

Part I – The Schedule

Section C

Performance Work Statement

Contents

C.1	Contract Transition.....	8
C.2	Liquid Waste Stabilization/Disposition.....	11
C.2.1	Liquid Waste Operations.....	11
C.2.1.1	Tank Farms	11
C.2.1.1.1	Actinide Removal Process/Modular Caustic Side Solvent Extraction Unit (ARP/MCU).....	12
C.2.1.1.2	Tank Farm Operations.....	12
C.2.1.1.2.1	Tank Space Management	13
C.2.1.1.2.2	Salt Feed Preparation	14
C.2.1.1.2.3	Sludge Feed Preparation.....	15
C.2.1.1.2.4	Bulk Waste Retrieval/Removal	16
C.2.1.1.2.5	Effluent Treatment Facility (ETF)	17
C.2.1.2	Waste Vitrification	17
C.2.1.2.1	Defense Waste Processing Facility	17
C.2.1.2.2	Glass Waste Storage Buildings (GWSB)	19
C.2.1.3	Low Activity Waste Disposal	20
C.2.1.3.1	Saltstone Production Facility (SPF)	20
C.2.1.3.2	Saltstone Disposal Facility (SDF)	20
C.2.1.4	Salt Waste Processing Facility (SWPF)	21
C.2.2	Liquid Waste Operations Support	23
C.2.2.1	Saltstone Disposal Unit Construction.....	23
C.2.2.2	Salt Waste Processing Facility Transition.....	24
C.2.2.3	Tank Closures	24
C.2.2.3.1	Tank Heel Removal and Residual Sampling.....	25
C.2.2.3.2	Tank Isolation	26
C.2.2.3.3	Tank Grouting	26
C.2.2.4	Safety Basis Upgrade	27
C.2.2.5	System Optimization	27
C.2.2.5.1	Next Generation Solvent (NGS) Deployment.....	28
C.2.2.5.2	At-Tank Cesium Removal.....	28
C.2.2.5.3	Melter Fabrication.....	29
C.2.2.5.4	DWPF Operational Improvements.....	29
C.2.2.5.5	Tank 48 Recovery	30
C.2.2.5.6	Technology Development and Deployment.....	30
C.2.2.6	Additional Glass Waste Storage Capability	30
C.3	Nuclear Materials Stabilization and Disposition and Non-Operating Nuclear Facilities (Surveillance, Maintenance, and Deactivation)	31

C.4	Maintenance Mockup Facility (Bldg. 717-F).....	31
C.5	Core Functions: Program Support/Services	31
C.5.1	Project Support Performance Requirements	32
C.5.1.1	Program and Project Management	33
C.5.1.2	Earned Value Management System (EVMS).....	33
C.5.1.3	Contract Performance Baseline (CPB).....	34
C.5.1.4	Contract Performance Baseline Submittals	36
C.5.2	Program and Project Performance Reporting	36
C.5.2.1	Monthly Performance Report.....	36
C.5.2.2	Project Review Meetings	39
C.5.3	Cost Estimating	39
C.5.4	Scheduling.....	39
C.5.5	Risk Management.....	40
C.6	Environment, Safety, Health, & Quality	40
C.6.1	Worker Safety and Health	41
C.6.1.1	Workplace Substance Abuse Programs.....	41
C.6.1.2	Safety Culture	42
C.6.2	Integrated Safety Management System (ISMS)	42
C.6.3	Radiation Protection.....	42
C.6.4	Radiological Assistance Program (RAP)	42
C.6.5	Quality Assurance (QA).....	43
C.6.6	Procedure Management.....	43
C.6.7	Training.....	43
C.6.8	Environmental Regulatory Management.....	44
C.6.8.1	Environmental Compliance Activities	44
C.6.8.2	Environmental Compliance Activities	44
C.6.9	Conduct of Operations (CONOPS)	45
C.6.10	Nuclear Safety.....	46
C.6.11	Conduct of Engineering	46
C.6.12	Conduct of Maintenance	47
C.6.12.1	Real Property Maintenance	47
C.6.12.2	Nuclear Facility Maintenance	48
C.6.13	Fire Protection Program	48
C.7	Personal Property Management	48
C.7.1	Personal Property Management Program.....	48
C.7.2	Disposition of Excess Personal Property.....	49
C.7.3	Inventory Management	50

C.7.4	Real Property Asset Management	50
C.7.5	Facilities Information Management System (Reporting Systems)	51
C.7.6	General Purpose Facility Planning and Management.....	51
C.7.7	Land-Use Planning and Management	51
C.8	Information Management	52
C.8.1	Information Technology (IT) Management.....	52
C.8.2	Government-Furnished and Other Available Software	55
C.8.3	Government-Furnished Services and Information	55
C.9	Records.....	56
C.9.1	Electronic Records Management System	57
C.9.2	Other Information Management J-3 Services.....	57
C.10	Contractor Assurance System	57
C.10.1	Requirements Management Program	58
C.11	Safeguards, Security and Emergency Services	58
C.11.1	Safeguards and Security (S&S) Program	58
C.11.2	Emergency Management Program	58
C.11.3	CYBER Security	59
C.12	External Affairs	59
C.12.1	External Review and Support.....	61
C.13	Savannah River Site Interface Management	61
C.14	Business Performance Requirements	62
C.14.1	Business Administration	62
C.14.2	Internal Audit	62
C.14.3	Employee Concerns Program.....	63
C.14.4	Outgoing Contract Transition.....	64
C.15	Usage-Based Services to Be Provided to Other Site Contractors.....	64
	Attachment 1 – Liquid Waste Process Diagram	65
	Attachment 2 – Liquid Waste Facilities	66
	Attachment 3 – SRS Tank Closure Regulatory Roadmap	67

SRS Integrated Mission Completion Cleanup Contract Overview and Objectives

Background

The U.S. Department of Energy (DOE) Savannah River Site (SRS also referred to herein as “Site”) is located in western South Carolina, covering 310 square miles in Aiken, Allendale and Barnwell counties. SRS was constructed during the early 1950s to produce basic materials used in fabrication of nuclear weapons, primarily tritium and plutonium-239, in support of our nation's defense programs.

The SRS cleanup strategy is to eliminate or minimize nuclear materials, spent nuclear fuel (SNF), and waste through safe stabilization, treatment, and/or disposition; reduce costs of continuing operations and surveillance and maintenance; remediate surface water, groundwater and contaminated soils consistent with regulatory agreements and permits; and, perform deactivation and decommissioning (D&D) of excessed facilities. The Department's completion strategy provides a comprehensive risk-based methodology to the legacy cleanup project, such as dispositioning radioactive liquid waste (LW) through vitrification of high activity waste constituents at the Site's Defense Waste Processing Facility (DWPF), and using existing SRS facilities to receive, store, and disposition aluminum-clad SNF.

Contract Purpose and Objectives

- (a) One of the U.S. DOE strategic goals is to meet the challenges of cleaning up the nation's Manhattan Project and Cold War legacy. To accomplish this goal, the Office of Environmental Management (EM) must reduce environmental liabilities through accelerated cleanup of high-risk areas resulting in risk reduction. This goal must be accomplished in a manner that is protective of human health and the environment.
- (b) The purpose of the SRS Integrated Mission Completion (IMC) Contract is to achieve significant risk and financial liability reduction that provides the best overall optimal solution to Site accelerated completion and closure. Ultimately, the tasks, including the End States associated with the tasks, to be performed during the Contract ordering period will be defined in future Task Orders. The term “End State” is defined as the specified situation, including accomplishment of completion criteria, for an environmental cleanup activity at the end of the Task Order period of performance (POP).
- (c) The Contractor is responsible for the performance of the entire scope under the Contract including defining the specific methods, innovations, regulatory approach, and graded approaches for accomplishing all work to be performed and managing, integrating, and executing work described in this Performance Work Statement (PWS).
- (d) The DOE's goal is to efficiently optimize the scope, cost, and schedule associated with performance of all work while ensuring quality, protecting the safety of the workers, environment, and the public, to reduce EM's environmental liabilities.
- (e) The Contractor shall comply with Section 3116 of the Ronald W. Reagan National Defense Authorization Act (NDAA) for Fiscal Year 2005; the *Federal Facility Agreement for the Savannah River Site* (FFA); permits and requirements issued by the South Carolina

Department of Health and Environmental Control (SCDHEC); and any other applicable regulatory requirements and federal regulations.

- (f) The FFA is an enforceable agreement among DOE, SCDHEC, and U.S. Environment Protection Agency (EPA). It directs the comprehensive remediation of the SRS. The Contractor is not a signatory to the FFA but will support DOE in its role as the lead agency for site remediation under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and will support decision making by the three parties to the FFA. The Contractor's work products and processes will meet the requirements of the FFA when performing scope pursuant to the FFA. The Contractor is encouraged to propose cost-effective methods, strategies, and processes for consideration by DOE.
- (g) The Contractor shall prepare and submit all regulatory and supporting documentation to DOE prior to submittal to the regulatory agencies. In addition, DOE will:
 - (1) Operate as the owner in coordination with the regulators to reach agreement on Contractor-prepared regulatory and supporting documentation;
 - (2) Review, approve, and/or certify, as required, all regulatory and supporting documentation; and
 - (3) Prepare any additional National Environmental Policy Act (NEPA) analyses and/or documentation that may be required.
- (h) The Contractor shall ensure that its technical approach and execution of the work comply with all current applicable laws, regulations, and DOE directives as identified in Section J, Attachment J-2, *Requirements Sources and Implementing Documents*. The list of laws and regulations is not comprehensive. Omission of any applicable law or regulation from Attachment J-2 does not affect the obligation of the Contractor to comply with such law or regulation.
- (i) The Government shall conduct audits and surveillances of all aspects of the terms of this Contract to ensure compliance with the terms of this PWS. The results of all audits and surveillances will be resolved with the Contractor. DOE reserves the right to stop work in accordance with the Section H Clause DOE-H-2021, *Work Stoppage and Shutdown Authorization (Oct 2014)(Revised)*.
- (j) DOE plans to provide a steady, predictable funding stream to enable End State completion; however, funding is subject to the ordinary limitations associated with the congressional appropriation process.
- (k) Accelerated cleanup (i.e., accomplishing cleanup faster and more efficiently than planned) is a cooperative undertaking that requires the Contractor and the Government to seek innovative approaches to achieve the desired End States. This approach will require DOE and the Contractor to cooperate in creating an organizational culture to facilitate change and a mutual understanding of the technical approach and strategy that will lead to successful achievement of End States to be completed under this Contract. Streamlining the process, challenging requirements, and identifying efficiencies and performance improvements are critical to

accomplishing accelerated cleanup. The Contractor, in partnership with DOE and throughout the Contract ordering period, shall seek to identify requirements and processes that impede progress and recommend efficiencies and performance improvements that reduce the actual cost and/or improve the schedule for the work.

- (l) The Contractor, in partnership with DOE, will use its best efforts to further the acceleration of cleanup activities and reduce DOE's long-term liability (see Section H Clause entitled, *Partnering*).
- (m) Manage, integrate, and execute the work described in this PWS, as authorized through Task Orders. The Contractor shall provide all personnel, facilities, equipment, materials, services, and supplies required to complete the Contract work scope, except for the items described in Section J, Attachment J-8, *Government Furnished Services and Information* (GFS/I).
- (n) Integrate and manage all capital and non-capital asset acquisition projects, activities, and subprojects as described in this PWS. The Contractor shall maximize efficient and cost-effective methods for completing the work scope. The Contractor will be the single point of accountability for the SRS IMC Contract activities, safety and quality assurance programs, regulatory and SRS interface, and project management in the performance of this Contract, including any subcontracts.
- (o) Support transfer and/or accept operational responsibility for these facilities to support execution of the work. Some of the facilities included in this SRS IMC Contract scope may currently be the responsibility of DOE program offices other than EM and/or other contractors. Likewise, certain facilities currently included in the contract scope may be transferred to other DOE Program Offices. The Contractor shall develop interface documents with DOE management and other Site contractors, as needed, to support transition, stipulate respective roles and responsibilities, and define services to be provided by other DOE contractors.
- (p) Comply with all applicable laws, regulations, permits, and DOE Directives (including invoked Technical Standards) identified in Section J, Attachment J-2, *Requirements Sources and Implementing Documents*. During the conduct of authorized work scope, the Contractor shall also comply with all CERCLA decision documents in effect for the SRS.
- (q) Support achieving the goals described in the DOE Office of Environmental Management Annual Performance Agreement in effect during the period of performance. The Contractor shall comply with Site-Wide programs and procedures (e.g., Lockout/Tagout Program, Radiation Protection Program, etc.)

Supplemental Information

The various elements of this Performance Work Statement (PWS) have descriptive statements of DOE's supplemental information associated with the performance of each element. Such statements are intended to provide the Contractor with insight regarding DOE's historical operational performance/planning perspective on the objectives that need to be accomplished in order to progress toward completion of the Savannah River Site cleanup. The Contractor is not bound by such historical operational performance (e.g., waste processing rates, ratios, and limits) and is expected to seek to improve upon such historical operational performance while, at the same

time, ensuring compliance with all applicable requirements. The Government makes no representations that the historical operational performance is what the Contractor will, in fact, experience in the execution of this contract.

C.1 Contract Transition

The desired outcome is a smooth transition of full responsibility for execution of the Contract that maintains continuity of operations and avoids or minimizes disruptions to ongoing operations and/or accomplishment of the DOE mission.

As authorized by Task Order(s), the Contractor shall perform the activities necessary to transition work from the current SRS Liquid Waste contract, transition any subcontract work from the incumbent Liquid Waste Contractor as deemed necessary, and complete workforce transition in accordance with the requirements of Section H of this Contract. Nuclear Materials mission activities may be transitioned via post-award task orders and are not part of this initial contract transition.

The Contractor shall submit a Transition Plan for DOE approval within 15 days after notice to proceed that provides a description of all necessary transition activities, a list of the organizations involved, and a transition schedule, including key milestones. The Contractor is responsible for performing due diligence to ensure that all transition activities are identified and completed during the transition period (see Section L, Attachment L-9, *Task Order 1: Transition-Liquid Waste*).

The list below includes the major elements necessary for transition of the Contract, but is not a comprehensive list of all transition requirements. The following items shall be addressed in the Transition Plan:

- (a) **Public Release Statement:** Within 72 hours following a Notice to Proceed (NTP), the Contractor shall release on its own website a brief Executive Summary of its offer including the following elements:
 - (1) Name of Contractor including the identification of teaming partners and subcontractors and a description of the experience that each party brings to the project.
 - (2) Organizational Structure and Identification of Key Personnel.
 - (3) Brief overview of Contractor's work on similar projects.
 - (4) Commitments to the Community.
 - (5) Commitments to Small Business Subcontracting (if applicable).
- (b) **Implementation of Human Resources Management Requirements:** The Contractor's Transition Plan required above shall include a description of the Contractor's implementation of human resource management consistent with *Workforce Transition and Contractor Human Resources Management* requirements as described in Section H, Clauses H.3 through H.7.

