

## Project Operating Plan

### Office of River Protection - Accelerate Tank Farm Infrastructure Upgrades to Support Waste Feed to the Waste Treatment and Immobilization Plant by 2019

#### BACKGROUND

**Recovery Act Project:** Office of River Protection - Accelerate Tank Farm Infrastructure Upgrades to Support Waste Feed to the Waste Treatment and Immobilization Plant 89-0253

**TAFS:** 2002110

**Project Identification Code:** 2002110

**Recovery Act Bill Reference:** PL 111-5, Title IV – Energy and Water Development, Defense Environmental Cleanup (H.R. 1-26)

**Project Cost:** \$326,035,000

**Budget Authority:** 05949, FD.01.10.00.0 - \$326,035,000

**Program Office:** Office of Environmental Management (EM)

**Recovery Program Plan:** EM - Defense

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#### LEADS

**Implementation:** Office of River Protection

**Breakthrough:** N/A

**Laboratory:** N/A

#### I. SUMMARY & OBJECTIVES

**Summary:** The original scope and purpose of the existing contract will not change with the addition of the Recovery Act (RA) funding. The purpose of this contract remains to furnish safe, compliant, cost-effective, and energy-efficient services to further the DOE-ORP mission to store, retrieve, and treat Hanford tank waste, store and dispose of treated waste and to close the Tank Farm waste management areas in order to protect the Columbia River. It remains the Tank Farm contractor's responsibility to determine the specific methods and approaches for accomplishing the agreed upon work scope. The Tank Operating Contract (TOC) applies performance-based contracting approaches, thereby expecting the contractor to innovate and implement techniques that maximize performance efficiencies and scope completion.

RA-funded investment in this project will upgrade the tank farm and support facility infrastructure required to provide the tank waste feed from the tank farms, to the Waste Treatment and Immobilization Plant (WTP), which begins hot operations in FY2019. This project accelerates completion of existing environmental protection and site cleanup goal of immobilizing High-Level Waste (HLW) at the Hanford Site which eliminates environmental threats to the Columbia River.

More specifically, this focus on waste feed readiness includes:

- The replacement and/or upgrade of aging tank farm infrastructure (facilities/tanks, systems and equipment)
- Secondary waste treatment, storage and shipping solutions
- Tank waste mixing and sampling capability to ensure consistent waste feed meeting strict waste feed acceptance criteria to the WTP

Further, the RA tank farm infrastructure upgrades include:

- Tank upgrade projects such as structural analysis, radial filter replacement, saltwell pumping equipment removal and electrical system upgrades to support single-shell tank (SST) integrity and life extension; and cathodic protection system upgrades, double-shell tank (DST) ventilation upgrades, transfer pump procurements, and level rise modification related to DTS upgrades and life extension
- Infrastructure upgrade projects for increasing evaporator capacity (wiped film evaporator), cross-site waste transfer line upgrades for slurry feed, and reliable core sampling capability (core sampling truck)
- Facility projects to upgrade and extend the life of the 242-A evaporator and the 222-S laboratory

Waste feed, treatment and storage RA projects include;

- In farm field work such as transfer and condensate line upgrades and isolation of clean out boxes
- Tank waste mixing and sampling demonstration
- Fabrication of mixer pumps
- WTP secondary waste treatment solution design
- Complete Preliminary Design for the Effluent Treatment Facility(ETF) upgrades
- Complete Preliminary Design of a High Level Waste Storage and Shipping Facility

The RA projects and end-state milestones are outlined in greater detail in Figure 1 - Major Project-Specific Milestones, Figure 2 – Project Performance Measures, and Table 6 - Project Performance Targets in this plan.

ORP is responsible for managing the radioactive mixed waste stored in 177 underground tanks located within 7 miles of the Columbia River. Of these tanks, 149 have a single steel liner inside the concrete tanks and are decades beyond their design life. Many of these tanks have leaked and some of the waste has reached the groundwater, threatening the Columbia River. It is important that the radioactive waste be removed, treated, and stored or disposed of in a more secure location before additional leaks occur and prior to tanks and infrastructure deteriorating to the point where cost and schedule for cleanup become prohibitive. The waste must be safely stored until it is retrieved. Monitoring, surveillance, and maintenance activities are performed to validate safe storage conditions and tank integrity and to maintain the tank farms infrastructure so that it can be used for future waste retrieval and transfer activities.

ORP is divided into two projects, the Radioactive Liquid Tank Waste Stabilization and Disposition Project, ORP-0014 (identified as the Tank Farms Project), and the Waste Treatment and Immobilization Plant Project, ORP-0060. ORP manages the radioactive mixed waste stored in Hanford's underground storage tanks which includes designing and building systems to retrieve, transfer, treat, immobilize, and dispose of these wastes. The Tank Farm Project (TFP) is responsible for the management, storage, transfer, and disposal of the waste. The WTP Project is responsible for the design and construction of plants which will treat and immobilize the tank waste. Upon completion of the construction and commissioning of the WTP, the Tank Farm Project will be responsible for the operation of the WTP.

When the WTP becomes operational, the tank waste will be pumped via transfer lines to the WTP for treatment and immobilization. The TFP provides waste delivery systems and supporting infrastructure. The TFP includes developing and implementing supplemental treatment methods for some of the non-HLW, thereby reducing the load on the WTP and completing the mission.

The current TFP baseline includes the upgrades necessary to support the start-up and efficient operations necessary to support final disposition of waste through the WTP. The RA initiative accelerates these upgrades which will ensure that mandatory upgrades are completed to support WTP operations.

The RA-funded work scope can be characterized as a "green initiative" in multiple ways. It fulfills the Government's responsibility to address nuclear weapons waste, allows completion of legal compliance agreement milestones, and enables reuse of Departmental facilities for other energy missions or community reuse. Moreover, EM sites can be used to establish Energy Parks once they are cleaned up, ensures long-term mission at environmental cleanup sites, and provides long-term quality jobs across a wide range of skills.

This Recovery Act work ties to the following DOE and EM Strategic Goals and Themes:

- DOE Strategic Goal/Theme 4 –Environmental Responsibility – Protecting the environment by providing a responsible resolution to the environmental legacy of nuclear weapons production.
- DOE Strategic Goal/Theme 5 – Management Excellence – Enabling the Department’s mission through sound management and business practices.
- EM Goals – To safely disposition large volumes of nuclear waste; safeguard materials that could be used in nuclear weapons; deactivate and decommission thousands of contaminated facilities no longer needed by the Department to carry on its current mission; EM is fulfilling its commitments to reduce overall risk and complete cleanup across all sites for generations to come.

**Public Benefits:** This project accelerates completion of existing environmental protection and site cleanup goal of immobilizing HLW at the Hanford Site which eliminates environmental threats to the Columbia River. This will create and/or retain approximately TBD jobs for the existing skilled workforce available in Eastern Washington to immediately execute this project.

**Recovery Act Project Impacts:** Investment in this project will upgrade the tank farm and support facility infrastructure necessary to provide the tank waste feed from the tank farms to the WTP, which is scheduled to begin hot operations in FY2019.

The RA investment accelerates the upgrades necessary to support the start-up and efficient operations necessary to support final disposition of waste through the WTP. Efficient operation of the WTP reduces the life-cycle costs and supports the President’s “green initiative” goal.

