PART I – THE SCHEDULE

SECTION C

STATEMENT OF WORK

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C.1 TANK OPERATIONS CONTRACT (TOC) OVERVIEW AND GENERAL REQUIREMENTS

C.1.1 Background

The 586-square-mile Hanford Site is located along the Columbia River in southeastern Washington State (illustrated in Figure C.1-1). A plutonium production complex with nine nuclear reactors and associated processing facilities, Hanford played a pivotal role in the nation's defense for more than 40 years, beginning in the 1940s with the Manhattan Project. Today, under the direction of the U.S. Department of Energy (DOE), Hanford is engaged in the world's largest environmental cleanup project, with a number of overlapping technical, political, regulatory, financial and cultural issues.

Challenges at the Hanford Site include approximately 53 million gallons of radioactive and chemically hazardous waste in 177 underground storage tanks (seven of which have been emptied), ~2,300 tons (~2,100 metric tons) of spent nuclear fuel, ~11.5 tons (~10.5 metric tons) of plutonium in various forms, ~25 million cubic feet (~750,000 cubic meters) of buried or stored solid waste, and groundwater contaminated above drinking water standards, spread out over about 80 square miles (208 square kilometers), approximately 1,600 waste sites of which 1,180 remain to be remediated and approximately 1,450 facilities of which about 400 are contaminated (as of September 2005).

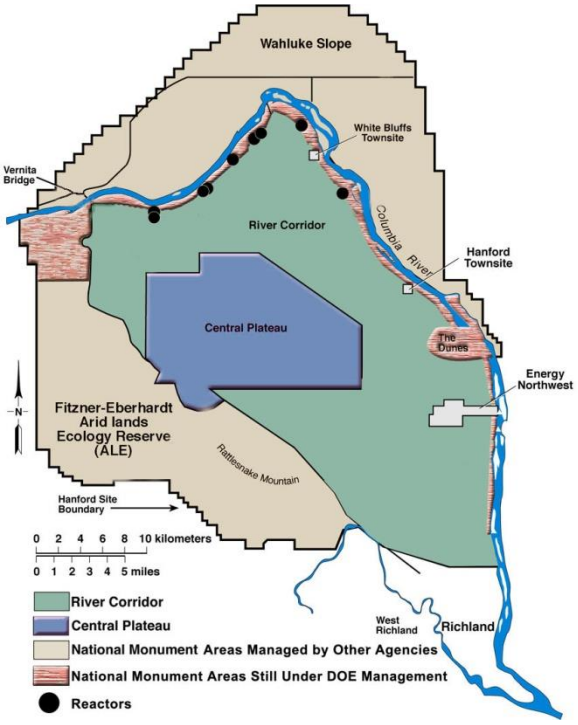


Figure C.1-1
Hanford Site

In May 1989, DOE, the U.S. Environmental Protection Agency, and the State of Washington Department of Ecology signed the landmark Hanford Federal Facility Agreement and Consent Order, commonly known as the Tri-Party Agreement (TPA). The TPA outlines legally enforceable milestones for Hanford cleanup over the next several decades.

DOE has two Federal offices at Hanford, whose mission is environmental cleanup -- the DOE Richland Operations Office (DOE-RL), which is responsible for nuclear waste and facility cleanup, and overall management of the Hanford Site; DOE-RL's mission is to restore the Columbia River corridor and transition the Hanford Central Plateau. The DOE Office of River Protection (DOE-ORP), which is responsible for cleanup of Hanford Site tank waste; DOE-ORP's mission is to retrieve and treat Hanford's tank waste and close the Tank Farms to protect the Columbia River. Each Office oversees separate contracts held by private companies. For purposes of this Contract, the land, facilities, property, projects and work performed and overseen by DOE-RL and DOE-ORP constitute the "Hanford Site." The following is a description of the major DOE contracts at the Hanford Site and their workscope:

Contracts Managed by DOE-ORP

- Hanford Analytical Services Contract provides analysis of highly radioactive samples in support of Hanford Site projects. These services are performed in the 222-S Laboratory Complex located in the 200 Area of the Hanford Site.

- Tank Operations Contract (TOC), when awarded, will include operations and construction activities necessary to store, retrieve and treat Hanford tank waste, store and dispose of treated waste, and begin to close the Tank Farm waste management areas to protect the Columbia River.

- Tank Farm Management Contract (TFC) includes operations and construction activities necessary to store, retrieve and treat Hanford tank waste and store and dispose of treated waste. This scope will be included in the TOC when it is awarded.

- Waste Treatment and Immobilization Plant (WTP) Contract includes design, construction and commissioning of a vitrification facility that will convert radioactive tank wastes into glass logs for long-term storage. The WTP is being constructed on the Hanford Site Central Plateau.

- Future WTP Operating Contract – After successful hot commissioning by the WTP contractor, DOE will, under a separate contract, operate the WTP and treat and immobilize the balance of the Hanford tank waste.

Contracts Managed by DOE-RL

- Energy Savings Performance Contract (ESPC) includes steam service to support heating and other operations at 200 Area facilities. The contract may include energy conservation measures, such as upgrading lighting systems, pumping systems, automation systems, heating, ventilation, and air conditioning system; and adding utility monitoring and control systems.

- Hanford Site Occupational Medical Services Contract provides occupational health services to personnel at Hanford including medical monitoring and qualification examinations, human reliability testing, and records management.

- Plateau Remediation Contract (PRC), when awarded, will include completion of the Plutonium Finishing Plant (PFP) project; non-Tank Farm waste disposal activities: groundwater monitoring and remediation; facility and waste site characterization, surveillance and maintenance, regulatory document preparation, and remediation.

- Mission Support Contract (MSC), when awarded, will provide DOE-RL, DOE-ORP, and their contractors with the infrastructure and site services necessary to accomplish the Site mission.

- Project Hanford Management Contract (PHMC) includes cleanup and support activities, with the exception of DOE-ORP scope, at the Hanford Site. This scope will be included in the MSC and the PRC, when the contracts are awarded.

- River Corridor Closure Contract (RCCC) includes closing the Hanford Site River Corridor through deactivation, decontamination, decommissioning, and demolishing excess facilities; placing former production reactors in an interim safe and stable condition; remediating waste sites and burial grounds; and transitioning the River Corridor to long-term stewardship.

Another DOE Office -- the Pacific Northwest Site Office (PNSO), a component of the DOE Office of Science -- oversees the science and technology mission operated by the contractor-operated Pacific Northwest National Laboratory (PNNL). PNNL is an Office of Science multi-program laboratory that conducts research and development activities, including technology programs related to the Hanford cleanup mission.

In addition to the cleanup mission, DOE leases Hanford land to non-DOE entities, such as the Laser Interferometer Gravitational Wave Observatory (LIGO), and the State of Washington, which in turn leases the land to US Ecology, Inc., a private firm that operates the Hanford Site burial grounds for commercial low-level waste. DOE also leases land to Energy Northwest (a consortium of public utility companies) that oversees the Northwest's only operating commercial nuclear power reactor, the *Columbia Generating Station*. None of these operations is associated with the Federal cleanup work at Hanford.

C.1.2 Contract Purpose and Overview

The purpose of this Contract is 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 to protect the Columbia River. The Contractor has the responsibility for determining the specific methods and approaches for accomplishing all work. This Contract applies performance-based contracting approaches; expects the Contractor to innovate and implement techniques that maximize performance efficiencies and scope completion and minimizes the description of how to accomplish the scope of work. The Contractor shall optimize base load facility operating and maintenance costs to maximize mission performance.

The Contractor has full responsibility for delivery of compliant feed to the WTP to ensure that DOE-ORP meets current Consent Decree commitments between the DOE and the State of Washington. A “One System” model was established to accomplish this objective and coordinate the requirements of the TOC and the WTP contract. The current WTP Contract and TOC provide the appropriate contract vehicles to create a “One System” model for delivery of elements of the WTP and Tank Farms Project. The “One System” is intended to address waste feed delivery, feed stream characterization, and acceptance of WTP products as an integrated system leading to efficient, consistent waste feed, waste processing, and product delivery during hot commissioning

After successful hot commissioning by the WTP contractor, DOE will, under a separate contract, operate the WTP and treat and immobilize the balance of the Hanford tank waste.

C.1.3 Scope Summary

The TOC[1] workscope is divided into seven (7) Contract Line Item Numbers (CLINs) as follows:

CLIN 1 – Base Operations

- Transition. Transition all ongoing Tank Farm workscope.
- Safe, Compliant Operations. Maintain and operate the Tank Farms, 242-A Evaporator, and supporting Tank Farm infrastructure. Perform all required project support functions (project management, integrated safety management, security and emergency services, interactions, interface management).
- Analytical Laboratory Support. Operate and maintain the 222-S Laboratory Complex to support analysis activities performed under a separate DOE-ORP contract.

CLIN 2 – Single-Shell Tank (SST) Retrieval and Closure

- Single-Shell Tank Retrieval. Design, procure, permit, construct/fabricate, and operate SST retrieval systems that remove waste from the SSTs and transfer it to the Double Shell Tanks (DSTs) or treatment systems.
- Single-Shell Tank Farm (Waste Management Area) Closure. Perform waste management area closure activities in accordance with Site-wide integrated closure strategies.

CLIN 3 – Waste Treatment and Immobilization Plant (WTP) Support

- Treatment Planning, Waste Feed Delivery, and WTP Transition. Provide integrated system planning for the DOE-ORP mission and perform project planning, system upgrades/replacements, and operations to accomplish waste feed delivery to treatment facilities. Plan for the turnover of completed WTP facilities.
- WTP Operational Readiness. In collaboration with the WTP contractor, implement an integrated management strategy for the “One System” approach to ensure operational readiness of waste feed delivery and WTP operations under the existing TOC and WTP contracts to meet the Consent Decree. The “One System” is intended to address waste feed delivery, feed stream characterization, and acceptance of WTP products as an integrated system leading to efficient, consistent waster feed, waste processing, and product delivery during operations.
- Immobilized High-Level Waste (IHLW) Storage and Shipping Facility Construction. Modify the Canister Storage Building and/or design, construct, commission, and operate a separate interim storage facility for IHLW canisters from WTP and a shipping facility to prepare IHLW and spent nuclear fuel (SNF) canisters for shipment to a permanent repository.
- Upgrade and Operate the Effluent Treatment Facility (ETF). Assume responsibility for the ETF, complete upgrade design and permitting, perform upgrades, and operate ETF.

[1] Hereafter, TOC may represent the Contract or the Contractor, as applicable.

CLIN 4 – Supplemental Treatment

- Demonstration Bulk Vitrification System (DBVS) Construction and Operations. Procure, construct, and operate a pilot scale one line Low Activity Waste (LAW) bulk vitrification plant for testing to determine the effectiveness of this treatment technology.
- Extended Demonstration Bulk Vitrification System Operations. Following successful DBVS operations, re-permit, modify and perform extended operations of the DBVS.
- Supplemental Treatment Design. Commence design, permitting, and safety analysis for supplemental treatment facilities to vitrify LAW.
- Supplemental Treatment Construction and Operations. Complete designs and permits, and construct and operate supplemental treatment facilities to vitrify LAW.
- Transuranic Tank Waste Treatment and Packaging. Design, construct, and operate a transuranic (TRU) tank waste treatment, packaging, characterization, and storage system for contact-handled (CH) TRU tank waste.

CLIN 5 – Early Feed and Operation of the WTP Low Activity Waste (LAW) Facility

- Tank Selection, Retrieval, Pretreatment and Feed Delivery Design. Commence design, permitting, and safety analysis for selected DST and SST waste retrieval, pretreatment and feed delivery directly to the WTP LAW Facility.
- Retrieval, Pretreatment and Feed Delivery Construction and Operations. Complete designs and permits, and construct and operate systems for selected tank waste retrieval, pretreatment and feed delivery directly to the WTP LAW Facility.
- LAW/BOF/LAB Operations. Operate the completed WTP LAW, Balance of Plant Facilities (BOF), and Laboratory (Lab) facilities to vitrify pre-treated LAW from the Tank Farms.

CLIN 6 – Pension and Welfare Plans

- Hanford Employee Retirement and Benefit Plan Management. Sponsor, manage, and administer both the Hanford incumbent employee pension and benefit plans and the non-incumbent market-based retirement and benefit plans.
- Legacy Pension and Benefit Plan Management. Sponsor, manage, and administer pension and other benefit plans for retired contractor employees associated with work at other designated DOE sites.

While this work scope identified below is already included in the Contract, the specific scope has been identified for acceleration through the use of American Recovery and Reinvestment Act (ARRA) funds.

CLIN 7 – American Recovery and Reinvestment Act (ARRA) Workscope

- ARRA workscope under Sub-CLIN 1.2 - Safe, Compliant Operations. Maintain and operate the Tank Farms, 242-A Evaporator, and supporting Tank Farm infrastructure. Perform all required project support functions (project management, integrated safety management, security and emergency services, interactions, interface management).

- ARRA workscope under Sub-CLIN 1.3 - Analytical Laboratory Support. Operate and maintain the 222-S Laboratory Complex to support analysis activities performed under a separate DOE-ORP contract.

- ARRA workscope under Sub-CLIN 2.1 - Single-Shell Tank (SST) Retrieval. Design, procure, permit, construct/fabricate, and operate SST retrieval systems that remove waste from the SSTs and transfer it to the Double Shell Tanks (DSTs) or treatment systems

- ARRA workscope under Sub-CLIN 3.1 - Treatment Planning, Waste Feed Delivery, and WTP Transition. Provide integrated system planning for the DOE-ORP mission and perform project planning, system upgrades/replacements, and operations to accomplish waste feed delivery to treatment facilities. Plan for the turnover of completed WTP facilities.

- ARRA workscope under Sub-CLIN 3.3 - (Reserved)

- ARRA workscope under Sub-CLIN 3.4 - Upgrade and Operate the Effluent Treatment Facility (ETF). Assume responsibility for the ETF, complete upgrade design and permitting, perform upgrades, and operate ETF.

CLIN 8 – Contract Closeout

Contractor is to perform and complete all activities required to accomplish Contract closeout, including actions necessary for resolution of the issues identified FAR 4.804-5, in accordance with its standard or approved policies and practices. This will require the Contractor to perform, as reimbursable allowable costs, activities after the physical period of performance is complete, subject to availability of funds.

C.1.4 Life-Cycle Mission Summary

The DOE-ORP River Protection Project (RPP) is composed of two major scopes of work performed by two separate contractors. The WTP contractor will design, construct, and commission the WTP for treating the Tank Farm waste. The TOC shall be responsible for planning, managing, and executing the Tank Farm project, sub-projects, operations and other activities as described in this *Statement of Work.* To accomplish the RPP mission, the TOC must interface with other Hanford Site contractors for necessary services and work coordination. General objectives are to perform the work within the established budget profile, reduce hazards to the workers, the public, and the environment, and to significantly reduce program life-cycle costs and schedules. "One System" uses a partnering approach to manage interactions among the DOE, WTP, TOC and other site contractors. This approach encourage a common vision with supporting goals and missions for each participant, promote the principles of teamwork, mutual respect, openness, honesty, trust, professionalism, and understanding.

The life-cycle objectives (including this Contract term and beyond) of the RPP mission are as follows:

- Maintain safe tank waste storage until waste is retrieved.
- Retrieve waste from all 149 SSTs and transfer to DSTs or treatment facilities.
- Retrieve waste from all 28 DSTs to deliver waste feed to the tank waste treatment facilities (WTP and supplemental treatment).
- Operate treatment facilities.
- Store and disposition treated waste products in accordance with the WTP schedule and the RPP System Plan to support RPP mission completion.
- Implement effective supplemental treatment technologies that will increase DST space availability and operate with the WTP to accomplish tank waste treatment.
- Prepare interim stored IHLW and packaged TRU waste for shipment to the appropriate repositories.
- Treat and dispose of secondary waste streams.
- Dispose of immobilized low activity waste (ILAW) on-site in near-surface disposal facilities.
- Characterize vadose zone contamination related to the Tank Farms and associated facilities, and perform barrier installations and soils remediation in coordination with the Hanford Site groundwater program.
- Close Waste Management Areas including SSTs, DSTs, Tank Farm facilities, ancillary equipment, and remediated soils.
- Decommission WTP and supplemental treatment facilities and equipment after mission completion.