- (c) **Inter-Contractor Ordering and Financial Agreements:** The Contractor shall develop the inter-contractor ordering and financial agreements necessary to support transition and Contract performance, and will be responsible for the costs incurred under these agreements.
- (d) **Status Reports – Transition Activities:** The Contractor shall provide weekly status reports of transition activities to DOE. The Contractor shall establish routine status meetings with DOE and affected contractors to review transition activities and issues (see Section L, Attachment L-9, Task Order 1, *Liquid Waste Transition*, and Section J, Attachment J-7, *Contract Deliverables*).
- (e) **Government-Owned Property:** All real and personal property currently accountable to the incumbent Liquid Waste Contractor for contract performance will be provided to the Contractor. During the contract transition period, an inventory record of such property in the DOE Facilities Information Management System (FIMS) and the incumbent Liquid Waste Contractor’s personal property databases will be provided to the Contractor. Specifically, the following property acceptance requirements will be implemented:
- (1) The Contractor shall perform a joint comprehensive physical inventory with the incumbent Liquid Waste Contractor of all accountable high-risk and sensitive property, as defined in the Code of Federal Regulations (CFR) Title 41 Chapter 109, during the transition period, and shall accept full accountability for the high-risk and sensitive property at the end of transition.
 - (2) The Contractor shall accept, at the end of transition, transfer of accountability for the remaining government-owned real and personal property not covered under paragraph (1), based on existing inventory records on an “as-is, where-is” basis, or perform a wall-to-wall inventory within the transition period of the Contract. Any discrepancies with the existing inventory records shall be reported to the Contracting Officer (CO). At the end of transition, the Contractor shall assume responsibility and liability for subsequent losses and damages. If the physical inventory is not accomplished within the allotted time frame, the previous contractor's records will become the inventory baseline.
- (f) **DOE Safeguards and Security (SAS) Survey:** During the Contract transition period and prior to assuming control and responsibility for SAS responsibilities, the Contractor shall be subject to a DOE SAS initial survey conducted in accordance with DOE Order 470.4B, *Safeguards and Security Program*. The results of the survey shall be documented and shall form the basis for DOE authorization to assume SAS responsibilities, in particular responsibility for special nuclear material. Following a satisfactory survey, the Contractor shall assume responsibility for all applicable SAS resources, materials, facilities, documents, and equipment.
- (g) **Identification of Material Differences:** During the transition period, the Contractor shall identify any material differences between the systems, facilities, waste sites, property, and services described in this PWS and actual conditions. The Contractor shall prepare and submit a Statement of Material Differences (see Section L, Attachment

L-9, Task Order 1, *Liquid Waste Transition*). If the CO determines the Statement of Material Differences requires revisions to the Contract, the CO may issue a change order to reconcile the material differences with the Contract.

- (h) **Legal Management Transition:** The Contractor shall provide a Litigation Management Plan in accordance with the Section H clause, *Legal Management*, and compliant with 10 CFR Part 719, *Contractor Legal Management Requirements*.
- (i) **Communication of Contractor’s Approach:** The Contractor shall communicate its approach and commitments for accomplishing the scope of the Contract to workers, federal staff, stakeholders, and other interested entities during the transition period.
- (j) **Adoption of Programs and Procedures:** To ensure continuity of operations, the Contractor shall adopt, as applicable, the incumbent Liquid Waste Contractor’s programs and procedures at NTP (e.g. Documented Safety Analysis (DSA), Technical Safety Requirement (TSR)s, operating procedures, etc.), provided the Contractor has formally reviewed the programs and procedures to ensure compliance with Contract requirements, current regulatory requirements, DOE Orders and directives, and the Contractors’ organizational roles and responsibilities. The Contractor shall revise those programs and procedures it deems necessary provided the programs and procedures remain in compliance with DOE requirements, and shall maintain its plans, procedures, programs, etc. in accordance with this PWS.
- (k) **Graded Approach:** The Contractor may submit a *Graded Approach for Implementation of Contract Requirements Plan* for DOE approval to streamline processes, apply a graded approach, and identify efficiencies and performance improvements (e.g., DOE directives, regulations, and others) that are critical to accomplishing the Site mission. The plan shall include a review and recommendations of changes to the current Site standards and implementing procedures for the elimination of requirements and/or streamlining of processes. The Contractor shall interface with the other site contractors on proposed changes, as necessary.
- (l) **Task Order (TO) Proposals:** During transition, the Contractor shall expediently provide the CO with TO proposals that are compliant with the Section H Clause entitled, *Task Ordering Procedure*. The CO will provide direction as applicable regarding these potential TOs and will establish time frames for submission of additional TO proposals.
- (m) **Declaration of Readiness:** Submit a *Declaration of Readiness to Execute the Contract* to the CO, prior to the end of transition, indicating readiness to assume responsibility for execution of the Contract. Also, identify any post-transition activities that may be required to complete transition (e.g., notifications to outside agencies of transfer of co-operator responsibilities, completion of procedure updates).

C.2 Liquid Waste Stabilization/Disposition

C.2.1 Liquid Waste Operations

The mission of LW Operations is to receive, store, treat, and dispose of radioactive liquid waste. The LW Operations are highly integrated involving safely storing liquid radioactive waste in underground storage tanks; removing, treating, and dispositioning the low activity waste fraction as a saltstone waste form in concrete SDUs; vitrifying the higher activity waste at DWPF; storing the vitrified waste in stainless steel canisters until permanent disposition; and completing operational closure of all underground storage tanks and ancillary equipment.

The goal of the U.S. Department of Energy is to complete the LW cleanup mission at SRS in 15 years. The Contractor shall plan the work scope in this contract period of performance conducive to the achievement of this goal.

The Contractor shall maintain compliance with Site-wide manuals governing operations and maintenance requirements. These activities include routine operations, predictive, preventive and corrective maintenance, and infrastructure activities needed to support LW facilities and any facility improvements including general plant projects, major modifications, temporary modifications, and line item projects needed to sustain facility operations. Facilities shall be operated and maintained in a condition to ensure operability as designed beyond the end of the contract period of performance.

The Contractor shall maintain a comprehensive Master Infrastructure List of critical facility and infrastructure needs. Infrastructure for the purpose of this work scope includes all facility support structures; operational equipment; fire protection; electrical systems; plumbing; heating, ventilation and air conditioning equipment; superstructures; interior and exterior enclosures; roofing; foundations; basement construction; conveying systems; stairs; and furnishings. The areas of consideration include the Tank Farms and associated systems, structures and components, S-Area, Z-Area, ETF, and SWPF in J-Area, once the SWPF is transitioned to the Contractor. It also includes the office trailers and other supporting facilities in areas B, E, G and T-Areas (see Section J, Attachment J-8, *Government Furnished Services and Information (GFS/I)*). The Contractor shall provide to DOE quarterly maintenance updates including a list of maintenance activities for these areas that were completed during the preceding quarter, a prioritized list of maintenance activities that are scheduled to be performed, and newly identified maintenance activities. The maintenance activities shall be prioritized and risks associated with non-performance of the maintenance activities shall be identified and described with respect to safety and continued operations.

C.2.1.1 Tank Farms

Tank Farms operation includes multiple facilities and processes, including waste tank system transfers, evaporator operations, space management, salt and sludge waste retrieval, feed batch preparation for waste treatment facilities, and preparation of waste for transfer to other LW facilities, waste disposition, and, ultimately, operational closure of underground waste storage tanks and ancillary equipment.

C.2.1.1.1 Actinide Removal Process/Modular Caustic Side Solvent Extraction Unit (ARP/MCU)

Operation of ARP/MCU (interim salt processing and disposition of radioactive salt waste) was suspended and isolated to allow SWPF radioactive tie-ins to the liquid waste system. The Contractor shall maintain the ARP/MCU processes and facilities in a lay-up status until DOE makes the decision to proceed with final layout and complete execution of the de-inventory plan. Ventilation system filters will continue to be maintained to ensure any residual contamination is not be released from the facilities.

Alternately, the Contractor may, with DOE approval, re-purpose the ARP/MCU systems as part of the system optimization activities for accomplishment of the PWS consistent with applicable requirements.

C.2.1.1.2 Tank Farm Operations

The Contractor shall operate the Tank Farms to receive, concentrate, and store liquid radioactive wastes in support of ongoing Site activities and ensure the continued operability and structural integrity of the liquid radioactive waste tanks and ancillary structures. The Contractor shall be responsible for effective Tank Space Management, Salt Feed Preparation, Sludge Feed Preparation, Bulk Waste Removal/Retrieval, and Management of the ETF. The Contractor shall maintain a comprehensive tank inspection program that is compliant with the requirements specified in the SRS Federal Facility Agreement (FFA). Mercury monitoring/sampling and chemical analysis throughout the LW systems will continue to be performed. Mercury shall be managed consistent with the Safety Basis.

The Contractor shall ensure the Tank Farms have the capacity to receive up to 300,000 gallons of waste from H-Canyon processing operations annually through FY 2030.

Supplemental Information

The radioactive liquid waste contained in the underground storage tanks is in the form of saltcake, salt supernate, or insoluble sludge solids. The functions of the underground storage tanks are:

- Receipt and storage of radioactive liquid waste and by-products generated by operation of the chemical separations processing and research facilities.
- Prevention of potentially harmful exposure from radiation to Site worker and members of the public.
- Prevention of potentially harmful quantities of radionuclides and chemicals from escaping to the environment.
- Maintaining safe storage of the liquid radioactive waste.
- Preparing batches of liquid radioactive waste for treatment into a more stable form (solidification) for final disposition.

The F-Area Tank Farm (FTF) is a 22-acre site containing eight Type I, two Type III, eight Type IIIA, and four Type IV storage tanks. Six tanks in FTF have been operationally closed. In

addition, FTF also includes supporting ancillary structures such as two evaporator systems, transfer pipelines, diversion boxes, a concentrate transfer system, a catch tank, and three pump pits. The H-Area Tank Farm (HTF) is a 45-acre site containing four Type I, four Type II, four Type III, thirteen Type IIIA, and four Type IV tanks. Two tanks in H-Tank Farm have been operationally closed. In addition, HTF includes supporting ancillary structures such as three evaporators, eight diversion boxes, ten pump pits, pump tanks, transfer valve boxes, and transfer piping. Also located in HTF is the ARP/MCU processing system. The twenty-four Type I, II, and IV tanks do not meet the secondary containment standards in the SRS Federal Facility Agreement. Eight of these tanks have been operationally closed. Out of these sixteen tanks that remain in service, eight tanks have leaked waste through the primary tank wall into their respective secondary containment (i.e. annulus space) and six of these tanks have completed bulk waste removal efforts (tanks 4F, 7F, 8F, 10H, 11H and 15H). Execution of waste retrieval in Type I and II tanks that have leak sites may reactivate these leak sites or expose new leak sites.

C.2.1.1.2.1 Tank Space Management

The Contractor shall maintain usable working tank storage capacity (space) to support waste retrieval and prepare waste for permanent immobilization and disposition of HLW in a vitrified waste form and low-level waste in a grouted waste form (e.g., preparation of sludge and salt feed for DWPF and SWPF and receipt of waste from DWPF, ETF, and H-Canyon). The Contractor shall implement effective supplemental space management initiatives as necessary, including the operation of evaporator systems.

Supplemental Information

Since 1951, the Tank Farms have received over 160 Mgal of liquid waste, of which most has been evaporated and/or treated, leaving approximately 35.3 Mgal in the storage tanks. Available storage space is used for waste receipts, waste retrieval, and processing operations. A contingency amount of 1.3 Mgal is not included as working space and is reserved for the unlikely event of a full tank failure. Waste receipts and transfers are normal Tank Farm activities as the Tank Farms receive new or “fresh” waste from the H-Canyon stabilization program, a low activity waste stream from DWPF processing (typically referred to as “DWPF recycle”), wash water from sludge washing, and very small amount of concentrate from ETF.

The Tank Farms also make routine transfers to and from waste tanks and evaporators. The two evaporator systems, the 2H and 3H systems, support space management with volume reduction of 2 – 3 million gallons per year of liquids produced by sludge batch washing and DWPF recycle receipts. Although both systems are currently operating satisfactorily, both systems have experienced significant operational issues. A leak from the 3H evaporator pot into the secondary containment cell was successfully repaired in 2018. There are no plans to replace the 3H Evaporator pot but a spare pot will be available at the beginning of this contract performance period in case it is needed.

The space in Type III/IIIA tanks is used to: (1) retrieve waste from and clean older style (Type I, II, and IV) tanks; (2) prepare, qualify, and treat sludge waste for disposal; (3) prepare, qualify, and treat salt waste; and (4) support nuclear materials stabilization and disposal through H-Canyon. Additionally, several old-style tanks support immobilization and disposition of HLW. Old style tanks (Types I, II, and IV) are shown in Figures 2.4-1, 2.4-2, and 2.4-4 in

WSRC-SA-2002-00007-VOL-1-DSA-ES, Ch. 1, 2 Rev 17, provided in the Document Library. The Tank Farm space management strategy in the Liquid Waste System Plan (<http://www.srs.gov/general/pubs/srr-lw-systemplan.pdf>) is based on projections of DWPF canister production rates, salt waste processing rates, influent stream volumes, Tank Farm evaporator performance, and space gain initiative implementation. Reuse of old style tanks for storage of liquid may require DOE and/or regulator approval. The below Table identifies the operational and operationally closed tanks.

	Operational Tanks					
	Old Style Tanks			Compliant Tanks		Total
	Type I	Type II	Type IV	Type III	Type IIIA	
F Tank Farm	6	0	0	2	8	16
H Tank Farm	3	3	4	4	13	27
Total	9	3	4	6	21	43

	Operationally Closed Tanks					
	Old Style Tanks			Compliant Tanks		Total
	Type I	Type II	Type IV	Type III	Type IIIA	
F Tank Farm	2	0	4	0	0	6
H Tank Farm	1	1	0	0	0	2
Total	3	1	4	0	0	8

C.2.1.1.2.2 Salt Feed Preparation

The Contractor shall be responsible for operation and maintenance of equipment necessary to dissolve, batch, and adjust salt waste from various tanks to serve as feed for TCCR and SWPF. Salt batches shall meet the waste acceptance criteria (WAC) of the facility it will be transferred to.

Tank Farm feed preparation infrastructure modifications required to support SWPF increasing processing rates include:

- Waste retrieval infrastructure in several tanks to support salt batch feed preparation
- Mixing capabilities
- Enhanced transfer capabilities
- Transfer routes provided to blend/feed tank(s)

Supplemental Information

Salt feed preparation includes development of salt batches from various waste tanks for feed to salt treatment processes including SWPF and TCCR. Salt Feed Preparation for each batch currently requires four months for compiling, sampling, analysis, qualifying and transfer into the batch feed

tank. SWPF is planned to process the majority of this salt solution waste. Salt preparation capability is dependent on the number of blend tanks available to prepare salt batches. Currently, a single tank is capable of preparing 3 to 4 Mgal/yr. Three blend tanks are needed to enable the Tank Farms to feed SWPF at 9 Mgal/yr. Two blend tanks are expected to be available upon SWPF startup and the third blend tank will be available for SWPF's second year of operation.

Factors that impact salt feed preparation include:

- Blend Tank availability
- Timely preparation of tanks for waste retrieval
- Effective and efficient saltcake dissolution
- Waste transfer logistics

Salt treatment technology demonstration of the at-tank cesium removal is in progress. Refer to Section C.2.2.5.2 for additional information.

C.2.1.1.2.3 Sludge Feed Preparation

The Contractor shall be responsible for operation of equipment and conducting treatment processes used to prepare sludge waste feed to sustain DWPF vitrification operations. The Contractor shall effectively couple tank waste retrieval operations with sludge waste feed preparation operations to provide sludge waste: 1) within compositional ranges that support sludge waste blending and preparation into batches that meet DWPF prescribed feed specifications; and 2) with sufficient volume to ensure the continuous availability of sludge waste feed to DWPF. The Contractor shall also model sludge waste feed preparation activities and execute activities necessary to ensure that DWPF vitrification operations can be sustained beyond the Contract period of performance.

