

Purpose of Modification:

The following changes are hereby incorporated into the contract:

1. Update Section J, Attachment J.4, Performance Evaluation and Measurement Plan (PEMP), Attachment J.2 Performance Measures for Base Contract Period, Effective: FY2010 – 2013, to incorporate the following Performance Based Incentives (PBI) changes:

Deletions:

- PBI -1.3.3.5 DST Farm upgrades –Complete AW-102 Transfer Pump upgrade - \$300,000.00
- PBI -1.3.3.6 DST Farm upgrades – Complete SY farm Exhauster installation upgrade – \$400,000.00
- PBI -1.4.5.2 Complete life extension project upgrade: 222-S Waste Disposal Renovations- \$150,000.00
- PBI -1.4.5.3 Complete life extension project upgrade: 222-S HVAC-\$150,000.00
- PBI -1.5.1 Build Construction Management Complex with Shops - \$300,000.00
- PBI -2.1.2.4 Perform Vadose zone electrical resistivity characterization for potential barrier site – 241-SFarm, Northwest - \$150,000.00
- PBI- 2.1.5 Complete Construction of SX Farm Interim Surface Barrier - \$500,000.00
- PBI -2.1.7.5 Direct push soil characterization in WMA C 3 locations (24 samples) -\$600,000.00
- PBI -2.2.9 Perform and document initial modeling runs for initial human health and environmental risk assessment/performance assessment for WMA C - \$200,000.00
- PBI -2.2.10 Document the initial human health and environmental risk assessment/performance assessment for WMA C - \$200,000.00
- PBI -2.2.11 Provide Tier 1 Closure plan for WMA C as defined in DOE Order 435.1 – \$200,000.00
- PBI -2.2.12 Provide WIR basis documentation- \$200,000.00

As a result of these deletions totaling \$3,350,000.00, the Unallocated Available Fee Pool is increased by \$3,350,000.00.

Released from On Hold Status:

- PBI -1.3.5.008 Complete DST transfer system encasement pressure test - \$10,000.00
- PBI -1.3.5.009 Complete DST transfer system encasement pressure test - \$10,000.00
- PBI- 1.3.5.012 Complete DST transfer system encasement pressure test - \$10,000.00
- PBI -1.7.1.1 AY-101 Remove and Replace Coupons - \$200,000.00
- PBI -1.6.1.16 thru 20 Complete grab samples (5 @75K) - \$375,000.00
- PBI -2.8.2 C-104 Complete Heel Retrieval - \$1,500,000.00
- PBI -3.1 HSF Project (Submit CD-1) - \$350,000.00

As a result of these releases, the unallocated fee pool is decreased by \$2,455,000.00 and this fee is available to be earned.

Additions:

- PBI -1.3.4.23 through 28 Complete UT Exams and six video Assessments and issue reports (6@10K)- \$60,000.00
- PBI -1.6.1.21 through 25 Complete grab samples (5 @75K) - \$375,000.00
- PBI -2.14.5 through 6 Complete 241 C-111 Raman technology milestone (2@150K)- \$300,000.00
- PBI -2.14.7 Complete 241 C-111 Raman technology milestone (1@200K)- \$200,000.00
- PBI -3.25.1 Integrated Waste Feed Delivery Plan (IWFDP) Update - \$150,000.00
- PBI -3.33.1 Construct Remote Sampler Demo Loop Mechanical Handling System- \$200,000.00
- PBI -3.35 Complete Relocation of the Pretreatment Engineering Platform- \$200,000.00

As a result of these additions, the Unallocated Available Fee Pool is reduced by \$1,485,000.00.

2. Update Section J, Attachment J.4, PEMP, to update page J.4-2 from Revision 5 to Revision 6.
3. Update Section J, Attachment J.4, PEMP, to update Table of Contents Pages J.4.2-2, J.4.2-3, and J.4.2-4.
4. Update Section J, Attachment J.4, PEMP, to update the Configuration Table to reflect the date of modification 151 and to add Revision 18 of the PEMP as a result of this modification. The change is as follows:

FROM:

Version	Date Approved	Summary of Changes
Original	May 12, 2010 (Modification 54)	Established FY 2010-2013 PBIs
Revision 1	July 14, 2010 (Modification 59)	Addition of PBI 3-20 through PBI 3-24
Revision 2	August 27, 2010 (Modification 66)	Addition of PBI 2.18
Revision 3	September 23, 2010 (Modification 72)	Addition of PBI 7.3 through PBI 7.6
Revision 4	January 12, 2011 (Modification 87)	Update PBIs 1.1, 1.3 and 2.17
Revision 5	April 4, 2011 (Modification 101)	Increase unallocated fee pool amount
Revision 6	April 4, 2011 (Modification 102)	Misc. Changes to PBI 1, PBI 2 and PBI 3
Revision 7	April 15, 2011 (Modification 105)	Increase unallocated fee pool amount
Revision 8	May 26, 2011 (Modification 109)	Increase unallocated fee pool amount
Revision 9	June 22, 2001 (Modification 111)	Adjust PBIs to reflect decrease in total available Base Period fee pool.
Revision 10	July 14, 2011 (Modification 118)	Increase unallocated fee pool amount
Revision 11	July 29, 2011 (Modification 123)	Increase unallocated fee pool amount
Revision 12	August 4, 2011 (Modification 126)	Increase unallocated fee pool amount
Revision 13	September 7, 2011 (Modification 128)	Misc Changes to PBIs 2.6 – 2.15
Revision 14	September 23, 2011 (Modification 131)	Increase unallocated fee pool amount
Revision 15	September 29, 2011 (Modification 135)	Increase unallocated fee pool amount
Revision 16	December 29, 2011 (Modification 142)	Adjust PBI's 1.4 and 2.1 to reflect increase in total available Base Period fee pool
Revision 17	See date of Modification 147	Incorporate FY12 Award Fee Plan

TO:

Version	Date Approved	Summary of Changes
Original	May 12, 2010 (Modification 54)	Established FY 2010-2013 PBIs
Revision 1	July 14, 2010 (Modification 59)	Addition of PBI 3-20 through PBI 3-24
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Revision 14	September 23, 2011 (Modification 131)	Increase unallocated fee pool amount
Revision 15	September 29, 2011 (Modification 135)	Increase unallocated fee pool amount
Revision 16	December 29, 2011 (Modification 142)	Adjust PBI's 1.4 and 2.1 to reflect increase in total available Base Period fee pool
Revision 17	January 27, 2012 (Modification 147)	Incorporate FY12 Award Fee Plan
Revision 18	See date of Modification 151	Adjust PBIs and reflect adjusted total available Base Period fee Pool

5. Update Section J, Attachment J.4, PEMP, to revise the PBI-Reserved-Unallocated Base Period Fee to reflect the PBI changes. The change is as follows:

FROM:

PBI-Reserved - Unallocated Base Period Fee

The Total Unallocated Base Period Fee value is \$11,251,072. The Total Available Unallocated Base Period Fee value is \$694,167. The Total Unavailable Unallocated Base Period Fee value is \$10,556,905, which includes \$10,324,905 in original Unavailable Unallocated Base Period Fee and \$232,000 in Unavailable Unallocated Base Period Fee as a result of reactivation of on-hold PBI's. Unavailable Unallocated Base Period Fee is not available to be earned. The Contractor is not entitled to this unallocated and unavailable fee.

Available Unallocated Base Period Fee: \$694,167 (Mod 147)

Available Unallocated ARRA Fee: \$ 0

Total Available Unallocated Fee: \$694,167 (Mod 147)

TO:

PBI-Reserved - Unallocated Base Period Fee

The Total Unallocated Base Period Fee value is \$9,616,072. The Total Available Unallocated Base Period Fee value is \$104,167. The Total Unavailable Unallocated Base Period Fee value is \$9,511,905, which includes \$6,824,905 in original Unavailable Unallocated Base Period Fee and \$2,687,000 in Unavailable Unallocated Base Period Fee as a result of reactivation of on-hold PBI's. Unavailable Unallocated Base Period Fee is not available to be earned. The Contractor is not entitled to this unallocated and unavailable fee.

Available Unallocated Base Period Fee:	\$104,167 (Mod 151)
Available Unallocated ARRA Fee:	\$ 0
Total Available Unallocated Fee:	\$104,167 (Mod 151)

6. Attached to this modification are replacement pages for the following section:

- Section J, Attachment J.4, Pages J.4.2-1, and J.4.2-25 thru 40, J.4.2-42 thru 47, J.4.2-67 thru 69, J.4.2-76, J.4.2-101 thru 104
- Section J, Attachment J.4, PEMP, to update page J.4-2 from Revision 5 to Revision 6.
- Section J, Attachment J.4, PEMP, to update Table of Contents Pages J.4.2-2, J.4.2-3, and J.4.2-4.