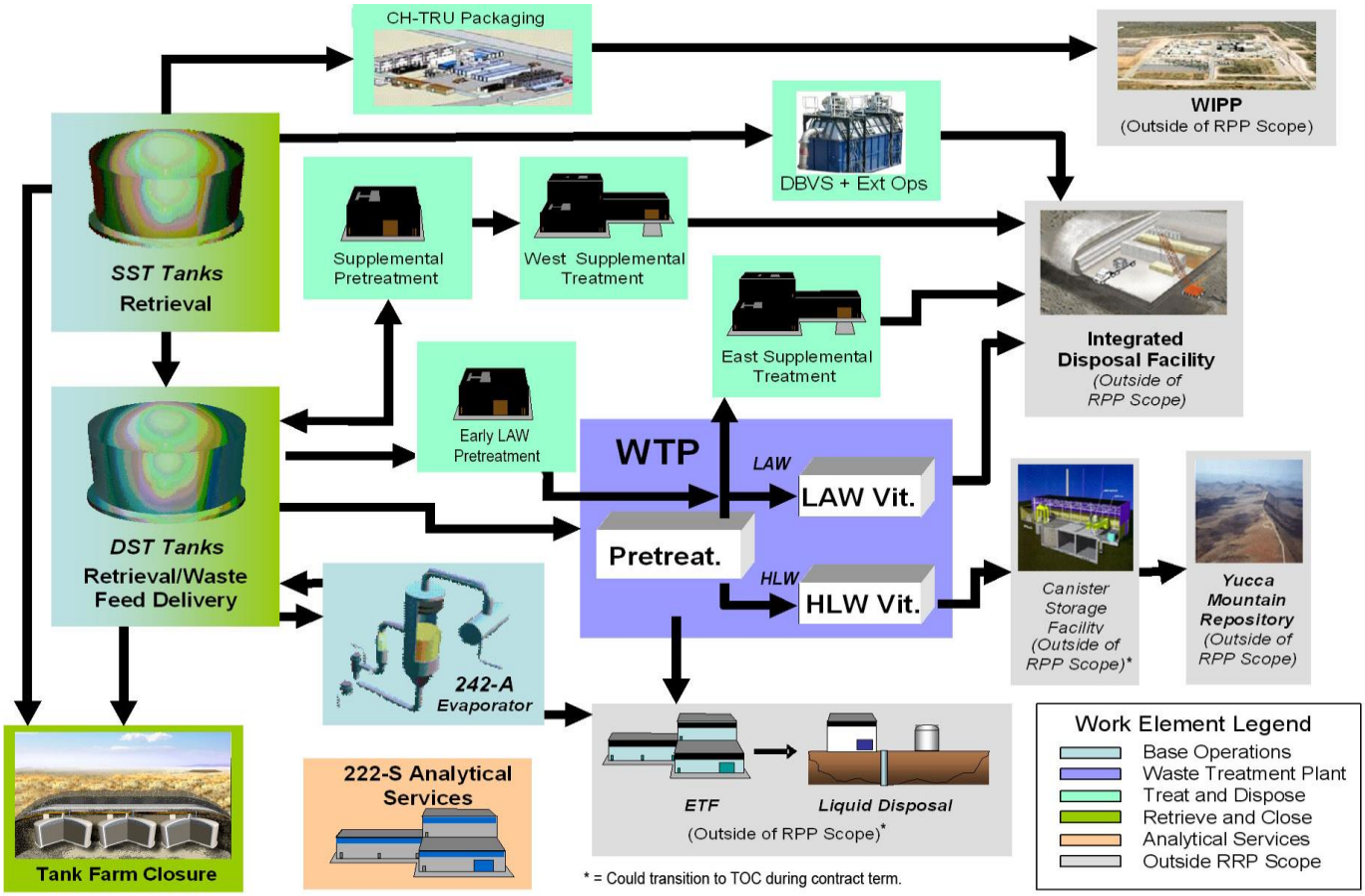
C.1.5 Facility Description

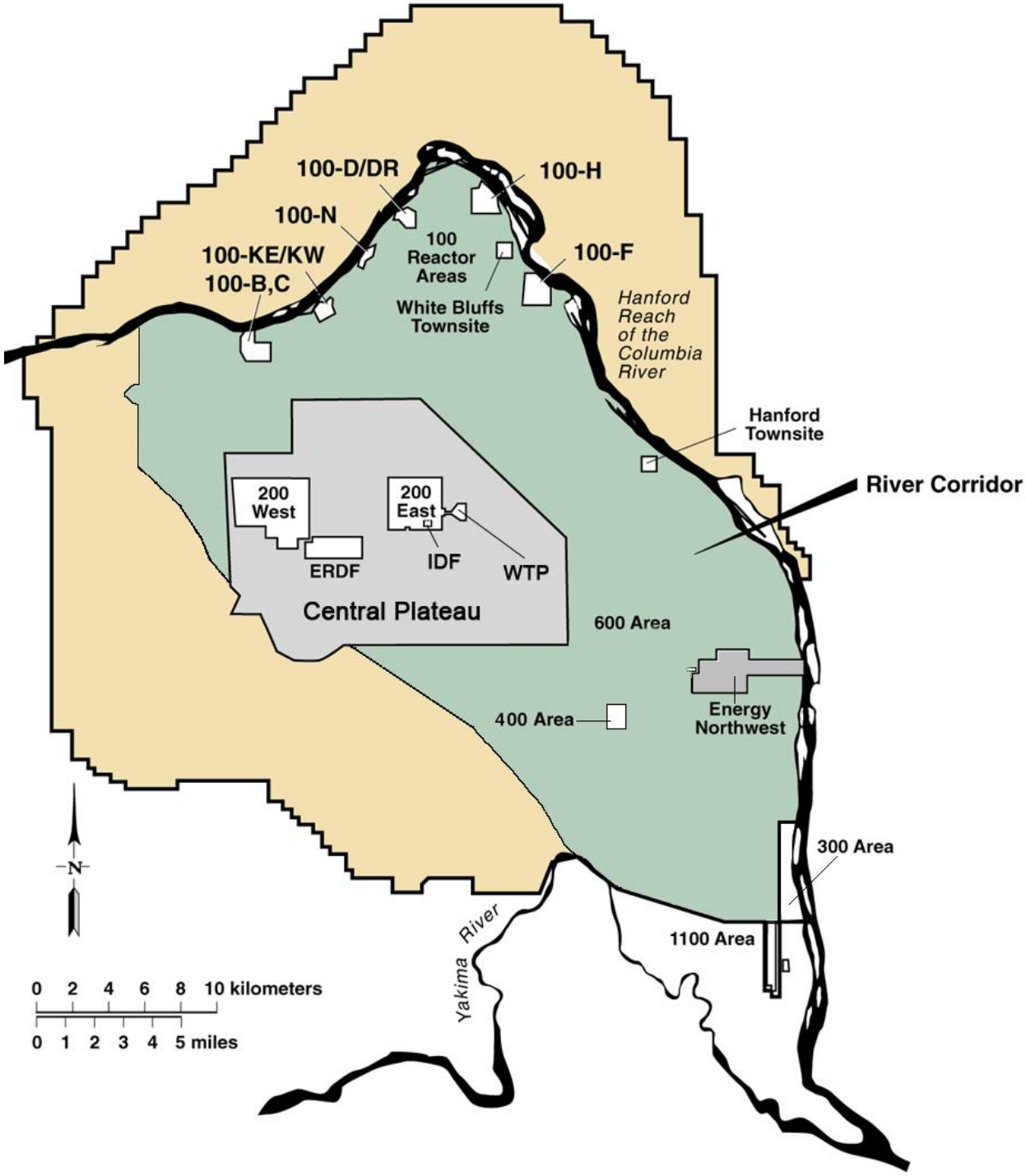
The Tank Farm system facilities are located in the 200 East Area, 200 West Area, and 600 Area of the Hanford Site. The Tank Farm system facilities comprise the SST farms, the DST farms, and associated support facilities, systems, and transfer equipment. The Tank Farm system includes 177 single- and double-shell tanks; double-contained receiver tanks; catch tanks; waste transfer pipelines and associated equipment used in waste transfers (e.g., diversion boxes and valve pits); miscellaneous inactive storage facilities; waste-handling and storage facilities; miscellaneous support and administrative facilities; in-tank, out-of-tank, and liquid transfer monitoring systems; associated ancillary equipment; and soils. Additional Tank Farm related facilities include the 242-A Evaporator, and the 222-S Analytical Laboratory. A detailed Hanford Site structures list is provided in the Section J Attachment entitled, *Hanford Site Structures List* and a detailed waste site list is provided in the Section J Attachment entitled, *Hanford Site Waste Assignments List*.

C.1.6 Organization of the *Statement of Work*

This *Statement of Work* is divided into five sections, with Section C.1 containing the background, contract purpose and overview, scope and organization of the *Statement of Work;* Section C.2, *Description of Project Performance Requirements*; Section C.3, *Description of Project Support Performance Requirements*; Section C.4, *Government-Furnished Services and Information*; and Section C.5, *Summary of Contract Deliverables.*

Figure C.1-2, River Protection Project (RPP) Mission




100-D/DR
100-H
100-N
100-KE/KW
100-B,C
100 Reactor Areas
100-F
White Bluffs Townsite
Hanford Reach of the Columbia River
Hanford Townsite
River Corridor
200 West
200 East
ERDF
IDF
WTP
Central Plateau
600 Area
400 Area
Energy Northwest
300 Area
1100 Area
Yakima River
N
0 2 4 6 8 10 kilometers
0 1 2 3 4 5 miles

C.2 DESCRIPTION OF PROJECT PERFORMANCE REQUIREMENTS

Consistent with DOE-ORP authorization, the Contractor shall perform the following major activities which are divided into seven CLINs and the respective sub-CLINs. DOE-ORP will authorize performance of the individual Sub-CLINs in accordance with the Section B Clauses entitled, *Item(s) Being Acquired* and *DOE Authorization of Work*.

The Contractor shall plan and perform the work under this Contract in accordance with the Section H Clause entitled, *Environmental Responsibility*, which requires compliance with current and future milestones in the TPA.

Table C.5, *Summary of Contract Deliverables*, provides a list of the deliverables described throughout this *Statement of Work*, including the due dates for the original submittals, and where applicable, the timing of required updates to these documents.

Title	Sub-CLINs	Activities
CLIN #1 Base Operations	1.1 1.2 1.3	Transition Safe, Compliant Operations Analytical Laboratory Support
CLIN #2 Single-Shell Tank (SST) Retrieval And Closure	2.1 2.2	Single-Shell Tank Retrieval Single-Shell Tank Farm (Waste Management Area) Closure
CLIN #3 Waste Treatment and Immobilization Plant (WTP) Support	3.1 3.2 3.3 3.4	Treatment Planning, Waste Feed Delivery, and WTP Transition WTP Operational Readiness Immobilized High-Level Waste (IHLW) Storage and Shipping Facility Construction Upgrade and Operate the Effluent Treatment Facility (ETF)
CLIN #4 Supplemental Treatment	4.1 4.2 4.3 4.4 4.5	Demonstration Bulk Vitrification System (DBVS) Construction and Operations Extended Demonstration Bulk Vitrification System Operations Supplemental Treatment Design Supplemental Treatment Construction and Operations Transuranic Tank Waste Treatment and Packaging
CLIN #5 Early Feed and Operation of the WTP Low Activity Waste (LAW) Facility	5.1 5.2 5.3 5.4	Tank Selection, Retrieval, Pretreatment and Feed Delivery Design Retrieval, Pretreatment and Feed Delivery Construction and Operations (Reserved) LAW/BOF/LAB Operations
CLIN #6 Pension and Welfare Plans	6.1 6.2	Hanford Employee Retirement and Benefit Plan Management Legacy Pension and Benefit Plan Management
CLIN #7 American Recovery and Reinvestment Act (ARRA) Workscope	7.1 7.2 7.3 7.4 7.5 7.6	ARRA workscope under Sub-CLIN 1.2 - Safe, Compliant Operations ARRA workscope under Sub-CLIN 1.3 - Analytical Laboratory Support ARRA workscope under Sub-CLIN 3.1 - Treatment Planning, Waste Feed Delivery, and WTP Transition ARRA workscope under Sub-CLIN 3.3 – (Reserved) ARRA workscope under Sub-CLIN 3.4 - Upgrade and Operate the Effluent Treatment Facility (ETF) ARRA workscope under Sub-CLIN 2.1 - Single-Shell Tank (SST) Retrieval.

C.2.1 CLIN #1 – Base Operations

C.2.1.1 Sub-CLIN 1.1: Transition

General Scope:

The Contractor shall transition all ongoing TFC workscope; transition any subcontract work that the Contractor elects (or is directed by DOE) to continue under an existing subcontract with the TFC; complete workforce transition in accordance with the requirements of Section H Clause entitled, *Special Contract Requirements*; and deliver a completed *Transition Plan* and *Transition Agreement*.

Detailed Scope and Requirements:

The Contractor shall:

- Submit a *Transition Plan* for DOE-ORP approval (Deliverable C.2.1.1-1) that includes a description of transition activities, involved organizations, and the transition schedule. The *Transition Plan* shall include a draft *Transition Agreement* to document completion of *Transition Plan* activities during the *Transition Period*.
- Coordinate directly with prime contractors, subcontractors, and DOE-ORP to finalize the *Transition Agreement*.
- Develop the inter-contractor ordering and financial agreements as defined by the Section J Attachment entitled, *Hanford Site Services and Interface Requirements Matrix* that are necessary to support Transition and Contract performance. The Contractor shall be responsible for the costs incurred or to be recovered under these agreements.
- Identify any material differences in the systems, facilities, waste sites, property, and services described in this *Statement of Work* and in the Section J Attachments entitled, *Supplemental Work Description Tables*, *Hanford Site Structures List*, and *Hanford Waste Site Assignment List*, versus the actual project status. The Contractor shall submit a *Statement of Material Differences* (Deliverable C.2.1.1-2) for DOE-ORP approval.
- Submit fundamental project management, environmental, safety, health, quality, security, and interface program documents as described in the *Statement of Work* within 60 days of Notice to Proceed. Key deliverables required during Transition are listed in Section C.5, entitled, S*ummary of Contract Deliverables*.
- Conduct a joint reconciliation of the government property inventory with the predecessor contractor. This information shall be used to provide a baseline for the succeeding contract and for closeout of the predecessor contract.
- Support DOE-ORP in-process verification of Contract transition, provide weekly written *Transition Status Reports* (Deliverable C.2.1.1-3) to DOE-ORP for information, and be accountable for all work performed under this Contract at the end of the *Transition Period.*
- Submit a final *Transition Agreement* (Deliverable C.2.1.1-4) for DOE-ORP approval that includes the signatures of all contractor Transition parties or successor contracts.

During the Transition Period and prior to assuming control and responsibility for Safeguards and Security (SAS) responsibilities, the Contractor shall be subject to a DOE-ORP SAS initial survey conducted in accordance with DOE Manual (M) 470.4-1, Chg. 1 *Safeguards and Security Program Planning and Management*. The results of the survey shall be documented and form

the basis for DOE-ORP authorization for the TOC to assume SAS responsibilities, in particular, responsibility for SNM. Following the survey, the Contractor shall assume responsibility for all applicable SAS resources, materials, facilities, documents, and equipment.

Upon completion of transition, the Contractor shall operate under the existing baseline or as modified at the unilateral discretion of DOE-ORP until the Contractor's initial baseline submittal is approved by DOE-ORP.

C.2.1.2 Sub-CLIN 1.2: Safe, Compliant Operations

Background:

The Hanford Tank Farms System consists of underground radioactive waste storage tanks, waste transfer systems, infrastructure and related facilities including the 242-A Evaporator. The 177 underground tanks, ranging in size from 55,000 to 1,160,000 gallons in capacity are grouped into 18 tank farms. The Tank Farms are a Hazard Category 2 nuclear facility and the Documented Safety Analyses (DSA), Technical Safety Requirements (TSRs), operations specifications documents, environmental permits, and current operating procedures define the necessary controls for safe operations.

General Scope:

The Contractor shall maintain and operate the Tank Farms, 242-A Evaporator, and supporting Tank Farm infrastructure.

For the assigned workscope, the Contractor shall establish and implement the necessary programs and processes for:

- Project Management (Section C.3.1);
- Integrated Safety Management System (ISMS) (Section C.3.2);
- Security and Emergency Services (Section C.3.3);
- Interactions (Section C.3.4); and
- Interface Management (Section C.3.5).

Detailed Scope and Requirements:

Base Cost Reduction

The Contractor shall seek to improve the effectiveness and efficiency of Tank Farm operations and maintenance in order to maximize budgeted funds directed to tank waste retrievals and treatment.

The Contractor shall evaluate the requirements basis and collaborate with DOE-ORP, regulators, and other Hanford Site contractors to develop innovative compliance methods that promote safe storage and cleanup work accomplishment.

SST System Management

The Contractor shall operate and maintain the SST system and ancillary facilities to safely store tank waste and facilitate tank waste retrieval and component closure. The Contractor shall perform non-destructive testing and evaluation of SSTs and miscellaneous underground storage tanks to assure continued tank integrity commensurate with the waste contained in each tank and the associated risk.

DST System Management

The Contractor shall integrate with the WTP contractor, and operate the DST system to maintain acceptable waste feed specifications for future waste feed delivery to the WTP while optimizing use of available DST space to facilitate SST waste retrieval and in-tank treatment to preserve tank integrity and improve waste feed characteristics.

Maintenance

The Contractor shall perform calibrations, maintenance and required equipment installations to assigned facilities in support of the RPP mission with a prioritization that provides the best value to DOE-ORP.

Upgrades

The Contractor shall plan and execute Tank Farm and related facilities upgrade sub-projects, as necessary, to support safe, reliable, and compliant storage, and tank waste retrieval, staging, delivery, and treatment efforts.

DST Integrity/Life Extension

The Contractor shall maintain DST waste within TSR chemistry specifications to minimize tank corrosion. Chemistry specifications shall be evaluated to optimize tank protection while minimizing waste generation and resultant vitrified waste form volume. The Contractor shall perform non-destructive testing and evaluation of tanks to meet *Resource Conservation and Recovery Act of 1976* (RCRA) requirements, status tank corrosion, and assure continued tank integrity.

Sampling & Characterization

The Contractor shall maintain a ready-to-serve waste tank sampling and sample transportation capability. The Contractor shall perform tank waste sampling and characterization to support safe storage and evaporator operations, and to preserve tank integrity. Sampling and characterization activities for tank waste retrieval, tank closure, treatment planning and waste feed delivery are included in their respective sub-CLINs.

Receipt of Wastes

The Contractor shall maintain the necessary equipment and receive waste from other Hanford Site facilities, as required, to support the Hanford Site cleanup mission.

Evaporator Operation

The Contractor shall operate the 242-A Evaporator in support of DST space management, waste retrieval, and feed delivery activities. The Contractor shall perform evaporator maintenance and upgrades, as necessary, to support the RPP mission.