## II. COST & SCHEDULE

### Budget

**Table 1a: Budget Implementation 12 Week Obligations (\$M)**

	Week of ARRA Activities (Beginning Week of March 9)											
	1	2	3	4	5	6	7	8	9	10	11	12
Office of River Protection - Accelerate Tank Farm Infrastructure Upgrades to Support Waste Feed to the Waste Treatment and Immobilization Plant by 2019												

**Table 1b: Budget Implementation 12 Week Expenditures (\$M)**

	Week of ARRA Activities (Beginning Week of March 9)											
	1	2	3	4	5	6	7	8	9	10	11	12
Office of River Protection - Accelerate Tank Farm Infrastructure Upgrades to Support Waste Feed to the Waste Treatment and Immobilization Plant by 2019												

**Table 2a: Budget Implementation Monthly & Yearly Obligations (\$M)**

	FY 2009 Q3			FY 2009 Q4			FY 2010 Q1			
	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Office of River Protection - Accelerate Tank Farm Infrastructure Upgrades to Support Waste Feed to the Waste Treatment and Immobilization Plant by 2019	FY 2010 Q2			FY 2010 Q3			FY 2010 Q4			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	
	FY 2011 Q1			FY 2011 Q2			FY 2011 Q3 & Q4			
	Oct	Nov	Dec	Jan	Feb	Mar	Apr – Sept			
	FY 2012			FY 2013			FY 2014			FY 2015

**Table 2b: Budget Implementation Monthly & Yearly Expenditures (\$M)**

	FY 2009 Q3			FY 2009 Q4			FY 2010 Q1			
	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Office of River Protection - Accelerate Tank Farm Infrastructure Upgrades to Support Waste Feed to the Waste Treatment and Immobilization Plant by 2019	FY 2010 Q2			FY 2010 Q3			FY 2010 Q4			
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	
	FY 2011 Q1			FY 2011 Q2			FY 2011 Q3 & Q4			
	Oct	Nov	Dec	Jan	Feb	Mar	Apr – Sept			
	FY 2012			FY 2013			FY 2014		FY 2015	

**NOTES:** This budget obligation and expenditures layout assumes initial obligation to the prime contractor during the week starting March 30<sup>th</sup>, 2009.

The above obligations and expenditures are preliminary rough order of magnitude (ROM) estimates.

Funds Returned and Offsetting Collections

Not Applicable

**Table 3: Funds Returned and Offsetting Collections (\$M)**

	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
Not Applicable							

Indirect Costs

In accordance with the Tank Farm Contractor’s current contract, all costs are directly tied to the project. The TFC contract disclosure statement (Section 4.2.0) states that “G&S is not distributed to Tank Farm Contractor expense-funded activities because G&S costs are direct charged to expense funds.” However, there may be indirect costs associated with functional area staff required to support the RA-funded work scope. This is yet to be determined through contract negotiations.

Changes to Baseline Budget

RA projects involve accelerating existing projects and may result in changes to the baseline budgets in the long term. Potential savings associated with the tank farm infrastructure upgrades, originally scheduled to take place in 2011 and beyond, will be completed during FY 2009 – 2011 through utilization of RA funds.

**Table 4: Changes to Baseline Budgets (\$M)**

Changes to Baseline Budget	Increase/ Decrease	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
Program Direction after FY 2010	Increase							
Continuation of New Programs	Increase							
Project Acceleration	Decrease							

**NOTES:** The Office of River Protection’s RA-funded projects involve accelerating existing projects. This will result in changes to the baseline budgets in the out-years. Potential out-year savings are the result of accelerating upgrades to the SST infrastructure and Waste Feed Delivery activities originally scheduled to take place in 2012 and beyond that are now to be completed during FY 2010 and FY 2011 through utilization of RA funds. These cost savings are estimated to be on the order of \$36M, due to the acceleration of work scope from the out-years into FY 2010 and FY 2011.

**Milestones**

The following is the summary of the project end-state and interim milestones for the work scope to be completed using RA funding. This information was originally provided in the March 2, 2009 data call in accordance with Attachment J.

The milestones and performance measures provided in Figures 1 and 2 and in Table 6 are based on the best available information about ARRA requirements and pre-work authorization project definitions. Rough order of magnitude (ROM) estimates have been developed to date for costs and the associated end-state and interim milestones and associated performance measures. These assumed RA funding availability, beginning third quarter FY09. It is expected that as the detailed estimates and resource-loaded schedules (using Primavera 6.2) are developed, there will be some change to these estimates for costs, milestones and performance measures.

Because this scope will be integrated into the River Protection Project (RPP) baseline, but tracked and reported separately and uniquely, the internal DOE-approved change control process will be applied to the RA-funded scope. It is assumed that there will also be a future DOE-HQ change control process associated with costs, milestones and performance measures that have been reported to date and included in this plan.

<b>Figure 1 - Major Project-Specific Milestones</b>		<b>DATE</b>
<b>Project RA End State</b>	<b>1.0 Core Sampling Truck Purchase</b>	<b>Sep-10</b>
<b>Project RA End State</b>	<b>2.0 Integrated, Acceptance Testing Complete on a Full-Scale Wiped Film Evaporator System</b>	<b>Sep-11</b>
	2.1 Integrated, Acceptance Testing Complete on a Full-Scale Wiped Film Evaporator System - Complete development testing (i.e., pilot-scale testing on DST and SST simulants)	Sep-10
<b>Project RA End State</b>	<b>3.0 Tank/Farm upgrades for Feed Readiness</b>	<b>Sep-11</b>
<b>Sub Project RA End State</b>	<b>3.1 Tank/Farm upgrades for Feed Readiness - AP/SY Ventilation Design Complete. SY Ventilation -Installation and Testing Complete</b>	<b>Sep-11</b>
	3.1.1 Tank/Farm upgrades for Feed Readiness - AP/SY Ventilation - Design Complete	Apr-10
<b>Sub Project RA End State</b>	<b>3.2 Tank/Farm upgrades for Feed Readiness - Electrical Upgrades (AZ/AN/SY) - Installation and Testing Complete</b>	<b>Sep-11</b>
	3.2.1 Electrical Upgrades (AZ/AN/SY) - Issue Functions & Requirements Doc and Spec	Oct-09
	3.2.2 Tank/Farm upgrades for Feed Readiness - Electrical Upgrades (AZ/AN/SY) - Design Complete	Jun-10
	3.2.3 Tank/Farm upgrades for Feed Readiness - Electrical Upgrades (AZ/AN/SY) - Procurement Awarded	Aug-10
<b>Sub Project RA End State</b>	<b>3.3 Tank/Farm upgrades for Feed Readiness - Valve Funnel Replacement - Installation and Testing Complete</b>	<b>Sep-11</b>
	3.3.1 Tank/Farm upgrades for Feed Readiness - Valve Funnel Replacement - Statement of Work Complete	Dec-09
<b>Sub Project RA End State</b>	<b>3.4 Tank/Farm upgrades for Feed Readiness - W-314 Control Systems (AN, AP, AW, AY/AZ, SY, X-Site) - Installation and Testing Complete</b>	<b>Sep-11</b>
	3.4.1 Tank/Farm upgrades for Feed Readiness - W314 Control Systems (AN, AP, AW, AY/AZ, SY, X-Site) - Statement of Work Complete	Jan-10
<b>Sub Project RA End State</b>	<b>3.5 Tank/Farm upgrades for Feed Readiness - Level Rise Modifications (DSTs) - Installation and Testing Complete</b>	<b>Oct-10</b>
	3.5.1 Tank/Farm upgrades for Feed Readiness - Level Rise Modifications (DSTs) - Design Complete	Dec-09
<b>Sub Project RA End State</b>	<b>3.6 Tank/Farm upgrades for Feed Readiness - Control System Upgrade (702 Micon) - Installation and Testing Complete</b>	<b>Mar-11</b>
	3.6.1 Tank/Farm upgrades for Feed Readiness - Control System Upgrade (702 Micon) - Statement of Work Complete	Feb-10
<b>Sub Project RA End State</b>	<b>3.7 Tank/Farm upgrades for Feed Readiness - AP Valve Pit Jumpers - Installation and Testing Complete</b>	<b>Sep-11</b>