Supplemental Information

The basic steps for sludge processing are: 1) sludge removal from tanks; 2) optional Low-Temperature Aluminum Dissolution; 3) blending and washing of sludge followed by sample, analysis, and qualification; and 4) sludge feeding to the DWPF. Currently a single tank (Tank 51H) is the sole DWPF feed preparation tank (see Figure 1).

Sludge preparation is paced by bulk waste retrieval and by tank storage space to prepare sludge batches. Sludge batch planning uses the estimated mass and composition of sludge and known processing capabilities to optimize processing sequences. The planned sludge batches are identified in the approved Liquid Waste System Plan.

Differences in sludge batch sequencing, total number canisters produced, and batch end dates is an effort to balance the end of salt processing more closely with the end of sludge processing. The projected canister pour rate is balanced to be appropriate for salt processing support.

Waste generated from processing of spent nuclear fuel and targets in H-Canyon has resulted in high amounts of aluminum solids as gibbsite or boehmite. Much of this aluminum can be removed from the sludge by dissolution of the aluminum and subsequent removal by decanting of the liquid phase. This reduces the number of canisters needed to disposition the sludge, due to the lowered

sludge solids mass and improved waste loading in the glass. Dissolution is achieved by adding caustic, elevating temperature, mixing, and sufficient reaction time.

Sodium (Na) and other soluble salts (e.g., sulfates, nitrates, nitrites) in DWPF feed are reduced through sludge washing. Sludge washing is performed by adding water to the sludge batch, mixing with slurry pumps, securing the pumps to allow gravity settling of washed solids, and decanting the sodium-rich supernate to an evaporator system for concentration. This cycle is repeated until the desired molarity (typically 1.25 M Na) is reached. Some types of sludge settle slowly, extending wash cycles. Sludge settling and washing typically constitutes ~75% of batch preparation time. The total number of washes performed and volume of wash water used are minimized to conserve tank space. Sludge batch size and wash volumes are also limited by the hydrogen generation rate associated with radiolysis of water. Tank contents are mixed on a periodic frequency to release hydrogen retained within the sludge layer, resulting in a limited window within operating constraints for gravity settling.

C.2.1.1.2.4 Bulk Waste Retrieval/Removal

Note: In this document, the terms “bulk waste retrieval” and “bulk waste removal” may be used interchangeably and signify the same set of activities.

The Contractor shall retrieve and remove sufficient waste from older style and compliant tanks to ensure adequate support of salt and sludge batch preparations. Preference should be given to retrieval and removal from older style tanks that are within or beneath the water table (Type I and II tanks in H-Area Tank Farm) and all tanks in F-Area Tank Farm to enable F-Area Tank Farm closure in 10 years.

The Contractor shall be responsible for design, procurement, installation and operation of equipment for conducting bulk waste retrieval/removal of salt and sludge from the liquid waste storage tanks. The Contractor shall prepare and treat waste to meet the Waste Acceptance Criteria of downstream facilities, including SWPF, Tank 50H, the Saltstone Facility, and DWPF. Completion of bulk waste retrieval/removal activities is defined as DOE concurrence on the Contractor provided detailed presentation of the specified tank’s completion of bulk waste removal efforts with conclusive evidence. Future work scope for the specific tank transitions to the Tank Closure process (C.2.2.3) if closure is the next step or to Tank Space Management (C.2.1.1.2.1) if the tank will continue in service.

Supplemental Information

Bulk waste retrieval/removal of salt waste is currently conducted by adding liquid (e.g., dilute supernate, DWPF recycle water) to waste tanks with sufficient mechanical agitation that the saltcake material is dissolved for transfer to the appropriate hub tank, then transferred to a blend tank to be combined with salt solution from other tanks to achieve the appropriate chemistry balance. In the blend tank chemistry or other waste properties may be adjusted in order to meet the SWPF requirements. Currently, dissolution of one 1.3 million gallon tank full of saltcake results in the generation of 4 million gallons of dissolved salt solution, which is equivalent to approximately 3 to 4 full tanks of dissolved salt. Retrieval/removal of sludge waste also includes addition of liquid (e.g., supernate, water) to sludge (non-soluble) waste, agitation by several mixer pumps to suspend sludge solids, and transfer to a hub tank set up to receive and transfer sludge to

the feed preparation tank, or directly to the feed preparation tank to then proceed with sludge washing. Similarly, slurring and washing one gallon of settled sludge increases waste tank inventory by 1.3 gallons of salt waste.

C.2.1.1.2.5 Effluent Treatment Facility (ETF)

The Contractor shall be responsible for operation of the ETF in compliance with environmental regulations associated with the Resource Conservation and Recovery Act (RCRA) and the National Pollutant Discharge Elimination System (NPDES) under the Clean Water Act. The ETF operator in charge shall be certified by the South Carolina Environmental Certification Board and hold an “A” Physical/Chemical Wastewater Certificate.

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.

Supplemental Information

The ETF is classified as an “A” Level physical/chemical wastewater treatment facility by the SCDHEC. The ETF treats low-level radioactive wastewater from the F and H Area separations and waste management facilities, F/H Laboratory, the Savannah River National Laboratory, H Tank Farm evaporator overheads and miscellaneous sources, such as Soil and Groundwater Closure Projects well purge water. The ETF removes chemical and radioactive contaminants before releasing the water into Upper Three Runs Creek, a SRS stream that flows to the Savannah River. Because the Savannah River water eventually flows into municipal drinking water facilities, radiological effluents are governed by the Federal Clean Water Act. ETF non-radiological effluents are discharged within limits of permits issued by SCDHEC.

The ETF is designed and constructed to allow SRS to meet all environmental regulations associated with the Resource Conservation and Recovery Act and the National Pollutant Discharge Elimination System under the Clean Water Act. The ETF is designed to operate at an average capacity of 165 gpm and with a “sprint” capability of 300 gpm for short durations. The maximum permitted facility capacity is 430,000 gallons per day. The ETF encompasses wastewater collection and treatment operations that were modified for radioactive use. It was designed to remove heavy metals, organic chemicals and corrosive chemicals, as well as cesium and other radiological contaminants from the Site’s waste water.

C.2.1.2 Waste Vitrification

Waste Vitrification operations includes the DWPF and the two existing GWSBs.

C.2.1.2.1 Defense Waste Processing Facility

The Contractor shall operate the DWPF to optimize the processing of the sludge and high activity feed streams from salt processing into a vitrified waste form that meets or exceeds all requirements for interim storage at SRS and all requirements regarding the acceptability of the vitrified waste form for disposal in a licensed Federal Repository. The Contractor shall avoid sludge feed breaks to DWPF. Mercury shall be managed consistent with the Safety Basis. The Contractor shall ensure

the availability of a spare melter to effect a timely replacement of an operational melter in the event of its failure. The Contractor shall maintain a concentration limit of 897 g/m³ of fissile material in the glass and a canister heat load of less than 792 watts per canister. The concentration limit of 897 g/m³ is currently being reviewed for potential increase to 2500 g/m³. The Contractor shall also provide for safe storage of failed melters onsite by constructing failed melter boxes and Failed Equipment Storage Vaults (FESV). The Contractor shall procure canisters for use in DWPF as necessary to ensure continued operations. DWPF canister production shall continue to meet the requirements of DOE/RW-0333P, Quality Assurance Requirements and Description, until and unless directed otherwise by DOE.

Supplemental Information

DWPF Canister Production

The DWPF facility receives and combines washed sludge and high activity waste from salt processing with glass frit for vitrification and pouring into canisters. Tank Farm sludge waste feed preparation has supported canister production of as high as 337 canisters in a 12 month period as well as feed preparation systems internal to DWPF. The total canister production is expected to vary during the Contract period commensurate with the receipt of high activity streams from SWPF.

To support higher glass throughput, the DWPF melter was retrofitted with four bubbler systems and the melter off-gas system was optimized in September 2010. Additional process improvements are necessary in order to support SWPF operations at a feed rate up to 9 Mgal per year. These improvements are scheduled to complete in FY21 and they are as follows:

- Implementation of an alternate reductant
- Processing of cesium Strip Effluent (SE) in the Slurry Mix Evaporator (SME)
- Laboratory Waste Handling modifications
- Management of the high activity waste streams to be received from SWPF
- Critical Spares in inventory

Based on the current Liquid Waste System Plan, canister production schedules include two one-week outages every year to allow for routine planned maintenance and another two weeks for the Site-wide steam outage each year. A four-month melter outage is assumed around FY2029 as melter life is conservatively estimated to be 10 years. Melter replacement is determined by actual melter performance. Melter #4 is anticipated to be operationally ready for use at the time of contract award. Canister production and sludge batch need dates were projected in the current Liquid Waste System Plan based on:

- DWPF recycle is beneficially reused.
- Pu discards from H-Canyon will be supported to the extent allowable without negatively impacting planned canister waste loadings while continuing to comply with the canister fissile material concentration limits.

DWPF Recycle

DWPF recycle is the largest influent stream received by the Tank Farm. Volume reduction of the recycle stream is handled through evaporation by the 2H Evaporator System and through beneficial reuse in tank waste removal operations. The DWPF recycle stream will remain between 1.5 and 1.9 Mgal/yr prior to SWPF operations. The rate could increase to as high as 3.7 Mgal/yr after the startup of SWPF. Diversion of the DWPF recycle stream to a treatment process vice its return to the Tank Farm will provide opportunities for simplification of the evaporator systems and the handling of sludge batch preparation facilitating waste removal from and closure of a number of tanks in H-Tank Farm. A Systems Engineering Alternative Analysis is in progress to identify the type and method of treatment necessary to enable this diversion.

Failed Equipment Storage Vaults (FESVs) and Melter Storage Boxes (MSBs)

Construction/fabrication of Failed Equipment Storage Vaults (FESVs) and Melter Storage Boxes (MSBs) are repetitive activities required to sustain ongoing DWPF operation by providing interim storage of failed DWPF melters. Currently there is one FESV constructed, containing two vaults. Each vault was designed to store one failed melter inside an MSB.

FESV is currently storing Melter #1 and Melter #2. Space has been reserved for construction of up to ten FESVs, if needed. Design and construction of the next FESV will be in progress when this contract period of performance starts. One MSB for Melter #3 will be complete and available in storage.

Large contaminated failed equipment is currently stored in the 221-S Canyon.

C.2.1.2.2 Glass Waste Storage Buildings (GWSB)

The Contractor shall operate and maintain GWSB #1 and #2 to store glass waste canisters produced at the DWPF on an interim basis pending shipment for offsite disposal at a licensed Federal Repository. The Contractor shall continue on-going canister double-stacking activities in GWSB #1 to increase the total number of storage locations for standard canisters to 4,508.

Supplemental Information

DWPF canisters are currently stored onsite in two dedicated interim GWSBs. A Shielded Canister Transporter (SCT) moves one canister at a time from the DWPF to a GWSB. Both GWSBs are qualified to meet or exceed a Performance Category 2 design basis earthquake.

GWSB #1 consists of a below-grade seismically qualified concrete vault containing support frames for vertical storage of 2,286 storage positions of which 2,262 standard canister positions are in use storing radioactive canisters. GWSB #2, with a similar design to GWSB #1, has 2,340 standard storage locations and is currently being filled with radioactive canisters as they are produced. There are also approximately 20 locations in DWPF available for canister storage pending transfer to a GWSB.

The GWSB #1 storage structure and services consist of four storage compartments, an SCT operating floor, air inlet and exhaust shafts, and attached building support facilities. The storage

capacity of GWSB #1 is currently being expanded to double the capacity to 4,524 canisters by “double stacking” the canisters one on top of the other. Modification of canister positions and double stacking operations are in progress.

Based on the current System Plan, additional storage capacity will be required with availability beginning in FY30 as current storage capacity is 6,861 and the total projected storage requirement is 8,121 for a shortfall of 1,260 canisters.

C.2.1.3 Low Activity Waste Disposal

The Low Activity Waste Disposal is conducted by transferring Decontaminated Salt Solution (DSS) from Tank 50H to the Saltstone Facility consisting of the Saltstone Production Facility (SPF) and Saltstone Disposal Facility (SDF). The Contractor shall ensure that the low-activity salt waste stream sent to the Saltstone Facility from Tank 50H and/or SWPF shall comply with the SPF WAC.

C.2.1.3.1 Saltstone Production Facility (SPF)

The Contractor shall operate and optimize the SPF to support processing of low activity liquid waste, including DSS, for disposal in the SDF. The Contractor shall process up to 14 million gallons per year of low activity waste from Tank 50H and/or SWPF. This throughput assumes the operation of two TCCR units in addition to SWPF. SPF shall be operated to ensure compliance with Section 3116 Determination for Salt Waste Disposal at the Savannah River Site, Basis for Section 3116 Determination for Salt Waste Disposal at the Savannah River Site, DOE M 435.1, applicable SCDHEC permits, and the Site Treatment Plan (STP).

C.2.1.3.2 Saltstone Disposal Facility (SDF)

The Contractor shall operate and maintain Saltstone Disposal Facility (SDF) readiness to receive saltstone grout at all times except during a planned outage. Operations include filling the Saltstone Disposal Units (SDUs), maintaining the saltstone grout and transfer lines operational, maintenance and repair/replacement of valves, and maintaining SDU capacity available for operations. As each SDU construction is completed, the Contractor shall conduct acceptance testing prior to turn over of the SDU for SDF operations. Once an SDU is operationally filled, the Contractor shall maintain the SDUs in a safe condition and meet the applicable requirements of the Saltstone DSA and the state issued landfill permit. The Contractor shall perform modeling (in coordination with salt batch planning) for the inventory and concentrations of significant radionuclides placed in an SDU, in order to maximize emplacement while ensuring compliance with applicable performance objectives of the disposal facility, consistent with the SDF Performance Assessment.

Supplemental Information

The Saltstone Facility, consisting of the SPF and the SDF, processes DSS into saltstone grout at the SPF and permanently disposes of the resulting low level waste form in SDUs at the SDF. During Saltstone Facility operations, dry feeds (slag, fly ash, and cement) are weighed into batches and continuously fed into the SPF process room mixer where DSS is added at a controlled rate. DSS will be transferred daily at least in the amount of 33,000 gallons per transfer from Tank 50H (the SPF DSS feed tank) to two Salt Solution Receipt Tanks (SSRT) in SPF. Each SSRT has an

operating level of 60,000 gallons. DSS is transferred from the SSRTs into the SPF process. For every one gallon of DSS combined and mixed with dry feeds, approximately 1.76 gallons of saltstone grout is produced. The saltstone grout is pumped via transfer lines into one of several SDUs at the SDF. The saltstone grout sets (hardens) in less than 24 hours and is no longer flowable. As the grout sets, some water remains. This excess water (drain water) is pumped back to the SPF on a daily basis during SPF operations to be combined with DSS feed to the SPF mixer.

Saltstone grout has historically been produced in daily batches containing approximately 35,000 gallons of DSS; however, it is anticipated that a significant increase in the production of saltstone grout will be required once the SWPF becomes operational and the Saltstone Facility may be in continuous operation (24 hours/7 days per week), except during planned outages. The annual processing requirement of about 13.7 million gallons includes minor contributions from the ETF and H-Canyon of up to 500,000 gallons and it is based on SWPF processing rate of 9 Mgal/yr combined with two operating TCCR units at 1 Mgal/yr each.