Secondary Wastes

The Contractor shall perform detailed planning and implementation of activities to support packaging and treatment for disposal of secondary liquid and solid wastes generated in the Tank Farms and assigned facilities.

WTP Infrastructure Support

The Contractor shall be responsible for coordinating, planning and paying for the WTP contractor requirements for infrastructure, utility, and service support from the MSC and the PRC.

Vent and Balance Service

The Contractor shall perform cost-effective/efficient vent and balance services (primarily high efficiency particulate air (HEPA) filter testing) for RPP facilities and the balance of the Hanford Site.

Project Management

The Contractor shall implement and maintain Tank Farm and assigned facility project management processes as further described in Section C.3.1, *Project Management*. Where appropriate, the Contractor shall integrate these projects with the Hanford Site-wide programs coordinated by the MSC.

Integrated Safety Management System

The Contractor shall implement and maintain a Tank Farm and related facility ISMS that includes environment, safety, health, and quality programs as described in Section C.3.2, *Integrated Safety Management System*. Where appropriate, the Contractor shall integrate these programs with the Hanford Site-wide programs coordinated by the MSC.

Security and Emergency Services

The Contractor shall implement and maintain Tank Farm and assigned facility safeguards, security, and emergency preparedness programs as described in Section C.3.3, *Security and Emergency Services*. Where appropriate, the Contractor shall integrate these programs with the Hanford Site-wide programs coordinated by the MSC.

Interactions

The Contractor shall implement and maintain processes for interactions with Defense Nuclear Facilities Safety Board (DNFSB), Native Tribal Governments, regulators, advisory boards, stakeholders, and the media as described in Section C.3.4, *Interactions*.

Interface Management

In cooperation with other Hanford Site contractors, the Contractor shall establish interface management processes to assure effective control of technical, administrative, and regulatory interfaces as further described in Section C.3.5, *Interface Management*. Development and compliance with interface control documents (ICDs) between the Contractor and the WTP contractor are described separately in Section C.2.3.1.

C.2.1.3 Sub-CLIN 1.3: Analytical Laboratory Support

Background:

The 222-S Laboratory Complex in the 200 West Area of the Hanford Site is the primary Hanford Site laboratory for analysis of highly radioactive samples. The Analytical Services Production Contractor (ASPC), under contract to DOE-ORP through 2010, performs analytical services; however, the TOC shall operate and maintain the laboratory facility. The laboratory is a Hazard Category 3 nuclear facility and contains hot cells and equipment to perform analysis of solid, liquid and gaseous samples. The ASPC maintains its own ISMS, Quality Assurance Plan, and Assurance System Description, but relies on the TOC for nuclear safety, radiation protection, and any other facility-related support. The ASPC is required to annually perform approximately 25,000 inorganic, organic, and radionuclide analyses. The ASPC will perform these analyses on approximately 3,000 intermediate to high level radioactive and/or hazardous waste samples received from multiple locations and contractors on the Hanford Site.

General Scope:

The Contractor shall operate and maintain the 222-S Laboratory Complex to support analysis activities performed by the ASPC.

Detailed Scope and Requirements:

Integrated Planning

The Contractor shall coordinate with the ASPC to develop integrated Hanford Site-wide analysis plans, data quality objectives, and provide process and analytical technology support.

The Contractor shall document the interfaces in a mutually-approved *Administrative Interface Agreement with the Analytical Services Production Contractor* (Deliverable C.2.1.3-1) and submit to DOE-ORP for information.

The Contractor shall interface with the ASPC to develop sample analysis rates and waste generation estimates to allow the Contractor and other Site contractors to plan sample analysis expenditures.

Instrumentation & Equipment

The Contractor shall provide analytical instrumentation and support equipment to ensure capability, capacity, storage, and reliability are available to support Hanford Site cleanup schedules.

Radiological Safety

The Contractor shall provide radiological protection program support and radiological control technician services to the ASPC. The ASPC work shall be performed in accordance with the Contractor's Radiation Protection Program.

Waste Management

The Contractor shall manage, treat, store or dispose of wastes generated by the ASPC.

Transportation

The Contractor shall transport Tank Farm-related samples to the 222-S Analytical Laboratory.

Other Hanford Site contractors are responsible for transportation of their samples to the 222-S Analytical Laboratory.

Regulatory Authorization & Compliance

The Contractor shall develop, evaluate, and maintain authorization basis documentation, environmental permitting, and other regulatory compliance documentation and perform the necessary compliance activities.

Maintenance

The Contractor shall provide maintenance, routine calibrations, repairs and engineering functions.

Upgrades

The Contractor shall plan and execute upgrades to the 222-S Laboratory Complex to support safe, reliable, and compliant operations.

C.2.2 CLIN #2 – Single-Shell Tank (SST) Retrieval and Closure

C.2.2.1 Sub-CLIN 2.1: Single-Shell Tank Retrieval

Background:

The 149 SSTs contain a mixture of liquid, sludge and saltcake; pumpable liquids have been removed. Tank wastes are retrieved to support waste treatment and Tank Farm closure.

General Scope:

The Contractor shall design, procure, permit, construct/fabricate, and operate the SST retrieval system(s) used to remove waste from SSTs and transfer the waste to pretreatment/treatment systems, or to the DST system for eventual treatment.

Detailed Scope and Requirements:

Integrated Retrieval Planning and Implementation

The Contractor shall develop, submit for DOE-ORP approval, implement, and maintain an *Integrated SST Retrieval Plan* (Deliverable C.2.2.1-1) that describes waste treatment, closure objectives, and near-term SST retrieval commitments.

The Contractor shall incorporate retrieval planning into the overall *RPP System Plan* (See Section 2.3.1).

Retrieval Technologies

The Contractor shall develop technologies to improve the efficiencies and equipment reliability for retrieving saltcake, hard heel, and other wastes from SSTs; determine technology limitations, retrieval efficiencies, safety and environmental concerns, and cost impacts for SST retrieval systems; and evaluate alternative retrieval technologies and leak detection methods for SSTs.

Process Controls

The Contractor shall establish the necessary process controls and perform required tank waste sampling and characterization to prevent transfer line and equipment degradation, preserve DST integrity, and prevent flammable gas issues and other potential safety and environmental concerns.

Retrieval Execution

The Contractor shall provide SST retrieval system(s), and transfer waste to the DST system or pretreatment/treatment systems to support treatment schedules.

The Contractor shall design, procure, permit, construct and/or fabricate, test, start-up and operate SST retrieval and transfer system(s) that efficiently achieve the waste removal goals.

Cold Test Facility Operation

The Contractor shall manage, maintain and operate the Cold Test Facility to support personnel training, development and testing of retrieval technologies and tank sampling technologies, and to support testing and technology development.

Vadose Zone Characterization & Corrective Measures

The Contractor shall perform Tank Farm vadose zone sampling, characterization, and corrective measures (in coordination with the PRC) to integrate these activities and drive efficiencies in the Hanford Site groundwater program. The TOC shall provide support to the lead contractor (PRC) for the groundwater/vadose zone program.

C.2.2.2 Sub-CLIN 2.2: Single-Shell Tank Farm (Waste Management Area) Closure

Background:

There are 149 underground SSTs, ancillary equipment, and contaminated soil, aggregated into seven (7) waste management areas that require remediation and closure.

General Scope:

The Contractor shall perform waste management area closure activities in accordance with Hanford Site-wide integrated closure strategies.

Detailed Scope and Requirements:

Integrated Closure Planning and Implementation

The Contractor shall incorporate closure planning into the overall *RPP System Plan*.

Regulatory Acceptance

The Contractor shall obtain regulatory approval for component and/or waste management area closure activities through regulator approval of necessary permits and authorization documents that demonstrate compliance with state and federal rules/regulations.

Physical Closure

The Contractor shall design, construct, and operate equipment and systems necessary to support the work specified in the regulatory closure documents.

The Contractor shall demonstrate technologies and gather data to support closure decisions.

C.2.3 CLIN #3 – Waste Treatment and Immobilization Plant (WTP) Support

C.2.3.1 Sub-CLIN 3.1: Treatment Planning, Waste Feed Delivery, and WTP Transition

Background:

High level and low activity portions of tank waste must be reliably provided to the WTP and other waste treatment equipment and facilities in time to support hot commissioning and operation. The existing DST system does not have the capability to retrieve, blend, and transfer wastes to the treatment facilities.

General Scope:

The Contractor shall provide integrated system planning for the RPP mission, incorporating the results from other integrated planning tools for SST retrievals, closures, and for waste feed delivery.

The Contractor shall perform waste feed delivery, including project planning, Tank Farm upgrade and new equipment installations, and operations to accomplish pretreatment (if needed), blending, mixing, retrieval and transfer of tank waste to support optimized and reliable feed delivery to the waste treatment facilities.

The Contractor and the WTP Contractor shall jointly develop a transition plan for safe and efficient transition of the operational WTP facilities to the future WTP Operating Contractor.

Detailed Scope and Requirements:

Planning Models

The Contractor shall maintain the Hanford Tank Waste Operation Simulator (HTWOS) model and use the model to evaluate alternative cases to optimize RPP system performance and provide a technical basis for the approved *Performance Measurement Baseline* described in Section C.3.1.2, *Project Scope, Schedule, and Cost Baseline*. The key assumptions and inputs associated with this HTWOS model shall be submitted to DOE-ORP for approval.

The Contractor shall assist DOE-ORP in making the HTWOS model available for independent analysis of RPP System Planning.

RPP System Planning

The Contractor shall develop, submit for DOE-ORP approval, and maintain the *River Protection Project System Plan* (Deliverable C.2.3.1-1) and subsequent planning documents that describe the technical planning for optimizing tank retrieval sequence, waste feed delivery, treatment strategies, storage, disposal options and operations, tank closure, and mission completion projections. The *System Plan* shall consider effectiveness of the overall treatment system, including selection of waste feeding the WTP versus supplemental treatment options, and recycle streams and secondary waste streams. The Contractor shall conduct related planning, such as technology roadmapping, identification of technology needs, reductions to Tank Farm cost and risk, and streamlining of work processes.

The Contractor shall update the *System Plan*, as required, to reflect significant changes in mission strategies and to remain consistent with the *Performance Measurement Baseline* (See Section C.3.1.2.1). The key assumptions and inputs associated with this *System Plan* shall be submitted to DOE-ORP for approval prior to revision of the *System Plan*. All revisions of the *System Plan* shall be submitted to DOE-ORP for approval.

Integrated Waste Feed Delivery Planning

The Contractor shall prepare, submit for DOE-ORP approval, and implement an *Integrated Waste Feed Delivery Plan* (Deliverable C.2.3.1-2) to provide optimum and reliable pretreatment (if needed), blending/mixing, retrieval and delivery of feed to DOE-ORP treatment facilities. This Plan shall include the needs of commissioning, near-term, and long-term operations; necessary studies, testing, and infrastructure installation; and projected waste transfer/pretreatment operations.

The Contractor shall ensure that the *Integrated Waste Feed Delivery Plan* is integrated with the *RPP System Plan*.

Retrieval & Transfer System Upgrades

The Contractor shall design, procure, and install DST retrieval and transfer system upgrades in support of Tank Farms activities, including in-tank treatment, waste staging, waste feed delivery to treatment systems, and optimizing use of DST space.

Waste Pretreatment and Staging, DST Retrieval, and Feed Delivery Operations

The Contractor shall operate and maintain the DST retrieval and feed delivery systems including in-tank treatment/pretreatment and blending/mixing systems to maximize the waste treatment system efficiency.

The Contractor shall perform sampling and characterization of DST waste as required to support feed delivery planning.

Tank Waste Inventory Management

The Contractor shall maintain the electronic and physical systems necessary to manage the tank waste inventory, including the:

- Tank Waste Information Network System (TWINS) database;
- Best Basis Inventory (BBI) – updated quarterly to account for tank waste transfers and data from sampling;
- Archive sample storage in the 222-S Laboratory; and
- WTP feed sampling.

WTP Interface

The Contractor shall:

- Assist DOE-ORP (as lead) and the WTP contractor in developing and implementing an *Interface Management Plan*.
- Assist the WTP contractor in the developing, implementing, and updating Interface Control Documents (ICDs) which define the scope of each interface and required deliverables.

IHLW Storage and Disposition Planning

The Contractor shall perform system planning and baseline management activities for IHLW storage and disposition, and shall assist DOE-ORP in their interface with the DOE Office of Civilian Radioactive Waste Management. The IHLW system planning shall be integrated into the *RPP System Plan*.

WTP Transition Plan

The Contractor and the WTP contractor shall jointly develop a *WTP Facility Transition Plan* (Deliverable C.2.3.1-3) that describes the strategy, schedule and requirements for safe, efficient, and sequential transfer of the WTP facilities, associated workforce, and all activities that support operations from the WTP contractor to the future Operating Contractor. The Plan shall identify, at a minimum, each facility, the proposed schedule for facility turnover, and provide a checklist of requirements to be completed to ensure that the facilities can be safely transitioned and operated by the future Operating Contractor. The Plan shall provide for the flexibility of early and/or extended operations of any of the WTP facilities during the Transition Period.

The Contractor shall submit the *WTP Facility Transition Plan* to DOE-ORP for approval 24 months prior to future Operating Contractor transition..

WTP LAW/BOF/LAB Facility Transition Plan

If the DOE-ORP directs early feed and operation of the WTP LAW/BOF/LAB facilities, the Contractor and the WTP contractor shall jointly develop a *WTP LAW/BOF/LAB Facility Transition Plan* (Deliverable C.2.3.1-4). The Contractor shall submit the *WTP LAW/BOF/LAB Facility Transition Plan* to DOE-ORP for approval at the completion of WTP contractor certification of WTP LAW/BOF/LAB cold commissioning.

C.2.3.2 Sub-CLIN 3.2: WTP Operational Readiness Support

Background:

The WTP Pretreatment facility, HLW facility, LAW facility, Analytical Laboratory (LAB), and Balance of Facilities (BOF) will be used to treat and immobilize the tank waste. The WTP is currently under construction and scheduled to perform start-up testing, cold commissioning, and hot commissioning under a separate contract during the Contract performance period.

General Scope:

In collaboration with the WTP contractor, implement an integrated management strategy for the "One System" approach to ensure operational readiness of waste feed delivery and WTP operations under the existing TOC and WTP contracts to meet the Consent Decree. The "One System" is intended to address waste feed delivery, feed stream characterization, and acceptance of WTP products and secondary waste as an integrated system leading to efficient, consistent waste feed, waste processing, and product delivery during operations.

Detailed Scope and Requirements:

The Contractor shall develop a *WTP Operational Readiness Support Plan* (Deliverable C.2.3.2-1) detailing a time-phased approach for review of WTP operational readiness to:

- Promote Contractor understanding of and planning for future WTP operations;
- Work with DOE-ORP and WTP to resolve any operational issues that arise; and
- Support safe and efficient Contractor acceptance of WTP facility(ies).

The Contractor, jointly with the WTP contractor, shall submit the *WTP Operational Readiness Support Plan* to DOE-ORP for approval. The plan will address Operational Readiness requirements for Tank Farms facilities and each of the five (5) WTP facilities (Pretreatment, HLW, LAW, LAB, and BOF).

Topical Areas:

- Management Self-Assessment process;
- Start-up notification report
- Procedures
- Training and testing activities; and

- Cold and hot commissioning.

C.2.3.3 Sub-CLIN 3.3: Immobilized High-Level Waste (IHLW) Storage and Shipping Facility Construction

Background:

IHLW produced by the WTP will be stored on-site until shipment to an off-site repository. A Canister Storage Building (CSB), with three below grade vaults, is in operation. One of the three vaults currently provides interim storage for spent nuclear fuel canisters. The other two vaults are empty and require modifications to be able to accept up to 880 IHLW canisters. Project design to modify the two empty vaults is complete, but modifications have not begun.

General Scope:

The Contractor shall design, construct, commission, and operate a storage facility for IHLW canisters to support WTP production of IHLW. Based on the availability of an off-site repository, the Contractor shall design, construct, commission and operate a Hanford Shipping Facility for IHLW and SNF.

Detailed Scope and Requirements:

Hanford Shipping Facility and IHLW Interim Storage

The Contractor shall:

- Define and evaluate alternatives for location of the Hanford Shipping Facility, and the amount and location of on-site interim storage. The Contractor shall prepare a *Hanford Spent Nuclear Fuel and Immobilized High Level Waste Interim Storage Alternatives Analysis* (Deliverable C.2.3.3-1) and submit to DOE-ORP for information.
- Design a Hanford Shipping Facility that is capable of:
  - Receiving IHLW and SNF transportation casks on railroad cars from the off-site repository;
  - Removing and opening the casks;
  - Placing IHLW and SNF canisters into the casks,
  - Closing the casks and remounting them on the railcars; and
  - Staging the loaded railcars for return to the off-site repository.
- Complete modifications to the CSB and/or construction of a separate interim storage facility and ensure that the facility is ready for operation prior to WTP commencement of IHLW production.
- Complete construction of the Hanford Shipping Facility with capability to ship at a rate of 600 canisters per year. Actual shipping rates will be determined by the DOE Office of Civilian Radioactive Waste Management in accordance with the Integrated Acceptance Schedule.
- Prepare to operate the Hanford Shipping Facility in accordance with DOE-ORP direction (to be provided post-award) derived from the *Memorandum of Agreement for*

Acceptance of Department of Energy Spent Nuclear Fuel and High-Level Radioactive Waste. Contractor responsibilities will include:

- Loading IHLW and SNF canisters into transportation casks in accordance with procedures provided by DOE Office of Civilian Radioactive Waste Management;
- Performing routine and incidental maintenance of transportation casks and equipment; and
- Providing procedures, equipment and supplies, and personnel training for both Contractor and DOE staffs in the handling and maintenance of the SNF and IHLW canisters, as well as storage facilities and transportation equipment.