	3.7.1 Tank/Farm upgrades for Feed Readiness - AP Valve Pit Jumpers - Design Complete	May-10
<b>Sub Project RA End State</b>	<b>3.8 Tank/Farm upgrades for Feed Readiness - Exhauster D &amp; D - D &amp; D Complete</b>	<b>Apr-11</b>
	3.8.1 Tank/Farm upgrades for Feed Readiness - Exhauster D & D - Statement of Work Complete	Dec-09
<b>Sub Project RA End State</b>	<b>3.9 Tank/Farm upgrades for Feed Readiness - Other Tank/Farm Upgrades - Installation and Testing Complete</b>	<b>Sep-11</b>
	3.9.1 Tank/Farm upgrades for Feed Readiness - Other Tank/Farm Upgrades - Statement of Work Complete	Mar-10
<b>Sub Project RA End State</b>	<b>3.10 Procurements Awarded for Other Tank/Farm Upgrades</b>	<b>Jun-10</b>
<b>Project RA End State</b>	<b>4.0 Double Shelled Tanks (DSTs) Upgrades and Life Extension</b>	<b>Sep-11</b>
	4.1 DSTs Upgrades and Life Extension - Issue DSTIP Lab test report	Dec-10
	4.2 DSTs Upgrades and Life Extension - Install AN-107 Corrosion Probe	Oct-10
	4.3 DSTs Upgrades and Life Extension - Procure Spare Transfer Pumps	May-10
	4.4 DSTs Upgrades and Life Extension - Complete Cathodic Protection System Upgrades	Sep-11
<b>Project RA End State</b>	<b>5.0 222-S Laboratory Upgrades and Life Extension Projects Complete</b>	<b>Sep-11</b>
	5.1 222-S Laboratory Upgrades and Life Extension Projects Complete - Complete SOWs for priority instruments (Alpha energy analyzer, gamma energy analyzer, liquid chromatograph/mass spectrometer, ion chromatograph)	Sep-09
	5.2 222-S Laboratory Upgrades and Life Extension Projects Complete - Procurements placed for 10 replacement instruments	Nov-10
	5.3 222-S Laboratory Upgrades and Life Extension Projects Complete - Award Contracts for 8 Life Cycle Extension Projects	Nov-10
	5.4 222-S Laboratory Upgrades and Life Extension Projects Complete - Complete 8 Life Cycle Extension Projects	Sep-11
	5.5 222-S Laboratory Upgrades and Life Extension Projects Complete - Complete SOW for 10 Lab Upgrade Projects	Dec-10
	5.6 222-S Laboratory Upgrades and Life Extension Projects Complete - Complete 10 Lab Upgrade Projects	Sep-11
<b>Project RA End State</b>	<b>6.0 242-A Evaporator Upgrades and Life Extension Installation and Testing Complete</b>	<b>Sep-11</b>
	6.1 242-A Evaporator Upgrades and Life Extension Installation and Testing Complete - Procure 3 Spare 242-A Pumps	May-10
	6.2 242-A Evaporator Upgrades and Life Extension Installation and Testing Complete - Complete 242-A Exhaust Design and Procurement	May-10
	6.3 242-A Evaporator Upgrades and Life Extension Installation and Testing Complete - Procure 242-A Spare Parts	Dec-10

	6.4	242-A Evaporator Upgrades and Life Extension Installation and Testing Complete - Procure and install 242-A Instrument Upgrades	Aug-11
	6.5	242-A Evaporator Upgrades and Life Extension Installation and Testing Complete - Complete 242-A Exhaust installation and testing	Sep-11
Project RA End State	<b>7.0 Single Shell Tank (SST) Integrity, Life Extension, and SST Consolidation - Waste Consolidation Regulatory Planning/Permitting Complete</b>		<b>Sep-11</b>
	7.1	Single Shell Tank (SST) Integrity, Life Extension, and SST Consolidation - Waste Consolidation Regulatory Planning/Permitting Complete - Procurement placed for Structural Analysis of SST's	Dec-09
	7.2	Single Shell Tank (SST) Integrity, Life Extension, and SST Consolidation - Waste Consolidation Regulatory Planning/Permitting Complete - Correct SST Dome Benchmarks	Aug-11
	7.3	Single Shell Tank (SST) Integrity, Life Extension, and SST Consolidation - Waste Consolidation Regulatory Planning/Permitting Complete - Replace Radial Filters (~100)	Aug-11
	7.4	Single Shell Tank (SST) Integrity, Life Extension, and SST Consolidation - Waste Consolidation Regulatory Planning/Permitting Complete - Remove Obsolete Equipment (saltwell pumping equip)	Aug-11
	7.5	Single Shell Tank (SST) Integrity, Life Extension, and SST Consolidation - Waste Consolidation Regulatory Planning/Permitting Complete - Complete Electrical System Upgrades	Aug-11
Project RA End State	<b>8.0 Cross Site Transfer Line Construction for Slurry Transfers from 200-W to 200-E - Construction Complete</b>		<b>Sep-11</b>
	8.1	Cross Site Transfer Line Construction for Slurry Transfers from 200-W to 200-E - Construction Complete - 90% Design Complete for Cross-Site Upgrades	Jun-10
	8.2	Cross Site Transfer Line Construction for Slurry Transfers from 200-W to 200-E - Construction Complete - Cross-Site Upgrades equipment procurement complete	Jun-11
	8.3	Cross Site Transfer Line Construction for Slurry Transfers from 200-W to 200-E - Construction Complete - Cross-Site Upgrades Construction Complete	Sep-11
	8.4	Cross Site Transfer Line Construction for Slurry Transfers from 200-W to 200-E - Construction Complete - AN-104 Cross-Site Slurry Line By-Pass Construction Complete	May-11
	8.5	Cross Site Transfer Line Construction for Slurry Transfers from 200-W to 200-E - Construction Complete - Cross-Site Transfer System Monitoring equipment procurement complete	Dec-10
	8.6	Cross Site Transfer Line Construction for Slurry Transfers from 200-W to 200-E - Construction Complete - Cross-Site Transfer System Monitoring Construction Complete	Jul-11
Project RA End State	<b>9.0 Secondary Waste Treatment / Effluent Treatment Facility Upgrades</b>		<b>Sep-11</b>
	9.1	Secondary Waste Treatment / Effluent Treatment Facility Upgrades - CD-0 Approval by DOE-ORP	Sep-09
	9.2	Secondary Waste Treatment / Effluent Treatment Facility Upgrades - CD-1 Submittal to DOE-ORP	Jun-10
	9.3	Secondary Waste Treatment / Effluent Treatment Facility Upgrades - Facility Transfer Strategy from RL-ORP	Jun-11
	9.4	Secondary Waste Treatment / Effluent Treatment Facility Upgrades - Submit CD-2 package to DOE-ORP	Jul-11
	9.5	Secondary Waste Treatment / Effluent Treatment Facility Upgrades - CD-2 Approved package	Aug-11