The SDF currently consists of eight SDUs. SDU #1 and SDU #4 no longer receive waste but will require operational surveillance and maintenance activity. SDUs #2A and #2B are operationally full (filled to the limiting height allowed by the Safety Basis); SDUs #3A, #3B, #5A, #5B and #6 are operational. By mid FY 2021, SDU#7 is projected to be operational, SDUs #8 and #9 are projected to be under construction, and designs for SDUs #10, #11 and #12 are projected to be complete and site preparation activities for these SDUs underway.

SDU #6 is a commercial 32-million gallon pre-stressed concrete tank enhanced to meet the requirements for permanent disposal of saltstone grout and its design is the basis for the construction of future SDUs. These concrete tanks are fitted with multiple pour spouts for depositing the grout uniformly and multiple drain water columns with submersible pumps to allow for return of drain water to the SPF. The SDUs have a network of piping on the tank top to direct saltstone grout to the selected pour spout and return drain water; instrumentation/equipment to monitor the temperature of the grout; and High Efficiency Particulate Air filtered vents to allow for air displacement as grout is deposited and to allow atmospheric breathing to prevent the accumulation of flammable vapors.

Due to constituents contained in the saltstone grout, radiological hazards are low but chemical consequences are moderate. As salt dissolution activities in the Tank Farms progress, the chemical constituents from the various waste tanks containing saltcake may vary and may require re-evaluation of the SDU concrete matrix and protective coating.

C.2.1.4 Salt Waste Processing Facility (SWPF)

Salt Waste Processing Facility (SWPF) operations will transition to this contract after the completion of one year of radioactive (i.e., hot) operations. This transition date is currently scheduled for April 30, 2021. The Contractor shall maintain awareness of the actual SWPF schedule and shall have the flexibility to assume operation of SWPF earlier or later depending on the operational status of the facility. Following transition of operations, the Contractor shall bear responsibility for and operate and maintain the SWPF to process the salt waste feed stream resulting from tank waste removal operations to produce: (a) two high-activity waste feed streams

for processing at the DWPF which meet all DWPF waste acceptance criteria and (b) a low-activity waste feed stream for processing at the SPF, which meets all SPF waste acceptance criteria.

The Contractor shall maximize SWPF waste processing throughput. In addition, the Contractor shall implement the Next Generation Solvent (NGS) into SWPF (see C.2.2.5.1) during the Contract period to ensure compliance with minimum salt waste processing requirements.

Supplemental Information

Salt waste from tank farm waste removal operations will be pumped to one of the designated blend tanks located in the H Tank Farm for blending to meet all SWPF waste acceptance criteria. Approximately 1 Mgal of waste will be prepared at a time. After sampling to ascertain that the blended waste meets the waste acceptance criteria, the waste will be transferred to a staging tank in the H Tank Farm from which individual batches of approximately 23,200 gallons will be transferred to the SWPF for treatment.

The SWPF treats salt waste in three successive basic unit operations: Alpha Strike Process (ASP), Caustic-Side Solvent Extraction (CSSX), and Alpha Finishing Process (AFP) (only applicable in multi-strike mode). These processes separate the radioactive elements (primarily Strontium (Sr), actinides, and Cesium (Cs)) from the salt solution transferred from H Tank Farm and concentrate them into a relatively small volume. This small volume is then transferred to the DWPF for vitrification. The remaining low-activity Clarified Salt Solution (CSS) waste stream contains only low levels of radioactive materials and is transferred to the SPF for incorporation into grout. The ASP occurs first and is used to separate Sr and actinides from the waste feed by monosodium titanate (MST) adsorption and filtration. The CSSX process follows the ASP and is used to remove Cs from the ASP filtrate by solvent extraction. The AFP is a process step (only applicable when more than one round of MST adsorption and filtration is required) that mimics the ASP and is used as necessary to provide additional Sr/actinide removal downstream of the CSSX process.

The ASP is operated as a batch process. Each batch of salt waste received in the ASP alpha strike tank at the SWPF is chemically adjusted to achieve the proper pH and MST is added. The tank contents are mixed to allow the MST to adsorb the Sr and actinides (a 12-hour process for batches not expected to require additional processing via AFP and a 6-hour process for batches projected to require additional processing via AFP). The MST waste mixture is then filtered to produce a concentrated MST waste slurry and a CSS filtrate. The concentrated MST waste slurry is chemically adjusted to reduce its sodium concentration to meet the DWPF waste acceptance criteria and then transferred to DWPF for vitrification, while the CSS filtrate is routed to the CSSX process.

The second SWPF processing stage is CSSX, which is a continuous flow process utilizing 36 contactor stages for extraction, scrubbing, stripping, and washing of the CSS stream. Cs is removed by contacting the CSS with an engineered solvent in the extraction stage contactors. Following extraction, the Cs-enriched solvent is scrubbed to remove impurities (primarily sodium and potassium). The solvent is then contacted with a dilute nitric acid strip solution in the stripping stages, where the Cs is transferred to the aqueous strip effluent (SE). The SE (containing a high concentration of Cs) is sent to DWPF for vitrification. The Cs depleted aqueous raffinate stream from the extraction process is sent to the AFP.

The AFP, which is located downstream of the CSSX process, is the third SWPF processing stage. The Cs depleted aqueous raffinate stream from the CSSX extraction process for batches not expected to require additional processing via AFP, is sampled and analyzed at the AFP to confirm that it meets all SPF waste acceptance criteria as Decontaminated Salt Solution (DSS) and then transferred to SPF for incorporation into grout. Otherwise the Cs depleted aqueous raffinate stream from the CSSX process undergoes additional processing at the AFP using MST to further remove Sr and actinides to the point where, as confirmed by sampling and analysis, the stream meets all SPF waste acceptance criteria as DSS whereupon it is transferred to the SPF for incorporation into grout.

The SWPF is designed to process 7.3 Mgal/yr of salt solution and produce the following outputs for each gallon of salt waste processed:

- ~1.28 gal of DSS for processing at SPF;
- ~0.08 gal of SE for processing at DWPF; and
- ~0.02 gal of concentrated MST waste slurry for processing at DWPF.

The interface boundaries between SWPF and other liquid waste facilities as described in the SWPF Documented Safety Analysis are as follows:

- DWPF Interface - Seal plate outside of SWPF Waste Transfer Enclosure.
- HTF Interface - Seal plate outside of SWPF Waste Transfer Enclosure.
- SPF Interface - Seal plate outside of DSS Hold Tank/Filter Feed Tank-B of Alpha Finishing Facility

C.2.2 Liquid Waste Operations Support

The Contractor shall provide Liquid Waste Operations Support which consists of SDU Construction, SWPF Integration, SWPF Transition, Tank Closures, DOE-3009-2014 Implementation, Technology Development and Deployment, Production Enhancements, and Additional GWS Capability. All capital asset projects and major capital asset modifications shall comply with DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets, as applicable*. The SDU construction activity is the only currently identified capital asset project in the PWS.

C.2.2.1 Saltstone Disposal Unit Construction

The Contractor shall assume responsibility for the completion of SDU #7 and is responsible for the construction of future SDUs. The SDU #7 project will be ongoing at contract turnover and is scheduled to be operational mid-FY21. All SDUs, i.e., #7 - #12, will be a 32 Mgal pre-stressed concrete tank similar in design to SDU #6. Based on required salt waste processing volumes, approximately 20 Mgal of disposal volume for saltstone grout is required annually. SDUs #8 and #9 will be under construction, and SDUs 10 to 12 will be in the design phase, all with an approved project scope, cost, and schedule baseline at the time this contract period of performance starts. Based on the current System Plan, an additional and smaller SDU may be required and will be sized as needed to complete the mission.

The key performance parameters (KPPs) for each SDU structure include but are not limited to: 1) the SDU is free of leaks as demonstrated by leak testing, 2) provides saltstone grout containment, 3) provides infrastructure capable of receiving saltstone grout at a minimum of 100 gallons per minute, and 4) has a leak detection system in accordance with the Z-Area Industrial Solid Waste Landfill Permit requirements. Additional KPPs are identified during the conceptual design process and approved with the project performance baseline at Critical Decision point #2 (CD-2).

The Contractor shall conduct Performance Assessment analysis as necessary to maintain compliance as required by DOE O 435.1 for each SDU. Scope under this PWS element is considered to be complete for each SDU constructed upon declaration of CD-4 approval and turnover to operations including all balance of plant activities to support operations.

C.2.2.2 Salt Waste Processing Facility Transition

The Contractor shall execute the DOE-approved SWPF Operations Transition Plan to assume full accountability and responsibility for continued operations of the SWPF complex without negatively impacting other ongoing LW operations. The duration of transition shall not exceed 90 days. This Plan will be prepared by the incumbent Liquid Waste Contractor and will be ready for execution at the time of IMC contract award. The plan includes the review for inclusiveness and acceptance of all Government-owned real and personal property, all necessary facility asset documentation, safety basis plans and documentation, engineering drawings, FIMS required information, identification of any changes to operations and maintenance procedures, training and training requirements. This effort includes completing the transmittal of all SWPF documents to the SRS Document Control before the end of the transition period.

As part of the acceptance of all Government-owned real and personal property, the Contractor shall complete a formal inventory of all other nuclear and non-nuclear real property and personal property within 60 days upon SWPF and ancillary facilities transfer. Any discrepancies from the existing inventory records shall be reported to the CO.

The Contractor shall ensure that any required reach back to the SWPF construction contractor needed under this PWS element is completed within 60 days of the completion of transition of operations of SWPF to the Contractor.

Supplemental Information

An integral part of the IMC Contract is the requirement for a smooth transition of continued SWPF facilities (complex) operations, after one year of radioactive (i.e., hot) operations from the SWPF construction contractor to the Contractor.

C.2.2.3 Tank Closures

The Contractor shall complete operational closure of the F Tank Farm waste tanks and ancillary facilities including the deactivation of the F to H inter-area transfer line, operational closure of the high risk H Tank Farm waste storage tanks near or in the water table (tanks 9, 10, 11, 13, 14, and 15), and five additional H Tank Farm tanks during this contract period of performance. Tank closures shall be conducted in accordance with the Consolidated General Closure Plan, tank(s)

specific Closure Module, and the DOE Order 435.1 Tier 1 Closure Authorizations and tank(s) specific Tier 2 Closure Plan.

Supplemental Information

The operational closure phase for the Tank Farm waste tanks generally consists of the following activities: 1) removal of heel waste from the tanks, 2) sampling and analysis of the remaining residual waste in the tanks, 3) isolation of the tanks from waste transfer systems and chemical addition systems, 4) filling each tank, tank annulus, and tank cooling coils with grout; 5) capping all tank risers and 6) isolation of the tank from all other tank farm support systems. Following completion of all closure activities, each closed tank will be removed from the Wastewater Permit upon SCDHEC approval in accordance with the Consolidated General Closure Plan. A tank closure process flowchart is included as Attachment 3. Tank closure documents are prepared to demonstrate compliance with DOE and regulatory requirements as well as NDAA Section 3116. The Performance Assessments and the Tier 1 Closure Authorizations for both F and H Area Tank Farms are complete.

Types I, II, and IV older style high level waste tanks (Tanks 1F through 4F, 7F, 8F, 9H through 11H, 13H through 15H, and 21H through 24H) are planned for operational closure in accordance with a formal agreement (FFA) between the DOE, the SCDHEC and the EPA. Some of these tanks may require cooling coil flushing and annulus cleaning (Type I and II tanks).

C.2.2.3.1 Tank Heel Removal and Residual Sampling

Once bulk waste removal is completed, the remaining waste in a tank is referred to as the heel. The Contractor shall remove the heel waste from each tank. When heel waste removal efforts are determined to be sufficient, the Contractor shall submit a request to enter the Sampling and Analysis Phase and obtain preliminary cease waste removal concurrence from DOE, the EPA, and SCDHEC. The Contractor shall subsequently sample and analyze the resulting “residual” waste remaining in the tank(s), document the results in a Residual Inventory Determination Report, and prepare a Special Analysis as a supplement to the F or H Area Tank Farm Performance Assessment, as appropriate. The Contractor shall also prepare a Waste Removal report as well as a Waste Concentrations Calculation report to serve as inputs to the development of the Tier 2 Closure Plan. The Contractor shall prepare a Closure Module and Tier 2 Closure Plan to confirm the DOE Order 435.1 and regulatory performance objectives continue to be met and that the stabilized tank(s) is protective of human health and the environment. An FFA Final Cease Waste Removal concurrence shall be prepared by the Contractor and must be approved by the SCDHEC and the EPA for each tank.

Supplemental Information

Waste from each entire tank farm shall be removed to the maximum extent practicable achieving approximately 99 percent removal of the highly radioactive radionuclides as defined by the applicable Basis for Section 3116 Determination for Closure document.

Tank waste heel removal is required with documented waste removal results to demonstrate to DOE, SCDHEC, and EPA the diminishing effectiveness of each deployed waste removal technology and that additional waste removal is not practical. Residual sampling and analysis must

be conducted in accordance with the SCDHEC-approved Liquid Waste Tank Residual Sampling and Analysis Plan and the associated Quality Assurance Program Plan, which specify Savannah River National Laboratory (SRNL) as the only laboratory that can perform these analyses. These services are obtained via an SLA. Concentration and volume data are used to characterize the residual material to produce radiological and non-radiological inventories for the Special Analysis and Closure Module.

C.2.2.3.2 Tank Isolation

The Contractor shall isolate waste tanks and associated systems in accordance with the associated tank specific Closure Module, Tier 2 Closure Plan, and defined safety basis requirements.

Supplemental Information

Isolation activities prior to stabilizing a tank with grout are the physical process of disabling waste transfer and chemical addition systems from the tank such that no material may be transferred into or out of the tank. Tank transfer line isolation may include cutting and capping, and blanking mechanical system components. Isolation of remaining intact services can be performed after the tank has been filled with grout. This includes but is not limited to air, electrical power to all components, and ventilation systems. Isolation plans for each tank being closed are prepared and described in the specific Closure Module.

C.2.2.3.3 Tank Grouting

Prior to grouting the Contractor shall develop the Residuals Inventory Determination Report, perform the Special Analysis, and prepare the Closure Module and Tier 2 Closure Plan. After the Closure Module is approved by SCDHEC, the Tier 2 Closure Plan is approved by DOE, and DOE, SCDHEC, and EPA provide their respective Final Cease Waste Removal decisions, the Contractor shall stabilize tanks with grout in accordance with the approved Closure Module and Tier 2 Closure Plan.

A tank is considered “closed” when DOE concurs that the Contractor has completed the work scope to remove the tank from service as defined in the approved Closure Module. Following closure, the Contractor shall complete any remaining isolation of each tank from Tank Farm services, prepare the tank(s) specific Final Configuration Report and tank(s) specific Explanation of Significant Differences, and then request the tank(s) be added to the Hazardous Waste Permit and removed from the Industrial Wastewater Permit.

Supplemental Information

Grouting is the process of placing reducing grout in the primary tank up to and including the risers, remaining equipment, annulus, and cooling coils. The reducing grout provides long-term chemical durability and minimizes leaching of residual waste over time. The reducing grout is self-leveling, and encapsulates the residual waste and equipment remaining inside the tank and annulus. Grouting activities include field modifications and grout procurement.

For tanks with installed equipment or cooling coils, internal voids are filled with a flowable grout mixture. In those tanks where the cooling coils have broken, alternative techniques are used to minimize voids in the grout matrix.

The final grouted tank configuration is an integral monolith free of voids and ensuring long-lasting protection of human health and the environment.

