contractor shall respond to all written comments. The DOE Contracting Officer can issue the ICDs with outstanding comments. These outstanding comments would be resolved during the regular ICD update process. DOE comments that cannot be resolved in the appropriate partnering team shall be elevated to the senior management for resolution.
- K Concurrence — The deliverable shall be provided to DOE for review and concurrence. DOE will review the deliverable and provide comments in writing. Comments will be discussed through the partnering process and the Contractor is required to provide written responses using Review Comment Records. Documents shall be re-written to incorporate all DOE mandatory comments. Once a deliverable or document has been concurred upon by DOE, it shall be placed under change control and no changes to that document shall be made, without DOE concurrence.
- M Monitor — The deliverable shall be developed with input from DOE. DOE will be highly involved as the deliverable is developed, and will monitor the progress of the deliverable. DOE comments shall be discussed in the partnering teams as the deliverable develops. If DOE direction is determined to be appropriate, DOE shall provide such direction in writing.
- P Product Acceptance — As defined in Specification 13.
- R Regulatory Deliverable Approval — Will be performed in accordance with Standard 7.

- (3) Occurrence Reporting: The Contractor shall adhere to DOE Manual 232.1-1A, ~~Occurrence Reporting and Processing of Operations Information~~ Order 231.1A, Environment, Safety, and Health Reporting (or current revision) with Hanford Site specific requirements and methods for notification (Table C.5-1.1, Deliverable 1.8).
- (4) 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 Order 231.1, *Environment, Safety and Health Reporting*. The process and form of reporting will meet the requirements of this Order and DOE Manual 231.1-1, *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).
- (5) Accident Investigation: The Contractor and, as necessary, all subcontractors shall support Type A and Type B accident investigations for accidents that may occur during the Contractor's 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.
- (6) Monthly Earned Value Data: The Contractor shall provide via compact disc the following earned value data (when developed and available) on a monthly basis to the Contracting Officer and the Contracting Officer's Representative: (i) Engineering Performance and Progress Report data files; (ii) Quantity Unit Rate Report data files; (iii) COBRA data files; (iv) baseline schedule; (v) Current P3 schedule; (vi) Commitment Log; and (vii) Trend Report.

Standard 3: Design

This Standard describes the Contractor's responsibilities for conducting facility design functions, maintaining design documentation and conducting design reviews. The intent is to ensure that the Contractor has the necessary systems, processes, information and deliverables in place to allow DOE evaluation that the WTP Project is proceeding appropriately.

(a) Design Process:

The Contractor shall perform the following activities:

- (1) Acquire and place under configuration control all records from previous contractors within 1 month of Contract award. The Contractor shall transition the WTP Conceptual Design and supporting information developed through Contract award.
- (2) Provide to DOE for ~~review and comment~~information the Contractor's design process (Table C.5-1.1, Deliverable 3.1). The process shall meet all requirements; laws and regulations; ensure that design is performed in controlled, safe, and efficient manner; and implement best industry practices. As changes to the process are made, the changes shall be provided to DOE for ~~review and comment~~information.

(b) Establish and Maintain Facility Design Requirements: The Contractor shall comply with the Contract design process and the following:

- (1) Functional Specification: The Contractor shall prepare for DOE ~~review and concurrence~~information (Table C.5-1.1, Deliverable 3.2), a Functional Specification that defines the technical operational requirements of the WTP based on the WTP Conceptual Design and supporting documentation. This document shall define the waste treatment requirements, environmental compliance requirements, and authorization basis requirements of the facility as currently known and understood. The Functional Specification shall describe the process/functional requirements of the WTP, including:
 - (i) WTP feed characteristics including quantities, treatment rates and mechanical, physical, chemical, radiological properties (by ranges, envelopes, tanks, or transfer batches);
 - (ii) ILAW and IHLW product characteristics such as quantities, mechanical, physical, chemical, radiological properties (by ranges, envelopes, tanks, or transfer batches);
 - (iii) Services and utility requirements, operating materials and supplies, and other inputs;
 - (iv) Estimates of effluents, emissions, solid wastes, by-products, and other outputs; and
 - (v) WTP operations limits.

~~Upon concurrence of the Functional Specification, DOE will control the functional specification and will consider any proposed changes.~~

- (2) Basis of Design: The Contractor shall prepare for DOE review and concurrence (Table C.5-1.1, Deliverable 3.3(a)) and as significant changes occur, a Basis of Design Document that identifies directly or by reference design requirements and design codes and standards that will serve as a basis for the continued design of

(xvi) Interface Control Documents.

- (4) Operations Requirements Document: The Contractor shall prepare an Operations Requirements Document for DOE review and concurrence (Table C.5-1.1, Deliverable 3.4) based on the WTP Conceptual Design and supporting documentation. The operations requirements document shall define requirements for WTP life-cycle operations, including commissioning. These requirements will influence WTP design features to ensure cost efficient operations and provide for accurate life-cycle cost estimates, planning, and informed decision-making. The Operations Requirements Document shall include at a minimum:
- (i) The operations and maintenance philosophy and requirements for the WTP, including requirements for reliability, availability, maintainability, and inspectability;
 - (ii) Description of the operations and maintenance philosophy for each of the WTP (Balance of Facilities, Pretreatment, HLW Vitrification and LAW Vitrification);
 - (iii) Requirements for change rooms, first aid stations, decontamination facilities, lunch rooms, training facilities, control rooms, and operating galleries;
 - (iv) Requirements for facilities and computer based (simulator) training facilities;
 - (v) Equipment accessibility for maintenance and operations including both contact and remotely maintained systems, clearances and tolerances allowed in mechanical systems, and housekeeping features;
 - (vi) Instrument and control requirements for control room and local instruments;
 - (vii) General sampling and analyses requirements;
 - (viii) Ergonomics and human factors requirements for operations and maintenance;
 - (ix) Maintenance and spares philosophy and requirements (including items to be present at transition to the future operations contractor);
 - (x) Environmental compliance requirements; and
 - (xi) Health, safety, and site emergency services requirements.