Project RA End State	<b>10.0 Waste Feed Delivery - Strategic Planning - Process control flow sheet complete for first 3 WTP Feed Tanks</b>	<b>Sep-11</b>
	10.1 Waste Feed Delivery - Strategic Planning - Process control flow sheet complete for first 3 WTP Feed Tanks - Updated WFD system specifications	May-10
	10.2 Waste Feed Delivery - Strategic Planning - Process control flow sheet complete for first 3 WTP Feed Tanks - WFD OR Model with RAMI	Feb-11
Project RA End State	10.3 Waste Feed Delivery - Strategic Planning - Process control flow sheet complete for first 3 WTP Feed Tanks - Process control flow sheet complete for first 3 WTP Feed Tanks	Sep-11
	<b>11.0 Waste Feed Delivery - Pre-Design/Design Activities for WFD</b>	<b>Sep-11</b>
	11.1 Waste Feed Delivery - Pre-Design/Design Activities for WFD - AY Infrastructure 30% design complete	Aug-10
	11.2 Waste Feed Delivery - Pre-Design/Design Activities for WFD - AY Infrastructure Design Complete	Sep-11
Project RA End State	11.3 Waste Feed Delivery - Pre-Design/Design Activities for WFD - AW Infrastructure 30% design complete	Aug-10
	11.4 Waste Feed Delivery - Pre-Design/Design Activities for WFD- AW Infrastructure Design Complete	Sep-11
	<b>12.0 Waste Feed Delivery - In-Farm Field Work - SL-177/SN-277 and SL-180/SN-280 Transfer Lines Upgrades - Construction Complete Documentation</b>	<b>Aug-11</b>
Project RA End State	12.1 Waste Feed Delivery - In-Farm Field Work - SL-177/SN-277 and SL-180/SN-280 Transfer Lines Upgrades - Construction Complete Documentation - 90% design complete	Dec-09
	12.2 Waste Feed Delivery - In-Farm Field Work - SL-177/SN-277 and SL-180/SN-280 Transfer Lines Upgrades - Construction Complete Documentation - Piping Procurement complete	Jun-10
Project RA End State	<b>13.0 Waste Feed Delivery - In-Farm Field Work - SN-278/SN-279 and SN-285/SN-286 Transfer Lines Upgrades Construction Complete</b>	<b>Aug-11</b>
	13.1 Waste Feed Delivery - In-Farm Field Work - SN-278/SN-279 and SN-285/SN-286 Transfer Lines Upgrades Construction Complete - 90% design complete	Mar-10
	13.2 Waste Feed Delivery - In-Farm Field Work - SN-278/SN-279 and SN-285/SN-286 Transfer Lines Upgrades Construction Complete - Piping Procurement complete	Sep-10
Project RA End State	<b>14.0 Waste Feed Delivery - In-Farm Field Work - AZ-1 Condensate Line Upgrade - Work Package Complete</b>	<b>Feb-11</b>
Project RA End State	<b>15.0 Waste Feed Delivery - In-Farm Field Work - AW COB Isolation- Work Package Complete</b>	<b>May-11</b>
Project RA End State	<b>16.0 Waste Feed Delivery - Support Facilities Construction Complete</b>	<b>Sep-11</b>
	16.1 Waste Feed Delivery - Support Facilities Construction Complete - Work team Facilities Construction	Mar-11
	16.2 Waste Feed Delivery - Support Facilities Construction Complete - Equipment Storage Facility Construction	Jun-11
	16.3 Waste Feed Delivery - Support Facilities Construction Complete - Centralized Control Facility Construction	Sep-11

Project RA End State	<b>17.0 Waste Feed Delivery - Tank Waste Mixing for Sampling Demo - Completed Small Scale Demo and Submit to DOE-ORP</b>	<b>Jun-11</b>
	17.1 Waste Feed Delivery - Tank Waste Mixing for Sampling Demo - Completed Small Scale Demo and Submit to DOE - Complete small scale mixing demonstration and submit draft report to DOE-ORP	Sep-10
	17.2 Waste Feed Delivery - Tank Waste Mixing for Sampling Demo - Completed Small Scale Demo and Submit to DOE - Complete test loop demonstration and submit draft report to DOE-ORP	Jan-11
	17.3 Waste Feed Delivery - Tank Waste Mixing for Sampling Demo - Completed Small Scale Demo and Submit to DOE - Complete small scale sampling demonstration and submit draft report to DOE-ORP	Jun-11
Project RA End State	<b>18.0 Waste Feed Delivery - Initiate Mixer Pump Fabrication</b>	<b>Apr-11</b>
	18.1 Waste Feed Delivery - Initiate Mixer Pump Fabrication - Complete Mixer Pump Procurement Specification Update	Dec-09
	18.2 Waste Feed Delivery - Initiate Mixer Pump Fabrication - ORP Approval of Mixer Pump Procurement	May-10
	18.3 Waste Feed Delivery - Initiate Mixer Pump Fabrication - Place mixer pump fabrication subcontract	May-10
	18.4 Waste Feed Delivery - Initiate Mixer Pump Fabrication - Complete vendor mixer pump design	Mar-11
Project RA End State	<b>19.0 Immobilized High Level Waste Hanford Shipping Facility Completion of Preliminary Design (CD-2) and Submittal to DOE-ORP</b>	<b>Sep-11</b>
	19.2 Immobilized High Level Waste Hanford Shipping Facility Completion of Preliminary Design (CD-2) and Submittal to DOE-ORP - CD-0 Confirmation from DOE-ORP	Jun-09
	19.3 Immobilized High Level Waste Hanford Shipping Facility Completion of Preliminary Design (CD-2) and Submittal to DOE-ORP - CD-1 Submittal to DOE-ORP	Mar-10
Project RA End State	<b>20.0 Waste Feed Infrastructure – Complete Initial Project Planning and Studies</b>	<b>Sep-11</b>
	20.1 Waste Feed Infrastructure Project – Develop initial project plan and submit to DOE-ORP	Jun-10
	20.2 Waste Feed Infrastructure Project – Perform initial scoping and concept studies and submit to DOE-ORP	Oct-10
	20.3 Waste Feed Infrastructure Project - Preliminary Design and submittal to DOE-ORP - Construct 1/4 Scale Test Facility	Feb-11
	20.4 Waste Feed Infrastructure Project - Preliminary Design and submittal to DOE-ORP - Conduct 1/4 Scale demonstration test	Sep-11
	<b>21.0 Hanford Advisory Board - Recovery Act Update</b>	<b>Jul-09</b>

**Table 5: Delivery Schedule for Capital Asset Projects** – ORP has determined that the Secondary Waste Treatment/Effluent Treatment Facility Upgrades (9.0) and IHLW Shipping Facility’s Preliminary Design (20.0) are the RA-funded sub-projects that currently qualify as Capital Asset Projects.