7. **All other Terms and Conditions remain unchanged.**

Attachment 1

DE-AC27-08RV14800, MODIFICATION 151

Replacement Page

(Total: 36 including this Cover Page)

- **Section J, Attachment J.4, Pages J.4-2, J.4.2-1 thru J.4.2-4, and J.4.2-25 thru 40, J.4.2-42 thru 47, J.4.2-67 thru 69, J.4.2-76, J.4.2-101 thru 104**

PERFORMANCE EVALUATION
AND
MEASUREMENT PLAN (PEMP)
FOR THE
TANK OPERATIONS CONTRACT
Rev 6

Section J.4 Performance Evaluation and Measurement Plan (PEMP)

Attachment 2 –Performance Measures for Base Contract Period. Effective: FY 2010-2013

The performance measures described in this attachment provide performance criteria for the base contract period, specifically for during FY 2010-FY 2013. Section J.4, Attachment 1, contains performance measures incorporated into the contract during FY 2009 including some “multi-year” performance based incentives (PBIs) that have milestones in 2010 and 2011.

Configuration Table

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Revision 16	December 29, 2011 (Modification 142)	Adjust PBI's 1.4 and 2.1 to reflect increase in total available Base Period fee pool
Revision 17	January 27, 2012 (Modification 147)	Incorporate FY12 Award Fee Plan
Revision 18	See date of Modification 151	Adjust PBIs and reflect adjusted total available Base Period Fee Pool

Table of Contents

ATTACHMENT J.4.....	1
PERFORMANCE EVALUATION AND MEASUREMENT PLAN (PEMP)	1
PM 01 – Award Fee Performance Measure	5
PM 03 - FY 2012 Award Fee Performance Measure	14
PBI-1.1 CLIN 1 Waste Volume Reduction via the 242-A Evaporator	21
PBI-1.2 CLIN 1 Submittal of the SST Integrity Assurance Review Tri-Party Agreement Change Package to Office of River Protection.....	24
PBI-1.3 CLIN 1 Project Upgrades and Life Extension Projects Completion	25
PBI-1.4 CLIN 1 222-S Upgrades and Life Extension Projects Completion.....	28
PBI-1.5 CLIN 1 Construction Management Complex with Shops	30
PBI-1.6 CLIN 1 Tank Sampling (Grab and Cores).....	31
PBI-1.7 CLIN 1 Tank Chemistry Control.....	33
PBI-2.1 CLIN 2 Vadose Zone/Barriers	36
PBI-2.2 CLIN 2 Waste Management C Area Closure	42
PBI-2.3 CLIN 2 Removal of SX Tank Farm Exhauster Station (Sludge Cooler).....	47
PBI-2.4 CLIN 2 Complete removal and shipment to final disposition of expired Hose-In-Hose Transfer Lines.....	48
PBI-2.5 CLIN 2 Remove ducting and associated equipment associated with SX Farm	51
PBI-2.6 CLIN 2 Completion of Retrieval Operations from Single-Shell Tank 241-C-101.....	52
PBI-2.7 CLIN 2 Completion of Retrieval Operations from Single-Shell Tank 241-C-102.....	54
PBI-2.8 CLIN 2 Completion of Retrieval Operations from Single-Shell Tank 241-C-104.....	56
PBI-2.9 CLIN 2 Completion of Retrieval Operations from Single-Shell Tank 241-C-105.....	58
PBI-2.10 CLIN 2 Completion of Retrieval Operations from Single-Shell Tank 241-C-107.....	60
PBI-2.11 CLIN 2 Completion of Retrieval Operations from Single-Shell Tank 241-C-108.....	63
PBI-2.12 CLIN 2 Completion of Retrieval Operations from Single-Shell Tank 241-C-109.....	64
PBI-2.13 CLIN 2 Completion of Retrieval Operations from Single-Shell Tank 241-C-11.....	65

PBI-2.14 CLIN 2 Completion of Retrieval Operations from Single-Shell Tank 241-C-111.....	66
PBI-2.15 CLIN 2 Completion of Retrieval Operations from Single-Shell Tank 241-C-112.....	69
PBI-2.16 CLIN 2 Complete Ventilation Stack Extensions on POR-008 and POR-003	71
PBI-2.17 CLIN 2 A/AX Farm Retrieval Acceleration and 272-AW Facility Replacement	72
PBI-2.18 CLIN 2 Articulating Mast System in 241-C-104.....	74
PBI-3.1 CLIN 3 Complete Submittal of Conceptual Design Report Documentation to Support Critical Decision 1 (CD-1) for the Interim Hanford Storage Facility (IHSF).....	75
PBI-3.3 CLIN 3 Complete Submittal of Conceptual Design Report Documentation to Support Critical Decision 1 (CD-1) for the Secondary Waste Treatment Project.....	77
PBI-3.4 CLIN 3 Complete Submittal of Preliminary Design Documentation to Support Critical Decision 2 (CD-2) for the Secondary Waste Treatment Project.....	78
PBI-3.5 CLIN 3 AW-103 Feed Delivery System Design.....	79
PBI-3.6 CLIN 3 AZ-101 Feed Delivery System Design.....	80
PBI-3.7 CLIN 3 AY-102 Feed Delivery System Design.....	81
PBI-3.8 CLIN 3 AY/AZ Farm Infrastructure Design.....	82
PBI-3.9 CLIN 3 AY/AZ Ventilation System Upgrade Design.....	83
PBI-3.10 CLIN 3 SY Farm Infrastructure Design	84
PBI-3.11 CLIN 3 AW Farm Infrastructure Design	85
PBI-3.12 CLIN 3 AP Farm Infrastructure Design	86
PBI-3.13 CLIN 3 Modeling and Planning to Establish RPP Technical Baseline (System Plan)...	87
PBI-3.14 CLIN 3 Issuance of the first Tank Waste Characterization Report	88
PBI-3.15 CLIN 3 Data Quality Objective for Strategic Plan.....	89
PBI-3.16 CLIN 3 Best Basis Database Management.....	90
PBI-3.17 CLIN 3 Waste Treatment Plant Operational Readiness Evaluation	91
PBI-3.18 CLIN 3 Complete Submittal of Documentation to Support Critical Decision 0 (CD-0) for the Supplemental Treatment Project.....	93
PBI-3.19 CLIN 3 Complete Submittal of Conceptual Design Report Documentation to Support Critical Decision 1 (CD-1) for the Supplemental Treatment Project.....	94
PBI-3.20 CLIN 3 Flowsheet Development.....	95

PBI-3.21 CLIN 3 Life-Cycle Cost Model 96

PBI-3.22 CLIN 3 Solid-Phase Aluminum Speciation..... 97

PBI-3.23 CLIN 3 Integrated Sample Analysis Plan..... 98

PBI-3.24 CLIN 3 Mission Analysis Report Updated..... 99

PBI-3.25 CLIN 3 Submit Integrated Waste Feed Delivery Plan (IWFD) Update for Approval . 100

PBI-3.33 CLIN 3 Mixing and Sampling Implementation Plan Activities for DNFSB
Recommendation 2010-2..... 101

PBI-3.35 CLIN 3 Complete Relocation of the Pretreatment Engineering Platform..... 102

PBI-Reserved - Unallocated Base Period Fee 103

PBI-7.1 CLIN 7 American Recovery and Reinvestment Act (ARRA) Program Reporting..... 104

PBI-7.2 CLIN 7 ARRA Key Performance Parameters..... 106

PBI-7.3 CLIN 7 ARRA AW-104 Corrosion Probe..... 108

PBI-7.4 CLIN 7 ARRA TY Farm Barrier..... 109

PBI-7.5 CLIN 7 ARRA Mobile Arm Retrieval System Testing 110

PBI-7.6 CLIN 7 ARRA AP Cathodic Protection..... 111

PBI-1.3 CLIN 1 Project Upgrades and Life Extension Projects Completion

Performance Fee value is established at \$3,575,000. \$2,695,000 of the total base period fee pool has been allocated to this PBI and is available to be earned. \$880,000 is not allocated and is not available to be earned. The Contractor is not entitled to this unallocated and unavailable fee even if the workscope is complete.

Fee Structure: Straight-Line Method (September 30, 2013)

Milestone	Fee Value	Method	Amount allocated and available to be earned	Amount not allocated and not available to be earned
1	\$ 350,000	Straight-Line	\$ 250,000	\$100,000
2	\$ 150,000	Straight-Line	\$ 150,000	\$0
3	\$ 700,000	Straight-Line	\$700,000	\$0
4	\$1,635,000	Straight-Line	\$1,335,000	\$300,000
5	\$740,000	Straight-Line	\$ 260,000	\$480,000
Total	\$3,575,000		\$2,695,000	\$880,000

Desired Endpoint/Outcome

Highly reliable waste evaporation and waste transfer systems are crucial to safe, efficient management of the Hanford Tank Farms prior to and during tank waste treatment. This planned scope will replace systems in support of 242-A Evaporator upgrades and life extension projects, complete life extension projects and evaporator upgrades as defined in the document titled "Engineering Study for the 242-A Life Cycle Extension Upgrades for FY 2010 through 2015", procure nondestructive equipment and complete ultrasonic test examination and video assessment reports in support of DST integrity and complete the DST Transfer System encasement pressure tests and pit coating inspections.