C.2.2.4 Safety Basis Upgrade

The Contractor shall revise the Documented Safety Analysis (DSA) and Technical Safety Requirements (TSRs), including development/revision of supporting hazards and accident analyses, necessary to comply with DOE-STD-3009-2014, '*Preparation of Nonreactor Nuclear Facility Documented Safety Analysis*' for the Concentrate, Storage, and Transfer Facilities (CSTF) and DWPF within four years of the Notice to Proceed.

Any required revisions to the DSA and TSRs for the CSTF and DWPF shall be submitted in accordance with the memo, Operating Experience Level 1, OE-1: 2015-1. The submittals shall also include an associated implementation plan. If the implementation plan includes physical modifications or additions to the facilities, the modifications or additions shall be completed and shall be executed under the facility operations.

A gap analysis for the SWPF DSA against all of the requirements of DOE-STD-3009-2014 shall be performed and submitted for DOE review and approval within two years after SWPF transition to the Contractor.

The Contractor shall revise the DSA and TSRs, including development/revision of supporting hazards and accident analyses, necessary to resolve the identified gaps for the SWPF DSA.

Supplemental Information

In June 2015, the DOE issued Operating Experience Level 1 (OE-1) 2015-1 to provide requirements related to an evaluation of existing DOE defense nuclear facilities' DSAs to the newly revised DOE Standard (STD) 3009-2014, Preparation of Nonreactor Nuclear Facility Documented Safety Analysis. The OE-1:2015-1 requires qualitative evaluation of Hazard Category 2 facilities with unmitigated offsite dose estimates that exceed 5 rem against the specified requirements of the newly revised STD. The gap analysis required in OE-1:2015-1 is not a full comparison to DOE-STD-3009-2014, rather it is a limited gap analysis focusing on offsite/safety class issues only. The approved gap analysis will be used as input into developing an implementation plan to come into full compliance (i.e., all aspects, not just offsite/safety class issues) with DOE-STD-3009-2014 for the CSTF and DWPF.

C.2.2.5 System Optimization

The Contractor shall identify, develop, and implement improved approaches and technologies for tank closure, tank space management initiatives, waste removal, waste treatment, and/or waste disposal, which reduce lifecycle Liquid Waste program costs, accelerate radioactive liquid waste disposition schedules, or otherwise optimize system performance. The Contractor shall support and participate in DOE-sponsored technology initiatives, which benefit the Liquid Waste system.

The Contractor shall maintain an interactive program/system planning process for Liquid Waste program milestones and execution schedules including comprehensive salt and sludge batch planning. A comprehensive liquid waste system plan that addresses the scope necessary to complete the liquid waste program life cycle shall be developed and submitted to DOE annually.

C.2.2.5.1 Next Generation Solvent (NGS) Deployment

The Contractor shall perform final tie-in of the system modifications associated with NGS implementation into SWPF operations and implement SWPF NGS operations as directed by DOE.

Supplemental Information

A new solvent has been developed that results in significantly improved cesium decontamination factors and processing rates in a caustic side solvent extraction system. The new solvent, termed NGS, has been successfully deployed in the MCU. Use of NGS requires a different strip solution (boric acid) and scrub solution (caustic) to replace the current strip and scrub solutions (solutions of nitric acid). Modifications to provide boric acid storage/transfer and caustic scrub capability are required in order to support SWPF operation with the new solvent.

The necessary modifications in SWPF to allow for use of NGS are complete. These modifications include the three chemical storage tanks (concentrated boric acid, dilute boric acid, and caustic scrub) and the associated infrastructure (building, dikes, sumps, transfer pumps, piping, etc.).

C.2.2.5.2 At-Tank Cesium Removal

The Contractor shall assume responsibility for operating an at-tank cesium removal process, called the Tank Closure Cesium Removal (TCCR) System Unit on waste tank 9H. The Contractor shall also determine an offsite disposal facility for the TCCR filter media and any other contaminated equipment/material not suitable for disposal at SRS. The Contractor will collect the necessary data from the TCCR operation with Tank 9H waste to determine the feasibility and cost effectiveness of that operation on other waste tanks. Based on this determination, a decision will be made whether to proceed with the procurement of a second TCCR unit and plan for the operation of at least two units as supplemental salt processing to complete the LW mission.

Supplemental Information

The TCCR System is an at-tank ion exchange process for cesium removal from liquid salt waste to provide supplemental treatment capability. The TCCR system consists of a module that contains two pre-filters and four shielded ion exchange columns, using two columns at a time in a lead-lag configuration. Crystalline silicon titanate (CST) resin has been selected for current TCCR unit demonstration as the ion exchange media. Saltcake stored in the LW storage tank is dissolved by adding water and recirculating with pumps. The resultant salt solution is transferred out of the tank through jacketed transfer lines and passed through the pre-filters to remove any solids and then processed through the ion exchange columns to remove Cs-137 from the salt solution. Decontaminated salt solution is transferred to a nearby existing waste storage tank for eventual transfer to Tank 50H, feed tank for the Saltstone Production Facility. Resin columns loaded with Cs-137 to the extent practical (“spent”) are removed and replaced with new ion exchange columns and new media. Spent columns are transported to the interim safe storage awaiting disposal. A

HEPA-filtered ventilation system is used to maintain negative pressure in the process area of the module.

This TCCR demonstration has been initiated using Tank 10H salt waste. A total of 210,000 gallons of dissolved salt waste out of Tank 10H were processed through TCCR. Additional operations data is required as the salt dissolution in Tank 10H was less than satisfactory due to the presence of a Burkeite salt layer that was difficult to dissolve with the waste removal equipment employed in the operation. Salt solution density was lower than desired to prove Cs-137 loading capability of the ion exchange columns in addition to discovering higher than expected loading of calcium in the columns. The existing TCCR unit will be modified based on lessons learned and deployed for use with Tank 9H waste to continue the technology demonstration.

C.2.2.5.3 Melter Fabrication

The Contractor shall monitor and evaluate DWPF operational performance of the melter's life expectancy and required HLW canister production in DWPF against the need to procure and fabricate additional melters. The Contractor shall maintain Melter #4 ready to install and complete fabrication of Melter #5 in a time period commensurate with the risk of premature melter failure based on planned DWPF production rates. Building 717-F will continue to be available for storage of unused melters and for the fabrication of future melters.

Supplemental Information

The performance of DWPF is reliant on the continued operation of the melter. The melter design is mature and readily available for the continued use for future melter fabrication. Planning for future melters is based on having a melter ready for installation upon a melter failure which requires one melter in storage ready for installation and a second melter in full fabrication. Currently, DWPF is operating on Melter #3, Melter #4 is completing assembly after undergoing corrective actions to resolve non-compliances. Melter #4 would be available for installation by the end of FY 2020. The refractory brick for Melter #5 is in storage onsite.

C.2.2.5.4 DWPF Operational Improvements

The Contractor shall implement operational improvements of the DWPF to minimize effluents and process additions, to streamline the DWPF feed process, and to maximize DWPF waste processing operations. The operational improvements must at a minimum address the increased SE influent to DWPF from SWPF. The Contractor shall provide all engineering, design, fabrication / modifications, installation of any jumpers, utility tie-in information, and the volumetric changes calculated to result from the proposed operational improvements.

Supplemental Information

The DWPF recycle stream back to the tank farm is highly influenced by the canister decontamination frit stream. Modifications implemented by the Contractor at DWPF could reduce the recycle waste stream back to the Tank Farms by 500,000 gallons annually.

C.2.2.5.5 Tank 48 Recovery

The Contractor shall maintain Tank 48H in a safe condition during the contract period. The Contractor shall also resume technology development activities to determine path forward for the treatment and disposition of Tank 48H waste with the intention of implementing the treatment method and completing treatment operations in the contract period of performance.

If the Contractor determines it is advantageous to return Tank 48H to service as a part of optimization efforts during the contract period, the Contractor shall provide an Analysis of Alternatives to the CO that includes consideration of previous alternatives analyses, identification of any new approaches, and a final recommended approach. Any recommendation to recover Tank 48H and return it to high level waste service must address the technical approach, safety basis impacts, cost, and schedule among other attributes.

Supplemental Information

Tank 48H, located in the H-Tank Farm, is a 1.3 million gallon Type III compliant high level waste tank. It currently holds approximately 250,000 gallons of radioactive liquid waste material from the operation of the In-Tank Precipitation process. The tank contains approximately 26,000 kg of organic tetraphenylborate compounds. The organic material is incompatible with other waste treatment facilities at SRS; consequently, the tank is isolated from the other tanks in H-Tank Farm.

Tank 48H is located in close proximity to DWPF sludge preparation/qualification tank (Tank 51H), the Saltstone Production Facility feed tank (Tank 50H), and the SWPF feed tank (Tank 49H). As such, its return to service could greatly enhance the ability to prepare salt or sludge feed batches.

DOE and its contractors have considered a number of technologies and operational approaches to the recovery of Tank 48H. Those technologies have historically been cost prohibitive and have not developed beyond the design and laboratory scale testing phase.

C.2.2.5.6 Technology Development and Deployment

The Contractor shall identify and propose technology development and deployment activities required to optimize the liquid waste system in order to meet or exceed contract commitments and decrease the liquid waste program life cycle cost and/or schedule. Upon review and concurrence from DOE, the Contractor shall execute specific technology development and deployment activities.

C.2.2.6 Additional Glass Waste Storage Capability

The Contractor shall analyze planned production of HLW canisters in DWPF against the storage capabilities of the current GWSBs and determine when additional onsite storage capacity is required. Options to be considered shall include but are not limited to: 1) implementation of double stacking in GWSB #2; 2) a third GWSB similar to the two other facilities; 3) a concrete pad, above grade storage approach potentially with canister overpacks; and 4) design and construction of a canister shipping facility. The Contractor's analysis shall ensure that storage space is available for at least 1,260 canisters by the beginning of FY30. The Contractor's analysis, including a

recommended alternative, shall be completed and submitted for DOE review and approval by the end of FY23. The final determination for any additional storage capability is subject to DOE approval, and the Contractor’s analysis excludes the development of a complete specification for additional GWS capability.

C.3 Nuclear Materials Stabilization and Disposition and Non-Operating Nuclear Facilities (Surveillance, Maintenance, and Deactivation)

The regulatory and scope requirements for this section of the Master IDIQ PWS are undergoing review and are subject to change. Any Task Order(s) in support of C.3 scope is not anticipated to be issued before FY24 and will be subject to the same requirements as set forth in the above performance work statement (PWS).

C.4 Maintenance Mockup Facility (Bldg. 717-F)

The facility has over 64,950 square feet and is two stories tall including 33 hard wall offices and 6 cubicles.

The Contractor shall coordinate with the M&O contractor for the use of Building 717-F Maintenance Shop services. Building 717-F serves as a mock-up facility for Nuclear Material and Liquid Waste equipment such as fabrication of jumpers of H-Canyon and Tank Farm equipment as well as fit-up of replacement glass melters for DWPF.

Supplemental Information:

The Site will continue to require maintenance support services to accomplish the Liquid Waste and Nuclear Materials mission work. The maintenance shop located in F-Area is equipped to support the Site contractors. Critical evaluations of the building infrastructure capacity and condition is currently underway to assure current and future missions are met through FY2040.

C.5 Core Functions: Program Support/Services

Definitions: As used in this section—

- (a) “Program” means an organized set of activities directed toward a common purpose or goal undertaken or proposed in support of an assigned mission area. It is characterized by a strategy for accomplishing a definite objective(s) that identifies the means of accomplishment, particularly in qualitative terms, with respect to work force, material and facility requirements. Programs are typically made up of technology-based activities, projects and supporting operations within the contract PWS.
- (b) “Program Management Plan (PgMP)” means a plan describing the systems, processes, procedures and other associated documentation to be used for management of programmatic and project work within each task order / CLIN under the authorized contract PWS.
- (c) “Performance Measurement Baseline (PMB)” means the uniquely identifiable and segregatable DOE approved baseline for each post-Critical Decision point #2 (CD-2) project being executed under DOE O 413.3 within the authorized contract PWS as defined in DOE O 413.3.

- (d) “Task Order Performance Baseline (TOPB)” means the uniquely identifiable and segregatable DOE approved baseline associated with each Task Order / CLIN within the authorized contract PWS. Within a TOPB may be one or more PMB(s).
- (e) “Contract Performance Baseline (CPB)” means the DOE approved integrated contract performance baseline that includes each approved TOPB and PMB logically linked, integrated, and time phased to represent all authorized work under the authorized contract PWS, as executed per the Contractor’s PgMP.

C.5.1 Project Support Performance Requirements

(a) The Contractor shall:

- (1) Adopt and maintain all required and associated documentation for each Post-Critical Decision-0 (CD-0) project being executed under DOE O 413.3B.
 - (2) Maintain, and update, as appropriate, an EVMS as described in the DOE-H-2024 Earned Value Management System (Mar 2019) (Revised) clause of Section H.
 - (3) Evaluate Program and Project Management requirements and associated implementing instructions, as specified in the remainder of this section, and develop and provide a Program and Project Management Requirements Gap Analysis associated with the incumbent Liquid Waste Contractor’s Program and Project Management systems, processes, procedures, and other associated documentation, to DOE for approval within 60 days of NTP.
 - (4) In addition to, and with submittal of, the Program and Project Management Requirements Gap Analysis, submit a proposal for DOE approval to replace, in part or in whole, the incumbent Liquid Waste Contractor’s Program and Project Management systems, processes, procedures, and other associated documentation if the Contractor elects to affect such replacements.
 - (5) Prepare an independent and stand-alone proposal to DOE for approval make changes to, or deviate from, existing required / associated documentation for a Post-CD-0 project being executed under DOE O 413.3 if the Contractor elects to affect such changes or deviations.
- (b) Proposals submitted for the purposes described in Section C.5.1 (a) shall apply the requirements and associated implementing instructions as defined in the following sections, for safely and effectively performing the cleanup mission at the Site, to all work within the PWS.
- (c) The Contractor and/or the CO shall identify and, if appropriate, mutually agree to any changes to other contract terms and conditions, including cost and schedule, associated with proposals submitted for the purposes described in Section C.5.1 (a), pursuant to applicable requirements of the Task Ordering Procedure in Section H, and the changes clauses in Section I, of this contract.

C.5.1.1 Program and Project Management

- (a) The Contractor shall ensure that program and project management practices are used in the performance of work including the development of plans, baselines, disciplined change control processes, and service level agreements.
- (b) The Contractor shall prepare and submit for DOE approval a PgMP). that describes how the Contractor will provide all management and technical information to:
 - (1) Meet the requirements of DOE O 413.3B, for those projects identified by DOE.
 - (2) Support the budget formulation activities including, but not limited to, emerging work items list; budget formulation input (including Integrated Priority List), the fall budget update submission, budget scenario development, and budget presentations (such as public and regulatory briefings, etc.).
 - (3) Meet the data requirements of the DOE Integrated Planning, Accountability, and Budgeting System (IPABS) for all PWS work
 - (4) Meet the data requirements of the Project Assessment and Reporting System (PARS II) for projects being executed under DOE O 413.3. Data for all scope in the PWS identified by DOE as required to be executed in compliance with DOE O 413.3B shall be uploaded into PARS II in accordance with DOE O 413.3B and the “Contractor Project Performance Upload Requirements” document maintained by the DOE Office of Project Management.
 - (5) Ensure transparency in PWS performance and efficiency in PWS execution.
 - (6) Support audits, evaluations, and external technical reviews.
 - (7) Support other PWS performance assessments and information needs.
 - (8) Support development of integrated lifecycle cost estimate data, as directed by DOE, for EM Liability purposes.
- (c) All PWS management information developed under this Contract shall be accessible electronically by DOE. The desired outcome is predictable and consistent Contractor performance aligned to customer needs conducted within authorized baseline(s).