Upon concurrence of the Operations Requirement Document, DOE will control the Operations Requirement Document and will consider any proposed changes.

- (c) Establish and Maintain Design Documentation: The Contractor is encouraged to use established design practices and shall ensure that design documentation and media comply with best industry practices. DOE shall have access to all Contractor-developed design documents and information, paper and electronic files (~~Table C.5-1.1, Deliverable 3.5 Design Products~~). When determined to be necessary to support a design change, proposed design changes shall also require a technical analysis using an operations research model and tank utilization model to assess the impact on plant

be identified. All crane structures, filter housings, and facility mechanical systems shall be identified. Seismic analysis for the facilities for Pretreatment, HLW Vitrification, LAW Vitrification, and support facilities shall be completed in accordance with DOE and Ecology requirements to support structural analysis, definition of the facility, the Limited Work Authorization Request, and Construction Authorization Request.

- (17) Mechanical Flow Diagrams: The Contractor shall prepare mechanical handling diagrams for the Pretreatment, HLW Vitrification, LAW Vitrification, Analytical Laboratory, and balance of plant facilities. The diagrams shall be prepared with sufficient detail to support the hazards analysis review and the operations research model. The diagrams shall identify mechanical equipment and each step and sequence of the operation.
- (18) Analytical Laboratory Facility Design: The Contractor shall further develop and provide the sampling and analysis requirements to support process control, environmental compliance and waste form qualification for DOE review and comment concurrence (Table C.5-1.1, Deliverable 3.6). The information shall include sample locations, sample purpose, analysis requirements and frequency and turnaround times. Results of the assessment of process tank capacities and process operations will be used to verify and establish the specification and design of the Analytical Laboratory to support the WTP.

Reserve capacity in the Analytical Laboratory shall be utilized for "limited technology testing". Limited technology testing includes investigation of WTP operational anomalies or process upsets, process improvements, analytical methods optimization, and qualification of new instruments .

The Contractor shall identify samples from WTP operations, that will be analyzed at non-WTP Analytical facilities. The definitions of the out-sourced samples shall include sample type and analyses required. The identification of the out-sourced samples is to be included in the Sampling and Analyses Plan used to support the requirements definition for the Analytical Laboratory.

The Analytical Laboratory Facility design shall incorporate features and capability necessary to ensure efficient WTP operations and meet all permitting, process control, authorization basis and waste form qualification requirements. The design should be validated with information from tank utilization modeling of the process tankage, and operational research modeling of the treatment process, as appropriate.

- (19) Site Layout Drawings: The Contractor shall complete all site layout drawings, which shall include the exterior arrangement of all facilities and structures on the site in relation to one another, and their exterior interface points with all piping and electrical systems. The drawings shall identify all above-grade and below-grade structures, piping, and electrical systems. The drawings will reflect requirements during the construction and operations activities. Site drawings and documents shall be updated and provided to DOE for review and concurrence (Table C.5-1.1, Deliverable 3.7).
- (20) Other Applicable Design Products Including:
- (i) Ventilation and instrumentation diagrams;
 - (ii) Instrument schedules;
 - (iii) Electrical single line diagrams;
 - (iv) Electrical load schedules;

The Contractor shall involve all affected parties to ensure a balanced and complete picture. DOE will evaluate the studies and consider changes to the Contract requirements if they are found to be in the best interest of the Government.

- (e) U.S. Department of Energy Participation in Design Process: DOE staff and other Hanford Site Contractor staff identified by DOE, shall be invited to participate in all Design Overview activities (~~Table C.5-1.1, Deliverable 3.9~~). Design overview activities include any meeting that discusses significant issues associated with the establishment, development and/or progress of the technical requirements for the design. A multi-disciplined design overview shall be scheduled, conducted and documented bi-monthly through December 2003. (~~Table C.5-1.1, Deliverable 3.10 Design Overviews~~). Thereafter, design reviews and multi-disciplined topical overviews will be conducted on an as needed basis. The Contractor shall develop a list of systems and items for DOE review and concurrence at least 30 days in advance of the design overview. In order to improve communications, the Contractor shall provide dedicated office space in the Contractor's design facility for five DOE staff.

Standard 5: Commissioning

The purpose of this Standard is to describe the requirements and deliverables to commission the WTP. Commissioning, as used in Standard 5, is defined as the work performed by testing, operations, maintenance, procedures, and training organizations to complete the requirements contained in this Standard. Commissioning of the WTP Facilities begins with the turnover of individual facility systems from construction and continues through to turnover to DOE and/or the future operations contractor. Commissioning of the WTP shall comply with DOE Order 425.4B1C, *Startup and Restart of Nuclear Facilities*, using a graded approach.

The process begins with simple component tests and progresses through system level tests, water runs, testing during Cold Commissioning making production runs using agreed simulant waste, and completes with Hot Commissioning using actual tank waste. Initial component tests and system tests will be performed in a planned sequence at each facility. The Contractor may chose to commission the Facilities in a sequential order or a parallel order.