**Secondary Waste Treatment/Effluent Treatment Facility Upgrades (9.0)**

<b>Program/OECM Milestone</b>	<b>Delivery (End) Date</b>	<b>Comments</b>
Develop Parametric Performance Baseline	ORP Approval Sep - 09	JMN Package submitted to ORP Jul – 09
Complete Conceptual Design	ORP Approval Aug - 10	Conceptual Design Package submitted to ORP Jun - 10
Approve Performance Baseline	ORP Approval Aug - 11	Preliminary Design Package submitted to ORP Jul - 11
Approve Start of Construction		Detailed design will be funded in the RPP baseline beyond FY2011. Construction will be funded in the RPP baseline beyond FY2011
Approve Project Completion		

**Immobilized High-Level Waste Hanford Shipping Facility Preliminary Design (19.0)**

<b>Program/OECM Milestone</b>	<b>Delivery (End) Date</b>	<b>Comments</b>
Develop Parametric Performance Baseline	ORP Approval Jun - 09	JMN package submitted to ORP in Apr - 10
Complete Conceptual Design	ORP Approval Aug - 10	Conceptual Design Package submitted to ORP Jun - 10
Approve Performance Baseline	Approximately 30% of preliminary design will be completed by Sep - 2011 using RA funding.	The balance of preliminary design will be funded in the RPP baseline beyond FY2011
Approve Start of Construction		Detailed design will be funded in the RPP baseline beyond FY2011. Construction will be funded in the RPP baseline beyond FY2011
Approve Project Completion		

**NOTES:** This scope will be integrated into the River Protection Project (RPP) baseline, but tracked and reported separately and uniquely, the internal DOE approved change control process will be applied to all RA-funded scope. It is assumed that there will also be a future DOE-HQ change control process associated with costs, milestones and performance measures that have been reported to date and included in this plan.

### III. PERFORMANCE

#### **Performance Measures**

The following is the summary of the project performance measures for identified projects and subprojects for the work scope to be completed using Recovery Act funding. This was provided as follow-on to the March 2, 2009 milestone data call.

<b>Figure 2 – Project Performance Measures</b>			
	<b>Other Major Program-Specific Milestones</b>	<b>DATE</b>	<b>Performance Measures</b>
<b>Project RA End State</b>	1.0 Core Sampling Truck Purchase	Sep-10	Core Sampling Truck - Issue Functions & Requirements Doc and Spec, Complete Design package consisting of drawings, fabrication specifications, and supporting calculations, and Complete Fabrication/Acceptance Testing for the Core Sampling Truck.
<b>Project RA End State</b>	2.0 Integrated, Acceptance Testing Complete on a Full-Scale Wiped Film Evaporator System	Sep-11	Acceptance Testing complete on a full scale WFE System
<b>Project RA End State</b>	3.0 Tank/Farm upgrades for Feed Readiness	Sep-11	Tank/Farm Upgrades complete
<b>Sub Project RA End State</b>	3.1 Tank/Farm upgrades for Feed Readiness - AP/SY Ventilation Design Complete. SY Ventilation - Installation and Testing Complete	Sep-11	AP and SY Primary Vent Systems (each include 2 Exhausters, 2 HEPA Trains, and ducting and stack) - Issue Functions & Requirements Doc and Spec for both AP and SY Primary Vent Systems, Complete Design package consisting of drawings, fabrication specifications, and supporting calculations for the AP and SY Primary Vent Systems, Complete Installation SY Primary Vent System (2 Exhausters, 2 HEPA Trains, and ducting and stack), and Complete Acceptance Testing SY Primary Vent System (2 Exhausters, 2 HEPA Trains, and ducting and stack)
<b>Sub Project RA End State</b>	3.2 Tank/Farm upgrades for Feed Readiness - Electrical Upgrades (AZ/AN/SY) - Installation and Testing Complete	Sep-11	For each farm (AZ/AN/SY) perform Electrical Upgrades, Issue Functions & Requirements Doc and Spec, Complete Design package consisting of drawings, procurement and construction specifications, and supporting calculations, Issue RFP, Award Contract, Complete Installation, and Complete Acceptance Testing.

Sub Project RA End State	3.3 Tank/Farm upgrades for Feed Readiness - Valve Funnel Replacement - Installation and Testing Complete	Sep-11	7 total pits - For 2 pits (AN-A AN-B) complete valve funnel (~37) and jumper replacement; Issue SOW, Complete Fabrication, and Complete Installation. For other 5 Pits (AP-02A, AP-02D, AW-A, AZ-01A, AZ-VP) Complete Valve Funnel Modifications (~34); Complete Fabrication, and Complete Installation.
Sub Project RA End State	3.4 Tank/Farm upgrades for Feed Readiness - W314 Control Systems (AN, AP, AW, AY/AZ, SY, X-Site) - Installation and Testing Complete	Sep-11	For AN, AP, AW, AY/AZ, SY, and X-Site systems (for each farm remove old master pump shutdown circuit, connect to new master pump shutdown circuit, and perform testing), Complete SOW; For AN Issue RFP, Award Contract and Complete Modifications, For AP Issue RFP, Award Contract and Complete Modifications, For AW Issue RFP, Award Contract and Complete Modifications, For AY/AZ Issue RFP, Award Contract and Complete Modifications, For SY Issue RFP, Award Contract and Complete Modifications, and For X-site Issue RFP, Award Contract and Complete Modifications.
Sub Project RA End State	3.5 Tank/Farm upgrades for Feed Readiness - Level Rise Modifications (DSTs) - Installation and Testing Complete	Oct-10	Issue SOW for Double Shell Tank Level Rise Modifications (assumes modifications are performed to ~15 DST), Issue RFP and Award Contract, and Complete Modifications.
Sub Project RA End State	3.6 Tank/Farm upgrades for Feed Readiness - Control System Upgrade (702 Micon) - Installation and Testing Complete	Mar-11	Issue SOW (installation of a new MCS system for the 241-702-AZ Ventilation System), Issue RFP and Award Contract, and Complete Modifications
Sub Project RA End State	3.7 Tank/Farm upgrades for Feed Readiness - AP Valve Pit Jumpers - Installation and Testing Complete	Sep-11	AP Valve Pit Jumpers (10 Jumpers and 30 Valves) Complete Design package consisting of drawings, specifications, and supporting calculations, Issue Functions & Requirements Doc and Spec, Complete Fabrication, Complete Installation, and Complete Acceptance Testing.
Sub Project RA End State	3.8 Tank/Farm upgrades for Feed Readiness - Exhauster D & D - D & D Complete	Apr-11	AW Farm (including 2 exhaust filter trains & 2 fans and 1 stack) Complete SOW, Issue RFP and Award Contract, and Complete D&D. AN Farm (including 2 exhaust filter trains & 2 fans and 1 stack) Complete SOW, Issue RFP, Award Contract, and Complete D&D.

Sub Project RA End State	3.9 Tank/Farm upgrades for Feed Readiness - Other Tank/Farm Upgrades - Installation and Testing Complete	Sep-11	Refurbish ENRAFS (up to ~150, as needed, after performing predictive Maintenance Tests), Complete 1 Vent Reliability Study, Complete Pit Drain Plug Replacement, Resolve NEC (~30) non-compliance issues, Remove obsolete equipment (including 12 SHMS cabinets and P-28 Exhausters from SY Farm), and Procure spare valves/jumpers (~8 spare valves, and ~10 jumpers).
Sub Project RA End State	3.10 Procurements awarded for Other Tank/Farm Upgrades	Jun-10	SOWS completed and contracts awarded for remaining smaller tank farm upgrade work
Project RA End State	4.0 DSTs Upgrades and Life Extension	Sep-11	Issue the DSTIP Lab test report, Install the AN-107 Corrosion Probe, Procure 3 Spare DST Transfer Pumps, and Complete Cathodic Protection System Upgrades.
Project RA End State	5.0 222-S Laboratory Upgrades and Life Extension Projects Complete	Sep-11	Complete SOW for 4 priority instruments in FY09, Award Procurement 10 replacement instruments, Award Contracts for 8 Life Cycle Extension Projects, Complete 8 Life Cycle Extension Projects, Complete SOW for 10 Lab Upgrade Projects, and Complete 10 Lab Upgrade Projects.
Project RA End State	6.0 242-A Evaporator Upgrades and Life Extension Installation and Testing Complete	Sep-11	Procure 3 Spare 242-A Pumps, Complete 242-A Exhaust System (3 exhaust blowers and 2 Filter Trains and asbestos abatement) Design and Procurement, Complete 242-A Exhaust System (2 exhaust fans and 3 Filter Trains and asbestos abatement) installation and testing, Procure and install 242-A Instrument Upgrades (~40 Instruments), and Procure 242-A Spare Parts (backlogged spare parts and critical spares).
Project RA End State	7.0 Single Shell Tank (SST) Integrity, Life Extension, and SST Consolidation - Waste Consolidation Regulatory Planning/Permitting Complete	Sep-11	Commence Structural Analysis of SSTs, Correct SST Dome Benchmarks (~100), Replace Radial Filters (~100), Remove Obsolete Equipment (salt well pumping equip), Complete Electrical System Upgrades.