C.5.1.2 Earned Value Management System (EVMS)

- (a) The Contractor shall maintain, and update, as appropriate, an Earned Value Management System Description (EVMSD), following adoption of the incumbent Liquid Waste Contractor’s EVMS during Contract Transition, that describes the management processes and controls to be used to implement a compliant EVMS, manage and control work, and complete Contract requirements.
- (b) The EVMSD shall include:

- (1) The baseline development process and the hierarchy of documents used to describe and maintain the CPB, each TOPB and each PMB.
 - (2) Identification of the systems, tools and software and integration of these systems with the Work Breakdown Structure (WBS) and accounting systems and data.
 - (3) The process the Contractor intends to use for earned value management, configuration control, interface control, and document control.
 - (4) The Contractor's Baseline Change Control Process, specifically describing any unique configuration control methodology intended to differentiate change control, if applicable, in relation to the CPB, each TOPB and/or each PMB.
 - (5) The Contractor's process for handling changes that impact costs and not schedule.
 - (6) The Organizational Breakdown Structure, including roles and responsibilities of each major organization and identification of management personnel.
 - (7) A list of EVMS software the Contractor proposes to use for program and project control per the business systems clauses in Section H.
- (c) The Contractor shall comply with the requirements of the Section H Clause entitled, DOE-H-2024, *Earned Value Management System*, and, if required have the EVMS evaluated against the EIA-748 standard per DOE direction. When EVMS certification is required for a project being executed under DOE O 413.3, upon completion of the evaluation and closure of all corrective actions, DOE-PM will certify the Contractor's EVMS as compliant with the EIA-748 standard. After initial evaluation and determination of compliance and / or certification, DOE may at any time require the Contractor to repeat the evaluation and compliance / certification process. The Contractor shall provide all necessary support to conduct the initial and any subsequent evaluations and closure of all corrective actions.
- (d) The Contractor shall flow down EVMS requirements in accordance with the Section H Clause entitled, DOE-H-2024, *Earned Value Management System*.

C.5.1.3 Contract Performance Baseline (CPB)

- (a) The CPB, comprised of TOPB(s) and PMB(s), shall be an integrated and traceable technical scope, schedule, and cost execution baseline(s) that encompasses all activities to execute the requirements of this Contract, informs and is integrated with the other Site contractors' scope, schedule and cost baseline, as applicable, and enables safe, effective and efficient advancement and completion of the Site mission;
- (b) The CPB, and associated TOPB(s) and PMB(s), shall include the following:
 - (1) Technical Scope. The following baseline documents shall be viewed collectively as the technical scope for the cost/schedule control system:
 - (A) Contract PWS and other sections that define work scope and requirements;

- (B) Waste site and facility lists;
- (C) Approved interface agreements; and
- (D) WBS Dictionary Sheets (the WBS submittal shall include a data column which cross-references the WBS elements at the lowest level to the appropriate Contract Line Item Number [CLIN]).

(c) The CPB, and associated TOPB(s) and PMB(s), shall comply with the following requirements:

(1) The WBS shall encompass all activities required in this Contract and provide the basis for all project control system components, including:

- (A) Estimating;
- (B) Scheduling;
- (C) Budgeting; and
- (D) Program and Project performance reporting (as required under this contract).

(2) Control accounts within the WBS shall be identified; and

(3) The baseline and management thereof shall comply with EIA-748 Earned Value Management Systems as approved through the EVMSD.

(d) The CPB, and associated TOPB(s) and PMB(s), schedule shall:

(1) Include all significant external interfaces, regulatory and Defense Nuclear Facilities Safety Board commitments, and Government-Furnished Services and Information (GFS/I) dependencies.

(2) Be an activity based, resource loaded, logical network-based and integrated plan that correlates to the WBS and is vertically traceable to the EVMS control accounts and aligns with the Contractor's field schedules.

(3) Include earned value method at the activity level and be capable of summarizing from control accounts to higher WBS levels.

(4) The CPB cost estimate shall include resource plans / task analyses, detailed resource estimates, basis of estimates, budgetary requirements, and identification of direct costs, indirect costs, management reserve, and fee.

(5) The method used to determine earned value shall be identified for each control account.

(6) The CPB shall be accessible to DOE at any time through access to electronic software and native data files.

- (e) The CPB shall be logically tied, driven, and integrated with:
- (1) Financial system(s) for consistency and accurate reporting of information with traceability to budget and reporting requirements.
 - (2) DOE, congressional, regulatory, and external commitments.
 - (3) Performance milestones including contract performance incentives and other performance measures established by DOE.

C.5.1.4 Contract Performance Baseline Submittals

- (a) The Contractor shall develop and submit an initial CPB as directed by DOE. Subsequent updates to the CPB will occur as each Task Order is negotiated and awarded, and the associated TOPB(s) and PMB(s) implemented into the CPB. These proposed CPB updates, for additional Task Order work only, will be submitted as part of the Task Ordering Process to the CO, for DOE and Contractor negotiation and DOE approval, as part of the Contractor's Task Order Proposals. The Contractor shall comply with the requirements of Section H Clause entitled, *Task Ordering Procedure*. The Contractor shall also follow the requirements of their EVMSD requirements for baseline change control process.
- (b) The Contractor shall provide the WBS, WBS dictionary data, and basis of estimate data in either Microsoft Word[®] or Microsoft Access[®] format. Cost data shall be provided in Microsoft Access[®] or Microsoft Excel[®] format and the schedule shall be provided utilizing the current version of Primavera Systems, Inc., Enterprise for Construction[®] software, unless agreed to otherwise by DOE.
- (c) The Contractor shall provide additional data that may be required by the M&O contractor for development of the Savannah River Sitewide lifecycle baseline, as directed by DOE.
- (d) The Contractor shall support DOE External Independent Review and Energy Systems Acquisition Advisory Board (ESAAB) review as required.

C.5.2 Program and Project Performance Reporting

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

C.5.2.1 Monthly Performance Report

- (a) The Contractor shall submit to DOE a Monthly Performance Report representing the prior month's performance by the 15th of each month. The Monthly Performance Report shall include a summary of overall contract performance, a separate report for each of the major work scopes and projects at the PBS and Task Order level, and a PMB report for each post CD-0 project executed under DOE 413.3.

(b) The summary of overall contract performance shall include:

- (1) Significant accomplishments.
- (2) Major issues including actions required by the Contractor and DOE.
- (3) Analysis of funds expenditure, with projections for the contract, each task order and each DOE O 413.3 project, by FY and life of the Contract.
- (4) Technical scope, schedule, and cost variance analysis; including implications to near term and long-term milestones and deliverables at risk of being missed.
- (5) Discussion of corrective actions currently in place to address performance issues including initiation date of corrective actions.
- (6) Information on any safety or quality matters that emerged or persisted during the reporting month.
- (7) CPB EVMS information using Contract Performance Report formats (DI-MGMT-81466) Format 1, DD Form 2734/1, Mar 05, Work Breakdown Structure, and Format 5, DD Form 2734/5, Mar 05, Explanations and Problem Analysis.
- (8) CPB level summary information from applicable TOPB and PMB sections.

(c) The report for each TOPB shall include:

- (1) Significant accomplishments and progress towards completion of project goals and objectives.
- (2) Key risks and challenges.
- (3) Evaluation of safety performance (including Integrated Safety Management Systems [ISMS] metrics and all recordable injuries, lost-time injuries, and near misses).
- (4) Business structure information to demonstrate ongoing compliance with the requirements of the Section H Clause entitled, Subcontracted Work.
- (5) TOPB EVMS performance information using the following Contract Performance Report formats (DI-MGMT-81466):
- (6) Format 1, DD Form 2734/1, Mar 05, Work Breakdown Structure; and
- (7) Format 5, DD Form 2734/5, Mar 05, Explanations and Problem Analysis;
- (8) TOPB schedule status, which reflects progress against the baseline and includes critical path analysis, performance trends, variance discussion(s), and potential issues related to milestones;
- (9) Task Order Estimate To Completions (ETCs) and Estimate At Completions (EACs);

- (10) 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 utilization of management reserve;
 - (11) 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;
 - (12) The project risk assessment shall also identify the engineering and technology to reduce the risk and uncertainty with the project; and
 - (13) Actions required by DOE, including GFS/I and DOE decisions.
- (d) The PMB report for each post CD-0 project executed under DOE 413.3 shall include:
- (1) Significant accomplishments and progress towards completion of project goals and objectives.
 - (2) Key risks and challenges.
 - (3) Evaluation of safety performance (including ISMS metrics and all recordable injuries, lost-time injuries, and near misses).
 - (4) Business structure information to demonstrate ongoing compliance with the requirements of the Section H Clause entitled, Subcontracted Work;
 - (5) For each post CD-2 project, PMB Performance including EVMS information using the following Contract Performance Report formats (DI-MGMT-81466):
 - (A) Format 1, DD Form 2734/1, Mar 05, Work Breakdown Structure;
 - (B) Format 2, DD Form 2734/2, Mar 05, Organizational Categories;
 - (C) Format 3, DD Form 2734/3, Mar 05, Baseline;
 - (D) Format 4, DD Form 2734/4, Mar 05, Staffing; and
 - (E) Format 5, DD Form 2734/5, Mar 05, Explanations and Problem Analysis.
 - (6) The Contract Performance Reports shall be provided in the format forms referenced in the Integrated Program Management Report (IPMR) Data Item Description (DID) DI-MGMT-81861, unless the Contract specifies otherwise;
 - (7) Contract Funds Status Report (CFSR) shall be provided in accordance with DID, DI-MGMT-81468, CFSR, or equivalent;
 - (8) Baseline schedule status, which reflects progress against the baseline and includes critical path analysis, performance trends, variance discussion(s), and potential issues related to milestones;

- (9) Contract ETCs and EACs;
- (10) 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 utilization of management reserve;
- (11) 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;
- (12) The project risk assessment shall also identify the engineering and technology to reduce the risk and uncertainty with the project; and
- (13) Actions required by DOE, including GFS/I and DOE decisions.

C.5.2.2 Project Review Meetings

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

C.5.3 Cost Estimating

- (a) Contractor developed cost estimates form the basis of the cost baseline of the CPB, and associated TOPB(s) and PMB(s), and are important when evaluating proposed Contract changes. DOE uses these cost estimates for budget formulation, Contract change management, cleanup program planning, establishing a database of estimated and actual costs, and performance measurement.
- (b) Cost estimates shall be credible, well documented, accurate, and comprehensive.
- (c) The Contractor shall prepare cost estimates in accordance with the requirements in Section H Clause entitled, *Cost Estimating System Requirements*, and Section H Clause entitled, *Task Ordering Procedure*, of this Contract and using *The Twelve Steps of High-Quality Cost Estimating Process* identified by the Government Accountability Office (GAO) in GAO-09-3SP, *GAO Cost Estimating and Assessment Guide*, for all priced Contract actions exceeding the simplified acquisition threshold.

C.5.4 Scheduling

- (a) The Contractor's CPB and Integrated Master Schedule (IMS), comprised of TOPB(s) and PMB(s) schedules, shall utilize the DOE provided coding structure in (b) to integrate the Contractor's programmatic activities and projects executed under DOE O 413.3 into the CPB IMS. The CPB IMS integrates the TOPB programmatic activities and activities for projects executed under DOE O 413.3 managed by the Contractor into one schedule.

- (b) The Contractor shall develop the IMS in accordance with the National Defense Industrial Association’s Planning & Scheduling Excellence Guide (v3.0), EIA-748 Guidelines and be resource loaded. The Contractor’s IMS shall utilize the first four levels defined by the EM Corporate Work Breakdown Structure (CWBS), which are 1) Level 1 - Office of Environmental Management, 2) Level 2 - Savannah River Site (SRS) / Savannah River Operations Office (SR), 3) Level 3 - Program Baseline Summary (PBS) and 4) Level 4 - Analytical Building Blocks (ABBs). The CWBS should then be extended below Level 4 based on the way the Contactor plans to manage the work, must address all requirements of the Contractor PWS for all Task Orders under this contract, and be extended to the appropriate lower level(s) that satisfies critical visibility and reporting requirements as defined by the Contractor’s EVMSD.

C.5.5 Risk Management

- (a) Successful execution of the Site cleanup mission requires an integrated risk management program where crosscutting risks and mitigation actions are identified, communicated, and coordinated with DOE and other Site contractors. The conduct of risk management shall result in risk informed prioritization of program, project, and infrastructure investments that facilitate successful project execution and program management.
- (b) The Contractor shall implement a risk management program in compliance OMB Circular A-123 for Enterprise Risk Management, with risk management plans associated with each project being executed under DOE O 413.3B, and DOE policy Requirements for Management of the Office of Environmental Management’s Cleanup Program. The Contractor shall also incorporate the principles of DOE G 413.3-7A, *Risk Management Guide*, and GAO-09-3SP in its risk management process.
- (c) The Contractor shall submit a CPB level Risk Management Plan (RMP) to DOE, comprised of risk management plan(s) for TOPB(s) and risk management plans for project PMBs executed under DOE O 413.3. PMB risk management plans shall be submitted to DOE for approval as required by DOE O 413.3B. The PMB risk management plans do not need to be standalone risk management plans and instead, may be an appendix to the TOPB RMP. The plan shall identify the processes and procedures that will be implemented to address risk identification, qualitative risk assessment, quantitative risk analysis, risk handling, schedule risk analysis, risk monitoring and reporting, and calculating the recommended management reserve and schedule reserve required for adequate management of Contractor-controlled risk.
- (d) The Contractor shall communicate its risk analysis pertaining to crosscutting decisions to DOE and, other Site contractors, including agreement as to who shall be the lead for managing each risk. These crosscutting impacts shall be quantified in terms of probability, cost, and schedule impact to the overall Site cleanup mission, where possible.

C.6 Environment, Safety, Health, & Quality

The Contractor shall establish and maintain the programs, procedures, and processes necessary to ensure the safety and health of the workers, the public, and the environment, and the quality of operations for all activities included in the Contract. The Environment, Safety, Health, & Quality functional areas are—

C.6.1 Worker Safety and Health

The Contractor shall develop (or adapt), staff and implement a Worker Safety and Health Program (WSHP) that complies with 10 CFR 851, *Worker Safety and Health Program*. The WSHP shall be submitted to the CO for review and approval 30 days after NTP. The WSHP must be approved before work commences.