- (a) Objectives: The objectives of the Commissioning period for the entire WTP are to demonstrate:
- (1) Waste treatment performance meets facility performance requirements;
 - (2) Adequate procedures for commissioning have been implemented and are consistent with system design;
 - (3) Training programs for commissioning personnel are established, documented, and implemented. The training and qualification program encompasses the required range of duties and activities;
 - (4) WTP safety and environmental compliance documentation is in place and describes the safety and environmental compliance basis of the WTP and WTP will meet environmental permitting and safety requirements.
 - (5) Program(s) are in place to confirm and periodically reconfirm the condition and operability of systems as required by the technical safety requirements.
 - (6) Processes are established to identify, evaluate, and resolve deficiencies and recommendations made by DOE oversight groups, official review teams, and audit organizations;
 - (7) Management programs are established, sufficient numbers of qualified personnel are provided, and adequate facilities and equipment are available to support those functions required for commissioning of the facilities. Commissioning activities shall continue through the to Contractor's turnover to DOE and/or the operations contractor.
 - (8) Functions, assignments, responsibilities, and reporting relationships are clearly defined, understood, and effectively implemented;
 - (9) WTP systems and procedures, as affected by any facility modifications, are consistent with the description of the facility, procedures, and accident analysis included in the authorization basis; and
 - (10) Modifications to the facility have been reviewed for potential impacts on procedures, training, and qualification as required. Procedures have been revised to reflect these modifications and training has been performed, and that design documentation is complete.

- (b) Commissioning Plan: The Contractor shall prepare a detailed Commissioning Plan for DOE review and concurrence (Table C.5-1.1, Deliverable 5.1), a minimum of 24-12 months prior to the introduction of waste feed simulant to a processing facility. The Plan shall, at a minimum, meet the above objectives and define the WTP organization, tests, and procedures for commissioning each of the major facilities and supporting facilities.

The Commissioning Plan shall identify criteria and sequence by which systems will be released to support other systems. The Commissioning Plan shall be updated and provided to DOE for concurrence as required.

- (c) Training and Qualification of Commissioning Staff: The Contractor shall establish a commissioning organization that will:

- (1) Establish a commissioning organization and prepare a staffing analysis for the WTP that identifies the types of skills, skill level, and number of personnel needed to commission the WTP. The analysis shall include system operations, maintenance, environmental safety and health, QA/QC, and facility engineering;
- (2) Identify training and qualification requirements for the Contractor's commissioning staff;
- (3) Prepare training and qualification procedures, tests, and other documentation methods to conduct training;
- (4) Prepare maintenance manuals and procedures for WTP commissioning (cold and hot), system operations, and maintenance activities;
- (5) Establish a system and procedures to schedule and manage WTP maintenance requirements and activities;
- (6) Conduct training and qualify staff responsible for commissioning the WTP; and
- (7) During Cold and Hot Commissioning, the DOE may desire the Contractor to support the training of the future operations contractor's operating personnel using the Contractor's WTP training staff. If support for training is requested by DOE, the DOE shall provide the Contractor with sufficient notification of the timing and number of personnel to be trained. The Contractor shall use its best effort to fully utilize the capacity of its training staff to minimize the cost for DOE. A request for training shall be in accordance with Section I Clause *Changes*.

At the completion of any training of the future operator's staff, the Contractor shall provide training documentation to the future operations contractor. The future operations contractor is required to certify, as required, their own personnel for their assigned positions.

- (d) Commissioning Review Board: The Contractor will chair a Commissioning Review Board with DOE as a voting member (Table C.5-1.1, Deliverable 5.2). The Board will review barriers and commissioning progress, and results. The Board shall be conducted monthly with DOE participation and, as necessary, until facility turnover to DOE and/or the future operator. The Contractor shall be responsible for testing and commissioning the equipment and systems, as follows:

- (1) Demonstrate the correct functioning of systems important to safety, plant, and equipment;
- (2) Demonstrate site emergency procedures;

- (3) Test radiation instruments;
 - (4) Sample and analyze systems;
 - (5) Validate commissioning procedures and instructions as necessary;
 - (6) Evaluate Shielding.
 - (7) Perform system environmental performance tests in concert with Cold Commissioning Performance Testing, Table C.6-5.1;
- (e) Operational Readiness Review: Operational Readiness Review (ORR) will be comprised of a hazard(s) and risk based approach with scope limited to Commissioning. Both the Contractor and DOE will conduct an ORR and will tailor the review to the scope of this Contract using DOE Order 425.4B1C, on a graded approach. In tailoring the application of this Order to the WTP, the scope of ORR will be limited to Commissioning and to the Authorization Basis included in the Contract. Hazard and risk based tailoring will provide the basis for the graded approach (e.g., ORR, RA, etc.) in determining commissioning readiness for each facility.

The ORR focus areas will be phased. Programs, Personnel (Training & Qualification) and Plant (Evolutions, Drills, etc) may be performed at different times. This series of smaller reviews, conducted when the focus area is ready to be assessed will be conducted prior to, or during, cold commissioning and may replace, as determined by the Contractor, a single large review prior to Hot Commissioning. Implementation of tailoring and sequencing the ORR includes:

- (1) Early identification of the scope of the ORR Team's assessment. The Team's scope of assessment will be available as far in advance as possible prior to the activities that it covers, but no later than 6 months prior to the start of the assessment; and
 - (2) The requested activities, evolutions, etc will be selected from the facility's normal sequence of commissioning. Selection will utilize the scheduled activities that are in progress during particular system(s) testing. Special ORR requests require both the DOE ORR Team and Contractor to concur.
- (f) Cold Commissioning: During the cold commissioning test period, the Contractor shall conduct necessary testing operations to verify that the WTP will perform in accordance with design specifications, using DOE approved non-radioactive simulated waste feeds that demonstrate the ability of the facility to treat tank waste. The cold commissioning test periods will also be used to train WTP Contractor staff, and demonstrate that the WTP can safely receive and treat radioactive waste feed (hot commissioning). Prior to cold commissioning, the Contractor shall have in-place necessary permits, licenses, and interfaces to support cold commissioning.
- (1) Testing Strategy: The Contractor shall provide a strategy to achieve the cold commissioning performance test objectives in the WTP Commissioning Plan. Objectives may be performed sequentially or in parallel. Representative temporary analytical facilities may be used to perform elements of these demonstrations. Additionally, where instrument procurements are allowed to be deferred (see Facility Specification, Section C.7.(a).(9)), demonstration of the analytical systems at the continuous peak throughput tests will be based upon extrapolation from the initial production rate tests. Resultant products from Cold Commissioning (Table C.5-1.1, Deliverable 5.6) shall be transferred to DOE in accordance with the Section C.9, Interface Control Documents. During the tests, the Contractor shall provide documentation of the waste form products and secondary wastes for DOE acceptance in accordance with Specification 13,

- (c) The Contractor shall complete the following activities and prepare the documentation identified in Table S6-1, *Product Qualification, Characterization, and Certification Documentation*:
- (1) ~~Annually update and revise the~~ ILAW Product Compliance Plan (Table C.5-1.1, Deliverable 6.3) for DOE review and concurrence.
 - (2) ~~Annually update and revise an the~~ IHLW Product Compliance Plan (Table C.5-1.1, Deliverable 6.2) for DOE review and concurrence that addresses the requirements of the WASRD and WAPS identified in Specification 1, *Immobilized High-Level Waste Product*, for DOE concurrence. The Contractor shall provide documentation and technical support to DOE during the concurrence process.
 - (3) ~~Annually update and revise the~~ Secondary Wastes Compliance Plan (Table C.5-1.1, Deliverable 6.1) for DOE review and concurrence.
 - (4) Implement the DOE-concurred upon ILAW Product Compliance Plan (Table C.5-1.1, Deliverable 6.3) and IHLW Product Compliance Plan (Table C.5-1.1, Deliverable 6.2), and the Secondary Wastes Compliance Plan (Table C.5-1.1, Deliverable 6.1), including all planned qualification, certification, and characterization activities.
 - (5) ~~Annually, through the construction period, p~~Prepare qualification documentation for DOE review and comment related to ILAW, and IHLW products. Qualification documentation (Table C.5-1.1, Deliverables 6.4 IHLW Product Qualification Report and 6.6 ILAW Product Qualification Report) shall be submitted for DOE concurrence during the facility cold and hot commissioning activities. The qualification documentation shall address each requirement of each specification, and shall compile the results of testing, analyses, demonstrations, and inspections to demonstrate that each product will comply with Section C.8, *Operational Specifications*, of the Contract.
 - (6) The IHLW Product Qualification Report shall be submitted for DOE concurrence during the facility cold and hot commissioning activities. The Contractor shall provide documentation and technical support to DOE during the concurrence process.
 - (7) In accordance with Standard 7, DOE will be responsible for submitting the Contractor developed petition for exempting or excluding the IHLW product from RCRA and HWMA regulation (Table C.5-1.1, Deliverable 7.9). The Contractor shall develop the petition and support DOE in the petitioning process. If the exemption or exclusion is obtained, the Contractor shall implement the necessary procedures to provide IHLW that is exempted or excluded from RCRA and HWMA.

Table S6-1. Product Qualification, Characterization, and Certification Documentation

Item #	Deliverable Description	Reference	Status at Contract Award	Through Construction	Cold Commissioning	Hot Commissioning
6.1	Secondary Wastes Compliance Plan	Standard 6	DOE Concurred upon final	update annually	Final	Final
6.2	IHLW Product Compliance Plan	Standard 6 and Specification 1	DOE Concurred upon final	update annually	Final	Update
6.3	ILAW Product Compliance Plan	Standards 2, 5, & 6 and Specifications 2 & 13	DOE Concurred upon final	update annually	Final	Update
6.4	IHLW Product Qualification Report	Standard 6 and Specification 1	Preliminary IHLW Product Qualification Report	update annually	Final	Final
6.5	Production Documentation for IHLW Product	Standard 6, Specification 1 and ICD 14			Product Acceptance	Final for each lot size (see Spec. 13)
6.6	ILAW Product Qualification Report	Standard 6 and Specification 2	Preliminary ILAW Product Qualification Report	update annually	Final	Final
6.7	Production Documentation for ILAW Product	Standard 6, Specification 2 and ICD 15			Product Acceptance	Final for each lot size (See Spec. 13)
6.8	Compliance Report for Estimated Quantities of IHLW and ILAW Products per Envelope D Batches	Standard 6, Specification 12		update annually	Final	Update
6.10	Secondary Wastes Production Documentation	Standard 6 and ICDs 3, 4, 5, 6, 7, 8, and air emissions			Product Acceptance	Final
6.11	Quality Assurance Provisions Document	Standard 6	DOE Approved Final Contractor to Update Within 60 Days of Contract Award	update annually	Final	Update

- (8) In accordance with Standard 7, DOE will be responsible for submitting the Contractor developed petition for a new treatment standard, specific to Hanford tank waste. The Contractor shall support DOE during the petitioning process, in accordance with Standard 7 (Table C.5-1.1, Deliverable 7.10). If the petition is approved, the Contractor shall implement the necessary procedures to treat the waste in accordance with the new treatment standard.
- (9) Prepare production documentation for ILAW (Table C.5-1.1, Deliverable 6.7) and IHLW (Table C.5-1.1, Deliverable 6.5) products, and secondary wastes (Table C.5-1.1, Deliverable 6.10). The production documentation shall verify that the