ILAW and IHLW Transport

The Contractor shall design and procure the necessary equipment and arrange for transportation of ILAW, IHLW, and unique waste forms from WTP and supplemental treatment facilities to their respective on-site disposition or storage locations.

C.2.3.4 Sub-CLIN 3.4: Upgrade and Operate the Effluent Treatment Facility

General Scope:

The Contractor shall assume responsibility for the 200 East Area ETF and LERF, and complete upgrade designs and permitting, perform facility upgrades, and operate the ETF and LERF.

Detailed Scope and Requirements:

The Contractor shall assume responsibility for the 200 East Are ETF and LERF from the PRC in accordance with the DOE-ORP approved *ETF/LERF Transition Plan*.

The Contractor shall complete ETF and LERF upgrade designs and permitting, and perform facility upgrades to enable the facilities to receive and treat anticipated waste stream volumes and types.

The Contractor shall maintain the facilities in a ready-to-serve status, function as a service provider for other site contractors, and coordinate with waste generators to develop annual waste volume projections for DOE-ORP review.

The Contractor shall operate the LERF and ETF to receive liquid waste that meets applicable waste acceptance criteria.

The Contractor shall treat liquid wastes and dispose of liquid and solid wastes in accordance with DOE directives, regulations, and discharge permits.

C.2.4 CLIN #4 – Supplemental Treatment

C.2.4.1 Sub-CLIN 4.1: Demonstration Bulk Vitrification System (DBVS) Construction and Operations

Background:

Bulk vitrification is the tank waste treatment technology currently selected for testing and development at Hanford. Alternative technologies are being tested at other DOE Sites. Selection of the Hanford Site technology is dependent on the performance of the DOE options under development. The DBVS has been sited and designed. Laboratory, engineering, and production-scale testing continues to be conducted.

General Scope:

The Contractor shall complete an evaluation of DBVS design; procure, build, and operate a pilot scale one-line bulk vitrification plant; and conduct plant and waste form performance testing to determine the effectiveness of the treatment technology.

Detailed Scope and Requirements:

DBVS Planning

The Contractor shall evaluate the current design and pre-construction testing for acceptability.

The Contractor shall develop a *DBVS Construction, Testing, and Operations Plan* (Deliverable C.2.4.1-1) for DOE-ORP approval. The Plan shall include, but not be limited to, pre-construction testing of pilot plant systems, pilot plant construction, construction acceptance and operational testing, and operations including waste form and plant performance evaluation.

DBVS Execution

The Contractor shall procure, build, test, start up, and operate the DBVS. Plant and immobilized waste form performance data shall be collected to support a decision by DOE on supplemental LAW treatment technologies.

The Contractor shall develop a *DBVS Pilot Plant and Vitrified Waste Form Performance Test Plan* (Deliverable C.2.4.1-2) for DOE-ORP approval.

The pilot plant shall be capable of testing waste processing under radioactive conditions, demonstrate the effectiveness of joule-heated melting utilizing Hanford radioactive tank waste, and provide design, construction, and operations lessons learned and training that could minimize technical and schedule risks for the production-scale bulk vitrification system.

The Contractor shall document the results of the DBVS pilot plant operational performance and the primary waste packages and vitrified waste forms environmental performance in a *DBVS Pilot Plant and Vitrified Waste Form Performance Results* report (Deliverable C.2.4.1-3) and submit the report to DOE-ORP for review. The report shall document performance data to include, but not limited to:

- DBVS pilot plant unit processing duration, and melter throughput, availability, and reliability while processing radioactive waste streams;
- Operational resource requirements and total operating efficiency;
- Equipment availability input to production plant;
- Maintenance and critical spares information;

- Quantification of the bounds of glass composition envelopes;
- Primary waste packages and vitrified waste forms environmental performance comparison to the waste acceptance criteria of the Hanford Site Integrated Disposal Facility (IDF);
- Secondary waste streams including off-gases and liquids environmental performance and volume quantification;
- Critical permitting data for the production-scale project;
- Identification of optimization in technology application, startup, operations, and process control for a production facility;
- Validation of whether off-gas treatment system consistently performs to meet or exceed (i.e., performs better than) regulatory requirements; and
- Operation of the vitrified waste package core sampling system.

Quality Assurance

The Contractor shall ensure that analytical laboratory analyses conducted on the DBVS waste feed, primary waste packages, vitrified waste forms, and secondary waste forms meet the quality requirements of the *Hanford Analytical Services Quality Assurance Requirements Document.*

Technical Recommendation

The Contractor shall make a technical recommendation on the viability of bulk vitrification as a LAW treatment technology for application on a production-scale based on the pilot plant operational performance, primary waste packages and vitrified waste forms environmental performance, and secondary waste forms environmental performance data.

The Contractor shall submit a *Recommendation on the Viability of the Bulk Vitrification Waste Treatment Technology* report (Deliverable C.2.4.1-4) to DOE-ORP for approval.

Comparative Analysis

The Contractor shall perform a comparative analysis of the bulk vitrification technology to alternative technologies (e.g., steam reforming, cast stone, a second WTP ILAW facility, and any other viable technologies) based on the pilot plant operational performance, vitrified waste form and secondary waste form performance. The Contractor shall provide assistance as determined by DOE-ORP during the DOE independent, expert review of its comparative analysis process and results.

The Contractor shall submit a *Comparative Analysis of Supplemental Treatment Technologies* report (Deliverable C.2.4.1-5) to DOE-ORP for review.

Re-permit Recommendation

Upon completion of the DBVS mission at its present site, the Contractor shall evaluate system performance results and submit a recommendation to DOE-ORP to either decommission the DBVS pilot plant and return the site to grade, or negotiate with Washington State regulators to re-permit the facility for an additional treatment mission.

The Contractor shall submit a *Recommendation to Re-Permit DBVS* report (Deliverable C.2.4.1-6) to DOE-ORP for approval.

Disposal

The Contractor shall design and procure the transportation equipment and arrange for transportation of the vitrified waste packages to the appropriate on-site disposal location, in accordance with the facility waste acceptance criteria and regulatory requirements.

Decommission

If the DBVS will not be modified for extended operations, then the Contractor shall decommission the DBVS facility in accordance with approved plans and permitting requirements.

C.2.4.2 Sub-CLIN 4.2: Extended Demonstration Bulk Vitrification System Operations

Background:

When the DBVS has completed its mission as a pilot plant, and if proven successful, DOE-ORP may direct the Contractor to upgrade the pilot plant so that it may be permitted to process additional tank waste.

General Scope:

The Contractor shall permit, modify, and perform extended operations of the DBVS.

Detailed Scope and Requirements:

Permit

The Contractor shall re-permit the DBVS for further service.

The Contractor shall meet RCRA Part B permit and radioactive mixed waste processing requirements.

The Contractor shall assume a lead role in negotiations with the regulators to develop the RCRA Part B Permit modification.

Pilot Plant Modification

The Contractor shall develop an 80 percent (%) probability cost and schedule estimate to refit the pilot plant to meet RCRA Part B permit and radioactive mixed waste processing requirements, and submit a *Cost and Schedule Estimate for the Extended Operations of the Demonstration Bulk Vitrification System* report (Deliverable C.2.4.2-1) to DOE-ORP for approval.

The Contractor shall:

- Modify the pilot plant for further service and identify candidate tanks for processing.

- Design and fabricate components and systems, and perform construction activities to install and upgrade the pilot plant, as necessary, for the plant to meet RCRA Part B permit and radioactive mixed waste processing requirements.
- Revise the existing waste feed acceptance specification consistent with the design modifications and waste forms to be processed.
- Submit for DOE-ORP approval an *Extended Operations of the DBVS Final Design Modifications and Feed Acceptance Specifications* report (Deliverable C.2.4.2-2).

Extended Demonstration Bulk Vitrification System Operations

The Contractor shall develop sampling and analysis plans for the plant waste feed, primary waste packages and vitrified waste forms, and secondary waste forms, and submit an *Extended Operations of the DBVS Sampling and Analysis Plan* (Deliverable C.2.4.2-3), to DOE-ORP for approval.

The Contractor shall perform extended operations of the DBVS and ensure that the waste feed meets feed acceptance specifications and the immobilized products meet the standards for on-site disposal under DOE, RCRA, and Ecology permit requirements.

The Contractor shall operate the plant and ensure that all effluent vapor and liquids and all secondary waste streams meet on-site disposal requirements. The Contractor shall perform solid/liquid separation and waste feed pretreatment necessary to meet the waste feed requirements.

Quality Assurance

The Contractor shall ensure that analytical laboratory analyses conducted on the waste feed, primary waste packages, vitrified waste forms, and the secondary waste forms meet the requirements of the *Hanford Analytical Services Quality Assurance Requirements Document.*

Decommission

Upon completion of extended DBVS operations, the Contractor shall decommission and demolish the DBVS facility in accordance with approved plans and permitting requirements.

Disposal

The Contractor shall arrange for transportation of the vitrified waste packages to the appropriate on site disposal location.

C.2.4.3 Sub-CLIN 4.3: Supplemental Treatment Design

<u>Background</u>:

Depending on future waste treatment decisions, DOE-ORP may direct the Contractor to permit and commence design on supplemental LAW treatment capacity.

General Scope:

The Contractor shall perform the necessary activities to permit and commence design of additional supplemental treatment capacity for low activity tank waste.

Detailed Scope and Requirements:

The Contractor shall commence design, permitting, and safety analysis activities up through Critical Decision 2, *Approve Performance Baseline*, for LAW treatment facilities in accordance with the requirements of DOE Order (O) 413.3B, *Program and Project Management for Acquisition of Capital Assets*. Plant treatment capacity shall meet the requirements determined by the planning models and RPP System Plan described in Section C.2.3.1, Treatment Planning and Waste Feed Delivery.

The Contractor shall design treatment processes to ensure that the treated waste meets the standards for on-site disposal under DOE, RCRA, and Ecology permit requirements.

The Contractor shall develop treatment waste feed acceptance specifications consistent with the design and waste forms to be processed. The design shall incorporate solid/liquid separation and waste feed pretreatment necessary to meet the waste feed acceptance specifications.

C.2.4.4 Sub-CLIN 4.4: Supplemental Treatment Construction and Operations

Background:

Depending on future waste treatment decisions, DOE-ORP may direct the Contractor to complete design and construction of supplemental LAW treatment capacity.

When supplemental treatment construction is completed, it may be advantageous for DOE to direct transition and/or operation of the supplemental LAW treatment capacity.

General Scope:

The Contractor shall construct additional supplemental treatment capacity for LAW.

Detailed Scope and Requirements:

The Contractor shall complete design and permitting, and procure and construct supplemental LAW treatment capacity. The plant(s) shall receive LAW feed from SSTs and DSTs.

Plant treatment capability shall meet the requirements determined by the planning models and *RPP System Plan* described in Section C.2.3.1, *Treatment Planning and Waste Feed Delivery*.

Treated waste shall meet the standards for on-site disposal under DOE, RCRA, and Ecology permit requirements.

The Contractor shall perform solid/liquid separation and waste feed pretreatment necessary to meet the waste feed acceptance specifications.

C.2.4.5 Sub-CLIN 4.5: Transuranic Tank Waste Treatment and Packaging

Background:

The Hanford Transuranic (TRU) Tank Waste Project was initiated to provide supplemental treatment of TRU tank waste. Project and equipment status is documented in RPP-PLAN-25638, Revision 0, *Transuranic Waste Project Standby Report*. Significant portions of the retrieval and treatment systems are currently used in other Tank Farm projects.

Regulatory documentation including the Waste Isolation Pilot Plant (WIPP) Class III RCRA permit modification, the RCRA Part B permit modification, the U.S. Environmental Protection Agency (EPA) Compliance Recertification Application, and appropriate *National Environmental Policy Act of 1969* (NEPA) documentation are in development.

General Scope:

The Contractor shall design, permit, construct, and operate a TRU tank waste packaging, characterization, and storage system for CH-TRU tank waste.

Detailed Scope and Requirements:

CH-TRU Packaging System

The Contractor shall permit, design, construct and operate a CH-TRU waste treatment and packaging system for TRU tank waste retrieved from selected SSTs.

WIPP Certification

The Contractor shall perform the WIPP-required characterization and support PRC in certification activities to demonstrate acceptability of the CH-TRU tank waste packages for disposal at WIPP.

CH-TRU Temporary Storage

The Contractor shall arrange for transportation of the CH-TRU waste packages to the PRC for storage pending shipment to WIPP.

C.2.5 CLIN #5 – Early Feed and Operation of the WTP Low Activity Waste Facility (LAW)

Background:

Depending on future waste treatment decisions, DOE-ORP may direct the Contractor to pursue actions to allow the WTP LAW Facility to begin vitrifying pretreated tank waste prior to the projected complete WTP hot start. Startup of the WTP LAW Facility will require early startup of the WTP LAB and the BOF on the WTP site, as well as modifications to other Hanford Site infrastructure (i.e., ETF). Construction work would continue on the WTP Pretreatment and HLW facilities with the construction zones cordoned off from the operational facilities.

When WTP Pretreatment and HLW facilities are completed, it may be advantageous for DOE to direct transition and/or operation of these WTP capabilities to support early feed and operation of the WTP LAW facility.

C.2.5.1 Sub-CLIN 5.1: Tank Selection, Retrieval, Pretreatment and Feed Delivery Design

General Scope:

The Contractor shall perform the activities necessary to permit and commence design of tank waste retrieval, pretreatment and waste feed delivery equipment and facilities to provide pretreated waste to the WTP LAW facility.

Detailed Scope and Requirements:

The Contractor shall identify the waste tank retrieval, staging, conditioning, pretreatment, and feed delivery sequences to provide waste feed delivery to the WTP LAW facility while optimizing the later waste feed retrieval and delivery processes for subsequent startup of the entire WTP complex. These planning sequences shall be documented and approved by DOE-ORP as described in the Sub-CLIN entitled, *Treatment Planning, Waste Feed Delivery, and WTP Transition*.

The Contractor shall commence design, permitting, and safety analysis activities up through Critical Decision 2, *Approve Performance Baseline*, for the waste tank retrieval; waste staging, conditioning, and pretreatment; feed delivery equipment and facilities; and secondary waste stream treatment (including modifications to the ETF) in accordance with the requirements of DOE O 413.3B, *Program and Project Management for Acquisition of Capital Assets*.

The Contractor shall produce a design to provide waste feed to the WTP LAW facility that meets the waste acceptance criteria in the WTP contract as described in the ICDs between the WTP and the TOC.

The Contractor shall compare early startup of the WTP LAW facility versus other treatment options for LAW – considering projected life-cycle costs, waste treatment schedules, waste form

performance, environmental and program risks, and impacts to other Hanford mission activities. The Contractor shall incorporate the analysis results into the *RPP System Plan*.

The Contractor shall interface with applicable Hanford Site contractors to ensure treatment planning includes planning for impacts and for the necessary modifications to projected Site services and waste management functions and facilities including ETF and the Liquid Effluent Retention Facility (LERF). The Contractor shall submit for DOE-ORP approval an *ETF/LERF Transition Plan* (Deliverable C.2.5.1-1) detailing the turnover of the ETF and LERF to the TOC.

C.2.5.2 Sub-CLIN 5.2: Retrieval, Pretreatment and Feed Delivery Construction and Operations

General Scope:

The Contractor shall complete design and permitting, and procure, construct and operate tank waste retrieval, pretreatment, waste feed delivery, and secondary waste treatment equipment and facilities to provide pretreated waste to the WTP LAW facility.

Detailed Scope and Requirements:

The Contractor shall complete designs and permits; and procure and construct the waste tank retrieval; waste staging, conditioning, and pretreatment; feed delivery equipment and facilities; and secondary waste stream treatment to provide waste feed delivery to the WTP LAW facility.

The Contractor shall operate the equipment and facilities to stage pretreated waste and to provide waste feed to the WTP LAW facility that meets the waste acceptance criteria in the WTP contract as described in the ICDs between the WTP and the TOC.

C.2.5.3 Sub-CLIN 5.3: (Reserved)

C.2.5.4 Sub-CLIN 5.4: LAW/BOF/LAB Operations

General Scope:

The Contractor shall transition, manage, maintain, and operate the WTP LAW/BOF/LAB facilities to produce Immobilized Low Activity Waste (ILAW) for delivery to the on-site disposal facility.

Detailed Scope and Requirements:

Operating Specifications

The Contractor shall submit the *WTP LAW Facility Operating and Product Specifications* (Deliverable C.2.5.4-1) concurrent with the *WTP LAW/BOF/LAB Facility Transition Plan* to DOE-ORP for approval. The specifications document shall include:

- ILAW container requirements and filled container limitations;
- Container fill and constituent requirements;
- Waste form sampling; and

- ILAW container handling and shipping to the approved on site disposal location.

WTP Facility Transition

Once each operational WTP facility(ies) is accepted by DOE-ORP under the WTP contract, the Contractor shall begin the transfer of the operational facility(ies), necessary operations and maintenance workforce, and all activities that support operations between the WTP contractor and the Contractor.

The Contractor shall coordinate directly with all other Hanford Site contractors that support an interface with the WTP facility(ies) and submit for DOE-ORP approval a *Transition Agreement* with the signatures of all involved parties.

The Contractor shall conduct a self-assessment of each facility(ies) transfer, support DOE-ORP verification of each transfer, and be accountable for WTP facility(ies) operation following transfer.

LAW/BOF/LAB Operations

The Contractor shall manage, maintain, and operate the WTP LAW/BOF/LAB facilities to produce containers of ILAW. Each container shall be routed through the complete process and equipment system, including level measurement, sampling as required, inert fill (as required), lid closure, decontamination, and placement in position for shipment.