C.6.1.1 Workplace Substance Abuse Programs

- (a) The authorities and requirements for a Workplace Substance Abuse Program (WSAP) are derived from 10 CFR 707, *Workplace Substance Abuse Programs at DOE Sites* and 49 CFR 40, *Procedures for Transportation Workplace Drug and Alcohol Testing Programs*. The WSAP is required of the Contractor, and shall be flowed down to all subcontractors with personnel in testing-designated positions. The M&O contractor will establish program requirements, provide program procedures, conduct employee and supervisory training, establish testing programs, and maintain the official WSAP records.
- (b) The Contractor shall—
- (1) Provide a WSAP Implementation Plan to DOE for approval, and review and update the plan;
 - (2) Comply with the requirements in 10 CFR 707, *Workplace Substance Abuse Programs at DOE Sites*; DOE O 350.1, *Contractor Human Resource Management Programs*; and 49 CFR 40, *Procedures for Transportation Workplace Drug and Alcohol Testing Programs*, as administered by the overall WSAP Implementation Plan;
 - (3) Comply with the M&O contractor established testing program for employees in testing designated positions. Testing designated positions are identified by the Contractor and apply to employees whose duties involve: Access to or handling of classified information; Access to or handling of Special Nuclear Material (SNM); High risk of danger to life, the environment, public health and safety, or national security; and Transportation of hazardous materials to or from a DOE site.
 - (4) Coordinate and provide drug/alcohol testing information to M&O contractor, as required by their program and U.S. Department of Transportation (DOT) regulations;
 - (5) Comply with the M&O contractor established procedures and records management requirements for the implementation of the WSAP;
 - (6) Comply with procedures and programs established by SRS for education awareness on illegal substance use in the workplace, supervisory training regarding their responsibilities with impaired employees, and Employee Assistance Program services; and
 - (7) Report occurrence and/or reasonable suspicion testing regarding the WSAP to M&O contractor within the timeframe established to allow notice to DOE within four hours from the time the testing is ordered.

C.6.1.2 Safety Culture

The Contractor shall—

- (a) Adopt and continuously improve organizational culture (Site core values and behaviors).
- (b) Establish and maintain a safety culture and safety conscious work Environment in accordance with Departmental expectations, including implementation and utilization of programs/processes that support employees raising concerns without fear of retaliation. These programs/processes include, but are not limited to, the Employee Concerns Program (ECP); the Differing Professional Opinions Process; Ethics and Compliance Program/Process; and Alternative Dispute Resolution;
- (c) Continuously promote a work environment where employees are encouraged to raise concerns. The Contractor shall define expectations, rigorously reinforce those expectations, and take actions to mitigate the potential for a chilling effect;
- (d) Conduct business in a manner fully transparent to DOE. Activities are demonstrated by open, clear, and well-communicated management actions and technical and project documentation. Identified issues and trends are proactively shared with DOE;
- (e) Champion a culture that promotes proactive self-identification and reporting of issues that identifies and takes action on systemic weaknesses leading to sustained continuous self-improvement; and
- (f) Champion a culture that emphasizes the three safety focus areas of Leadership, Employee Engagement and Organizational Learning and their associated attributes as set forth in Attachment 10 of DOE G 450.4-1C, Integrated Safety Management System Guide.

C.6.2 Integrated Safety Management System (ISMS)

The Contractor shall develop and submit for approval a single Integrated Safety Management System (ISMS) program description in accordance with DOE Acquisition Regulation (DEAR) clause 970.5223-1, Integration of Environment, Safety, and Health into Work Planning and Execution. Contractor shall develop Safety Performance Objectives, Measures and Commitments.

C.6.3 Radiation Protection

The Contractor shall develop and implement a Radiation Protection Program that complies with the requirements of 10 CFR 835, *Occupational Radiation Protection*. Utilize guidance from DOE-STD-1098-2008, *Radiological Control*, to develop the program.

C.6.4 Radiological Assistance Program (RAP)

- (a) The National Nuclear Security Administration (NNSA) manages the Region 3 Radiological Assistance Program (RAP), as described in DOE O 153.1, *Departmental Radiological Emergency Response Assets*, on behalf of DOE. The Region 3 RAP is responsible for

Alabama, Florida, Georgia, North Carolina and South Carolina and others, as directed by DOE Headquarters (HQ).

- (b) 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 and DOE contractor personnel that 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 RAP Response Team will require augmentation of personnel, equipment, and expertise as delineated in work scope arrangements with the Contractor, other Site contractors or offsite vendors.
- (c) The Contractor shall provide qualified personnel, technical expertise, equipment, and support to the DOE Region 3 RAP as delineated in the inter-contractor agreement to ensure maintenance and staffing of emergency teams with the ability to respond under the direction of DOE NNSA and the U.S. Department of Homeland Security.

C.6.5 Quality Assurance (QA)

The Contractor shall submit a Quality Assurance Plan (QAP) that implements Quality Assurance (QA) program requirements identified in Section J, Attachment J-2 and Section E.1 using a graded approach for DOE approval. The graded approach shall be documented and submitted for DOE approval as a standalone document or combined with the QAP.

C.6.6 Procedure Management

The Contractor shall—

- (a) Prepare, review, approve, issue, use, and revise documents to prescribe work processes; and
- (b) Identify and control procedures to ensure proper use.

C.6.7 Training

The Contractor shall—

- (a) Establish a training program in accordance with DOE O 426.2, *Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities*, and all applicable laws and regulations. The Training Program Plan shall be submitted to DOE for approval. The program shall include a Training Implementation Matrix (TIM) or training program description or plan (TPP), which shall be updated annually and submitted to DOE for approval.
- (b) Track employee training status and notify employees of training needs (this includes training provided by other Site contractors, instrument vendors, and internal Contractor training). Training records shall be maintained and retrievable for current employees.
- (c) Coordinate with other Site contractors to consolidate training modules, where practicable; and

- (d) Ensure that its training program is configured/managed so the personnel who do not have the necessary training (e.g., not trained, not pre-qualified, etc.) are prohibited from performing the work that requires the training.

C.6.8 Environmental Regulatory Management

C.6.8.1 Environmental Compliance Activities

The Contractor shall—

- (a) Plan and safely execute a program that meets regulatory commitments reflected in the SRS Federal Facility Agreement, Resource Conservation and Recovery Act (RCRA) permit and closure plans, National Environmental Policy Act (NEPA), settlement agreements, administrative orders, consent decrees, notices of violation(s), Memoranda of Agreements or other notices of direction from DOE and/or regulatory agencies, as applicable.
- (b) Execute work consistent with DOE NEPA decisions (see, <https://www.energy.gov/srs/national-environmental-policy-act-documents-nepa>).
- (c) When requested by DOE, prepare technical information required for additional NEPA analyses and/or documentation.
- (d) Execute the Site environmental permitting and regulatory compliance activities per Section J.
- (e) Support DOE in responding to regulatory issues.
- (f) Cooperate and coordinate when requested by DOE during enforcement actions including tracking, trending, and evaluating actions; coordinating and integrating responses; developing a protocol with the other Site contractors for enforcement inspections; and, for resolving compliance issues.
- (g) Cooperate with all other Site contractors to ensure environmental compliance.
- (h) Assume ownership of regulatory notices of violations that were caused by the facilities assigned under the contract and make the necessary actions to correct the situation and prevent further noncompliance occurrences.
- (i) Support Site visits from regulatory agencies and provide escorts as needed.
- (j) Comply with all applicable Federal environmental laws and regulations. The contractor is also required to comply with the associated South Carolina environmental laws and regulations unless directed by DOE.

C.6.8.2 Environmental Compliance Activities

The Contractor shall—

- (a) Collect, compile, and/or integrate air and liquid effluent (including radionuclides) monitoring data from facilities assigned under the contract.

- (b) Provide the M&O contractor legally and contractually required air, liquid effluent, and other media environmental monitoring mission source and chemical inventory data as applicable.
- (c) Develop an Environmental Management System that is certified or conforming to the International Organization for Standardization (ISO) 14001:2004 or utilize the M&O contractor program.
- (d) Employ knowledgeable, experienced and competent environmental staff.
- (e) Conduct environmental assessments of operations.
- (f) Implement spill prevention control and countermeasures plan in accordance with Clean Water Act requirements and M&O contractor's program.
- (g) Implement a Best Management Practices plan for the management of toxic substances in accordance with the Site's NPDES permit(s).
- (h) Implement a Scavenger Wastewater Program in accordance with the Site's M&O contractor and the Site's NPDES permit(s).
- (i) Compile a list of regulatory commitments with deadlines and track the completions of such commitments.
- (j) Collect and compile solid waste data from facilities assigned under the contract and provide the M&O contractor with this data on a frequent or as-needed basis.

C.6.9 Conduct of Operations (CONOPS)

The Contractor shall—

- (a) Establish and implement a Conduct of Operations (CONOPS) Program in accordance with DOE O 422.1, *Conduct of Operations*, using the graded approach to CONOPS requirements and attributes for all Hazard Category 2, and 3 nuclear facilities and for other than Hazard Category 2, and 3 nuclear facilities. Facilities may be grouped as appropriate.
- (b) Define graded approach for causal analysis and corrective actions for High, Low, and Informational Level reports as required by DOE O 232.2A, *Occurrence Reporting and Processing of Operations Information*, in the QAP.
- (c) Include the contractor's implementing process or procedure for activity level work planning and control in the CONOPS Program that—
 - (1) Applies to all facilities and is not limited to nuclear facilities and activities.
 - (2) Protects the worker, the public, and the environment by scoping, planning, scheduling, and preparing in a manner that results in the safe execution of work.
 - (3) Mitigates or eliminates the hazards associated with the work.

- (4) Identifies the impact of work to the facility and work groups and plan, control, and execute the work without incurring unanticipated issues resulting from the work.
- (5) Maximizes efficiency and effectiveness of Site personnel and material resources.
- (6) Maximizes availability and reliability of facility equipment and systems.
- (7) Maximizes continuous feedback and improvement including worker feedback mechanisms.

C.6.10 Nuclear Safety

The Contractor shall—

- (a) Ensure that all nuclear facilities and nuclear operations activities are maintained and performed within DOE-approved safety bases.
- (b) Implement a nuclear safety program that satisfies the requirements of 10 CFR 830, *Nuclear Safety Management*, including Subpart A, *Quality Assurance Requirements*, and Subpart B, *Safety Basis Requirements*.
- (c) Adopt, maintain and staff, a nuclear criticality safety program.

C.6.11 Conduct of Engineering

- (a) The delegations below are provided for operational flexibility. DOE retains overall authority for the Site.
- (b) The Contractor shall—
 - (1) Function as the Design Authority when appointed in accordance with DOE O 413.3B.
 - (2) Accept delegation per DOE O 420.1 to act as owner as it applies to industry codes and standards.
 - (3) Accept assignment as the National Fire Protection Association (NFPA) 70, National Electrical Code, Authority Having Jurisdiction.
 - (4) Develop a process to delineate which design products are stamped by a licensed professional engineer, for DOE's approval, and implement as approved.
 - (5) Be responsible for the professional quality, technical accuracy, and the coordination of all designs, drawings, specifications, and other services furnished under this Contract.
 - (6) With the M&O contractor as the lead, support the development and maintenance of and provide concurrence with the Site Natural Phenomena Hazards (NPH) requirements documents in accordance with Section J.

- (7) Utilize the Site NPH requirements documents in the design, construction, and analysis of facilities assigned to this Contract in accordance with DOE O 420.1.

C.6.12 Conduct of Maintenance

C.6.12.1 Real Property Maintenance

- (a) In accordance with DOE O 430.1C, *Real Property Asset Management*, real property assets must be sustained by maintenance, repair, and renovation activities to ensure: mission readiness; operational safety; worker health, environmental protection and compliance; security; and property preservation to cost-effectively meet program missions.
- (b) The Contractor shall establish, and implement a maintenance management program for real property assigned to this Contract that includes the following—
 - (1) Establish a software database that provides the ability to track, capture, document, and demonstrate the real property maintenance cost expenditures at the component level.
 - (2) Develop a method to determine the minimum acceptable level of condition for each asset; methods for categorizing Repair Needs (RN) deficiencies that are also classified as Deferred Maintenance (DM); management of the DM backlog if funding allows; and a method to prioritize maintenance work.
 - (3) Keep existing facilities in an acceptable condition, functional, and sustainable in support of current mission. This includes a management process for planning and budgeting for known future cyclical maintenance, repair, and renovation requirements for major building components or infrastructure systems; and a mechanism to track direct and indirect funded expenditures for maintenance and repair and renovation at the asset level.
 - (4) Develop a technical and management process to align the performance, functional, and physical attributes of real property facilities, structures, systems, and components in the maintenance program with associated requirements, design, and operational information.
 - (5) Ensure real property asset availability for planned use or disposition using preventive and predictive maintenance and repairs.
 - (6) Develop a five year forecast, by fiscal year, and update annually to identify financial investments for sustainment of real property assets to support DOE strategic plans, program guidance, and Departmental performance targets. Include consideration for desired level of service, remaining service life, current condition assessments, Energy Independence and Security Act energy and water evaluations, utilizations surveys, the mission dependency of the asset, and projected funding for DM reduction.
 - (7) Support M&O contractor in the Site Condition Assessment Surveys/Condition Assessment Information System (CAIS) for assigned facilities, other structures and facilities, real property trailers, and real property CONEX boxes. Any issues found

during condition assessments surveys will be handled in accordance with the Contractor Assurance System (CAS).

C.6.12.2 Nuclear Facility Maintenance

- (a) The Contractor shall perform maintenance in accordance with the requirements of DOE O 433.1B, *Maintenance Management Program for DOE Nuclear Facilities*, to minimize the likelihood and consequences of human fallibility or technical and organizational system failures.
- (b) The Contractor shall—
 - (1) Develop and implement a Nuclear Maintenance Management Program (NMMP) using the general and specific requirements and attributes identified in DOE O 433.1B for the DOE Hazard Category 2 and 3 Nuclear Facility;
 - (2) Provide to DOE for approval NMMP description documents consisting of entries for each general and specific maintenance requirement and attribute of DOE O 433.1B;
 - (3) Review, update, and obtain DOE approval of nuclear maintenance documentation demonstrating conformance at inception, when changes in conditions require changes in the documentation, and at least every three years or as directed by DOE (minor administrative changes and corrections or routine updates to cited documents do not require new DOE approval); and
 - (4) An NMMP may be written to encompass both nuclear and non-nuclear facility maintenance in a single program.

C.6.13 Fire Protection Program

- (a) Existing Fire Protection Exemptions and Equivalencies are provided in Section J.
- (b) The Contractor shall—
 - (1) Ensure new projects and facility design, construction, and modifications involving fire systems are in accordance with Savannah River Fire Protection Design Requirements (HNF-36174).
 - (2) Ensure all fire permits required by NFPA 1, Fire Code, Section 1.12 are approved and in place to perform the IMCC PWS.

C.7 Personal Property Management

C.7.1 Personal Property Management Program

- (a) The Savannah River Personal Property and Materials Management Program managed by the M&O contractor is an over-arching program conducted in accordance with established DOE directives and other regulations and laws (FAR Part 52.245-1, *Government Property*; DEAR Part 952.245-5, *Government Property* (Cost Reimbursement; Time and Materials, or Labor-

Hour Contracts; Section J.67, *Laws, Regulations, and DOE Directives*; and 41 CFR 109, *DOE Property Management Regulations*) that enables effective and efficient stewardship of personal property assets, and optimum reuse and disposal of federal personal property.

(b) The Contractor shall—

- (1) Participate with the M&O contractor in the development and execution of the Savannah River Site Personal Property and Materials Management Program. The program provides for efficient tracking of accountable personal property Sitewide, management of the primary property management Sitewide database, including providing Sitewide property management reports and other related systems, central recycling, excess property dispositioning, equipment transfers and loans, and maintenance of central warehouses and associated inventory. Discrepancies amongst the other Site contractors that cannot be resolved internally shall be resolved through the interface management process (as defined in 3B Property and Materials Management Manual in accordance with Section J).
- (2) Manage a Contract-specific Personal Property and Materials Management Program consistent with the Site Program and requires the following—
 - (A) Provide a Contract-specific Personal Property and Material Management Program (Property Management System) and submit for DOE approval.
 - (B) Work with the M&O contractor and other Site contractors in establishing Site Personal Property and Materials Management policies and procedures.
 - (C) Conduct a complete, wall-to-wall physical Contractor Controlled Inventory, including bar coding and tagging as applicable, and provide a report to DOE.
 - (D) Participate in Sitewide personal property borrowing and loaning activities (domestically and abroad); loans of Government property to and from non-contractors, other DOE sites, and/or other agencies.
 - (E) Participate in the Sitewide precious metals recycling program.
 - (F) Maintain an accurate inventory throughout the lifecycle of the Contract.