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 ~~ORP M-440.1-2, Industrial Health and Safety Oversight Plan for the Waste Treatment Plant Contractor~~ RL/REG-2000-04, Industrial Health and Safety Oversight Plan.
 - (iii) The documentation of the Contractor's non-radiological worker safety and health program shall be submitted to DOE for review and approval (Table C.5.1-1, Deliverable 7.0), and shall be updated and resubmitted at each authorization action. If a Limited Construction Authorization Request (LCAR) is submitted, the initial non-radiological worker safety and health program shall be submitted with the LCAR. DOE will review the document according to RL/REG-2000-03 *Review Guidance for the Nonradiological Worker Safety and Health Plan*, and review updates, as appropriate.
 - (iv) DOE is responsible for setting and approving non-radiological worker safety and health standards, formal interpretation of standards, conduct of non-radiological worker safety and health inspections, and granting variances.
 - (v) All submitted regulatory information will be handled in accordance with RL/REG-97-05, *Regulatory Unit Management Directives*, Directive 2.1, *Information Management*, and shall be made immediately available to the public by DOE, as appropriate.
- (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

Table S7-1. Radiological, Nuclear, and Process Safety Deliverables

Regulatory Action	Deliverable (Note 1 Applicable to ALL Deliverables)	References	Deliverables included in Conceptual Design and Supporting Documentation	Start of Construction (Revision Note)	Start of Commissioning
Standards Approval	Safety Requirements Document, Note 1, Note 4	DOE/RL-96-0003	Final	Revision (Revision Note 3)	Revision
	Integrated Safety Management Plan, Note 1, Note 4	DOE/RL-96-003, 10CFR830, 29CFR1910	Final	Revision	Revision
	Hazards Analysis Report Revision (Note 3) Note 1	DOE-STD-3009-94, 29CFR1910.119	Final	Revision	Revision
	Radiation Exposure Standard for Workers Under Accident Conditions Note 1	DOE/RL-96-0006	Final		
	Quality Assurance Program Note 1	10CFR830.120	Final	Revision	Revision
	Initial Safety Assessment Note 1, Note 4	DOE/RL-96-0003	Final		
	Construction Authorization Request Note 1, Note 4	DOE/RL-96-0003	Outline	Final	N/A
	Construction Occurrence Reporting Plan Note 1, Note 4	DOE/RL-96-0003	Outline	Final	N/A
	Deactivation Plan Note 1, Note 4	DOE/RL-96-0003	Outline	Revision	Revision
	Safety Analysis Report Note 1, Note 4	DOE/RL-96-0003, 29CFR1910.119	Initial	Preliminary	Final
Authorization for Hot Commissioning	Emergency Response Plan Note 1	See Note 2	Outline	Draft	Final
	Unreviewed Safety Question Plan Note 1, Note 4	DOE/RL-96-0003	Outline	Draft	Final
	Conduct of Operations Plan Note 1	DOE/RL-96-0006, 29CFR1910	Outline	Draft	Final
	Technical Safety Requirements Note 1	DOE/RL-96-0006	Outline	Draft	Final
	Maintenance Implementation Plan Note 1	DOE/RL-96-0006, WAC246-247	Outline	Draft	Final
	Occurrence Reporting Plan Note 1	DOE/RL-96-0006, WAC246-247	Outline	Draft	Final
	Environmental Radiological Protection Program Note 1	DOE/RL-96-0006, 29CFR1910, 40CFR68	Outline	Draft	Final
	Radiation Protection Program #1 Plan for Operational Assessment	DOE/RL-96-0006	Outline	Revision	Final
	Reports Note 1, Note 4	DOE/RL-96-0003	Outline	Draft	Final
	Deactivation Safety Assessment Note 1, Note 4	DOE/RL-96-0003	Outline	Outline	Draft

Notes: 1. In addition to the deliverables listed, supplemental information for each regulatory action shall be submitted as required by DOE/RL-96-0003, DOE Process for Radiological, Nuclear, and Process Safety Regulation of the RPP-WTP Contractor.
 2. Shall comply with requirements of 40CFR68, 40CFR355, DOE/RL-94-02, and 29CFR1910.38, and WAC 246-247 (Plan must comply with DOE/RL-94-02, but exposure standards are contained in SRD Vol. II, Section 2.1)
 3. The Hazards Analysis Report and Safety Requirements Document will be submitted with the Construction Authorization Request rather than the Standards Approval Package submittal. The Hazards Analysis Report may be submitted as part of the Preliminary Safety Analysis Report.
 4. The addition of DOE O 425-4B-1C compliance, applied in a phased graded approach authorization for hot commissioning, will allow removal of redundant assessment requirements presently in the Contract and under the DOE/RL 96-0003 document.

Prior to implementation of guidance, the Contractor shall notify the Contracting Officer of any impacts that the guidance may have on cost or schedule. Proposed changes that impact cost and/or schedule will be analyzed under RL/REG-98-14, *Regulatory Unit Position on New Safety Information and Back-fits*, and if implemented, will be dispositioned in accordance with the Section I Clause entitled, *Changes*.

- (xiv) All regulatory information submitted will be handled in accordance with RL/REG-97-05, *Regulatory Unit Management Directives*, Directive 2.1, *Information Management*, and shall be made immediately available to the public by DOE, as appropriate.