Fee-Bearing Milestones

1. Replace seven (7) systems in support of 242-A Evaporator Upgrades and Life Extension Projects. Fee on two (2) systems is not available to be earned. The Contractor shall earn \$50,000 of incremental fee upon completion of each system replaced (total of \$250,000 of incremental fee is available and a total of \$100,000 of incremental fee is not available to be earned).

Work scope/completion criteria: Replace seven (7) systems in support of the 242-A Evaporator upgrades and life extension projects. (1. Reboiler Condensate Piping System, 2. Manual Flush Valve, 3. Steam Line Replacement, 4. Control Valve Upgrades, 5. Sanitary Drain Upgrades, 6. Slurry Sampling Station Upgrades (milestone not available to be earned), and 7. Process Condensate Sampling Station (milestone not available to be earned).)

Completion Document: Letter transmitting performance expectation completion notice and copy of the work package signature page documenting completion of installation.

2. Procure nondestructive examination equipment (NDE) for the DST Integrity Project. The Contractor shall earn \$30,000 of incremental fee upon completion of each life extension project upgrade (total \$150,000 available of incremental fee).

Work scope/completion criteria: 1) Procure three video vans, 2) NDE crawler replacement, 3) two GE Cameras, 4) procure one new ultrasonic examination control (UT) trailer, and 5) one P-Scan Projection-4 (PSP-4).

Completion Document: Letter transmitting performance expectation completion notice and receipt of procurements.

3. Complete four DST farm upgrades. The Contractor shall earn \$100,000 of incremental fee upon completion of each of the following upgrades: AY-101 ENRAF Densitometer, AZ-101 ENRAF Densitometer, and AW-102 ENRAF Densitometer and \$400,000 of incremental fee upon completion of exhauster upgrade of AP Farm Primary Exhauster Installation.

Work scope/completion criteria: Complete four DST farm upgrades: 1.) AY-101 ENRAF Densitometer, 2.) AZ-101 ENRAF Densitometer, 3.) AP Farm Primary Exhauster Installation, 4.) AW-102 ENRAF Densitometer.

Completion Document: Letter transmitting performance expectation completion notice and copy of work package signature page documenting completion of installation.

4. Complete UT examination and video assessment and issue report(s) for DST integrity. The Contractor shall earn \$75,000 of incremental fee upon completion of each UT examination report (13 total; fee on 4 UT examination reports is not available to be earned) and \$75,000 of incremental fee upon completion for each video assessment report (8 reports) and a total of \$10,000 of incremental fee upon completion of each additional video assessment report (6 reports) (total of \$1,335,000 of incremental fee is available and a total of \$300,000 of incremental fee is not available to be earned).

Work scope/completion criteria: Perform UT examinations on thirteen (13) DSTs, perform seven (7) DST Annulus Video Assessments, and seven (7) DST Primary Video Assessments.

Completion Document: Letter transmitting performance expectation completion notice and applicable UT examination and video assessment report(s).

5. Complete DST transfer system encasement pressure tests of 49 pipes (fee on 37 pipes is not available to be earned) and pit coating inspections by a qualified National Association of Corrosion Engineering qualified inspector of 25 pits (fee on 11 pit coatings is not available to be earned). The Contractor shall earn \$10,000 of incremental fee completion of work scope for each encasement pressure check or pit coating inspection (total

\$260,000 of incremental fee is available and a total of \$480,000 of incremental fee is not available to be earned).

Work scope/completion criteria: Perform transfer line encasement pressure checks of 49 (fee on 37 pipes is not available to be earned) transfer lines and pit coating inspections of 25 pits (fee on 11 pit coatings is not available to be earned).

Completion Document: Letter transmitting performance expectation completion notice and a copy of the work package signature page documenting completion of the encasement pressure checks or the pit coating inspections.

PBI-1.4 CLIN 1 222-S Upgrades and Life Extension Projects Completion

Performance Fee value is established at \$546,000. \$98,000 of the total base period fee pool has been allocated to this PBI and is available to be earned. \$448,000 is not allocated and is not available to be earned. The Contractor is not entitled to this unallocated and unavailable fee even if the workscope is complete.

Fee Structure: Terminal (with dates identified below) or Straight-Line Method (September 30, 2013)

Milestone	Fee Value	Method	Amount allocated and available to be earned	Amount not allocated and not available to be earned
1	\$ 96,000	Straight Line	\$48,000	\$48,000
2	\$ 50,000	Terminal	\$50,000	\$0
3	\$ 50,000	Terminal	\$0	\$50,000
4	\$ 50,000	Terminal	\$0	\$50,000
5	\$ 300,000	Straight Line	\$0	\$300,000
Total	\$ 546,000		\$98,000	\$448,000

Desired Endpoint/Outcome

The 222-S Laboratory, with its unique capabilities to analyze and store highly radioactive tank waste samples, must operate reliably in support of the tank waste cleanup mission. The contractor must replace systems in support of 222-S Laboratory and life extension projects and complete four life extension project upgrades.

Fee-Bearing Milestones

1. Replace twelve (12) pieces of analytical equipment at the 222-S Laboratory. Fee on six pieces of analytical equipment is not available to be earned. The Contractor shall earn \$8,000 of incremental fee upon completion of each piece of equipment replaced (total of \$48,000 of incremental fee is available and a total of \$48,000 of incremental fee is not available to be earned).

Work scope/completion criteria: Replace twelve pieces of analytical equipment at the 222-S Laboratory such as viscometer, liquid scintillation counter, thermal desorption units, GC, ASE, (actual equipment to be replaced may change due to emergent needs).

Completion Document: Letter transmitting performance expectation completion notice and copy of the work package signature page documenting completion of installation.

2. Procure and install new manipulator by September 30, 2011. The Contractor shall earn \$50,000 of incremental fee upon completion.

Work scope/completion criteria: Procure and install new manipulator.

Completion Document: Letter transmitting performance expectation completion notice and copy of the work package signature page documenting completion of installation.

3. Procure and install new manipulator by September 30, 2012. The Contractor shall earn \$50,000 of incremental fee upon completion. Fee for this milestone is not available to be earned.

Work scope/completion criteria: Procure and install new manipulator.

Completion Document: Letter transmitting performance expectation completion notice and copy of the work package signature page documenting completion of installation.

4. Procure two new manipulators by September 30, 2013. The Contractor shall earn \$50,000 of incremental fee upon completion. Fee for this milestone is not available to be earned.

Work scope/completion criteria: Procure two new manipulators.

Completion Document: Letter transmitting performance expectation completion notice and copy of vendor notice to proceed via contractor procurement award.

5. Complete two (2) life extension project upgrades at the 222-S Facility. Fee on two (2) extension project upgrades is not available to be earned. The Contractor shall earn \$150,000 of incremental fee upon completion of each life extension project upgrade (a total of \$300,000 of incremental fee is not available to be earned).

Work scope/completion criteria: Complete two (2) life extension projects at 222-S Facility. Fee on two (2) extension project upgrades is not available to be earned.

Completion Document: Letter transmitting performance expectation completion notice and copy of the work package signature page documenting completion of construction.

PBI-1.5 CLIN 1 Construction Management Complex with Shops

PBI DELETED IN MOD 151

PBI-1.6 CLIN 1 Tank Sampling (Grab and Cores)

Performance Fee value is established at \$2,475,000. \$2,235,000 of the total base period fee pool has been allocated to this PBI and is available to be earned. \$240,000 is not allocated and is not available to be earned. The Contractor is not entitled to this unallocated and unavailable fee even if the workscope is complete.

Fee Structure: Straight-Line Method (September 30, 2013)

Milestone	Fee Value	Method	Amount allocated and available to be earned	Amount not allocated and not available to be earned
1	\$1,875,000	Straight-Line	\$1,875,000	\$0
2	\$ 600,000	Straight-Line	\$ 360,000	\$240,000
Total	\$2,475,000		\$2,235,000	\$240,000

Desired Endpoint/Outcome

Tank waste sampling is essential to maintaining required tank waste chemistry, for maintaining tank integrity, for waste transfers and retrievals, and for post-retrieval reports. Tank waste sampling is high-risk work that must be completed safely to not impede project schedules. The contractor must ensure that sampling operations are completed with increasing efficiency and effectiveness allowing more resources to be applied to other mission critical work.