The Contractor shall arrange for transportation of the ILAW containers to the appropriate on-site disposal location in accordance with the facility waste acceptance criteria and regulatory requirements.

C.2.6 CLIN #6 – Pension and Welfare Plans

C.2.6.1 Sub-CLIN 6.1: Hanford Employee Retirement and Benefit Plan Management

The Contractor will have certain responsibilities regarding sponsorship, management and administration of pension and other benefit plans for certain active and retired contractor employees at the Hanford Site. The requirements and scope of these responsibilities are set forth in the Section H Clause entitled, *Employee Compensation: Pay and Benefits* and the Section H Clause entitled, *Post-Contract Responsibilities for Pension and Other Benefit Plans*.

C.2.6.2 Sub-CLIN 6.2: Legacy Pension and Benefit Plan Management

The Contractor will have certain responsibilities regarding sponsorship, management and administration of pension and other benefit plans for certain retired contractor employees associated with work at different DOE Sites. The requirements associated with these responsibilities are set forth in the Section H Clause entitled, *Employee Compensation: Pay and Benefits* and the Section H Clause entitled, *Post-Contract Responsibilities for Pension and Other Benefit Plans*.

C.2.7 CLIN #7 – American Recovery and Reinvestment Act (ARRA) Workscope

The workscope identified in CLIN 7 is not new scope. The work identified in Sub-CLIN 7.1, 7.2, 7.3, and 7.4 is scope that is already part of Sub-CLIN(s) 1.2, 1.3, 3.1, and 3.3 identified above. CLIN 7 and associated Sub-CLIN(s) has been developed solely for the purpose of identifying the scope contemplated and provide for a method of tracking funds received as part of the American Recovery and Reinvestment Act (ARRA). See Section J, attachment J.15, *American Recovery and Reinvestment Act (ARRA) Milestones and Performance Measures,* for specific major ARRA program milestones, milestone dates, required evidence of achievement, and performance measures/metrics.

C.2.7.1 Sub-CLIN 7.1: ARRA workscope under Sub-CLIN 1.2 - Safe, Compliant Operations

General Scope:

The Contractor shall maintain and operate the Tank Farms, 242-A Evaporator, and supporting Tank Farm infrastructure.

For the assigned work scope, the Contractor shall establish and implement the necessary programs and processes for:

Project Management (Section C.3.1);
Integrated Safety Management System (ISMS) (Section C.3.2);
Security and Emergency Services (Section C.3.3);
Interactions (Section C.3.4); and
Interface Management (Section C.3.5).

Detailed Scope and Requirements:

SST System Management

The Contractor shall operate and maintain the SST system and ancillary facilities to safely store tank waste and facilitate tank waste retrieval and component closure. The Contractor shall perform non-destructive testing and evaluation of SSTs and miscellaneous underground storage tanks to assure continued tank integrity commensurate with the waste contained in each tank and the associated risk.

DST System Management

The Contractor shall integrate with the WTP contractor, and operate the DST system to maintain acceptable waste feed specifications for future waste feed delivery to the WTP while optimizing use of available DST space to facilitate SST waste retrieval and in-tank treatment to preserve tank integrity and improve waste feed characteristics.

Maintenance

The Contractor shall perform calibrations, maintenance and required equipment installations to assigned facilities in support of the RPP mission with a prioritization that provides the best value to DOE-ORP.

Upgrades

The Contractor shall plan and execute Tank Farm and related facilities upgrade sub-projects, as necessary, to support safe, reliable, and compliant storage, and tank waste retrieval, staging, delivery, and treatment efforts.

DST Integrity/Life Extension

The Contractor shall maintain DST waste within TSR chemistry specifications to minimize tank corrosion. Chemistry specifications shall be evaluated to optimize tank protection while minimizing waste generation and resultant vitrified waste form volume. The Contractor shall perform non-destructive testing and evaluation of tanks to meet Resource Conservation and Recovery Act of 1976 (RCRA) requirements, status tank corrosion, and assure continued tank integrity.

Sampling & Characterization

The Contractor shall maintain a ready-to-serve waste tank sampling and sample transportation capability. The Contractor shall perform tank waste sampling and characterization to support safe storage and evaporator operations, and to preserve tank integrity. Sampling and characterization activities for tank waste retrieval, tank closure, treatment planning and waste feed delivery are included in their respective sub-CLINs.

Evaporator Operation

The Contractor shall operate the 242-A Evaporator in support of DST space management, waste retrieval, and feed delivery activities. The Contractor shall perform evaporator maintenance and upgrades, as necessary, to support the RPP mission.

Secondary Wastes

The Contractor shall perform detailed planning and implementation of activities to support packaging and treatment for disposal of secondary liquid and solid wastes generated in the Tank Farms and assigned facilities.

C.2.7.2 Sub-CLIN 7.2: ARRA workscope under Sub-CLIN 1.3 – Analytical Laboratory Support

General Scope:

The Contractor shall operate and maintain the 222-S Laboratory Complex to support analysis activities performed by the ASPC.

Detailed Scope and Requirements:

Instrumentation & Equipment

The Contractor shall provide analytical instrumentation and support equipment to ensure capability, capacity, storage, and reliability are available to support Hanford Site cleanup schedules.

Maintenance

The Contractor shall provide maintenance, routine calibrations, repairs and engineering functions.

Upgrades

The Contractor shall plan and execute upgrades to the 222-S Laboratory Complex to support safe, reliable, and compliant operations.

C.2.7.3 Sub-CLIN 7.3: ARRA workscope under Sub-CLIN 3.1 – Treatment Planning, Waste Feed Delivery, and WTP Transition

General Scope:
The Contractor shall provide integrated system planning for the RPP mission, incorporating the results from other integrated planning tools for SST retrievals, closures, and for waste feed delivery.

The Contractor shall perform waste feed delivery, including project planning, Tank Farm upgrade and new equipment installations, and operations to accomplish pretreatment (if needed), blending, mixing, retrieval and transfer of tank waste to support optimized and reliable feed delivery to the waste treatment facilities.

The Contractor and the WTP Contractor shall jointly develop a transition plan for safe and efficient transition of the operational WTP facilities to the Contractor.

Detailed Scope and Requirements:

Integrated Waste Feed Delivery Planning

The Contractor shall prepare, submit for DOE-ORP approval, and implement an *Integrated Waste Feed Delivery Plan* (Deliverable C.2.3.1-2) to provide optimum and reliable pretreatment (if needed), blending/mixing, retrieval and delivery of feed to DOE-ORP treatment facilities. This

Plan shall include the needs of commissioning, near-term, and long-term operations; necessary studies, testing, and infrastructure installation; and projected waste transfer/pretreatment operations.

The Contractor shall ensure that the *Integrated Waste Feed Delivery Plan* is integrated with the *RPP System Plan*.

Retrieval & Transfer System Upgrades

The Contractor shall design, procure, and install DST retrieval and transfer system upgrades in support of Tank Farms activities, including in-tank treatment, waste staging, waste feed delivery to treatment systems, and optimizing use of DST space.

Waste Pretreatment and Staging, DST Retrieval, and Feed Delivery Operations

The Contractor shall operate and maintain the DST retrieval and feed delivery systems including in-tank treatment/pretreatment and blending/mixing systems to maximize the waste treatment system efficiency.

The Contractor shall perform sampling and characterization of DST waste as required to support feed delivery planning.

Tank Waste Inventory Management

The Contractor shall maintain the electronic and physical systems necessary to manage the tank waste inventory, including the:

- Tank Waste Information Network System (TWINS) database;
- Best Basis Inventory (BBI) – updated quarterly to account for tank waste transfers and data from sampling;
- Archive sample storage in the 222-S Laboratory; and
- WTP feed sampling.

IHLW Storage and Disposition Planning

The Contractor shall perform system planning and baseline management activities for IHLW storage and disposition, and shall assist DOE-ORP in their interface with the DOE Office of Civilian Radioactive Waste Management. The IHLW system planning shall be integrated into the *RPP System Plan*.

C.2.7.4 Sub-CLIN 7.4: (Reserved)

C.2.7.5 Sub-CLIN 7.5**:** ARRA workscope under Sub-CLIN 3.4 - Upgrade and Operate the Effluent Treatment Facility (ETF)**.**

<u>General Scope</u>:

The Waste Treatment Plant is anticipated to produce a liquid effluent from the processing of High and Low Activity waste. This effluent is expected to contain low levels of radioactive and hazardous components that will need to be treated before final disposal. ETF is currently envisioned to be used as the treatment facility with final disposal occurring at the Integrated Disposal Facility.

Detailed Scope and Requirements:

The contractor shall:

- Initiate test program to determine a final secondary waste form that will be acceptable for disposal at the Integrated Disposal Facility (IDF). This waste form will need to meet long term performance objects that will be included in the IDF's Waste Acceptance Criteria.

- Perform crucible and small scale melter testing to enhance the low activity glass formulations retention of technetium (Tc) and other contaminants of concern. This testing is anticipated to reduce the requirements on the secondary waste form for final disposal at IDF.

C.2.7.6 Sub-CLIN 7.6: ARRA workscope under Sub-CLIN 2.1 Single-Shell Tank Retrieval

General Scope:

The Contractor shall design, procure, permit, construct/fabricate, and operate the SST retrieval system(s) used to remove waste from SSTs and transfer the waste to pretreatment/treatment systems, or to the DST system for eventual treatment.

Detailed Scope and Requirements:

Retrieval Technologies

The Contractor shall develop technologies to improve the efficiencies and equipment reliability for retrieving saltcake, hard heel, and other wastes from SSTs; determine technology limitations, retrieval efficiencies, safety and environmental concerns, and cost impacts for SST retrieval systems; and evaluate alternative retrieval technologies and leak detection methods for SSTs.

Vadose Zone Characterization & Corrective Measures

The Contractor shall perform Tank Farm vadose zone sampling, characterization, and corrective measures (in coordination with the PRC) to integrate these activities and drive efficiencies in the Hanford Site groundwater program. The TOC shall provide support to the lead contractor (PRC) for the groundwater/vadose zone program.

C.2.8 CLIN #8 - Contract Closeout

C.2.8.1 Sub-CLIN 8.1: Contract Closeout

Contractor is to perform and complete all activities required to accomplish Contract closeout, including actions necessary for resolution of the issues identified FAR 4.804-5, in accordance with its standard or approved policies and practices. This will require the Contractor to perform, as reimbursable allowable costs, activities after the physical period of performance is complete, subject to availability of funds. Work activities anticipated to occur after expiration of the physical period of performance include, but are not limited to: disposition of classified material (if any); completion of property transfers; settlement of all unallowable cost issues; novation when applicable, settlement and closeout of all subcontract issues; resolution of all financial issues; preparation and submittal of all final reports; resolution of all outstanding audits; settlement of unresolved requests for equitable adjustments, contract change proposals and claims (if any); resolution of outstanding litigation; disposition of records; final settlement of fee; etc. The Contractor shall perform closeout activities subject to the clause entitled, Limitation of Funds.

WRPS will submit a Contract Closeout Plan no later than May 30, 2018 which will also identify estimated cost and duration for close-out activities post September 30, 2018 for DOE review and approval.

C.3 DESCRIPTION OF PROJECT SUPPORT PERFORMANCE REQUIREMENTS

The following Sections define the programs that must exist to safely and effectively perform the cleanup mission in the Hanford Tank Farms and related facilities. Beginning with Project Management and progressing through Integrated Safety Management, Environmental, Safety, Health and Quality (ESH&Q), Security and Emergency Services, Interactions, and Interface Management, these programs shall be conducted in an integrated manner that protects the workers, public, and environment while enabling efficient cleanup.

C.3.1 Project Management

The Contractor shall provide all management and technical information to:

- Meet the requirements of DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*;
- Support the budget formulation activities including but not limited to emerging work items list; budget formulation input (including Integrated Priority List); fall limited budget update submission; budget scenario development; and budget presentations (such as public and regulatory briefings, etc.);
- Meet the data requirements of the DOE Integrated Planning; Accountability and Budgeting System;
- Ensure transparency in project performance and efficiency in project execution;
- Support audits, evaluations, and external technical reviews; and
- Support other DOE-ORP performance assessments and information needs.

The Contractor shall ensure that all project management information developed under this Contract is accessible to DOE-ORP electronically.

C.3.1.1 Project Integration and Control and Earned Value Management

The Contractor shall prepare and submit for DOE-ORP approval a *Project Execution Plan* (PEP) (Deliverable C.3.1.1-1)consistent with the PEP requirements in DOE O 413.3B. The PEP shall describe the approach for managing and controlling all activities necessary to execute this Contract and shall focus on Contractor policies, methods, and approach to project integration of scope, schedule and cost information.

The Contractor shall provide, as an attachment to the PEP, a *Project Control System Description* that complies with the requirements of DOE O 413.3B, *,* and *American National Standards Institute (ANSI)/Electronic Industries Alliance (EIA)-748-A-1998 Earned Value Management Systems (EVMS)*.

The *Project Control System Description* shall describe the management processes and controls that shall be used to implement an EVMS, manage and control work, and complete Contract requirements. The *Project Control System Description* shall include:

- The baseline development process and the hierarchy of documents that shall be used to describe and maintain the *TOC Project Performance Measurement Baseline* (PMB) (See Section C.3.1.2.1, *Performance Measurement Baseline*);
- The process the Contractor intends to use for earned value management, change control, configuration control, interface control, and document control;
- The organizational breakdown structure, including roles and responsibilities of each major organization and identification of key management personnel; and
- A list of project software the Contractor proposes to use for project control.

The Contractor shall have the EVMS evaluated against the ANSI standard by a qualified, independent third party chosen by the DOE Office of Engineering and Construction Management (DOE-OECM). Upon successful completion of the evaluation, DOE-OECM will certify the Contractor's EVMS as compliant with the ANSI standard. Subsequent to the initial evaluation and certification, DOE-OECM may at any time require the Contractor to repeat the evaluation and certification process. The Contractor shall provide all necessary support to conduct the initial and any subsequent evaluations and closure of all corrective actions.

The Contractor shall flow down the EVMS requirements in accordance with the Section I Clause entitled, *FAR 52.234-4, Earned Value Management System*.

Upon DOE-ORP approval of the PEP, the Contractor shall fully implement the *Project Control System Description*. The Contractor shall obtain Contracting Officer approval prior to implementing materially significant changes to the PEP. The Contractor shall provide DOE-ORP with access to all pertinent records, data, and plans for purposes of initial approval, approval of proposed changes, and the ongoing operation of the project control system.

C.3.1.2 Project Scope, Schedule, and Cost Baseline

C.3.1.2.1 Performance Measurement Baseline

The Contractor shall develop and maintain a TOC Project Performance Measurement Baseline (PMB). The PMB is a life-cycle integrated and traceable technical scope, schedule, and cost baseline that encompass all activities to execute the requirements of this Contract, integrate the WTP scope and schedule, and complete the River Protection Project mission.

The PMB shall include the following:

- Technical Scope. The following baseline documents shall be viewed collectively as the technical scope for the PMB:
  - The Contract Section C, *Statement of Work;*
  - The *River Protection Project System Plan;*
  - Waste site and facility lists;
  - Approved Interface Control Documents (ICDs);
  - Work Breakdown Structure (WBS) dictionary sheets required to a WBS level to be determined post-award by DOE-ORP;
- Schedule at a WBS level to be determined post-award by DOE-ORP; and
- Time-phased life-cycle cost estimate.

The PMB shall comply with the following requirements:

- The scope, cost and schedule shall be linked through use of the WBS provided by DOE-ORP or as otherwise approved by DOE-ORP. The WBS shall encompass all activities required in this Contract and provide the basis for all project control system components, including estimating, scheduling, budgeting, and project performance reporting. Control accounts within the WBS shall be identified.
- The baseline and management thereof shall comply with; *ANSI/EIA-748-A-1998 Earned Value Management Systems (EVMS)*, DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets.*
- The PMB schedule shall:
  - Include all significant external interfaces, all TPA milestones, other regulatory and DNFSB commitments, and Government-Furnished Services and Information (GFS/I) dependencies.
  - Be an integrated, logical network-based plan that correlates to the WBS, is vertically traceable to the EVMS control accounts, and successfully aligns the Tank Farm Project schedule with the WTP schedule. The schedule shall be capable of summarizing from control accounts to higher WBS levels.
- A working level schedule(s) shall be developed for the execution year plus 6 additional months. The working level schedule(s) shall be integrated with the PMB and able to provide earned value reporting in compliance with *ANSI/EIA-748-A-1998 Earned Value Management Systems (EVMS).*
- The PMB cost estimate shall include project resource plans, detailed resource estimates, basis of estimates, budgetary requirements, and identification of direct costs, indirect costs, management reserve, and fee.
- The method used to determine earned value shall be identified for each control account.
- The PMB shall be accessible to DOE-ORP at any time through access to electronic files.

- The PMB shall integrate with the:
  - Financial systems(s);
  - Budget formulation;
  - Regulatory, DOE, and Congressional commitments; and,
  - Performance milestones including contract performance incentives and other performance measures established by DOE-ORP.

C.3.1.2.2 Performance Measurement Baseline Submittals

The Contractor shall develop and submit an initial *TOC Project Performance Measurement Baseline* (Deliverable C.3.1.2.2-1) to DOE-ORP for approval. The PMB submittal shall include both hard copies and electronic files for the:

- WBS and WBS dictionary sheets at the level in which the costs are collected and cross referenced to the corresponding Contract CLIN number;
- Time-phased cost estimate at a WBS level to be determined post-award by DOE-ORP;
- Basis of estimate at a WBS level to be determined post-award by DOE-ORP; and
- Time-phased resource-loaded schedule at a WBS level to be determined post-award by DOE-ORP.