(3) Quality Assurance (Table C.5-1.1, Deliverable 7.2):

The Contractor shall develop a QA Program, supported by documentation that describes overall implementation of QA requirements. Documentation shall identify the procedures, instructions, and manuals used to implement the Contractor's QA program within the Contractor's scope of work. Specific requirements for process development, waste form qualification and testing are described in Standards 2 and 6. The Contractor's documentation shall be submitted to DOE for review and approval (Table C.5-1.1, Deliverable 7.2). The Contractor shall utilize a technically defensible graded approach to develop the QA program based upon the requirements of:

- (i) QA for radiological, nuclear, and process safety shall be conducted in accordance with 10 CFR 830.120.
- (ii) QA for process development, waste form qualification and testing shall be conducted as described in Standards 2 and 6. This portion of the QA program shall be described in a QA Provisions document and be provided to DOE for concurrence within 2 months of Contract award. The quality assurance program description shall address the following requirements:
 - (A) The Contractor shall implement the Office of Civilian Radioactive Waste Management's, *Quality Assurance Requirements and Description Document* (QARD), DOE/RW-0333P, Revision 4413, for elements of the Contractor's scope that may affect the Immobilized High-Activity Waste (IHLW) product quality, including but not limited to, waste form development, qualification, characterization, production process control, and certification of the IHLW products.
 - (B) The Contractor shall implement the *National Consensus Standard* AMSE/NQA-1, 1989, Revision (NQA-1) for elements of the Contractor's scope that may affect product quality of the Immobilized Low-Activity Waste (ILAW) product, entrained solids, and sludge washing, including, but not limited to, waste form development, qualification, characterization, production process control, certification of ILAW product, entrained solids, and sludge washing. Furthermore, all research and technology activities (other than IHLW – see (A)), shall be conducted in accordance with NQA-1.

and/or integrate air and liquid effluent monitoring data from operations and activities under their control. The Contractor shall compare the monitoring data with regulatory and/or permit standards applicable to their activities and/or operations and provide the data and analyses to the appropriate Hanford Site contractor for use in preparing the mandatory State and Federal environmental reports for the Hanford Site in a timely manner. In addition, the Contractor shall provide appropriate environmental data for the WTP to support Hanford Site assessments and preparation of the Hanford Site Environmental Report.

- (vi) The Contractor shall prepare and submit to the Contracting Officer for review and action the following environmental protection deliverables. The deliverables shall be consistent with the design and schedule for construction and commissioning the WTP. Identification of the following deliverables does not modify or affect the Contractor's responsibilities for environmental permitting, compliance, and protection identified in the Contract or as required under applicable law or regulation. The Contractor shall have the responsibility to identify and develop any necessary modifications to existing permit applications, license applications, requests for regulatory authorizations/approvals and supporting materials to support the design, construction, commissioning, and operation of the WTP.

- (A) Environmental Plan (Table C.5-1.1, Deliverable 7.3): The Contractor shall develop a detailed plan that identifies the Contractor's structured approach for environmental protection, compliance, and permitting, including: (1) planned environmental permitting and compliance activities for design, construction, and commissioning the WTP; (2) detailed permitting and compliance schedule integrated and linked to the technical baseline; and (3) environmental monitoring and reporting requirements. The Contractor shall review permit applications, license applications, and other requests for regulatory authorizations/approvals, and supporting materials that are in draft form and/or were submitted to regulatory agencies and identify any modifications necessary to support the design, construction, commissioning, and operation of the WTP in the Environmental Plan.

The Environmental Plan (Table C.5-1.1, Deliverable 7.3) shall be submitted for DOE review and concurrence, and include identification of where and when DOE or other site contractor action is anticipated or required. The Plan shall be submitted within 3 months after contract award. The Plan shall be updated ~~at least annually or as significant changes to the permitting schedules warrant.~~

- (B) Dangerous Waste Permit Application (Table C.5-1.1, Deliverable 7.5): Prepared as a chapter to the Dangerous Waste Portion of the RCRA Permit for the Treatment, Storage, and Disposal of Dangerous Waste, Permit Number WA 7890008967.

Dangerous Waste Codes are identified in the Double-Shell Tank System Unit Permit Application (DOE/RL-88-21, October 1, 1996). The Contractor facilities shall be permitted to assure that the facility may manage and treat all waste codes applicable to the Hanford Double-Shell Tank system.

C.7 FACILITY SPECIFICATION

The Facility Specification provides minimum functional requirements for the process and facility design and the waste treatment capacity requirements. Additional requirements are contained in Section C.6, *Standards*. DOE will consider changes to the Facility Specifications that improve life-cycle performance, cost, and schedule. Changes shall be proposed in accordance with requirements of Standard 1.

- (a) Functional Design Requirements: The WTP shall include three major processing elements: (1) Pretreatment; (2) LAW Vitrification; and (3) HLW Vitrification and a number of supporting balance of plant facilities (including an analytic laboratory). The WTP shall be designed to:
- (1) Have a 40 year operating life.
 - (2) Separately receive and store LAW feed (defined in Specification 7, *Low-Activity Waste Envelopes Definition*) and HLW feed (defined in Specification 8, *High-Level Wastes Envelope Definition*) in appropriately designed vessels. The DOE will provide waste transfer lines to an interface point described in ICDs 19 and 20 respectively. The DOE will also provide adequate pumping motive force to transfer the waste to the WTP Receipt Vessels. The motive force agreed to by the WTP and TFC is documented in ICD's 19 and 20.
 - (3) Treat and immobilize the low activity fraction (Envelopes A, B and C) and provide the final waste products described in Specification 2, *Immobilized Low-Activity Waste Product*, for return to DOE.
 - (4) Immobilize entrained solids separated from LAW (Envelopes A, B, and C), as either HLW (Specification 1, *Immobilized High-Level Waste Product*) or LAW (Specification 2, *Immobilized Low-Activity Waste Product*).
 - (5) Treat in accordance with Specification 12, *Number of High Level Waste Canisters per Batch of Waste Envelope D*; immobilize the HLW feed and radionuclides separated from LAW feed and any HLW Entrained Solids not returned to DOE, and provide the final waste products described in Specification 1, *Immobilized High Level Waste Product*, for return to DOE.
 - (6) Disposition all secondary wastes in accordance with ICD requirements; secondary wastes are identified in Section C.9, *Interface Control Documents*.
 - (7) The Pretreatment Facility shall have the capability to return back to the Hanford Double-shell Tank Farm process streams in accordance with Specification 9, Liquids or Slurries transferred to DOE Tanks by Pipeline.
 - (8) Provide for safeguards and security of DOE owned materials, property, and information in accordance with Standard 8, *Safeguards and Security*.
 - (9) Include a Radiochemical Analytical Laboratory to support the operations of the facilities, including: process control, waste form qualification testing, environmental analyses, and limited technology testing. The capacity of the Analytical Laboratory shall be sufficiently sized and scoped to support the increased waste treatment capacity of the facilities. The technical basis to support the definition of the Analytical Laboratory facility shall be defined in the Analytical Laboratory Design Requirements (Deliverable 3.6).
 - (10) Have the ability to receive NaOH slightly contaminated with radioactive Na for use as a process chemical.