Fee-Bearing Milestones

1. Complete 25 grab samples in support of the Tank Operations Contract (TOC) mission. Fee on 5 grab samples is not available to be earned. The Contractor shall earn \$75,000 of incremental fee upon completion of the each grab sample (total of \$1,875,000 of incremental fee is available to be earned).
2. Work scope/completion criteria: Completion of 25 grab samples as described in the applicable Tank Sampling and Analysis Plans (TSAPs). Fee on 5 grab samples is not available to be earned. The plan shall identify; the type of sample, the technical need for the sampling activity, the location of the samples, and the sampling requirements.

Completion Document: Letter transmitting performance expectation completion notice and copy of the chain of custody (COC) documenting completion of grab samples and transfer of ownership to the laboratory.

2. Complete 5 core or off-riser samples in support of the TOC mission. Fee on 2 core samples is not available to be earned. The Contractor shall earn \$120,000 of incremental fee upon completion of the each core or off-riser sample (total of \$360,000 of incremental fee is available and a total of \$240,000 of incremental fee is not available to be earned).

Work scope/completion criteria: Completion of 5 samples as described in the applicable Tank Sampling and Analysis Plans (TSAPs). Fee on 2 core samples is not available to be earned. The plan shall identify; the type of sample, the technical need for the sampling activity, the location of the samples, and the sampling requirements.

Completion Document: Letter transmitting performance expectation completion notice and copy of the COC documenting completion of core samples and transfer of ownership to the laboratory.

PBI-1.7 CLIN 1 Tank Chemistry Control

Performance Fee value is established at \$1,750,000. \$1,600,000 of the total base period fee pool has been allocated to this PBI and is available to be earned. \$150,000 is not allocated and is not available to be earned. The Contractor is not entitled to this unallocated and unavailable fee even if the workscope is complete.

Fee Structure: Straight-Line Method (September 30, 2013)

Milestone	Fee Value	Method	Amount allocated and available to be earned	Amount not allocated and not available to be earned
1	\$ 700,000	Straight-Line	\$ 700,000	\$0
2	\$ 500,000	Straight-Line	\$ 500,000	\$0
3	\$ 150,000	Straight-Line	\$0	\$150,000
4	\$ 100,000	Straight-Line	\$ 100,000	\$0
5	\$ 50,000	Straight-Line	\$ 50,000	\$0
6	\$ 50,000	Straight-Line	\$ 50,000	\$0
7	\$ 200,000	Straight-Line	\$ 200,000	\$0
Total	\$1,750,000		\$1,600,000	\$150,000

Desired Endpoint/Outcome

The maintenance of Double-Shell Tank (DST) integrity is crucial to cost-effective completion of the tank waste cleanup mission. The Contractor shall:

- maintain tank chemistry per Operations Specifications Documents to ensure long term integrity of tanks
- confirm data obtained from active portions of the corrosion probe and gain better understanding of actual corrosion and corrosion mechanisms within the double-shell tanks (DSTs)
- obtain better understanding of the corrosion potential of the waste.
- Perform analyses of dynamic mixing, benchmark analysis, and ventilation flow modeling.

Fee-Bearing Milestones

1. Remove and replace corrosion probe coupons for three DST corrosion probes. The Contractor shall earn \$300,000 of incremental fee upon completion of the first each set of coupons removed and replaced (as required) to support the TOC mission, and \$200,000 for the remaining two sets of coupons replaced (total of \$700,000 of incremental fee is available to be earned). Note that replacement will only occur if required to support the Tank Operations Contract (TOC) mission.

Work scope/completion criteria: Removal and replacement (as required) of corrosion probe coupons.

Completion Document: Letter transmitting performance expectation completion notice and completed chain of custody form documenting receipt of the coupon(s) at the laboratory.

2. Remove corrosion probe coupon from tank AN-107 corrosion probe. Note: The AN-107 corrosion probe is thought to have failed and potentially contains waste within the corrosion probe. Special precautions will be required during removal to ensure worker safety. The Contractor shall earn \$500,000 of incremental fee upon completion of coupon removed.

Work scope/completion criteria: Removal of corrosion coupon.

Completion Document: Letter transmitting performance expectation completion notice and completed chain of custody form documenting receipt of the coupon(s) at the laboratory.

3. Design, fabricate, and install corrosion probe in AW-105. The Contractor shall earn \$150,000 of incremental fee each upon completion of the work scope. Fee for this milestone is not available to be earned.

Work scope/completion criteria: Design, fabricate, and install corrosion probe in AW-105.

Completion Document: Letter transmitting performance expectation completion notice and copy of approved work package page documenting successful completion of installation.

4. Perform dynamic mixing analysis on AN-106 and AY-102. The Contractor shall earn \$50,000 of incremental fee upon completion of each report (total \$100,000 available of incremental fee).

Work scope/completion criteria: Perform dynamic mixing analysis on AN-106 and AY-102.

Completion Document: Letter transmitting performance expectation completion notice and dynamic mixing analysis report.

5. Perform ventilation flow modeling study on AZ-702. The Contractor shall earn \$50,000 of incremental fee upon completion of the study.

Work scope/completion criteria: Perform ventilation flow modeling study on AZ-702.

Completion Document: Letter transmitting performance expectation completion notice and the ventilation flow modeling report.

6. Perform dynamic mixing model benchmark analysis. The Contractor shall earn \$50,000 of incremental fee each upon completion of the work scope.

Work scope/completion criteria: Perform dynamic mixing model benchmark analysis and prepare report.

Completion Document: Letter transmitting performance expectation completion notice and the dynamic mixing model benchmark analysis study.

7. Perform slow strain rate (SSR) laboratory testing and prepare testing report. The Contractor shall earn \$200,000 of incremental fee each upon completion of the work scope.

Work scope/completion criteria: Perform SSR laboratory testing and prepare report.

Completion Document: Letter transmitting performance expectation completion notice and the SSR laboratory testing report to the ORP.

PBI-2.1 CLIN 2 Vadose Zone/Barriers

Performance Fee value is established at \$9,450,000. \$6,950,000 of the total base period fee pool has been allocated to this PBI and is available to be earned. \$2,500,000 is not allocated and is not available to be earned. The Contractor is not entitled to this unallocated and unavailable fee even if the workscope is complete.

Fee Structure: Terminal Method

Milestone	Fee Value	Method	Amount allocated and available to be earned	Amount not allocated and not available to be earned
1	\$2,000,000	Terminal	\$2,000,000	\$0
2	\$ 450,000	Terminal	\$ 450,000	\$0
3	\$ 250,000	Terminal	\$ 250,000	\$0
4	\$ 600,000	Terminal	\$ 400,000	\$ 200,000
5 Deleted (Mod 151)	\$ 0	Terminal	\$ 0	\$0
6	\$ 500,000	Terminal	\$0	\$ 500,000
7	\$3,400,000	Terminal	\$2,200,000	\$1,200,000
8	\$1,000,000	Terminal	\$1,000,000	\$0
9	\$ 300,000	Terminal	\$ 300,000	\$0
10	\$ 600,000	Terminal	\$0	\$ 600,000
11	\$ 200,000	Terminal	\$ 200,000	\$0
12	\$ 150,000	Terminal	\$ 150,000	\$0
Total	\$9,450,000		\$6,950,000	\$2,500,000

Desired Endpoint/Outcome

Upon completion of these PBI activities, the following outcomes will be achieved:

Barriers: Characterization of four high priority sites for possible future interim surface barriers has been completed to support definition and design of barriers. Barrier design has been completed for three tank farm interim barriers based on the characterization results. Construction of interim surface barriers in TY farm and two additional locations has been completed.

NOTE: Barrier sites are subject to change based on the outcome of negotiations with Washington State Department of Ecology.

Waste Management Area (WMA) C Characterization and Corrective Measures: Phase 2 characterization of Waste Management Area C has been performed, consistent with the WMA C RFI/CMS Work Plan (RPP-PLAN-39114), including surface geophysical exploration (SGE) of two unplanned release sites and collection of soil samples using the direct push unit. Testing of a beta probe has been completed to support design of a field deployable unit. The WMA C

RCRA Facility Investigation/Corrective Measures Study (TPA Milestone M-45-61) has been submitted to the Office of River Protection (ORP) in support of WMA C closure planning.

Fee Bearing Milestones

1. Perform vadose zone direct push characterization for four potential barrier sites. The Contractor shall earn \$500,000 of incremental fee upon completion of direct push characterization of each site (total of \$2,000,000 available incremental fee).