The Contractor shall provide the WBS, WBS dictionary data, and the basis of estimate data in either Microsoft Word© or Microsoft Access© format. Cost data shall be provided in Microsoft Access© or Excel© format and the schedule shall be provided using the current version of Primavera Systems, Inc., Enterprise for Construction© software unless agreed to otherwise by DOE-ORP.

The Contractor shall provide additional data that may be required by the MSC for development of the Hanford Site-wide life-cycle baseline.

The Contractor shall support the DOE-ORP External Independent Review and Energy Systems Acquisition Advisory Board (ESAAB) review of the initial submittal of the PMB and follow-on reviews of required updates.

C.3.1.2.3 Performance Measurement Baseline Change Control Process

The PMB change process shall be sufficiently rigorous and disciplined to ensure that the PMB is accurate, up to date and capable of providing meaningful data and information.

The Contractor shall:

- Develop and submit for DOE-ORP approval, a *TOC Project Performance Measurement Baseline Change Control Process* document (Deliverable C.3.1.2.3-1), with change authorities consistent with the approved *Project Execution Plan* and DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*.
- Implement the *Project Baseline Change Control Process* with the PMB used as the reference for all baseline changes.

C.3.1.3 Project Performance Reporting

The Contractor shall provide DOE with the necessary project performance information to support budget planning, execution, and reporting; project planning and execution; audit and evaluation; and other DOE performance assessment and information needs.

C.3.1.3.1 Monthly Performance Report

The Contractor shall submit a *Monthly Performance Report* (Deliverable C.3.1.3-1) representing the prior month's performance and transmit it to DOE-ORP for review by the last Tuesday of each month.

The Monthly Performance Report shall be a written report that includes, but is not limited to, the following:

- Project manager narrative assessment.
- Significant accomplishments and progress towards completion of project goals and objectives.
- Major issues including actions required by the Contractor and DOE-ORP;
- Analysis of funds expenditure, with projections for the Project by fiscal year and life of the Contract.
- Evaluation of safety performance (including ISMS metrics and all recordable injuries, lost-time injuries, and near-misses).
- Business structure information to demonstrate ongoing compliance with the requirements of the Section H clause entitled, *Self Performed Work*.
- Project Baseline Performance including:
  - Earned value management system information using the following OMB Contract Performance Report formats (DID-MGMT-81466):
    - Format 1, DD Form 2734/1, Mar 05, *Work Breakdown Structure*;
    - Format 2, DD Form 2734/2, Mar 05, *Organizational Categories*;
    - Format 3, DD Form 2734/3, Mar 05, *Baseline;*
    - Format 4, DD Form 2734/4, Mar 05, *Staffing;* and
    - Format 5, DD Form 2734/5, Mar 05, *Explanations and Problem Analysis*.
  - Statused baseline schedule, which reflects progress against the baseline and includes critical path analysis, performance trends, variance discussion(s), and potential issues related to TPA or DNFSB milestones.
  - Contract estimates-to-complete.
  - A change control section that summarizes the scope, technical, cost, and/or schedule impacts resulting from any implemented actions; and that discusses any known or pending baseline changes and use of management reserve.
- Project Risk Assessment including identification of critical risks, actions planned, and actions taken to address those risks, potential problems, impacts, and alternative courses of action, including quality issues, staffing issues, assessment of the effectiveness of actions taken previously for significant issues, or the monitoring results of recovery plan implementation. The Project Risk Assessment shall also identify the engineering and technology to reduce the risk and uncertainty with the project.

- Actions required by DOE-ORP including GFS/I and DOE-ORP decisions.

C.3.1.3.2 Project Review Meetings

The Contractor shall participate in a monthly contract/project review with DOE-ORP and be prepared to address any of the information in the monthly report, as well as other information requested by DOE-ORP. A weekly contract or project status meeting shall be conducted at DOE request to provide interim updates and address issues.

C.3.1.4 Risk Management

The Contractor shall implement a risk management process in compliance with the PEP, DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*.

Risk and decision management activities shall be coordinated on a continuing basis with DOE-ORP (as lead), the WTP contractor, and the other Hanford Site contractors. Contractor risk analysis information pertaining to "cross-cutting" decisions shall be communicated to DOE-ORP, the WTP contractor, and other Hanford Site contractors, including agreement as to who should be the lead for managing each risk.

The Contractor shall provide a *Risk Management Plan* (Deliverable C.3.1.4-1) to DOE-ORP for approval. In the *Risk Management Plan,* the Contractor shall identify the management reserve required to adequately address contractor-controlled risks.

C.3.1.5 Design, Procurement, Construction, and Acceptance Testing

This Section applies to all capital asset construction activities performed as part of executing this Contract. In the context of this Section, the terms "acceptance testing" and "acceptance" refer to the Contractor's testing and acceptance of Tank Farm-related systems and equipment. The Contractor shall provide the necessary documents to support the critical decision process in DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*.

C.3.1.5.1 Project Design

- Design Authority: The Contractor shall act as the design authority unless otherwise determined in accordance with DOE O 413.3B, with duties to include developing design solutions, preparing all design media and documentation, maintaining the design basis, and performing design reviews.
- Design Standards: The Contractor shall submit for DOE-ORP approval a list of the standards to be used in the design of facilities and equipment. The Contractor shall ensure that the project's design meets all applicable standards, and that the list of applicable standards is maintained under configuration control. The Contractor shall integrate safety into the design process.
- Design Reviews: The Contractor shall conduct periodic design, constructability, and operability reviews. When directed by DOE-ORP, the Contractor shall facilitate independent DOE design reviews in support of the requirements of DOE O 413.3B, to demonstrate that the project will perform its intended functions and meets requirements. The Contractor shall provide the design at the end of the three (3) design stages (conceptual, preliminary and final), or as otherwise directed by DOE, for DOE review.

The Contractor shall resolve any comments resulting from these reviews with DOE-ORP.

- Release for Construction: Upon receipt of Critical Decision 3, *Approve Start of Construction*, and resolution of DOE comments, DOE-ORP will authorize the Contractor to release the design for construction.

C.3.1.5.2 Procurement, Construction, and Acceptance

The Contractor shall prepare and submit a *Procurement, Construction, and Acceptance Testing Plan* (Deliverable C.3.1.5.2-1) for DOE-ORP approval and update the Plan as required after initial submission. The Plan shall include:

- Description of procurements, construction bids, and work packages;
- Construction management;
- Construction site management;
- Acceptance testing; and
- Descriptive linkage to the *Project Execution Plan* and the *Integrated Safety Management System Description*.

The Contractor shall procure all required material and equipment through the preparation of bid packages and solicitations; evaluating, awarding, and managing subcontracts; accepting subcontractor materials and equipment; and verifying subcontractor acceptance tests.

The Contractor shall submit a *Purchasing System* (Deliverable C.3.1.5.2-2) for DOE-ORP approval in accordance with the Section I Clause entitled, *Subcontracts*.

The Contractor shall certify to DOE-ORP that construction has been initiated.

The Contractor shall maintain a construction inspection system and acceptance testing system, perform inspections and testing, and ensure that the work performed under the Contract conforms to Contract requirements. The Contractor shall maintain complete inspection and testing records and make them available to DOE-ORP. DOE-ORP may elect to use independent acceptance inspectors to participate in acceptance testing and system turnover. The Contractor shall develop and submit an integrated *Construction and Acceptance Testing Program* (Deliverable C.3.1.5.2-3) to DOE-ORP for approval that includes the following elements:

- Verification and approval of all vendor's shop drawings to assure conformity with the approved design and working drawings and specifications;
- Acceptance test plans and procedures for on-site Contractor/subcontractor inspection of construction workmanship, compliance with design drawings and specifications, management of the design construction changes, and criteria for acceptance of fabricated and constructed items;
- Integrated construction acceptance test plans and inspection of construction to assure adherence to approved working drawings and specifications.

The Contractor shall prepare for DOE-ORP review an *As-built Program Description* (Deliverable C.3.1.5.2-4). The as-built process and associated procedures shall identify:

- Description of the as-built process, including the role of DOE-ORP and the operations contractor. The operations contractor shall participate in acceptance of the as-built design, following construction, and commissioning.
- Drawing series to be as-built.
- Document control process for maintaining as-built.
- Procedures for modification of the as-built.

During the construction and acceptance phase, the Contractor shall remain current on the process and facility as-built program. The Contractor shall report the status of the as-built program in accordance with the process defined in the *Procurement, Construction, and Acceptance Testing Plan*.

The Contractor shall provide all necessary labor, equipment, materials, test equipment, spare parts sufficient to maintain all structure, systems, and components in an operable condition, and other related resources for the acceptance testing program.

DOE-ORP, and other Hanford Site contractor staff identified by DOE-ORP, shall be invited to participate in all construction project overview activities. Construction overview activities include any meeting that discusses significant issues associated with the establishment, development, and/or progress of the construction activities.

The Contractor shall certify to DOE-ORP that facility acceptance has been completed. Completion of facility acceptance is defined when all components and systems associated with the facility have been installed, functionally tested and the facility design as-built documents are complete in accordance with the *Procurement, Construction, and Acceptance Testing Plan*. Facility acceptance shall require acceptance of components and systems, including as-built design drawings.

The Contractor shall provide CD-4 documentation in accordance with DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets* and DOE Office of Environmental Management guidance.

C.3.2 Integrated Safety Management System

The Contractor shall establish and maintain a single, project-wide Integrated Safety Management System (ISMS) in accordance with the requirements of the Section I Clause entitled, *Integration of Environmental, Safety and Health into Work Planning and Execution*, Section I Clause entitled, *Laws, Regulations, and DOE Directives*; and the Section B Clause entitled *Conditional Payment of Fee, Profit and Other Incentives*.

The ISMS Description shall describe how ESH&Q is integrated into the contractor's work planning and execution process; clearly communicate the roles, responsibilities, and authorities of line managers; hold line managers accountable for the performance of work in a manner ensuring protection of workers, the public, and the environment; and ensure quality work and products.

The Contractor shall develop and submit for DOE-ORP approval an *Integrated Safety Management System Description* (Deliverable C.3.2-1), for ISM Phase I and Phase II Verification to be performed at a later date. The Contractor shall update the ISMS Description and obtain DOE-ORP approval annually or as required to reflect changing conditions and contractor responsibilities. The ISMS Description shall include an integrated Environmental Management System (EMS) developed pursuant to the DOE O 436.1, *Departmental Sustainability.* The Contractor shall provide this EMS to the MSC.

In accordance with the DOE M 450.4-1, *Integrated Safety Management System Manual*, the Contractor shall develop and submit an *Authorization Agreement* (AA) (Deliverable C.3.2-2) to DOE-ORP for approval. The AAs are the mechanism whereby DOE-ORP and the Contractor jointly clarify and agree to the key conditions for conducting work safely, effectively, and efficiently for Hazard Category 2 and 3 nuclear facilities. The Contractor shall update the AA and obtain DOE-ORP approval annually or as required to reflect changing conditions and contractor responsibilities.

The Contractor shall flow the applicable ISMS/ESH&Q requirements down to all levels of self-performed work and all tiers of subcontracted work performance, and promptly identify and correct areas of non-compliance and performance concerns on self-performed and subcontracted levels of work performance.

The Contractor shall pursue continuous improvement through the establishment, tracking, and annual updating of *ISMS/ESH&Q Performance Objectives, Measures, and Commitments* (Deliverable 3.2-3).

C.3.2.1 Environmental Regulatory Management

The Contractor shall establish an environmental program which is compliant with applicable laws, regulations, DOE directives (including DOE O 436.1, *Departmental Sustainability),* and the Section H Clause entitled, *Environmental Responsibility*.

The Contractor shall provide MSC with the necessary support for MSC to:

- Develop an inclusive Site-wide Environmental Management System (EMS) Program Management Plan that complies with DOE O 436.1;
- Perform Site-wide environmental permits/licenses responsibilities, including maintenance, application and reporting;
- Track, trend, and evaluate all Site-wide enforcement actions, compliance issues, and regulatory inspections conducted and planned at the Hanford Site;
- Provide site-wide Tri-Party Agreement (TPA) Technical Support to DOE; and
- Establish, manage, and maintain integrated Hanford Site Administrative Records and Public Information Repository.

The Contractor shall manage its facilities, waste management units, and operable units to assure compliance with environmental requirements and agreements. The Contractor shall integrate their environmental permitting and regulatory compliance activities with the Hanford Site-wide permitting and compliance framework maintained by the MSC, including but not limited to the *Hanford Air Operating Permit* and the *Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit* (WA7890008967).

The Contractor shall interface with the MSC and other designated contractors in providing legally and regulatory required air and liquid effluent and near facility environmental monitoring data. The Contractor shall collect, compile, and/or integrate air and liquid effluent monitoring data from operations and activities under their control. The Contractor shall compare the monitoring data with regulatory and/or permit standards applicable to their activities and/or operations and provide the data and analyses to the MSC or other designated contractors for use in preparing the mandatory state and Federal environmental reports for the Hanford Site, including the *Hanford Site Environmental Report*.

The Contractor shall integrate NEPA and RCRA required activities into the CERCLA process for the Central Plateau wherever appropriate. The Contractor shall prepare the technical information required for any additional NEPA analyses and/or documentation that may be required.

The Contractor shall provide all necessary support to DOE-ORP in executing its owner role with regulators and stakeholders in the preparation, submission, and approval of regulatory and supporting documentation required to complete the work under this Contract.

The Contractor is assigned lead responsibility for coordination with the regulators to develop an optimum regulatory approach for all work under this Contract. As part of this responsibility, the Contractor is encouraged to propose changes to the regulatory approach, including changes to current regulatory end-points to establish risk-based end-states that maintain protection of human health and the environment; and innovations to regulatory strategies and processes that improve total performance. The Contractor shall consult with DOE-ORP as an owner in advance of any proposed change to the regulatory approach.

C.3.2.2 Nuclear Safety

The Contractor shall adopt existing DOE-ORP-approved nuclear safety basis (e.g., Documented Safety Analysis (DSA) and Technical Safety Requirements (TSR)) documentation for the assigned Hazard Category 2 and 3 nuclear facilities

The Contractor shall maintain, implement and improve the nuclear safety basis documents and comply with the TSR for its assigned Hazard Category 2 and 3 facilities in accordance with 10 CFR 830, Subpart B, *Safety Basis Requirements*.

For new Hazard Category 1, 2 and 3 nuclear facilities or major modifications to nuclear facilities, the Contractor shall develop safety basis documents up to and including a Preliminary Documented Safety Analysis (PDSA) to support construction and a DSA and TSRs to support operations that incorporate the expectations identified in DOE Guide 421.2A, *Implementation Guide For Use in Developing Documented Safety Analyses To Meet Subpart B Of 10 CFR 830*, and DOE Guide 423.1-1, *Implementation Guide For Use In Developing Technical Safety Requirements*. The Contractor shall integrate nuclear safety into the design process.

As required by 10 CFR 830.203, *Unreviewed Safety Question Process*, the Contractor shall submit an *Unreviewed Safety Question Process* procedure (Deliverable C.3.2.2-2) that incorporates the expectations identified in DOE G 424.1-1A, *Implementation Guide for Use in Addressing Unreviewed Safety Question Requirements*, to DOE-ORP for approval.

The Contractor shall ensure that the safety-related structures, systems, and components relied upon to meet the requirements of the nuclear safety basis documents are identified and

maintained with appropriate to their classification sufficient reliability to enable timely performance of mission work in the assigned facilities.

The Contractor shall instill a Nuclear Safety Culture at all levels of the workforce in accordance with applicable Institute of Nuclear Operations (INPO) standards.

C.3.2.3 Worker Safety and Health

The Contractor shall implement a worker safety and health program that reduces or prevents occupational injuries, illnesses, and accidental losses by providing workers with a safe and healthy workplace. This program shall implement a structured, standards-based approach to planning and control of work including identification and implementation of worker safety and health standards and requirements that are appropriate for the work to be performed and for identifying and controlling related hazards, while facilitating the effective and efficient delivery of work. The program shall meet the requirements of 10 CFR 851, *Worker Safety and Health Program*.

The Contractor shall develop and submit for DOE-ORP approval a 10 CFR 851-compliant *Worker Safety and Health Program* (Deliverable C.3.2.3-1). The Contractor shall update the Program and obtain DOE-ORP approval, as required, to reflect changing conditions and contractor responsibilities. The Worker Safety and Health Program shall address the Worker Safety and Health Functional Areas described in Appendix A to 10 CFR Part 851.

The Contractor shall promote a “Safety Conscious Work Environment” and “Human Performance Improvement” environment in which safety issues are promptly identified and effectively resolved, and in which employees are free to raise safety issues free of recrimination, harassment, intimidation, or other actions that induce peer pressure to not raise safety issues or otherwise create an environment where safety issues are not identified and resolved.

The Contractor shall document and implement a Radiation Protection Program as required by 10 CFR Part 835.101, *Radiation Protection Programs*. The Contractor shall develop and submit for DOE-ORP approval a *Radiation Protection Program* (Deliverable C.3.2.3-2). The Contractor shall obtain DOE-ORP approval for updates to the Program, as required.

The Contractor shall develop and implement a *Chronic Beryllium Disease Prevention Program* in accordance with 10 CFR Part 850, *Chronic Beryllium Disease Prevention Program.* The Contractor shall submit the *Chronic Beryllium Disease Prevention Program* (Deliverable C.3.2.3-3) for DOE-ORP approval and obtain DOE-ORP approval for updates to the program, as required.

The Contractor shall empower workers through active pursuit of employee involvement in work planning and control, and through implementation of the tenets of the DOE Voluntary Protection Program (VPP). The Contractor shall support and facilitate transition and maintenance of this achievement by the workforce until such time as the Contractor can apply for recognition as a new entity.