C.9 INTERFACE CONTROL DOCUMENTS

This Section provides the requirements for ICDs that describe the physical and administrative interfaces between DOE, ORP, Tank Farm Contractor, and other Hanford Site Contractors.

The RPP involves two or more Contractors, under Contract to ORP that carry out the functions necessary to achieve the RPP mission. The WTP facilities are located on the Hanford Site and will rely upon other organizations to provide support services. In order to assure that the efforts and facilities are coordinated, a formal system of interface management was developed by RPP. The objective of the interface management system is to assure documentation and management of shared responsibilities for: (1) transfer of energy, data, or materials; and (2) development, operation, and maintenance of a physical compatible facilities and subsystems.

The approach to managing the interfaces is based upon development of ICDs that identify the requirements, roles, and responsibilities for all parties to the interface.

(a) (1) An initial set of ICDs was prepared as part of the WTP Conceptual Design:

ICD 1:	Raw Water
ICD 2:	Potable Water
ICD 3:	Radioactive Solid Wastes
ICD 4:	Reserved
ICD 5:	Non-Radioactive, Non-Dangerous Liquid Effluents
ICD 6:	Radioactive, Dangerous Liquid Effluents
ICD 7:	Reserved
ICD 8:	Reserved
ICD 9:	Land for Siting
ICD 10:	Reserved
ICD 11:	Electricity
ICD 12:	Roads
ICD 13:	Reserved
ICD 14:	Immobilized High-Level Waste
ICD 15:	Immobilized Low-Activity Waste
ICD 16:	Reserved
ICD 17:	Reserved
ICD 18:	Reserved
ICD 19:	Low-Activity Waste Feed
ICD 20:	High-Level Waste Feed Reserved
ICD 21:	Reserved
ICD 22:	Reserved
ICD 23:	Waste Treatability Samples
ICD 24:	Reserved
ICD 25:	Inactive
ICD 26:	Reserved
ICD 27:	Inactive

(2) Post-award ICDs:

ICD 28: Pit 30 Aggregate Supply for Construction

(b) The Contractor shall update the ICDs every 6 months as required throughout the period of Contract performance, ICDs shall reflect all interfaces and services needed in the construction and performance testing phases, and projected interface and services needed for the future commissioning and operating phases. The ICDs shall be an element of the design basis.

SECTION G

CONTRACT ADMINISTRATION DATA

G.1 CORRESPONDENCE PROCEDURES

To promote timely and effective administration, correspondence submitted under this Contract shall include the Contract number and be subject to the following procedures:

- (a) **Technical Correspondence.** Technical correspondence (as used herein, excludes technical correspondence where patent or technical data issues are involved and correspondence which proposes or otherwise involves waivers, deviations, or modifications to the requirements, terms, or conditions of this Contract) shall be addressed to the U.S. Department of Energy (DOE) Office of River Protection (ORP) Contracting Officer's Representative (COR), with an information copy addressed to the DOE-ORP Contracting Officer and DOE-ORP Correspondence Control.
- (b) **Other Correspondence.** All other correspondence shall be addressed to the ORP Head of the Contracting Activity (HCA) with information copies of the correspondence to the Contracting Officer (CO), COR, DOE-ORP Correspondence Control, and the U.S. Department of Energy, Richland Operations Office (RL) Patent Counsel (when patent or technical data issues are involved).

G.2 CONTRACT ADMINISTRATION

The ORP Contracting Officer (CO) is:

U. S. Department of Energy
Office of River Protection, MS H6-60
~~Michael K. Barrett~~ Jeff Short
Contracting Officer
Office of Project Administration
P.O. Box 450
Richland, WA 99352

Tele: (509) 373-4143372-0098
Fax: (509) 372-2784376-8532
E-mail: Michael_K_Barrett@rl.gov Jeff_Short@rl.gov

G.3 CONTRACTING OFFICER REPRESENTATIVE (COR)

The COR will be designated by separate letter and will represent the HCA and CO in the technical phases of the work. The COR is not authorized to change any of the terms and conditions of this Contract. The CO, through properly written modification(s) to the Contract, is the only person authorized to make changes to the work scope.

G.4 BILLING INSTRUCTIONS

- (a) **Invoices:** Invoices shall be submitted in triplicate (original and two copies), in accordance with the following:
 - (1) Original and copies of invoices shall be submitted simultaneously. Invoices not simultaneously received by all addressees may be rejected or have payment delayed.