Work scope/completion criteria: Use the hydraulic hammer/direct push technology to perform logging and sampling for each of the following sites, or alternate sites mutually agreed to by the ORP and the Contractor:

- 241-S Farm, Southeast (near catch tanks/diversion box northeast of SX) by 9/30/2010
- 241-BY Farm, West (near BY-107/108 historic leak sites) by 3/31/2011
- 241-BY Farm, East (near BY-103 historic leak site) by 9/30/2011
- 241-S Farm, North by 3/31/2012

For each potential barrier location, field work shall include: placement of 4-8 direct push probes (probes pushed to refusal), geophysical logging of direct push probe holes, obtaining up to 3 soil samples per location for analysis, and placement of 2 or more deep electrodes per location. Samples will be analyzed for technetium and nitrate.

Completion documents: For each potential barrier location evaluated, provide to the ORP a letter report documenting completion of direct push probe-hole, logging results, placement of deep electrodes, sample locations, and summary of analytical results.

2. Perform vadose zone electrical resistivity characterization, including SGE and use of deep electrodes as appropriate, for three potential barrier sites. The Contractor shall earn \$150,000 of incremental fee upon completion of resistivity characterization of each site (total \$450,000 available incremental fee).

Work scope/completion criteria: Use electrical resistivity technology for each of the following sites, or alternate sites as directed by the ORP:

1. 241-S Farm, Southeast (near catch tanks/diversion box northeast of SX) by 3/31/2011
2. 241-BY Farm, West (near BY107/108 historic leak sites) by 9/30/2011
3. 241-BY Farm, East (near BY103 historic leak site) by 3/31/2012
4. DELETED (MOD 151)

For each potential barrier location, resistivity measurements will be obtained and analyzed employing the deep electrodes and appropriate surface electrodes.

Completion documents: For each potential barrier location evaluated, provide to the ORP a letter report providing the results of electrical resistivity data analysis and the resistivity anomaly maps for the potential barrier location.

3. Perform well-to-well electrical resistivity measurements in WMA A-AX by 12/31/2010 to support evaluation of a potential future barrier site. The Contractor shall earn \$250,000 of incremental fee upon completion.

Work/scope/completion criteria: Historic leaks in WMA A/AX present a risk to groundwater; an interim barrier may mitigate that risk. Vadose zone characterization is limited. Use of well-to-well electrical resistivity measurements will provide needed characterization data for evaluation of a future barrier site and for closure planning. These measurements will guide possible future characterization of WMA A-AX for interim barrier selection, if appropriate.

Completion document: Letter report submitted to the ORP providing the results of electrical resistivity data analysis and the resistivity anomaly maps.

4. Complete design of three Tank Farm Interim Surface Barriers. Fee for one Tank Farm Interim Surface Barrier is not available to be earned. The Contractor shall earn \$200,000 of incremental fee upon completion of the SX farm southern barrier design by June 30, 2011, \$200,000 of incremental fee upon completion of the SX farm northern barrier design by June 30, 2012, and \$200,000 of incremental fee upon completion of the BY farm west barrier design by June 30, 2013 (total of \$400,000 of incremental fee is available and a total \$200,000 of incremental fee is not available to be earned).

Work scope/completion criteria: Design an interim surface barrier for each these sites:

1. SX farm south
2. SX farm north
3. BY farm west.

Based on results of site characterization, an alternate location mutually agreed to by the ORP and the Contractor may replace any of these locations. Each barrier shall be designed to cover an area identified by characterization, and shall be designed to handle precipitation expected in the 25-year maximum rainfall event. The designed water retention system and/or discharge will not impact any ORP/RL waste sites. DOE-ORP and DOE-RL will be included in the design review process. Design will be issued into Hanford Document Control System (HDCS).

Completion document: Letter report submitted to the ORP providing information that the design of each Tank Farm Interim Surface Barrier has been issued into HDCS.

5. DELETED (Mod 151)

6. Complete Construction of SX Farm North Interim Surface Barrier (or alternate location, as agreed by the ORP and the Contractor) by June 30, 2013 or by date required by TPA milestone M-045-92 if revised, whichever is later. The Contractor shall earn \$500,000 of incremental fee upon completion. Fee for this milestone is not available to be earned.

Work scope/completion criteria: An interim surface barrier in 241-SX farm, north shall be constructed per the documented and ORP-approved design.

Completion document: Letter transmitting the construction completion document approved through Section 1, Physical Construction Completion and Completion of Construction Acceptance Tests (if required) per Statement of Work (SOW) of the SX farm north barrier.

7. Implement direct push soil characterization in Waste Management Area (WMA) C by June 30, 2013, to support development of a corrective measures study for WMA closure, in accordance with the WMA C RFI/CMS Work Plan (RPP-PLAN-39114). The Contractor shall earn incremental fee at a rate as indicated in the table below for each set of samples obtained per the plan.

Milestone	Item	Description	Fee
7	1	Direct push soil characterization in WMA C – 2 locations (16 samples)	\$400,000
7	2	Direct push soil characterization in WMA C – 2 locations (16 samples)	\$400,000
7	3	Direct push soil characterization in WMA C – 3 locations (24 samples)	\$600,000
7	4	Direct push soil characterization in WMA C – 3 locations (24 samples)	\$600,000
7	5	DELETED Mod 151	\$0
7	6	Direct push soil characterization in WMA C – 3 locations (24 samples) Fee is not available to be earned.	\$600,000 of incremental fee is not available to be earned
7	7	Direct push soil characterization in WMA C – 3 locations (24 samples) Fee is not available to be earned.	\$600,000 of incremental fee is not available to be earned
7	8	Direct push soil characterization in WMA C – 1 location (8 samples)	\$200,000
Milestone 7 Total			\$2,200,000 available to be earned and \$1,200,000 not available to be earned

Work scope/Completion Criteria: Perform direct push logging, sampling and probe hole decommissioning at sites identified in the WMA C work plan, per the plan including obtaining

surface samples, as directed by the plan. Deliver the samples to the laboratory for analysis and commence analysis per the plan.

Completion documents: A letter report will be submitted to the ORP providing direct push locations, probe-hole logging results, sample identification numbers, and chain of custody forms for each direct push location and associated samples. Completion reports may be submitted periodically for completion of one or more locations in each report.

8. Perform vadose zone electrical resistivity characterization, including Surface Geophysical Exploration (SGE) and use of deep electrodes as appropriate, at two unplanned release (UPR) sites in C tank farm by September 30, 2011 for the first site and December 31, 2011 for the second site. The Contractor shall earn \$500,000 of incremental fee upon completion of each site (total of \$1,000,000 available incremental fee).

Work scope/completion criteria: Perform vadose zone electrical resistivity characterization at the following unplanned release (UPR) sites in waste management area C:

1. UPR-200-E-86
2. UPR-200-E-82

At each location, collect surface to surface resistivity data and surface to deep electrode resistivity data, using the previously installed deep electrodes. Analyze the data to identify resistivity anomalies.

Completion document: For each UPR, submit a letter report to the ORP providing the results of data analysis and the resistivity anomaly maps for the UPR in waste management area C.

9. Perform testing of a beta detection system, identify detector design improvements, and define design requirements for a field deployable system by December 31, 2010. The Contractor shall earn \$300,000 of incremental fee upon completion.

Work scope/completion criteria: In FY 2009, initial laboratory testing of a proof-of-concept beta detection probe was performed (RPP-ENV-42267) and showed promise. The initial detector will be further tested, an enhanced detector will be designed, constructed and tested, and requirements for design of a vadose zone field deployable system will be defined.

Completion document: Provide to DOE a letter report documenting the results of further testing of the proof-of-concept beta detection system, testing results of the enhanced detector, and requirements for design of a field deployable beta detection system.

10. Provide a Phase 2 RCRA Facility Investigation/Corrective Measures Study Report for WMA C (TPA Milestone M-045-61) by September 30, 2013. The Contractor shall earn \$600,000 of incremental fee upon completion. Fee for this milestone is not available to be earned.

Work scope/completion criteria: Provide a Phase 2 RCRA Facility Investigation/Corrective Measures Study Report for WMA C, by 09/30/2013, to facilitate closure of WMA C by 2019. The report will include results of characterization completed to date per RPP-PLAN-39114, evaluation of potential corrective measures for WMA C contaminated soil, and recommendations for corrective measure implementation.

Completion document: Provide to DOE as a formal report a Phase 2 RCRA Facility Investigation/Corrective Measures Study Report for WMA C.

11. In partial completion of TPA Milestone M-045-90, complete an interim barrier demonstration report for the T-106 interim barrier by September 30, 2010. The Contractor shall earn \$200,000 of incremental fee upon completion.

Work scope/completion criteria: Complete an interim barrier demonstration report for the T-106 interim barrier. The report shall include a recommendation and commitment on whether to proceed with additional interim barriers, and an evaluation of the barrier's ability to reduce water infiltration that drives migration of subsurface contamination to groundwater. A baseline change request (BCR) to add the new scope will be submitted, the PBI method will be defined in the associated BCR package.