C.3.2.4 Quality

The Contractor shall develop, submit for DOE-ORP approval, and implement a *Quality Assurance Program Description* (Deliverable C.3.2.4-1) that describes the overall implementation of DOE quality assurance (QA) requirements. The QAP shall be applied to all (not just ES&H) work performed by the Contractor. The Contractor shall obtain DOE-ORP approval for *Quality Assurance Program Description* updates as required.

The *Quality Assurance Program Description* shall implement the requirements of:

- 10 CFR 830 Nuclear Safety Management, Subpart A, *Quality Assurance Requirements*;
- DOE O 414.1D, *Quality Assurance*;
- DOE/CBFO-94-1012, *DOE Carlsbad Field Office, Quality Assurance Program Description*, Revision 8, for WIPP-related activities;
- DOE/RW-0333P, *DOE Office of Civilian Radioactive Waste Management, Quality Assurance Requirements and Description*, Revision 18, for activities related to disposal at Yucca Mountain; and
- ASME NQA-1-2004 (or latest edition and addenda), *Quality Assurance Requirements for Nuclear Facility Applications*, as the national consensus standard for TOC workscope implementing QA Criteria of 10 CFR 830 Subpart A and O 414.1D. The Contractor shall implement Parts I and II of the NQA-1 standard and indicate within the QA Program those portions of NQA-1 Parts III and IV that are applied to Contractor's workscope. If additional standards are required to address unique/specific work activities, the standards shall be identified within the Contractor's QA Program.

  The Contractor shall develop, submit for DOE-ORP approval, and implement an *Assurance System Description* (Deliverable C.3.2.4-2) that includes assignment of management responsibilities and accountabilities and provides evidence to assure both the Department of Energy (DOE) and the contractor management that work is being performed safely, securely, and in compliance with all requirements; risks are being identified and managed; and that the systems of control are effective and efficient. The Contractor shall update and re-submit the *Assurance System Description* to DOE-ORP for approval when significant assurance system changes are made.

The Contractor shall use a "zero-threshold" issue reporting system to capture, in one system, the issues raised across all Contractor organizations and working levels.

C.3.2.5 Event Reporting and Investigation

The Contractor shall report all environmental, safety, and health events and information as required in DOE M 231.1-1A, Chg. 2, *Environment, Safety, and Health Reporting*; DOE O 450.1, *Environmental Protection Program*; and DOE O 458.1, Chg 2, *Radiation Protection of the Public and the Environment*. The Contractor shall flow down the applicable reporting requirements to all levels of self-performed work and all tiers of subcontracted work performance. The Contractor shall consolidate all information and serve as a single point of reporting to DOE for all environmental, safety, and health events and information associated with the Contractor's workscope.

The Contractor shall support all Type A and Type B accident investigations for accidents on all self-performed and subcontracted levels of work performance, as required in DOE O 225.1B,

Accident Investigations. The Contractor shall establish and maintain readiness to respond to an accident; respond to all accidents; mitigate potential accident consequences; assist in preserving, collecting, and processing information and evidence from the scene of the accident; and provide all necessary support required to investigate the accident and support an accident investigation board.

The Contractor shall develop and maintain an effective Lessons Learned Program to capture lessons learned from both internally and externally identified deficiencies and good practices. The Lessons Learned Program shall be rigorous and comprehensive such that the Contractor can demonstrate actions taken to address significant occurrences from both inside and outside of the DOE complex. Lessons learned information should be targeted and made available to the personnel in the Contractor's organization actually conducting the type of work involved and most able to benefit from the information.

C.3.3 Security and Emergency Services

C.3.3.1 Safeguards and Security

C.3.3.1.1 Safeguards and Security Program Management

The Contractor shall coordinate and interface with the MSC and its subcontractors who provide safeguards and security (SAS) services (e.g., Hanford Site access control, security police officers, vulnerability analysis).

The Contractor shall perform the following SAS program management functions:

SAS Program Planning, Oversight, and Administration

The Contractor shall identify and coordinate their SAS operational planning activities with MSC operational planning activities on a Hanford Site-wide basis.

The Contractor shall provide SAS technical, cost, and schedule performance information to the MSC.

Security Conditions (SECON)

The Contractor shall conform to and comply with the DOE SECON system. The Contractor shall comply with any protective measure requirements that may be implemented in the event of a crisis or emergency, and/or in response to a malevolent or terrorist threat to any or all DOE facilities, assets, and personnel.

Site Safeguards and Security Plan and Other SAS Plans

The Contractor shall provide information to the MSC in support of maintaining the Hanford *Site Safeguards and Security Plan* and other SAS plans.

Vulnerability Assessments

The Contractor shall provide the necessary operational and technical expertise in support of the preparation of vulnerability assessments, security analyses, and special SAS studies and evaluations as identified by the MSC for the Hanford Site.

Design Basis Threat (DBT)

The Contractor shall implement SAS actions, procedures, and/or processes as assigned by DOE that are necessary to comply with DOE DBT requirements. Overall DBT implementation actions and/or plans shall be consolidated and prepared by the MSC and approved by the DOE.

Performance Assurance

The Contractor shall provide information to the MSC to support preparation of the Hanford Site-wide Performance Assurance Program Plan as part of the *Site Safeguards and Security Plan*.

Surveys, Reviews, and Assessments

The Contractor shall provide operational and technical expertise, when requested, to support SAS surveys, reviews, assessments and/or SAS performance tests (e.g., force-on-force exercises) that are conducted by the MSC and/or DOE for SAS program elements. The Contractor shall identify, implement, and close corrective actions for TOC deficiencies in accordance with the SAS corrective action management programs.

Facility Clearance and Registration

The Contractor shall submit all required information to the MSC for facility clearance and registration actions.

SAS Training

The Contractor shall identify SAS training needs for TOC staff and shall arrange, fund, and schedule training in accordance with applicable requirements.

SAS Awareness

The Contractor shall comply with the requirements of the Hanford Security Awareness Program.

The Contractor shall maintain awareness of Hanford Site wide security issues/topics and incorporate them into the Contractor's internal practices and procedures, as appropriate.

The Contractor shall implement supplementary SAS awareness activities and/or briefings (e.g., at staff and safety meetings) in coordination with Site-wide policies.

Classified Visits

The Contractor shall submit required information to the MSC for Classified visits. The Contractor's Classified Visits Program or process shall ensure that only persons with the appropriate access authorizations and need-to-know receive access to classified information or matter in connection with visits involving the release or exchange of classified information or matter.

Deviations

The Contractor shall identify, evaluate, and submit deviations to SAS requirements to DOE.

The Contractor shall coordinate with the MSC prior to submitting deviations to DOE. Deviation requests shall be applicable and unique to the project/program scopes of work, and submitted only when other means to meet requirements would not meet DOE's SAS program objectives.

Incidents of Security Concern

The Contractor shall develop and implement procedures and processes consistent with DOE requirements for addressing incidents of security concern.

The Contractor shall provide information and facility access to the MSC for investigation of security incidents. The Contractor shall develop and implement corrective actions. The Contractor shall provide information to MSC to support the administration of the Hanford Site Security Infraction Program.

C.3.3.1.2 Physical Security

The Contractor shall comply with the MSC security plans and DOE security plans/requirements.

The Contractor shall support the MSC in the development or updating of facility asset protection agreements for TOC facilities and shall conduct operations consistent with the agreements.

The Contractor shall submit, through MSC for DOE review and approval, any SAS arrangements or changes prior to operations commencing, or changing operations, or configurations that might alter the performance of existing SAS systems (e.g., limited/protected area boundaries, physical security configurations and associated hardware [sensors/cameras], patrol coverage and responses, safeguards methods or boundaries, entry/access control systems/procedures).

C.3.3.1.3 Protective Forces

The protective forces function is comprised of select security elements (armed personnel, specialized equipment, tactical procedures, etc.) associated with physically protecting people and property on the Hanford Site. The MSC is responsible for all protective forces activities; however, there are many areas of facility operations management that interweave. The MSC Protective Forces function serves DOE, all Hanford Site contractors, and in particular facilities possessing critical safeguards and security interests (e.g., special nuclear material (SNM)).

The Contractor shall support and integrate operational/business activities in conjunction with MSC Protective Forces in use at Hanford for the physical protection of SNM, classified materials, industrial assets, and mitigation and deterrence of radiological and toxicological sabotage events.

The Contractor shall manage their activities consistent with DOE-RL and DOE-ORP approved risk and vulnerability assessments, the *Site Safeguards and Security Plan,* and other security plans and facility asset protection requirements coordinated by the MSC that involve the use of Protective Forces.

C.3.3.1.4 Information Security

The Information Security program encompasses the identification and protection of sensitive and classified information and matter. The Information Security scope shall include, but is not

limited to: Classification, Classified Matter Protection and Control, Sensitive Information Management (e.g., OUO), and Operations Security (OPSEC)

The Contractor shall perform the following information security functions:

Operations Security

The Contractor shall:

- Participate in and support Hanford Site-wide OPSEC Working and Awareness groups and perform the necessary management and support functions required for an effective OPSEC program.
- Provide support to the MSC OPSEC assessments of all Hanford Site facilities having Category I SNM and OPSEC reviews of all Hanford Site facilities that have the potential to process or store classified or sensitive information.
- Support the annual Site OPSEC threat assessment and preparation of the annual OPSEC plan.

Classified Matter Protection and Control

The Contractor shall:

- Develop and maintain a system of procedures, facilities, and equipment to identify, protect, and control classified matter that is being generated, received, transmitted, used, stored, reproduced, or destroyed in accordance with DOE directives.
- Be responsible for asset protection reviews for facilities that contain classified matter and, in conjunction with the MSC, maintain an updated list of security containers, locations, and custodians.
- Continuously reduce unneeded classified matter; and report and support investigation of any and all potential or actual compromise of classified information.

Classification and Unclassified Controlled Nuclear Information (UCNI) Program

The Contractor shall:

- Nominate a sufficient number of Derivative Classifiers and Reviewing Officials to be trained and approved by the MSC.
- Have appropriate classification and/or UCNI topical guidance available to organizations that are potential generators of classified and/or UCNI information.
- Provide for receipt and storage of classified documents from the MSC Classified Document Control Center.
- Interface with the MSC and other on-site contractor management, as necessary, to inform employees of subject areas of a sensitive and/or potentially classified nature.
- Be subject to the direction of the MSC Classification Officer.

Official Use Only (OUO)

The Contractor shall manage and implement an OUO information program consistent with the common Hanford Site-wide OUO information program policies including the following:

- Provide OUO education and awareness for all staff, and
- Review TOC documents released to the public or assigned a formal document number for OUO content.

Critical Infrastructure
The Contractor shall maintain TOC information systems that are critical to the Hanford Site mission and shall protect these systems from internal and external threats in conjunction with the MSC SAS program.

C.3.3.1.5 Personnel Security

The MSC manages and conducts a centralized Personnel Security program for the Hanford Site on behalf of DOE.

The Contractor shall perform the following personnel security functions:

Access Authorization (Clearance) Processing

The Contractor shall:

- Request and obtain personnel security clearances and badges, including "Special Access" (e.g., SIGMA) from the MSC. The Contractor shall support the MSC in downgrading and terminating clearances, as required.
- Support the MSC's processes for obtaining security badges, keys, proximity cards, etc., from terminating employees and support the MSC in removing such individuals from automated access control systems.
- Provide MSC pre-employment/pre-clearance suitability investigations information to the MSC for TOC prospective and current employees.

Workplace Substance Abuse Programs

The Contractor shall comply with requirements outlined in 10 CFR 707, *Workplace Substance Abuse Programs (WSAP) at DOE Sites*.

Unclassified Foreign National Visits and Assignment (FNVA)

The Contractor shall:

- Notify the MSC of potential foreign visitors or employees, prepare and submit security plans to the MSC for foreign national visitors to the Hanford Site before approval of the visit/assignment.
- Require FNVA training for Contractor personnel who host FNVAs.
- Conduct FNVA in compliance with approved security plans.

Foreign Travel

The Contractor shall administer Official Foreign Travel in accordance with DOE O 551.1D, *Official Foreign Travel,* including submittal of projections of potential foreign travel, and all official foreign travel requests packages to DOE-ORP for review and subsequent submittal to DOE-HQ for approval in accordance with established timeframes, prior to any official foreign travel.

C.3.3.1.6 Deleted in Modification 274

C.3.3.1.7 Cyber Security

Unclassified computing at Hanford is conducted on the Hanford Local Area Network (HLAN). The HLAN is the central electronic communications network that provides computing infrastructure to DOE and the majority of the prime contractors and their subcontractors. The MSC manages and conducts a centralized cyber security program for the Hanford Site on behalf of DOE.

Classified computing at the Hanford Site is conducted on individual systems and isolated networks that are not inter-connected nor connected to the Internet.

The Contractor shall manage and execute cyber security responsibilities consistent with DOE requirements and the MSC centralized cyber security program to provide for confidentiality, integrity, and availability of cyber security components and information such that there is no degradation of performance, disruption or compromise of the cyber security system, including impacts to the users.

The Contractor shall coordinate and interface with the MSC regarding activities involving unclassified and classified information processing and use consistent with the *Office of the Under Secretary of Energy Program Cyber Security Plan* (PCSP), *EM Program Security Plan* (PSP), and DOE-approved *Hanford System Security Plan(s)* (SSP).

Classified Cyber Security

The Contractor shall:

- Identify all computers used by the Contractor, or any tier subcontractor, that process classified information.
- Ensure all computers used for classified processing are certified and accredited and properly de-commissioned when no longer required.
- Develop and maintain specific administrative procedures and hardware/software security measures to:
    - Ensure that all classified computers used to process classified information can protect that information against loss, improper use, compromise, or unauthorized alteration or modification of classified information as required by DOE directive.
    - Comply with the *Hanford Master Classified Information Systems Security Plan*.
    - Train users of classified computer systems on cyber security requirements.
    - Support the DOE-RL Information Systems Security Operations Manager (ISOM) and/or MSC, as required, to facilitate resolution of classified computer systems security issues and associated incident reporting.

Unclassified Cyber Security

The Contractor shall:

- Ensure that all systems used for unclassified processing are certified and accredited.
- Report all cyber security incidents as required by DOE directive.
- Develop and maintain specific administrative procedures and hardware/software security measures to:
  - Ensure all computers used for processing sensitive unclassified information can protect that information against loss, improper use, compromise, or unauthorized alteration or modification of information as required by DOE directive.
  - Ensure all users are provided information security awareness training.

Telecommunications

The Contractor shall comply with Hanford Site procedures and policies regarding activities involving Communications Security (COMSEC), protected distribution systems, and TEMPEST/Transmission Security programs of Telecommunications Security.

C.3.3.2 Emergency Services

C.3.3.2.1 Fire Services

As an independent contractor, the MSC manages and conducts the Fire Services for the Hanford Site. This includes wild land fire, structural fire, and ambulance emergency response. Also included, are activities, such as, hazardous material and chemical/biological/ radiological emergency response, pre-fire planning, site-wide respiratory protection services, and the testing and maintenance of life safety fire protection systems in designated facilities.

The Contractor shall support facility access to the MSC fire services personnel, and notify the Fire Department of work activities, events, and incidents that may require Fire Services involvement and/or response (e.g., medical assistance, hazardous or radiological emergency help, etc.).

C.3.3.2.2 Emergency Operations

Emergency Management Program

The MSC establishes and maintains a centralized Emergency Operations Program and the Hanford Site-wide Emergency Preparedness (EP) Program for the Hanford Site on behalf of DOE-RL. The EP Program is responsible for the Hanford Emergency Operations Center (EOC), develops and maintains emergency plans and procedures, performs hazard surveys and assessments, reviews hazard assessments for all facilities at Hanford, and supports Hanford Site-wide EP training and drills.

The Contractor shall develop and maintain an Emergency Management Program as described in DOE/RL-94-02, Rev. 6, *Hanford Emergency Management Plan* for structures and waste sites under its control. The Contractor's Emergency Management Program shall be consistent with DOE requirements and the centralized EP Program. The Contractor's program shall establish processes and instructions for all Contractor EP activities. Because of the potential for the

Contractor to become the event contractor as defined in the *Hanford Emergency Management Plan*, the Contractor shall maintain a 24-hour per day, 7-days per week, capability to staff the required facility specific emergency response organization positions within 60 minutes of receipt of notification from the Occurrence Notification Center of a Hanford Site emergency.

Radiological Assistance Program (RAP)

The MSC manages the Region 8 Radiological Assistance Program (RAP) on behalf of DOE-RL. The Region 8 RAP is responsible for Alaska, Oregon, and Washington and other Regions, as directed by DOE-Headquarters. The RAP mission is to provide first-responder radiological assistance to protect the health and safety of the general public and the environment; assist DOE program elements, and other Federal, state, Tribal and local agencies in the detection, identification and analysis, and response to events involving the use of radiological/nuclear material. The RAP provides 24-hour a day radiological response capabilities. The RAP teams consist of DOE/DOE contractor personnel who perform radiological assistance duties as part of their normal employment or as part of the terms of the contract between their employer and DOE. The MSC will require augmentation of RAP response team personnel, equipment, and expertise as delineated in workscope arrangements with the Contractor and other Hanford Site contractors or off-site vendors.

The Contractor shall provide qualified personnel, technical expertise, equipment, and support to the DOE Region 8 RAP to ensure maintenance and staffing of emergency teams with the ability to respond under the direction of DOE National Nuclear Security Administration (NNSA) and the U.S. Department of Homeland Security.

The Contractor shall establish an agreement with the MSC detailing the specific services to be provided by the Contractor in support of the Region 8 RAP.