Project RA End State	8.0	Cross Site Transfer Line Construction for Slurry Transfers from 200-W to 200-E - Construction Complete	Sep-11	Installation of 2 booster pumps and miscellaneous equipment (valves, pressure transmitters, rupture disks) in Diversion Box 6241-A, approximately 50 feet of transfer piping and a piping jumper/rupture disk assembly in AN Tank Farm, a computer control system/software, and two piping jumpers in SY Tank Farm.
Project RA End State	9.0	Secondary Waste Treatment / Effluent Treatment Facility Upgrades	Sep-11	Approved CD-2 package
Project RA End State	10.0	Waste Feed Delivery - Strategic Planning - Process control flow sheet complete for first 3 WTP Feed Tanks	Sep+-11	1 strategy PMB inputs package including work scope, schedule, and costs
Project RA End State	11.0	Waste Feed Delivery - Pre-Design/Design Activities for WFD	Sep-11	Completion of design package for the WFD
Project RA End State	12.0	Waste Feed Delivery - In-Farm Field Work - SL-177/SN-277 and SL-180/SN-280 Transfer Lines Upgrades - Construction Complete Documentation	Aug-11	Installation of approximately 150 feet of transfer piping in SY Tank Farm.
Project RA End State	13.0	Waste Feed Delivery - In-Farm Field Work - SN-278/SN-279 and SN-285/SN-286 Transfer Lines Upgrades Construction Complete	Aug-11	Installation of approximately 375 feet of transfer piping in SY Tank Farm.
Project RA End State	14.0	Waste Feed Delivery - In-Farm Field Work - AZ-1 Condensate Line Upgrade - Work Package Complete	Feb-11	Install approximately 320 ft. of condensate line between the AZ-301 Condensate Receiver Tank and Tank 241-AZ-101
Project RA End State	15.0	Waste Feed Delivery - In-Farm Field Work - AW COB Isolation- Work Package Complete	May-11	Deactivation, isolation, and removal of Clean Out Boxes 3, 5, and 7 from AW Tank Farm.
Project RA End State	16.0	Waste Feed Delivery - Support Facilities Construction Complete	Sep-11	Installation of three work team trailers: one located by AP/AW Farms, one located by AN/AY/AZ Farms, and one located by SY Farm.
Project RA End State	17.0	Waste Feed Delivery - Tank Waste Mixing for Sampling Demo - Completed Small Scale Demo and Submit to DOE-ORP	Jun-11	Completion of small scale demo and report submittal to DOE-ORP (Work continues into FY12)
Project RA End State	18.0	Waste Feed Delivery - Initiate Mixer Pump	Apr-11	Release for fabrication for 6 WFD mixer pumps.

	Fabrication		
<b>Project RA End State</b>	19.0 Immobilized High Level Waste Hanford Shipping Facility Completion of Preliminary Design (CD-2) and Submittal to DOE-ORP	Sep-11	CD-2 package containing drawings, specifications and preliminary calculations approximately 30% complete.
<b>Project RA End State</b>	20.0 Waste Feed Infrastructure – Complete Initial Project Planning and Studies	Sep-11	Develop initial project and submit to DOE-ORP; perform initial scoping and concept studies and submit to DOE-ORP
	21.0 Hanford Advisory Board - Recovery Act Update	Jul-09	

Table 6 aligns these project and sub project milestones and performance measures quarterly for FY10 and 11. Since this aligns the projects into a quarterly configuration, the project numbering sequence will be different in Table 6. The Project and Subproject numerical label is consistent in Figures 1, 2 and Table 6.

**Table 6: Project Performance Targets**

Recovery Act Project Identification Code	2002110
Linkage To S-1 Priorities	National Security and Legacy - Accelerates readiness to safely transfer wastes for treatment and disposal
Linkage to Current Program Goal (if applicable)	To safely disposition large volumes of nuclear waste; safeguard materials that could be used in nuclear weapons; EM is fulfilling its commitments to reduce overall risk and complete cleanup across all sites for generations to come.
Three-Year Outcome-Oriented Performance Measure (End of 2011)	Complete project planning and preliminary designs for two Tank Farm RA Projects (Immobilized High Level Waste Hanford Shipping Facility, Effluent Treatment Facility (ETF) upgrades) to support waste feed to Waste Treatment Plant (WTP); Complete installation and acceptance of tank farm facility, systems and equipment upgrades.
First Year Performance Target	Project planning on RA projects; RA resource mobilization; execution of project

(FY09)	design work; execution of procurement activities for tank and tank farm equipment upgrades (e.g., near-term equipment upgrade installation projects and long lead procurements for pumps, exhausters, etc.); Equipment installation and testing; receipt and acceptance testing of core sampling truck.
Q1 - Project-Level Quarterly Performance Milestone(s)	None
Q2 - Project-Level Quarterly Performance Milestone(s)	None
Q3 - Project-Level Quarterly Performance Milestone(s)	3.10 Procurements awarded for other Tank/Farm Upgrades <b>Jun – 10</b> SOWs completed and contracts awarded for additional tank farm upgrades work
Q4 - Project-Level Quarterly Performance Milestone(s)	1. 0 Core Sampling Truck Purchase <b>Sep -10</b> Core Sampling Truck - Issue Functions & Requirements Doc and Spec, Complete Design package consisting of drawings, fabrication specifications, and supporting calculations, and Complete Fabrication/Acceptance Testing for the Core Sampling Truck.
Second Year Performance Target (FY 2010)	Complete installation and testing for DST level rise modifications; Install approximately 320 ft. of condensate line between the AZ-301 Condensate Receiver Tank and Tank 241-AZ-101; Complete D&D of AW and AN farm exhausters; Deactivation, isolation, and removal of Clean Out Boxes 3, 5, and 7 from AW Tank Farm; Installation of approximately 150 feet of transfer piping in SY Tank Farm (SL-177/SN-277 and SL-180/SN-280 Transfer Lines Upgrade); Installation of approximately 375 feet of transfer piping in SY Tank Farm (SN-278/SN-279 and SN-285/SN-286 Transfer Lines Upgrade); Complete acceptance testing on a full scale Wiped Film Evaporator System; Complete installation and testing of SY Ventilation, W-314 Control Systems, (702 Micon) Control System, electrical upgrades in tank farms