Completion document: Letter transmitting an interim barrier demonstration report for the T-106 interim barrier.

12. Complete and document a pipeline leak detection technology field test by March 31, 2011. The Contractor shall earn \$150,000 of incremental fee upon completion.

Work scope/completion criteria: In support of identifying and evaluating historic waste leaks from pipelines, identify and plan a field test of technology for leak detection. Perform a field test of the selected technology on a pipeline where historic records indicate a probable leak. Report results and future recommendations.

Completion document: Letter transmitting a report of pipeline leak detection technology field test.

PBI-2.2 CLIN 2 Waste Management C Area Closure

Performance Fee value is established at \$ 3,450,000. \$2,550,000 of the total base period fee pool has been allocated to this PBI and is available to be earned. \$900,000 is not allocated and is not available to be earned. The Contractor is not entitled to this unallocated and unavailable fee even if the workscope is complete.

Fee Structure: Straight-Line Method (September 30, 2013) and Declining Method (Milestones #1, #2, #3, and #4)

Milestone	Fee Value	Method	Amount allocated and available to be earned	Amount not allocated and not available to be earned
1	\$ 200,000	Declining	\$ 200,000	\$0
2	\$ 200,000	Declining	\$ 200,000	\$0
3	\$ 200,000	Declining	\$ 200,000	\$0
4	\$ 200,000	Declining	\$ 200,000	\$0
5	\$ 200,000	Straight Line	\$ 200,000	\$0
6	\$ 200,000	Straight Line	\$ 200,000	\$0
7	\$ 800,000	Straight Line	\$ \$400,000	\$ \$400,000
8	\$ 750,000	Straight Line	\$ 750,000	\$0
9 Deleted (Mod 151)	\$ 0	Straight Line	\$0	\$0
10 Deleted (Mod 151)	\$ 0	Straight Line	\$0	\$0
11 Deleted (Mod 151)	\$ 0	Straight Line	\$0	\$0
12 Deleted (Mod 151)	\$ 0	Straight Line	\$0	\$0
13	\$ 200,000	Straight Line	\$ 200,000	\$0
14	\$ 500,000	Straight Line	\$0	\$ 500,000
Total	\$3,450,000		\$ 2,550,000	\$ 900,000

Desired Endpoint/Outcome

Upon completion of these PBI activities, the following outcomes will be achieved: Closure Demonstration and Planning: DOE receives the deliverables for those portions of the C-200 Closure Demonstration Plan necessary to complete TPA Milestone M-045-80, including: (1) a description of the radioactive waste determination process that DOE will utilize for the component of Tank Waste residuals subject to DOE authority, (2) a RCRA/CERCLA integration white paper, (3) a tank removal engineering study, and (4) an evaluation of alternatives for

white paper, (3) a tank removal engineering study, and (4) an evaluation of alternatives for removal of waste from the C-301 catch tank. DOE receives reports on feasibility studies for pipeline and diversion boxes, in support of WMA C closure decisions.

Performance assessment and regulatory documents: Waste release studies have been completed on up to 4 C farm tanks, to provide input to risk assessments. An initial risk assessment/performance assessment of WMA C has been completed and delivered to DOE. A Tier 1 closure plan meeting the requirements of DOE O 435.1 and basis documentation for a WIR determination, have been delivered to DOE. A closure plan meeting the requirements of the TPA for the SST System and a TPA Tier 2 closure plan for WMA C have been delivered to DOE.

Fee Bearing Milestones

1. In partial completion of TPA milestone M-045-80 (Part 1), provide a report describing the radioactive waste determination process that DOE will utilize for the component of Tank Waste residuals subject to DOE authority by December 2, 2010 (Declining Method milestone). The Contractor shall earn \$200,000 of incremental fee upon completion of this deliverable, subject to declining method deductions, if applicable.

Work scope/completion criteria: Develop a report describing the radioactive waste determination process, meeting all requirements of DOE Order 435.1 which DOE will utilize for the component of Tank Waste residuals in WMA C subject to DOE authority. Provide the draft report to DOE for comment. The declining method penalty calculation date for Milestones 1, 2, 3, and 4 is December 2, 2010. For each milestone there shall be a \$500 per day penalty and there shall be no fee earned after January 21, 2011.

Completion document: Submit a letter report to the Office of River Protection (ORP) describing the radioactive waste determination process that DOE will utilize for the component of Tank Waste residuals in WMA C subject to DOE authority.

2. In partial completion of TPA milestone M-045-80 (Part 2), provide a RCRA/CERCLA integration white paper by December 2, 2010 (Declining Method milestone). The Contractor shall earn \$200,000 of incremental fee upon completion of this deliverable, subject to declining method deductions, if applicable.

Work scope/completion criteria: Develop RCRA/CERCLA integration white paper, describing the RCRA/CERCLA integration process as it applies to WMA C closure. Provide the white paper to DOE for comment. The declining method penalty calculation date for Milestones 1, 2, 3, and 4 is December 2, 2010. For each milestone there shall be a \$500 per day penalty and there shall be no fee earned after January 21, 2011.

Completion document: Submit a white paper to the ORP describing the RCRA/CERCLA integration process as it applies to WMA C closure.

3. In partial completion of TPA Milestone M-045-80 (Part 3), provide a tank removal engineering study by December 2, 2010 (Declining Method milestone). The Contractor shall earn \$200,000 of incremental fee upon completion of this deliverable, subject to declining method deductions, if applicable.

Work scope/completion criteria: Provide a tank removal engineering study, evaluating the practicability of removal of a 100-Series Single-Shell Tank. The report should evaluate and augment previously completed work as necessary to meet Ecology's requirements for a demonstration of impracticability for removal or decontamination of a tank system pursuant to WAC 173-303-640(8)(b). The report will provide supporting information to make a decision on whether landfill closure for WMA C can be pursued in the RCRA Site-Wide Permit. Provide the draft report to DOE for comment. The declining method penalty calculation date for Milestones 1, 2, 3, and 4 is December 2, 2010. For each milestone there shall be a \$500 per day penalty and there shall be no fee earned after January 21, 2011.

Completion document: Submit a letter report to the ORP providing a tank removal engineering study.

4. In partial completion of TPA Milestone M-045-80 (Part 4), provide an evaluation of alternatives for removal of waste from the C-301 catch tank by December 2, 2010 (Declining Method milestone). The Contractor shall earn \$200,000 of incremental fee upon completion of the document, subject to declining method deductions, if applicable.

Work scope/completion criteria: Provide an evaluation of alternatives for removal of waste from the C-301 catch tank. The report should evaluate the methods available for retrieving solid and liquid waste from the C-301 Catch Tank, and estimate the costs and benefits for each viable alternative. Provide the draft report to DOE for comment. The declining method penalty calculation date for Milestones 1, 2, 3, and 4 is December 2, 2010. For each milestone there shall be a \$500 per day penalty and there shall be no fee earned after January 21, 2011.

Completion document: Submit a letter report to the ORP providing an evaluation of alternatives for removal of waste from the C-301 catch tank.

5. Complete an analysis of the seven diversion boxes in 241-C Tank Farm. The Contractor shall earn \$200,000 of incremental fee upon completion of the document.

Work scope/completion criteria: Evaluate existing information on the seven diversion boxes in WMA C, in support of closure planning. For each diversion box, document the condition of the diversion box based on existing information, and identify additional data that needs to be addressed prior to closure planning. The report should meet the following criteria:

- Evaluate existing characterization data for each diversion box.
- Recommend further characterization where no data exists.
- Evaluate the physical condition of each diversion box.
- Recommend further work where no data exists.
- Document the analysis findings in a written report.

Completion documents: The completed report shall be transmitted to the DOE.

6. Complete a pipeline feasibility study. The Contractor shall earn \$200,000 of incremental fee upon completion of the document.

Work scope/completion criteria: The report should meet the following criteria:

- Evaluate the existing data regarding physical condition and characterization of the pipe lines in WMA C.
- Identify option to obtain additional data necessary for closure.
- Evaluate existing information regarding available methods to characterize, stabilize and remediate pipelines, including cost and risk data.
- Provide recommendations for actions to support decisions on closure of pipelines in WMA C.
- Document the analysis findings in a written report.

Completion documents: The completed report shall be transmitted to the DOE.

7. Perform waste release tests on up to four residual waste samples from retrieved or partially retrieved tanks, to provide technical input to risk assessment modeling. Fee on two waste release tests are not available to be earned. The Contractor shall earn \$200,000 of incremental fee upon completion of each waste release test (total of \$400,000 of incremental fee is available and a total of \$400,000 of incremental fee is not available to be earned).