The Contractor shall:

- Provide personnel, trained and qualified as RAP Team Members, and additional supervisory or management members as directed, to support the MSC's RAP duties as delineated in its contract with DOE;
- Perform routine scheduled tasks to maintain equipment and RAP team readiness;
- Participate in meetings, working groups, drills, and exercises;
- Provide technical expertise to the RAP team as requested;
- Respond to declared emergencies as a RAP team member;
- Participate in no-notice activations; and
- Maintain fitness for duty, as requested.

C.3.4 Interactions

C.3.4.1 External Affairs

External Affairs includes information and involvement programs to reach diverse external parties interested in Hanford (e.g. Tribal Nations, stakeholders, news media, elected officials and their staffs, local community officials and the public) with the status, challenges and objectives of the cleanup work. For all external constituencies, the Contractor shall anticipate specific areas of concern, interest, or controversy, and employ appropriate communication strategies that inform and involve.

The Contractor shall submit an *External Affairs Program Description* for DOE-ORP approval (Deliverable C.3.4.1-1) that provides a comprehensive description of the External Affairs Program, staffing, products and services, with an emphasis on innovative approaches to communications.

DOE-ORP retains the primary role in directing the timing, substance and form of public information and must approve all products and outreach.

For activities within the Contract scope, the Contractor shall:

- Maintain effective interactions with local, regional, national and international news media. Provide information and/or resources as requested in support of DOE-ORP media interactions.
- Work with DOE-ORP to inform and involve the Tribal Nations as part of cleanup decision making processes, in accordance with the DOE American Indian and Alaska Native Tribal Government Policy and implementation guidance. Support and coordinate with DOE-ORP on the ongoing technical staff interactions to ensure that affected Tribes can be involved early and often in proposed plans and activities.
- Inform and involve the public, citizens advisory boards, and other interested parties in proposed plans and activities. Provide strategy and resources for required public comment and outreach processes related to upcoming decision making (e.g., NEPA and CERCLA).
- Reach out to the communities affected by Hanford to provide information, answer questions, and gain feedback.
- Participate in tour planning and preparation, and make facilities and personnel available as requested by DOE-ORP. Visits to the project sites shall be part of ongoing communication and outreach activities.
- Provide MSC with current information related to the Contract scope to maintain the external Hanford website.
- Participate in meetings and briefings to update interested external parties on Contract activities when requested by DOE-ORP.
- Provide ongoing support to DOE-ORP in the preparation of communication materials, such as presentations, fact sheets, specialized graphics and charts, large posters, and up-to-date photography.
- Maintain a 24-hour per day, 7-days per week, capability to staff the communication functions/positions of the Hanford Emergency Operations Center within 60 minutes of receipt of notification from the Occurrence Notification Center of a Hanford Site

emergency.

C.3.4.2 External Review and Support

External Review and Support to DOE-ORP involves providing support during audits and assessments by entities having oversight responsibility for DOE-ORP and its contractors. These entities include:

- Defense Nuclear Facilities Safety Board (DNFSB);
- Government Accountability Office (GAO);
- DOE Office of Inspector General (OIG); and
- Other governmental and DOE oversight organizations.

The Contractor shall support DOE-ORP and the MSC in hosting staff from auditing and assessing organizations, providing required presentations, responding to information requests, and by providing required subject matter experts to respond to questions and information requests.

The Contractor shall:

- Support DNFSB oversight activities by:
  - Conducting activities in accordance with DOE commitments to the DNFSB, which are contained in DOE implementation plans and other DOE correspondence to the DNFSB.
  - Providing support for the preparation of DOE responses to DNFSB issues and recommendations that affect Contract scope.
  - Cooperating with the DNFSB and providing access to work areas, personnel, and information, as necessary.
  - Maintaining a document process in accordance with the DOE M 140.1-1B, *Interface with the Defense Nuclear Facilities Safety Board* (or current version).
  - Obtaining approval from DOE-ORP at least five (5) days in advance before committing to completion of actions to the DNFSB.
- Support GAO, OIG, and other governmental and DOE oversight activities by:
  - Providing subject matter expertise.
  - Cooperating with assessors and auditors, and providing access to work areas, personnel, and information.
  - Providing support during audits and assessments, including delivering information within a specified time, arranging briefings, preparing presentation materials, maintaining a record of documents provided in response to requests, and making this record available to DOE-RL and/or DOE-ORP, as requested.
- Provide knowledgeable single points-of-contact for each of the following:
  - DNFSB; and
  - OIG, GAO, and other assessing governmental and DOE oversight organizations (including the DOE Office of Enforcement).

C.3.5 Interface Management

The Contractor shall provide input to MSC to facilitate MSC's development and maintenance of a *Hanford Site Interface Management Plan (Plan)*, which establishes and maintains interface management processes and agreements to assure effective control of technical, administrative, and regulatory interfaces.

The *Hanford Site Interface Management Plan (Plan)* shall provide the content for and processes to:

- Identify the various interfaces, define the scope of each interface, provide a brief description of the required deliverables (products, documents, procedures, services, etc.), define interface requirements, and cite applicable source documents for each interface;
- Implement changes to interface agreements through the appropriate change control process and, if necessary, contract changes; and
- Identify, track, and elevate issues for management review on a regular basis.

The *Plan* shall include:

- Organizational points of contact for participants and their responsibilities, and
- Associated controlling agreements (e.g., an MOA).

The *Plan* shall be signed by the MSC, PRC, and TOC. The MSC will submit the document to DOE for review and approval. The *Plan* shall be reviewed at least annually, and if updated, submitted to DOE for approval.

DOE shall be the exclusive authority for resolving disputes associated with any interface issues that cannot be resolved between parties in a timely manner. Costs associated with litigation arising from either the *Plan* or agreements made pursuant to the *Plan* shall not be allowable under this Contract.

The Contractor shall establish, appropriately document, and manage interfaces in accordance with the Section J Attachment entitled, *Hanford Site Services and Interface Requirements Matrix*.

Infrastructure and Services Alignment Plan and Annual Forecast of Services and Infrastructure

The Contractor shall provide input to the annual update to the Hanford Site's *Infrastructure and Services Alignment Plan* (ISAP). MSC develops, maintains, and updates the master ISAP, and submits the ISAP on an annual basis to DOE for approval. The Contractor shall concur or non-concur on the ISAP prior to MSC submittal to DOE.

The ISAP incorporates a strategic vision and describes the activities necessary to integrate MSC responsibilities with those of other Hanford Site (Mission) contractors, to right-size the infrastructure and services, and to maintain the capacity of infrastructure systems provided for the Site over its life-cycle. The ISAP identifies opportunities to re-engineer or replace systems as necessary (without negatively impacting the Mission Contractor's project schedules) in a timely and coordinated fashion. The ISAP also provides tactical-level information to successfully achieve MSC outcomes while minimizing the Site's life-cycle costs. The ISAP

includes an approach for taking advantage of new technologies and business practices that make good business sense from a cost and schedule perspective.

As necessitated by changes to the Hanford Site funding profile, MSC provides updates to the ISAP regarding the relative priority of work requirements. The Contractor shall provide input to the *Annual Forecast of Services and Infrastructure*'s projection of needed utilities, services and infrastructure, which is incorporated into the ISAP.

Hanford Site Services and Interface Requirements Matrix

The Contractor shall provide input to the MSC to support the development of periodic updates to the *Hanford Site Services and Interface Requirements Matrix*. Service provider and user interface requirements are identified in the Section J Attachment entitled, *Hanford Site Services and Interface Requirements Matrix*. Services are designated as either "mandatory" or "optional" for use by Hanford Site contractors and their subcontractors. MSC is responsible for submitting the *Hanford Site Services and Interface Requirements Matrix* to DOE. The Contractor shall concur on the Matrix prior to MSC submittal to DOE.

C.4 GOVERNMENT-FURNISHED SERVICES AND INFORMATION

DOE-ORP is committed to providing effective support to the Contractor throughout the period of Contract performance, and the Contractor may request that DOE-ORP consider providing additional GFS/I. To manage the GFS/I to be furnished under the Contract and to evaluate the additional GFS/I that may be required by the Contractor, the Contractor shall submit for DOE-ORP approval:

- *Government-Furnished Services and Information Request* (Deliverable C.4-1): 12-month advance projection of GFS/I to be furnished under the Contract and additional Contractor-requested GFS/I, prior to each fiscal year; and

- *Government-Furnished Services and Information Request -- Update* (Deliverable C.4-2): quarterly update to the projection of GFS/I to be furnished under the Contract and additional Contractor-requested GFS/I, prior to each quarter.

DOE-ORP will review the 12-month and quarterly advance projections. If DOE-ORP can support the additional Contractor-requested GFS/I, DOE-ORP will notify the Contractor within 30 days that the additional Contractor-requested GFS/I can be provided, and will provide the Contractor details regarding the DOE-ORP action(s). The supported GFS/I will be added to the Section J Attachment entitled, *Government-Furnished Services and Information*, as an DOE-ORP commitment to the Contractor.

If DOE-ORP cannot support a Contractor request, DOE-ORP will notify the Contractor within 30 days that the requested GFS/I cannot be provided, and there will be no DOE-ORP commitment to the Contractor to furnish the GFS/I.

For the additional Contractor-requested GFS/I, DOE-ORP will use its best efforts to meet these requests; however, in the event that DOE-ORP is unable, for any reason, to provide the Contractor with its requested additional GFS/I, the Contractor remains fully and solely responsible for obtaining the needed services and/or information in a timely manner and without any further recourse against DOE-ORP.

C.5 SUMMARY OF CONTRACT DELIVERABLES

Table C.5, *Summary of Contract Deliverables* summarizes the specific products the Contractor shall submit to DOE-ORP, the type of action DOE-ORP will perform, the associated DOE response time, and the date/timeframe that the Contractor is required to submit the product.

Deliverables are considered Contractor endpoints, workscope completions, products, reports or commitments that shall be delivered to DOE-ORP.

The types of DOE-ORP action are defined as:

- Approve – The Contractor shall provide the deliverable to DOE-ORP for review and approval. DOE-ORP will review the deliverable and provide comments in writing. DOE-ORP comments will be discussed with the Contractor, and the Contractor shall provide written responses. The Contractor shall re-write the documents to incorporate all DOE-ORP mandatory comments. Once DOE-ORP approves a deliverable or document, the Contractor shall place it under change control and shall make no changes to that document without DOE-ORP approval.
- Review – The Contractor shall provide the deliverable to DOE-ORP for review and comment. DOE-ORP will have the option of reviewing the information and providing comment. The Contractor shall respond to all written comments.
- Information – The Contractor shall provide the deliverable to DOE-ORP for information purposes only. DOE-ORP will have the option of reviewing the information and providing comments. Such comments do not require resolution under the Contract.

Table C.5, *Summary of Contract Deliverables* does not include required deliverables identified in other Contract sections, DOE directives, Federal Regulations, or regulatory documents.

Table C.5, Summary of Contract Deliverables

Deliverable Number	Deliverable	DOE-ORP		Deliverable Due Date[2]
		Action	Response Time[3]	
C.2.1.1-1	Transition Plan	Approve	5 days	10 days after contract Notice to Proceed
C.2.1.1-2	Statement of Material Differences	Approve	30 days	60 days after contract Notice to Proceed
C.2.1.1-3	Transition Status Reports	Information	N/A	Weekly during Transition
C.2.1.1-4	Transition Agreement	Approve	15 days	75 days after contract Notice to Proceed
C.2.1.3-1	Administrative Interface Agreement with the Analytical Services Production Contractor	Information	N/A	60 days after contract Notice to Proceed with updates as required
C.2.2.1-1	Integrated SST Retrieval Plan	Approve	30 days	April 15, 2009 with annual updates
C.2.3.1-1	River Protection Project System Plan	Approve	30 days	April 11, 2009 with updates as required
C.2.3.1-2	Integrated Waste Feed Delivery Plan	Approve	30 days	July 30, 2009 with updates as required
C.2.3.1-3	WTP Facility Transition Plan	Approve	30 days	24 months prior to transition to the future Operating Contractor
C.2.3.1-4	WTP LAW/BOF/LAB Facility Transition Plan	Approve	30 days	Upon completion of certification of WTP LAW/BOF/LAB Cold Commissioning with updates as required
C.2.3.2-1	WTP Operational Readiness Support Plan (Jointly submitted with the WTP Contractor as WTP deliverable 5.22)	Approve	30 days	9/30/13 with updates as required

[2] All days refer to calendar days. For the purposes of calculating deliverable due dates, the Notice to Proceed date is July 3, 2008.

[3] Number of calendar days for DOE-ORP to execute its GFS/I responsibilities to provide review, approval, and/or certification action on the deliverable following Contractor submission of an acceptable product; or DOE-ORP comments on the deliverable following Contractor submission of an unacceptable product that will require revision and re-submission for DOE-ORP review, approval, and/or certification action.

Deliverable Number	Deliverable	DOE-ORP		Deliverable Due Date[2]
		Action	Response Time[3]	
C.2.3.3-1	Hanford Spent Nuclear Fuel and Immobilized High Level Waste Interim Storage Alternatives Analysis	Information	N/A	180 days after sub-CLIN Notice to Proceed
C.2.4.1-1	DBVS Construction, Testing, and Operations Plan	Approve	30 days	180 days after contract Notice to Proceed
C.2.4.1-2	DBVS Pilot Plant and Vitrified Waste Form Performance Test Plan	Approve	30 days	360 days after contract Notice to Proceed
C.2.4.1-3	DBVS Pilot Plant and Vitrified Waste Form Performance Results	Review	30 days	90 days following completion of DBVS operations
C.2.4.1-4	Recommendation on the Viability of the Bulk Vitrification Waste Treatment Technology	Approve	30 days	120 days following completion of DBVS operations
C.2.4.1-5	Comparative Analysis of Supplemental Treatment Technologies	Review	30 days	360 days following completion of DBVS operations
C.2.4.1-6	Recommendation to Re-Permit DBVS	Approve	30 days	360 days following completion of DBVS operations
C.2.4.2-1	Cost and Schedule Estimate for the Extended Operations of the Demonstration Bulk Vitrification System	Approve	30 days	180 days following DOE-ORP approval of Deliverable C.2.4.1-6
C.2.4.2-2	Extended Operations of the DBVS Final Design Modifications and Feed Acceptance Specifications	Approve	30 days	360 days following DOE-ORP approval of Deliverable C.2.4.1-6
C.2.4.2-3	Extended Operations of the DBVS Sampling and Analysis Plan	Approve	30 days	360 days following DOE-ORP approval of Deliverable C.2.4.1-6
C.2.5.1-1	ETF/LERF Transition Plan	Approve	30 days	180 days after Notice to Proceed
C.2.5.4-1	WTP LAW Facility Operating and Product Specifications	Approve	30 days	Upon completion of certification of WTP LBL Cold Commissioning
C.3.1.2.2-1	TOC Project Performance Measurement Baseline	Approve	45 days	June 30, 2009 with updates as required
C.3.1.2.3-1	TOC Project Performance Measurement Baseline Change Control Process	Approve	30 days	120 days after contract Notice to Proceed with updates as required
C.3.1.3-1	Monthly Performance Report	Review	N/A	Last Tuesday of each Month

Deliverable Number	Deliverable	DOE-ORP		Deliverable Due Date[2]
		Action	Response Time[3]	
C.3.1.4-1	Risk Management Plan	Approve	45 days	120 days after contract Notice to Proceed with updates as required
C.3.1.5.2-1	Procurement, Construction, and Acceptance Testing Plan	Approve	30 days	120 days after contract Notice to Proceed with updates as required
C.3.1.5.2-2	Purchasing System	Approve	30 days	120 days after contract Notice to Proceed with updates as required
C.3.1.5.2-3	Construction and Acceptance Testing Program	Approve	30 days	120 days after contract Notice to Proceed with updates as required
C.3.1.5.2-4	As-built Program Description	Review	30 days	120 days after contract Notice to Proceed with updates as required
C.3.2-1	Integrated Safety Management System Description	Approve	30 days	60 days after contract Notice to Proceed with annual updates
C.3.2-2	Authorization Agreement	Approve	30 days	60 days after contract Notice to Proceed with annual updates
C.3.2-3	ISMS/ESH&Q Performance Objectives, Measures, and Commitments	Approve	30 days	60 days after contract Notice to Proceed with annual updates
C.3.2.2-1	Deleted (Mod 037)			
C.3.2.2-2	Unreviewed Safety Question Process	Approve	30 days	60 days after contract Notice to Proceed with updates as required
C.3.2.3-1	Worker Safety and Health Program	Approve	30 days	60 days after contract Notice to Proceed with updates as required
C.3.2.3-2	Radiation Protection Program	Approve	30 days	60 days after contract Notice to Proceed with updates as required
C.3.2.3-3	Chronic Beryllium Disease Prevention Program	Approve	30 days	60 days after contract Notice to Proceed with updates as required

Deliverable Number	Deliverable	DOE-ORP		Deliverable Due Date[2]
		Action	Response Time[3]	
C.3.2.4-1	Quality Assurance Program Description	Approve	30 days	60 days after contract Notice to Proceed with updates as required
C.3.2.4-2	Assurance System Description	Approve	30 days	60 days after contract Notice to Proceed with updates as required
C.3.4.1-1	External Affairs Program Description	Approve	30 days	60 days after contract Notice to Proceed, and updated annually (12/1)
C.4-1	Government-Furnished Services and Information Request	Approve	30 days	45 days prior to each fiscal year
C.4-2	Government-Furnished Services and Information Request – Update	Approve	30 days	30 days prior to each quarter
C.8-1	Contract Closeout Plan (As described in Section C.2.8.1 above)	Approve	30 days	May 30th, 2018