	AZ/AN/SY; Complete fabrication and installation of ~37 valve funnels; Complete and install instrument upgrades in 222-S Lab and 242-A evaporator; Complete construction for cross site transfer line (slurry transfers from 200-W to 200-E).
Q1 - Project-Level Quarterly Performance Milestone(s)	3.5 Tank/Farm upgrades for Feed Readiness - Level Rise Modifications (DSTs) - Installation and Testing Complete <b>Oct – 10</b> Issue SOW for Double Shell Tank Level Rise Modifications (assumes modifications are performed to ~15 DST), Issue RFP and Award Contract, and Complete Modifications.
Q2 - Project-Level Quarterly Performance Milestone(s)	14.0 Waste Feed Delivery - In-Farm Field Work - AZ-1 Condensate Line Upgrade - Work Package Complete <b>Feb – 11</b> Install approximately 320 ft. of condensate line between the AZ-301 Condensate Receiver Tank and Tank 241-AZ-101.  3.6 Tank/Farm upgrades for Feed Readiness - Control System Upgrade (702 Micon) - Installation and Testing Complete <b>Mar – 11</b> Issue SOW (installation of a new MCS system for the 241-702-AZ Ventilation System), Issue RFP and Award Contract, and Complete Modifications.
Q3 - Project-Level Quarterly Performance Milestone(s)	3.8 Tank/Farm upgrades for Feed Readiness - Exhauster D & D - D & D Complete <b>Apr – 11</b> AW Farm (including 2 exhaust filter trains & 2 fans and 1 stack) Complete SOW, Issue RFP and Award Contract, and Complete D&D. AN Farm (including 2 exhaust filter trains & 2 fans and 1 stack) Complete SOW, Issue RFP, Award Contract, and Complete D&D.  18.0 Waste Feed Delivery - Initiate Mixer Pump Fabrication <b>Apr – 11</b> Release for fabrication for 6 WFD mixer pumps

	<p>15.0 Waste Feed Delivery - In-Farm Field Work - AW COB Isolation- Work Package Complete <b>May – 11</b> Deactivation, isolation, and removal of Clean Out Boxes 3, 5, and 7 from AW Tank Farm.</p> <p>17.0 Waste Feed Delivery - Tank Waste Mixing for Sampling Demo - Completed Small Scale Demo and Submit to DOE-ORP <b>Jun – 11</b> Completion of small scale demo and report submittal to DOE-ORP (Work continues into FY2012).</p>
<p>Q4 - Project-Level Quarterly Performance Milestone(s)</p>	<p>12.0 Waste Feed Delivery - In-Farm Field Work - SL-177/SN-277 and SL-180/SN-280 Transfer Lines Upgrades - Construction Complete Documentation <b>Aug -11</b> Installation of approximately 150 feet of transfer piping in SY Tank Farm.</p> <p>13.0 Waste Feed Delivery - In-Farm Field Work - SN-278/SN-279 and SN-285/SN-286 Transfer Lines Upgrades Construction Complete <b>Aug -11</b> Installation of approximately 375 feet of transfer piping in SY Tank Farm.</p> <p>2.0 Integrated, Acceptance Testing Complete on a Full-Scale Wiped Film Evaporator System <b>Sep- 11</b> Acceptance Testing complete on a full scale WFE System.</p> <p>3.1 Tank/Farm upgrades for Feed Readiness - AP/SY Ventilation Design Complete. SY Ventilation -Installation and Testing Complete <b>Sep -11</b></p> <p>AP and SY Primary Vent Systems (each include 2 Exhausters, 2 HEPA Trains, and ducting and stack) - Issue Functions &amp; Requirements Doc and Spec for both AP and SY Primary Vent Systems, Complete Design</p>

	<p>package consisting of drawings, fabrication specifications, and supporting calculations for the AP and SY Primary Vent Systems, Complete Installation SY Primary Vent System (2 Exhausters, 2 HEPA Trains, and ducting and stack), and Complete Acceptance Testing SY Primary Vent System (2 Exhausters, 2 HEPA Trains, and ducting and stack).</p> <p>3.2 Tank/Farm upgrades for Feed Readiness - Electrical Upgrades (AZ/AN/SY) - Installation and Testing Complete <b>Sep-11</b> For each farm (AZ/AN/SY) perform Electrical Upgrades, Issue Functions &amp; Requirements Doc and Spec, Complete Design package consisting of drawings, procurement and construction specifications, and supporting calculations, Issue RFP, Award Contract, Complete Installation, and Complete Acceptance Testing.</p> <p>3.3 Tank/Farm upgrades for Feed Readiness - Valve Funnel Replacement - Installation and Testing Complete <b>Sep-11</b> 7 total pits - For 2 pits (AN-A AN-B) complete valve funnel (~37) and jumper replacement; Issue SOW, Complete Fabrication, and Complete Installation. For other 5 Pits (AP-02A, AP-02D, AW-A, AZ-01A, AZ-VP) Complete Valve Funnel Modifications (~34); Complete Fabrication, and Complete Installation.</p> <p>3.4 Tank/Farm upgrades for Feed Readiness W-314 Control Systems (AN, AP, AW, AY/AZ, SY, X-Site) - Installation and Testing Complete <b>Sep – 11</b> For AN, AP, AW, AY/AZ, SY, and X-Site systems (for each farm remove old master pump shutdown circuit, connect to new master pump shutdown circuit, and perform testing), Complete SOW; For AN Issue RFP, Award Contract and Complete Modifications, For AP Issue RFP, Award</p>
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	<p>Contract and Complete Modifications, For AW Issue RFP, Award Contract and Complete Modifications, For AY/AZ Issue RFP, Award Contract and Complete Modifications, For SY Issue RFP, Award Contract and Complete Modifications, and For X-site Issue RFP, Award Contract and Complete Modifications.</p> <p>3.7 Tank/Farm upgrades for Feed Readiness - AP Valve Pit Jumpers - Installation and Testing Complete <b>Sep – 11</b>  AP Valve Pit Jumpers (10 Jumpers and 30 Valves) Complete Design package consisting of drawings, specifications, and supporting calculations, Issue Functions &amp; Requirements Doc and Spec, Complete Fabrication, Complete Installation, and Complete Acceptance Testing.</p> <p>3.9 Tank/Farm upgrades for Feed Readiness - Other Tank/Farm Upgrades - Installation and Testing Complete <b>Sep -11</b>  Refurbish ENRAFS (up to ~150, as needed, after performing predictive Maintenance Tests), Complete 1 Vent Reliability Study, Complete Pit Drain Plug Replacement, Resolve NEC (~30) non-compliance issues, Remove obsolete equipment (including 12 SHMS cabinets and P-28 Exhausters from SY Farm), and Procure spare valves/jumpers (~8 spare valves, and ~10 jumpers).</p> <p>4.0 DSTs Upgrades and Life Extension <b>Sep – 11</b>  Issue the DSTIP Lab test report; install the AN-107 Corrosion Probe, Procure 3 Spare DST Transfer Pumps, and Complete Cathodic Protection System Upgrades.</p> <p>5.0 222-S Laboratory Upgrades and Life Extension Projects Complete <b>Sep -11</b>  Complete SOW for 4 priority instruments in FY09, Award Procurement 10 replacement instruments, Award Contracts for 8 Life</p>
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	<p>Cycle Extension Projects, Complete 8 Life Cycle Extension Projects, Complete SOW for 10 Lab Upgrade Projects, and Complete 10 Lab Upgrade Projects.</p> <p>6.0 242-A Evaporator Upgrades and Life Extension Installation and Testing Complete <b>Sep -11</b>  Procure 3 Spare 242-A Pumps, Complete 242-A Exhaust System (3 exhaust blowers and 2 Filter Trains and asbestos abatement) Design and Procurement, Complete 242-A Exhaust System (2 exhaust fans and 3 Filter Trains and asbestos abatement) installation and testing, Procure and install 242-A Instrument Upgrades (~40 Instruments), and Procure 242-A Spare Parts (backlogged spare parts and critical spares).</p> <p>7.0 Single Shell Tank (SST) Integrity, Life Extension, and SST Consolidation - Waste Consolidation Regulatory Planning/Permitting Complete <b>Sep -11</b>  Commence Structural Analysis of SSTs, Correct SST Dome Benchmarks (~100), Replace Radial Filters (~100), Remove Obsolete Equipment (salt well pumping equip), and complete Electrical System Upgrades.</p> <p>8.0 Cross Site Transfer Line Construction for Slurry Transfers from 200-W to 200-E - Construction Complete <b>Sep -11</b>  Installation of 2 booster pumps and miscellaneous equipment (valves, pressure transmitters, rupture disks) in Diversion Box 6241-A, approximately 50 feet of transfer piping and a piping jumper/rupture disk assembly in AN Tank Farm, a computer control system/software, and two piping jumpers in SY Tank Farm.</p> <p>9.0 Secondary Waste Treatment / Effluent</p>
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	<p>Treatment Facility Upgrades <b>Sep -11</b> Approved CD-2 package</p> <p>10.0 Waste Feed Delivery - Strategic Planning - Process control flow sheet complete for first 3 WTP Feed Tanks <b>Sep -11</b> 1 strategy PMB inputs package including work scope, schedule, and costs.</p> <p>11.0 Waste Feed Delivery - Pre-Design/Design Activities for WFD <b>Sep - 11</b> Completion of design package for the WFD.</p> <p>16.0 Waste Feed Delivery - Support Facilities Construction Complete <b>Sep-11</b> Installation of three work team trailers - one located by AP/AW Farms, one located by AN/AY/AZ Farms, and one located by SY Farm.</p> <p>19.0 Immobilized High Level Waste Hanford Shipping Facility Completion of Preliminary Design (CD-2) and Submittal to DOE-ORP <b>Sep - 11</b> CD-2 package containing drawings, specifications and preliminary calculations approximately 30% complete.</p> <p>20.0 Waste Feed Infrastructure – Complete Initial Project Planning and Studies <b>Sep -11</b> Develop initial project and submit to DOE-ORP; perform initial scoping and concept studies and submit to DOE-ORP</p>
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**National Strategic Benefits**