Work scope/completion criteria: For each of up to four tank waste samples, perform waste release tests on residual waste obtained from one or more tanks following completion of initial or final retrieval. Document results as input into tank farm risk assessments and performance assessments.

Completion document: For each of up to four tank waste samples, submit a letter report to the ORP providing the results of residual waste release testing.

8. Develop five data packages and hold working sessions to develop the initial human health and environmental risk assessment/performance assessment for WMA C (WMA C PA). The Contractor shall earn \$150,000 of incremental fee upon completion of each topical area report from each of the five data package/working sessions (total of \$750,000 available incremental fee).

Work scope/completion criteria: The WMA C PA will be developed to meet the requirements of HFFACO Appendix I and DOE O 435.1. The inputs and assumptions for this activity will be developed through a series of working sessions with ORP, other DOE staff and regulatory agencies. For each topical area, develop a draft report and provide it to working session participants. Hold a working session involving DOE, Ecology, and other participants as invited by DOE. Issue meeting notes for the working session. Incorporate comments into the report and issue an update as input to the WMA C PA. Topical areas include at a minimum:

- Natural systems
- Engineered systems #2
- Exposure scenarios
- Numeric codes

Completion document: Provide to DOE the meeting notes for the applicable WMA C PA working session and the updated report for each topical area.

9. Deleted (Mod 151)

10. Deleted (Mod 151)

11. Deleted (Mod 151)

12 Deleted (Mod 151)

13. Provide a Tier 1 Closure plan for the SST system, as defined in TPA Appendix I. The Contractor shall earn \$200,000 of incremental fee upon completion of the document.

Work scope/completion criteria: Provide to DOE a Tier 1 Closure plan for the SST system that meets the requirements of the TPA, Appendix I. (Document is TPA compliant when document meets TPA requirements. It does not require regulator approval to be TPA compliant to meet the intent of this PBI deliverable).

Completion documents: Formal TPA Tier 1 Closure plan for the SST system that meets the requirements of the TPA, Appendix I.

14. Provide a draft TPA compliant Tier 2 Closure plan for Waste Management Area C. The Contractor shall earn \$500,000 of incremental fee upon completion of the document. Fee for this milestone is not available to be earned.

Work scope/completion criteria: Provide to DOE a draft Tier 2 Closure plan for WMA C that meets the requirements of the TPA, Appendix I. (Document is TPA compliant when document meets TPA requirements. It does not require regulator approval to be TPA compliant to meet the intent of this PBI deliverable).

Completion documents: Formal draft TPA Tier 2 Closure plan for WMA C that meets the requirements of the TPA, Appendix I.

PBI-2.8 CLIN 2 Completion of Retrieval Operations from Single-Shell Tank 241-C-104

Performance Fee value is established at \$4,000,000. \$4,000,000 of the total base period fee pool has been allocated to this PBI and is available to be earned.

Fee Structure: Straight-Line Method (September 30, 2013)

Milestone	Fee Value	Method	Amount allocated and available to be earned	Amount not allocated and not available to be earned
1	\$2,500,000	Straight-Line	\$2,500,000	\$0
2	\$1,500,000	Straight-Line	\$1,500,000	\$0
Total	\$4,000,000		\$4,000,000	\$0

Desired Endpoint/Outcome

Completion of tank waste retrieval activities to meet or exceed performance requirements in the "Proposed Consent Decree and Tri-Party Agreement Modifications for Hanford Tank Waste Treatment" Appendix B. Fee for the following milestones shall be earned in sequential order, i.e. fee for completion of a milestone shall not be awarded until the fee for the previous milestone has been awarded.

Fee Bearing Milestones

1. Complete bulk retrieval of Tank 241-C-104. The Contractor shall earn \$2,500,000 incremental fee upon completion of bulk retrieval of Tank 241-C-104. In the event the initially deployed retrieval technology meets or exceeds the performance requirements of the Consent Decree and Tri-Party Agreement Modifications for Hanford Tank Waste Treatment then additional fee in accordance with PBI-2.8.

Work scope/completion criteria: Complete bulk waste retrieval to the performance requirements of the Consent Decree and Tri-Party Agreement Modifications for Hanford Tank Waste Treatment or to the limits of the initially deployed waste retrieval technology.

Completion document: Submittal of material balance data and engineering calculations summary information demonstrating retrieval is complete or at the limits of the deployed technology

2. Complete heel retrieval of Tank 241-C-104. The Contractor shall earn \$1,500,000 of incremental fee upon completion of Tank 241-C-104 heel retrieval to the limits of technology.

Work scope/completion criteria: Complete waste retrieval to meet performance requirements in the Consent Decree and Tri-Party Agreement Modifications for Hanford Tank Waste Treatment.

Completion document: The submittal to DOE of material balance data and engineering calculation summary information demonstrating retrieval is complete to the Consent Decree and Tri-Party Agreement Modifications for Hanford Tank Waste Treatment requirements. If residual volume does not comply with the completion criteria, prepare and submit to DOE an impracticality evaluation in accordance with appendix B of the Consent Decree and Tri-Party Agreement Modifications for Hanford Tank Waste Treatment.

PBI-2.14 CLIN 2 Completion of Retrieval Operations from Single-Shell Tank 241-C-111

Performance Fee value is established at \$7,000,000. \$4,500,000 of the total base period fee pool has been allocated to this PBI and is available to be earned. \$2,500,000 is not allocated and is not available to be earned. The Contractor is not entitled to this unallocated and unavailable fee even if the workscope is complete.

Fee Structure: Straight-Line Method (September 30, 2013)

Milestone	Fee Value	Method	Amount allocated and available to be earned	Amount not allocated and not available to be earned
1	\$2,000,000	Straight-Line	\$2,000,000	\$0
2	Deleted(Mod 102)	Deleted (Mod 102)	Deleted (Mod 102)	Deleted (Mod 102)
3	\$2,000,000	Straight-Line	\$2,000,000	\$0
4	\$2,500,000	Straight-Line	\$0	\$2,500,000
5	\$150,000	Straight-Line	\$150,000	\$0
6	\$150,000	Straight-Line	\$150,000	\$0
7	\$200,000	Straight-Line	\$200,000	\$0
Total	\$7,000,000		\$4,500,000	\$2,500,000

Desired Endpoint/Outcome

Completion of tank waste retrieval activities to meet or exceed performance requirements in the "Consent Decree and Tri-Party Agreement Modifications for Hanford Tank Waste Treatment" Appendix B. Fee for the following milestones shall be earned in sequential order, i.e. fee for completion of a milestone shall not be awarded until the fee for the previous milestone has been awarded.

Fee Bearing Milestones

1. Complete waste retrieval system construction for Tank 241-C-111 and turnover to operations. The Contractor shall earn \$2,000,000 of incremental fee upon completion of construction of Tank 241-C-111 and turnover to operations.

Work scope/completion criteria: Complete waste retrieval system construction. The retrieval system must be approved by an Independent Qualified Registered Professional Engineer (IQRPE) as compliant with Washington Administrative Code (WAC) 173-303-640 as part of the completion of construction. The Construction Completion Document, Section Ia, will be completed.

Completion Document: Contractor approved, Construction Completion Document through Section Ia, with exceptions listing for completion of Tank 241-C-111 waste retrieval system construction and the ORP FPD/COR's concurrence on the exceptions listing.

2. Deleted(Mod 151)
3. Complete bulk retrieval of Tank 241-C-111. The Contractor shall earn \$2,000,000 incremental fee upon completion of bulk retrieval of Tank 241-C-111. In the event the initially deployed retrieval technology meets or exceeds the performance requirements of the Consent Decree and Tri-Party Agreement Modifications for Hanford Tank Waste Treatment then additional fee in accordance with PBI-2.14, Milestone 4 below, will also be earned.

Work scope/completion criteria: Complete bulk waste retrieval to the performance requirements of the Consent Decree and Tri-Party Agreement Modifications for Hanford Tank Waste Treatment or to the limits of the initially deployed waste retrieval technology.

Completion document: Submittal of material balance data and engineering calculations summary information demonstrating retrieval is complete or at the limits of the deployed technology.

4. Complete bulk and heel retrieval of Tank 241-C-111. The Contractor shall earn \$2,500,000 of incremental fee upon completion of Tank 241-C-111 bulk and heel retrieval. Fee for this milestone is not available to be earned.