SECTION J – LIST OF ATTACHMENTS
ATTACHMENT E – LIST OF APPLICABLE DIRECTIVES (LIST B-DEAR 970.5204.78)

- (a) Environmental, safety and health (ES&H) requirements appropriate for work conducted under this Contract that have been determined by a DOE approved process to evaluate the work and the associated hazards and identify an appropriately tailored set of standards, practices and controls:

DOCUMENT NUMBER	DATE	TITLE
BNFL-5193-SRD-01	Latest Revision	Tank Waste Remediation System Privatization Project-Safety Requirements Document
DOE/RL-96-0003	02/01	DOE Regulatory Process for Radiological, Nuclear and Process Safety Regulation of the RPP Waste Treatment Plant Contractor
DOE/RL-96-0004	02/01	Process for Establishing a Set of Radiological, Nuclear and Process Safety Standards and Requirements for the RPP Waste Treatment Plant Contractor
DOE/RL-96-0005	02/01	Concept of the DOE Regulatory Process for Radiological, Nuclear and Process Safety Regulation of the RPP Waste Treatment Plant Contractor
DOE/RL-96-0006	02/01	Top-Level Radiological, Nuclear and Process Safety Standards and Principles for the RPP Waste Treatment Plant Contractor
RL/REG-97-04	08/02	Policy for Openness and Openness Plan for the Office of Safety Regulation
RL/REG-97-05	07/19/01	Regulatory Unit Management Directives
RL/REG-97-13	07/17/00	Regulatory Unit Position on Contractor-Initiated Changes to the Authorization Basis
RL/REG-98-05	07/01/99	Inspection Program Description for the Regulatory Oversight for the RPP-WTP Contractor
RL/REG-98-06	06/30/99	Corrective Action/Enforcement Action Program Description
RL/REG-98-14	06/29/98	Regulatory Unit Position on New Safety Information and Back-fits
RL/REG-99-17	04/25/01	Review Guidance for the Limited Construction Authorization Request
RL/REG 2000-03	05/04/01	Review Guidance for the Nonradiological Worker Safety and Health Plan
DOE O 470.2B	10/31/02	Contractor Requirements Document (CRD), "Independent and Performance Assurance Program"

- (b) Additional Directives applicable to this Contract. The directive(s) or applicable section(s) of the directive(s) are applied as specified in other Sections of this Contract.

DOCUMENT NUMBER	DATE	TITLE
DOE M 140.1-1B	03/30/01	Interface with Defense Nuclear Facilities Safety Board
DOE M 231.1-1	01/28/00	Environment, Safety and Health Reporting Manual
DOE M 232.1-1A 231.1A	07/21/97 08/19/03	Occurrence Reporting and Processing of Operations Information Environment, Safety, and Health Reporting
DOE M 435.1-1	07/09/99	Radioactive Waste Management Manual
ORP M 440.1-2 RL/REG-2000-04	08/10/04 07/03	Industrial Health and Safety Oversight Plan for the Waste Treatment Plant Contractor Industrial Health and Safety Oversight Plan
DOE N 231.1	01/15/02	Environment, Safety, and Health Reporting Notice
DOE N 471.3	04/13/01	Reporting Incidents of Security Concern

DOCUMENT NUMBER	DATE	TITLE
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 231.1	11/07/96	Environment, Safety and Health Reporting
DOE O 241.1	08/17/98	Scientific and Technical Information Management
DOE O 350.1	05/08/98	Contractor Human Resource Management Program
DOE O 414.1A	09/29/99	Quality Assurance
DOE O 425.4B1C	12/24/00 03/13/03	Start and Restart of Nuclear Facilities
DOE O 430.1A	10/14/98	Life-Cycle Asset Management
DOE O 442.1A & Supplemented Rev. 1	02/01/99	Department of Energy Employee Concerns Program
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)
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		Quality Assurance Requirements and Description for the Civilian Radioactive Waste Management Program (QARD) – Revision 4413
DOE/RW-0351P	04/99	Waste Acceptance System Requirements Document (WASRD)
HFID 232-1B	09/08/99	Notification and Reporting of Operations Information
PL-W375-MG00004	02/22/00	Safeguards and Security Program

¹ Footnote to DOE O 221.1 and DOE O 221.2: The Contractor shall implement these Orders into all new subcontract awards beginning January 1, 2003, except for those acquisitions for commercial items and for any new acquisition awards under \$100,000. Flow down of the requirements of these Orders to Subcontractors using these criteria meets the intent of ensuring compliance with the Orders' requirements.

² This Order included by Modification No. A029 and deemed to be the "subsequent version of the order in effect at the time of award" per DEAR 952.247-70.

**SECTION J – LIST OF ATTACHMENTS
ATTACHMENT F – KEY PERSONNEL**

<u>Name</u>	<u>Position</u>
Ronald F. Naventi <u>James P. Henschel</u>	Project Director
Jimmy P. Betts	Project Manager
<u>Alan K. Beckman</u>	<u>Deputy Project Manager</u>
James Q. Hicks	Area Project Manager, Balance of Facilities
Phillip W. Schuetz	Area Project Manager, High-Level Waste
William T. Clements	Area Project Manager, Low-Activity Waste
Robert E. Lawrence	Area Project Manager, Pretreatment
Fred Beranek	E&NS
George T. Shell	Quality Assurance
Stephen F. Piccolo	Operations Manager
Walter L. Tamosaitis	Research and Technology
Kenneth J. Rueter	Process Technology
Neil Brosee	Commissioning
Richard J. Tossetti	Engineering Manager
Timothy L. Horst	Construction Manager
John R. (Jack) Monrean	Labor Relations
C. Ed Rogers	Business/Project Controls Manager
Anton R. Veirup	Prime Contract Manager
Timothy C. Green	Human Resources