Not Applicable

**Table 7: National Strategic Benefits**

1. Carbon Emission Reductions: Estimated 5-year undiscounted CO <sub>2</sub> reduction (in metric tonnes of CO <sub>2</sub> equivalent) are Not Applicable
2. Oil Consumption Reductions: Estimated 5-year reduction in undiscounted oil consumption (in barrels of oil equivalent) is Not Applicable

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## **IV. MANAGEMENT**

### **Secretarial-level Items**

The initiatives outlined in this plan support the following Secretary of Energy's priorities:

Economic Prosperity: Job Creation.

National Security and Legacy: Accelerated Cleanup of Legacy Wastes

**Table 8: Secretary's Priorities**

<b>Secretary's Priorities</b>	<b>Project Impacts (Qualitative)</b>	<b>Project Impacts (Quantitative)</b>
Science and Discovery	Not Applicable	None
Clean, Secure Energy	Not Applicable	None
Economic Prosperity	Improves economic conditions in Tri-Cities, Eastern Washington and Pacific Northwest	Create and/or retain TBD jobs
National Security and Legacy	Accelerates readiness to safely transfer wastes for treatment and disposal	2-year acceleration of projects required to support waste transfers
Climate Change	Not Applicable	None

### **Collaboration and Coordination**

Several of the proposed RA-funded projects are linked to science and technology projects funded through the Department of Energy's Office of Science and EM-20. In turn, these projects have significant collaboration with national laboratories, federal agencies and universities. For example, the Secondary Waste Treatment/Effluent Facility Upgrades (9.0) are collaborating with the Pacific Northwest National Laboratory (PNNL), Catholic University of America and the Savannah River Site (SRS) in developing, testing, and qualifying appropriate waste forms for the secondary waste streams that are projected to be produced by the Waste Treatment and Immobilization Plant. Similarly, the Tank Waste Mixing for Sampling Demonstration (17.0) will require ORP/WRPS to enter into collaborative relationships with PNNL, SRS and the Oak Ridge National Laboratory to determine the adequacy of mixing required to provide homogeneous feed to WTP. A portfolio of additional follow-on field-scale science and technology projects is currently being assembled to support remedial decisions at Hanford.

### **Federal Infrastructure Investments**

The investment ultimately supports the President's "green initiative" goal by accelerating the mandatory upgrades that will support the efficient operation of the Waste Treatment Plant which once operational begins eliminating environmental threats to the Columbia River.

## **Line Management**

ORP has implemented an Integrated Safety Management System (ISMS) approach to ensure work is performed safely and efficiently. This approach is formalized and discussed in ORP M 450.4, *Integrated Safety Management System Description*, and MGT-PM-PL-01, *River Protection Project Execution Plan*, by using management systems to execute the guiding DOE principles and core safety management functions to protect the public, workers, and environment.

In addition, ORP has developed a Project Execution Plan (PEP) which describes how ORP manages the RPP, including its approach and expectations in accordance with DOE O 413.3A, *Program and Project Management for the Acquisition of Capital Assets*.

These processes and procedures, in addition to the River Protection Management System, provide the foundation for ensuring that the accountability and transparency of Recovery Act activities will be maintained.

Additionally ORP and its contractors and subcontractors are responsible and accountable for efficient and effective use of government funds, including those appropriated through the Recovery Act. This accountability and responsibility includes, but is not limited to, conducting regularly scheduled management review meetings, providing regular project status and financial reporting, and monitoring accomplishments through metrics and performance analysis augmenting the Recovery Act transparency and reporting requirements.

Each entity is responsible for reviewing, analyzing, and self-assuring their own processes and use of funds to ensure that reported data are accurate and reliable and that critical milestones are achieved. ORP takes the responsibilities associated with management of RA funding seriously. Therefore, independent assessments will be scheduled, performed, reported, and monitored to ensure that the goals and objectives established through the Recovery Act are met.

## **Needs from Staff Offices**

### **1) Human Capital**

To effectively manage the Tank Farm Infrastructure Recovery Act Project three additional Federal employees are required.

The first position is a Federal Project Director (GS-15) to manage all activities of the Recovery Act Project. The second position is the Cost Estimator (GS-14) responsible for developing independent fair cost estimates, analyzing certified cost and pricing estimates proposals from the contractor and verification of actual costs incurred for all Recovery Act Project scope. The third position is a Project Control Specialist (GS-13) responsible for the accuracy of the Earned Value Measurement System and Reporting for the Recovery Act Project scope.

All three Federal positions will be located at the Office of River Protection. Additionally, ORP intends to use support service contractors to provide limited augmentation to federal staff in the areas of budget and finance, cost estimating, and technical oversight.

**Table 9: Information on Hiring under the Recovery Act**

# & Type of Positions (Title, Series, and Grade)	Location (HQ or Field – w/location)	Federal or Contractor	Timeframe (1-6mos; 6+mos; other; specify date needed if possible)
Federal Project Director (GS-15)	Field- Hanford	Federal	Project Duration
Cost Estimator (GS-14)	Field- Hanford	Federal	Project Duration
Project Control Specialist (GS-13)	Field- Hanford	Federal	Project Duration

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