Work scope/completion criteria: Complete waste retrieval to meet performance requirements of the Consent Decree and Tri-Party Agreement Modifications for Hanford Tank Waste Treatment and Consent Order (HFFACO), or to the limits of the second deployed waste retrieval technology and the potential deployment of third technology (ORP "may request that the State agree that the U.S. Department of Energy (DOE) may forego implementing a third retrieval technology if DOE and WRPS believe that implementing such technology is not practicable under the criteria set forth" per Consent Decree and Tri-Party Agreement Modifications for Hanford Tank Waste Treatment , Appendix C, Part 1). The submittal to DOE of material balance data and engineering calculation summary information demonstrating retrieval is complete to the Proposed Consent Decree and Tri-Party Agreement Modifications for Hanford Tank Waste Treatment requirements. If residual volume does not comply with the completion criteria, prepare and submit to DOE an impracticality evaluation in accordance with Appendix B of the Consent Decree and Tri-Party Agreement Modifications for Hanford Tank Waste Treatment.

Completion document: The submittal to DOE of material balance data and engineering calculation summary information demonstrating bulk and heel retrieval is complete.

5. Complete installation of in situ rapid measurement of the hard pan waste heel in 241-C-111 using Telescopic Raman Spectrometer technology. The Contractor shall earn \$150,000 of incremental fee upon completion of Telescopic Raman Spectrometer technology installation in 241-C-111.

Work scope/completion criteria: Complete installation of in situ rapid measurement of 241-C-111 hard pan heel using a Telescopic Raman Spectrometer (Raman) prototype. As part of the WRPS Waste Retrieval Technology Development Program a telescopic (Raman) system was fabricated and successfully tested under laboratory conditions as documented in RPP-RPT-50925. The telescopic (Raman) methodology represents a relatively low-cost method to identify components in tank heels. Use of telescope (Raman) techniques may reduce cost and radiation exposure to personnel during single-shell tank retrieval and closure by eliminating the collection of waste samples from tanks needed for hard heel removal.

Completion document: Submit work record entry documenting completion of Raman system installation in 241-C-111 to the ORP.

6. After installation of the Raman Probe, complete in situ rapid measurement field data collection of the hard pan waste heel in 241-C-111 using Telescopic Raman Spectrometer technology. The Contractor shall earn \$150,000 of incremental fee upon completion of the field data collection in 241-C-111.

Work scope/completion criteria: Completion of the in-situ rapid measurement field data collection of 241-C-111 hard pan heel using a Telescopic Raman Spectrometer (Raman) prototype.

Completion document: Submit work record entry documenting completion of field data collection in 241-C-111 to the ORP.

7. Issue a technical report documenting results in in-situ rapid measurement of the hard pan heel in 241-C-111. The Contractor shall earn \$200,000 of incremental fee upon approval and release of a technical report documenting results of telescopic Raman Spectrometer technology deployment in 241-C-111.

Work scope/completion criteria: Complete scientific analysis of spectra data collected in 241-C-111 using a prototype telescopic Raman spectrometer. Prepare, review, approve, and issue a technical report documenting the results. The report should include recommendations for further development and/or use of Raman technology in the characterization of single-shell tank hard pan waste heels.

Completion document: Submit WRPS-approved and released technical report documenting data analysis results and recommendations to the ORP

PBI-3.1 CLIN 3 Complete Submittal of Conceptual Design Report Documentation to Support Critical Decision 1 (CD-1) for the Interim Hanford Storage Facility (IHSF)

Performance Fee value is established at \$350,000. \$350,000 of the total base period fee pool has been allocated to this PBI and is available to be earned.

Fee Structure: Straight-Line Method (September 30, 2013)

Desired Endpoint/Outcome

Complete and submit to the U.S. Department of Energy, Office of River Protection (ORP), the IHSF Contractor-approved Conceptual Design Report in support of CD-1 documentation prescribed in DOE O 413.3B, Program and Project Management for the Acquisition of Capital Assets. The IHSF is a project that will provide for receipt and interim onsite storage of immobilized high-level waste (IHLW) canisters produced by the Waste Treatment Plant (WTP). Without this interim onsite canister storage capability, the WTP will not be able to process high-level waste.

Fee Bearing Milestones

1. Submit a Contractor-approved Conceptual Design Report in support of CD-1 documentation package for IHSF to ORP. The Contractor shall earn \$350,000 incremental fee upon completion of this milestone.

Work Scope/Completion Criteria: Complete a Contractor-approved Conceptual Design Report in support of CD-1 documentation submittal package for IHSF.

Completion Document: Letter transmitting Conceptual Design Report to ORP.

PBI-3.25 CLIN 3 Submit Integrated Waste Feed Delivery Plan (IWFDP) Update for Approval

Performance Fee available and assigned to this PBI: \$150,000

Fee Structure: Terminal Method (September 30, 2012)

Milestone	Fee Value	Method	Amount allocated and available to be earned
1	\$150,000	Terminal	\$150,000
Total	\$150,000		\$150,000

Desired Endpoint/Outcome

Prepare and submit to the U.S. Department of Energy, Office of River Protection (ORP), the required updates of the Integrated Waste Feed Delivery Plan (IWFDP) for approval (Contract Deliverable C.2.3.1-2). The IWFDP "shall include the needs of commissioning, near-term, and long-term operations; necessary studies, testing, and infrastructure installation; and projected waste transfer/pretreatment operations" and will describe both the strategy for the preparation and delivery of feed and the campaign plans for the initial feed deliveries.

Fee Bearing Milestones

1. Submit an update of the Integrated Waste Feed Delivery Plan, integrated with RPP System Plan Revision 6. The Contractor shall earn \$150,000 incremental fee upon submittal of this update.

Work Scope/Completion Criteria: Prepare and submit an Integrated Waste Feed Delivery Plan which has dispositioned all prior ORP and Contractor comments, to ORP for approval.

Completion Document: Letter transmitting the draft Integrated Waste Feed Delivery Plan to ORP for approval.

PBI-3.33 CLIN 3 Mixing and Sampling Implementation Plan Activities for DNFSB Recommendation 2010-2

Performance Fee value is established at \$200,000

Fee Structure: Straight-Line Method (September 30, 2013)

Milestone	Fee Value	Method	Amount allocated and available to be earned
1	\$200,000	Straight-Line	\$200,000
Total	\$200,000		\$200,000

Desired Endpoint/Outcome

Successful demonstration of small scale mixing including remote sampler collection concept such that tank farms mixing, sampling, and transfer capabilities are adequately understood to support WTP feed delivery gap analysis evaluations as described by the Implementation Plan for DNFSB Recommendation 2010-2.

Fee-Bearing Milestones

1. Complete construction of Remote Sampler Demonstration (RSD) loop mechanical handling systems. The Contractor shall earn \$200,000 of incremental fee upon completion.

Work scope/completion criteria: RSD Phase II construction includes completion of sample bottle mechanical handling systems as documented in design drawings. Completion of this construction phase will allow for demonstrations of sample container loading, filling, transfer to sample container shielded shipping cask, and transfer of the shipping cask to a simulated field operator interface point.

Completion Document: Completion of construction will be confirmed by a field walk down and acceptance signatures on subcontractor final construction punch list documenting satisfactory closure of all open construction punch list items.

PBI-3.35 CLIN 3 Complete Relocation of the Pretreatment Engineering Platform

Performance Fee available and assigned to this PBI: \$200,000

Fee Structure: Terminal (September 30, 2012)

Milestone	Fee Value	Method	Amount allocated and available to be earned
1	\$200,000	Straight-Line	\$200,000
Total	\$200,000		\$200,000

Desired Endpoint/Outcome

Complete the dismantlement and relocation of the Pretreatment Engineering Platform (PEP) and the refurbishment of PNNL's PDL-W facility.

Fee Bearing Milestone

1. Complete relocation of the PEP and refurbishment of PNNL's PDL-W facility. The Contractor shall earn \$200,000 of incremental fee upon completion.

Work Scope/Completion Criteria: Dismantle the PEP skids, relocate skids and associated PEP items to the new storage facility at Columbia Energy & Environmental Services Inc., and refurbish the PDL-W facility.

Completion Document: Letter transmitting PNNL's acceptance of the refurbished PDL-W facility.

PBI-Reserved - Unallocated Base Period Fee

The Total Unallocated Base Period Fee value is \$9,616,072. The Total Available Unallocated Base Period Fee value is \$104,167. The Total Unavailable Unallocated Base Period Fee value is \$9,511,905, which includes \$6,824,905 in original Unavailable Unallocated Base Period Fee and \$2,687,000 in Unavailable Unallocated Base Period Fee as a result of reactivation of on-hold PBI's. Unavailable Unallocated Base Period Fee is not available to be earned. The Contractor is not entitled to this unallocated and unavailable fee.

Available Unallocated Base Period Fee:	\$104,167 (Mod 151)
Available Unallocated ARRA Fee:	\$ 0
Total Available Unallocated Fee:	\$104,167 (Mod 151)

Fee Structure: Method to be determined

Fee will be allocated to award fee or additional performance based incentives as the need is identified before the end of fiscal year 2012 for base fee, and before the end of FY 2011 for ARRA fee.