C.7.2 Disposition of Excess Personal Property

(a) When personal property in Condition Code 1, 4, or 7 (41 CFR 102-36.240) is determined to be excess to the needs of this Contract, it shall be posted on the Sitewide Excess Personal Property Bulletin Board for seven days. If the asset is not reutilized on the Site, then the Contractor shall consult with the M&O contractor for further and final disposition.

(b) The Contractor shall—

- (1) Manage planning, coordination, asset isolation, cleanup, preparation for removal, transfer, and other activities required to complete the transfer of targeted assets.

- (2) Process scrap metal, paper, wood, and recyclable materials through the M&O contractor.
- (3) Report excess items within the timeframes specified in FAR Part 52.245-1, *Government Property*, and 41 CFR 109, *Department of Energy Property Management Regulations*.
- (4) Disposition nuclear-related or proliferation sensitive property in accordance with the requirements of 41 CFR 109 and DOE O 474.2, *Nuclear Material Control and Accountability*.

C.7.3 Inventory Management

The Contractor shall—

- (a) Manage assigned inventory warehouses. Warehouse facility operations shall provide for tracking, storage, and disbursement of inventory items.
- (b) Perform an annual inventory of Government property within warehouse facilities assigned to this Contract.
- (c) Support an annual inventory with M&O contractor as the lead of the Site convenience storage warehouse and any other shared warehouses containing personal property for this Contract.
- (d) Maintain appropriate levels of designated supplies and emergency response-related items, to ensure the timely availability of critical items.
- (e) Establish the most cost-effective method to provide common-use and critical items, including onsite storage, just-in-time contracts, and basic ordering agreements.
- (f) Follow the priorities for use of mandatory government sources listed in FAR Part 8, *Required Sources of Supplies and Services*, prior to purchasing personal property.
- (g) Maintain stock on hand or provide immediate access to critical items.
- (h) Support the Site automated material systems required to provide customer access and accountability for stored items.
- (i) Develop, implement, and administer the Spare Parts Program for this contract in compliance with DOE O 433.1B, *Maintenance Management Program for DOE Nuclear Facilities*.

C.7.4 Real Property Asset Management

- (a) In accordance with DOE O 430.1C, Real Property Asset Management, real property must be managed in a safe, secure, cost-effective, and sustainable manner; ensure that financial investments in real property are aligned to meet DOE mission needs and requirements; and ensure the real property portfolio is appropriately sized, aligned, and in proper condition to support efficient mission execution. This also includes providing reliable FIMS information to the M&O contractor that provides current, complete, and accurate information on real property

holdings, enabling informed decision making in the planning, budgeting, operation, maintenance, and disposal of real property.

- (b) The Contractor shall participate and coordinate with the M&O contractor in strategic and tactical planning of real property short-term and long-term forecasts for this Contract and provide information to the M&O contractor to document appropriately in master plans: Infrastructure and Services Alignment Plan (ISAP), Five Year Site Plan (FYSP), Master Infrastructure List (MIL), and other planning activities (e.g., Savannah River Site Population Forecasts) being developed and maintained by the M&O contractor.

C.7.5 Facilities Information Management System (Reporting Systems)

The Contractor shall—

- (a) Provide to the M&O contractor, FIMS Administrator on an annual basis, the required maintenance costs, and other data elements that need to be updated in FIMS at the asset level utilizing the captured component level maintenance data to meet the FIMS reporting requirements and timelines.
- (b) Participate in the annual FIMS data validation effort, encompassing records review, onsite asset inspection, and validation of a select number of records. Support development of validation scorecard results and corrective action plan.
- (c) Support the M&O contractor to develop real property performance measurement/metrics for the Site to trend lifecycle management of real property assets.

C.7.6 General Purpose Facility Planning and Management

The Contractor shall, with M&O contractor as the lead, provide information in the Comprehensive Consolidated Housing Plan (CCHP) to—

- (a) Coordinate, manage, and integrate office and warehouse needs within the IMCC PWS and provide cost-effective, efficient, safe, and secure posture of real property to meet operating requirements.
- (b) Evaluate the supply and demand of facilities for the IMCC PWS to develop, maintain, and implement a collective strategy and objective to support and improve the effectiveness and efficiencies of facilities, as documented in the ISAP, FYSP, and CCHP.

C.7.7 Land-Use Planning and Management

- (a) The Contractor shall coordinate with and support the M&O contractor in a range of real property activities, such as conducting land-use planning for areas and specific parcels; conducting reviews and integrating land-use requests for new facilities, infrastructure systems, land improvements, or change of land use; conducting land management activities, including day-to-day implementation of the SRS Land Use Plan (SLUP); managing land use requirements and beneficial reuse of land; and conducting real estate activities in the out-grant and disposal of real property or interests therein.

(b) The desired outcome for land-use planning and management is to perform work in compliance with the SLUP and its implementing plans and procedures, support the M&O contractor in performing management of real property at the Site for DOE, and cooperate in the use of real property among other Site contractors.

(c) The Contractor shall—

- (1) Comply with the SLUP directed by DOE for the IMCC PWS.
- (2) Provide input to the M&O contractor to assess the need for updating the existing or developing new SLUP.
- (3) Ensure that land use actions related to this Contract do not impede safety or completion of other Site contractors' projects on the Site by utilizing the Site Use Site Clearance Permitting system.
- (4) Provide necessary data and information to the M&O contractor for performing Savannah River Site land use planning and management.
- (5) Maintain real property assets and identify corrective actions for deficiencies in land use.

C.8 Information Management

C.8.1 Information Technology (IT) Management

(a) The contractor shall manage information resources to support efficient and effective performance of their contract and mission objectives, and in accordance with DOE site programs:

(b) The Contractor shall—

- (1) Maintain an information technology strategic plan that coordinates IT planning and investment decisions and links contractor specific IMCC PWS;
- (2) Implement an IT investment decision process that utilizes Enterprise Architecture principles;
- (3) Implement and manage IT acquisition processes to achieve cost savings through appropriate IT hardware and software standards, negotiated buying arrangements, and refresh policies;
- (4) Execute a Capital Planning and Investment Control (CPIC) program and office specific processes that support monitoring and demonstrating effective control of the cost, schedule, and in performance of investments and corresponding projects;
- (5) Implement appropriate internal policies regarding the acceptable use of IT assets;
- (6) Utilize the site IT Acquisition and Management governance process when making IT investments;

- (7) Prioritize and select investments, based upon performance and results, as part of the budget development process;
- (8) Maintain an enterprise architecture for the life-cycle management of information resources and related IT investments funded by or operated for DOE;
- (9) Ensure the acquisition, use, and management of IT hardware and software funded by or operated for DOE meet program and mission goals to promote sound resource management;
- (10) Promote consolidation of software acquisition, volume purchasing arrangements, enterprise wide agreements and best practices in software implementation, consistent with the Program Evaluation Management Plan and/or the SmartBuy program;
- (11) Implement a Software Quality Assurance (SQA) program that applies a graded, risk-based approach;
- (12) Ensure compliance with negotiated contract procurement requirements for IT procurements;
- (13) Deploy acquisition strategies for IT hardware designed to take advantage of volume discount savings, this includes promoting use of common hardware and software configurations, where appropriate, and adopt standard replacement policies to make the best use of existing resources;
- (14) Implement and manage IT operations and processes to ensure that information published to federal service-to-citizens public websites are appropriate, timely, and accessible to the public and individuals with disabilities;
- (15) Comply with established security requirements for the protection and control of information, information systems, and matter required to be classified or controlled by statutes, regulations, and DOE Directives, including DOE O 205.1C, *Cyber Security Management*, Department Enterprise Cyber Security Program Plan (DE-SCPP), and DOE O 470.1, *Integrated Safeguards and Security Management*, consistent with the Federal Information Security Management Act of 2002 (FISMA);
- (16) Be responsible for assessing and managing risk within its environment, in the context of acceptable mission risk set collaboratively with the Federal Site Manager;
- (17) Formally establish a Site Risk Management Approach (RMA) that is consistent with the requirements of the applicable Senior DOE Management (SDM) RMA implementation plan;
- (18) Establish and maintain an effective assurance system that provides appropriate transparency to Federal oversight regarding cyber security risk management and overall performance;

- (19) Establish and implement a configuration management approach – where mission appropriate, the approach must consider federally established configurations, such as the Federal Desktop Core Configuration (FDCC) as an alternative;
- (20) Where mission appropriate, or where required in the SDM RMA Implementation Plan, incorporate Federal initiatives such as Homeland Security Presidential Directive (HSPD)-12 (or compatible) logical access capabilities and the use of Internet Protocol (IP) v6 and Domain Name System Security Extensions (DNSSEC) as part of their system development life cycle plans;
- (21) Establish a process to ensure that users acknowledge and consent to site privacy and monitoring policies;
- (22) Establish and maintain an Incident management handling and reporting capability that is consistent with the contractor requirements contained within the applicable SDM RMA Implementation plan. This capability must include Reporting cyber security and privacy incidents to the Federal Incident Response Coordinator and Joint Cybersecurity Coordination Center (JC3);
- (23) Adhere to the requirements established by the Committee on National Security Systems (CNSS); requests for equivalencies and for exemptions from CNSS requirements must follow those processes, as amplified by SDM RMA implementation plan direction;
- (24) Take appropriate steps to ensure that the requirements of CNSSP- 300, *National Policy on Control of Compromising Emanations*, and associated instructions (i.e., TEMPEST requirements) are adequately implemented on NSS under its purview consistent with the requirements of the applicable RMIP;
- (25) Confirm and document that a Department or Agency Certified TEMPEST Technical Authority (CTTA) has performed an evaluation during initial authorization and any subsequent security significant changes (i.e., change in components, etc.) as defined in the applicable RMIP;
- (26) Implement requirements for accessing and protecting Restricted Data (RD), Formerly Restricted Data (FRD) and Trans-classified Foreign Nuclear Information (TFNI) as defined in the SDM RMA implementation plans;
- (27) Ensure all information systems operate within the processes defined and approved by the Federal Authorized Official, and that all systems maintain an acceptable level of risk pursuant to (1) the agreed upon risk profile defined by Site and Federal management, and (2) approved oversight and assurance systems; and
- (28) Ensure that all use of radio frequency spectrum is in compliance with Title 47 Code of Federal Regulations (CFR), Part 300, *Manual of Regulations and Procedures for Federal Radio Frequency Management*, and other key publications that provide requirements, standards, and procedures.

C.8.2 Government-Furnished and Other Available Software

- (a) The Contractor will be provided access to the software systems listed in Section J, Attachment J-8, *Government-Furnished Services and Information*, and other software systems as may be necessary to coordinate information exchange with customers and interface partners.
- (b) The Contractor shall—
 - (1) Where applicable, use the software systems listed in Section J, Attachment J-8, *Government-Furnished Services and Information*. The Contractor is not responsible for any updates of listed software except where noted;
 - (2) Identify software development needs to the attention of the Governance Advisory Board per Section J, Attachment J-3, *Savannah River Site Services and Interface Requirements Matrix*;
 - (3) Provide any additional databases and software programs deemed necessary to manage staff training requirements, facility equipment, analytical data, compliance with environmental regulations, and protection of the safety and health of its employees, in accordance with the strategic planning and governance provided above; and
 - (4) Ensure that all software meet the QA Requirements of their software QAP.

C.8.3 Government-Furnished Services and Information

- (a) The Contractor will be provided with some programs and services to accomplish its mission. A detailed listing of services and information is given in Section J, Attachment J-8 *Government-Furnished Services and Information*.
- (b) DOE is committed to providing effective support to the Contractor throughout the period of Contract performance, and the Contractor may request that DOE consider providing additional GFS/I. To manage the GFS/I furnished under this Contract and to evaluate the additional GFS/I that may be required by the Contractor, the Contractor shall submit for DOE approval—
 - (1) GFS/I Request: Twelve month advance projection of GFS/I to be furnished under the Contract and additional Contractor-requested GFS/I, prior to each FY, for DOE approval; and
 - (2) GFS/I Request - Update quarterly update to the projection of GFS/I to be furnished under the Contract and additional Contractor-requested GFS/I, prior to each quarter, for DOE approval.
- (c) DOE will review the 12 month and quarterly advance projections. If DOE can support the additional Contractor-requested GFS/I, DOE will notify the Contractor within 30 days that the additional Contractor-requested GFS/I can be provided, and will provide the Contractor details regarding DOE action(s). The supported GFS/I will be added to Section J, Attachment J-8, *Government-Furnished Services and Information*, by Contract modification. If DOE cannot support a Contractor request, DOE will notify the Contractor within 30 days that the requested

GFS/I cannot be provided, and there will be no DOE commitment to the Contractor to furnish the GFS/I.

- (d) For the additional Contractor-requested GFS/I, DOE will use its best efforts to meet these requests; however, in the event that DOE 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.

C.9 Records

- (a) Records Management is a key component of documenting the Savannah River Site's legacy, compliance, cleanup progress, and decisions. The Contractor shall maintain and manage records to ensure adequate and proper documentation of work accomplishments and document DOE stewardship of federal responsibilities and funds. The scope includes developing a strategy for lifecycle management of records, including inventory and schedule management, vital records, restoration, preservation for litigation actions, major collection management, and long-term records storage. Conduct Records Management in accordance with 44 USC Chapters 21, 29, 31, 33, and 35; 36 CFR, Subchapter B (Chapter XII), *Records Management*; the current DOE Records Management Program and Vital Records Orders in Section J, Attachment J-2, *Requirement Sources and Implementing Documents*, and any other DOE requirements as directed by the CO. These functions include, but are not limited to: Tasks associated with creation/receipt, maintenance, storage/preservation, protecting, scheduling, indexing, and dispositioning active and inactive records; Retrieving records from on and offsite storage facilities; and Supporting new and ongoing Freedom of Information Act (FOIA), Privacy Act, Energy Employees Occupational Illness Compensation Program Act, Former Worker Medical Screening Program, Chronic Beryllium Disease Prevention Program, congressional inquiries, litigation holds, and legal discovery requests to ensure that records in Electronic Information Systems can provide adequate and proper documentation for as long as the information is needed.
- (b) The Contractor shall:
- (1) Ensure records generated in the performance of the Contract containing personal information routinely retrieved by name or other personal identifier are classified and maintained in Privacy Act System of Records (SOR) in accordance with FAR 52.224-2, *Privacy Act (Apr. 1984)* and DOE O 206.1, *Department of Energy Privacy Program*;
 - (2) Preserve and disposition records in accordance with National Archives and Records; Administration-approved records disposition schedules. (Note: Records retention standards are applicable for the classes of records described therein, whether the records are owned by the Government or the Contractor [DEAR 970.5204-3]); and
 - (3) Prepare/revise, submit for DOE approval, and execute an approved Records Management Plan, which addresses at a minimum, Records Disposition Plan, Vital Records Program Plan, Vital Records Update, and Records Management Close-out Plan consistent with records management regulations.

- (c) All records (see 44 USC 3301 for statutory definition of a record) acquired or generated by the Contractor in performance of this Contract, except for those defined as Contractor-owned (see Section I, DEAR 970.5204-3, *Access to and Ownership of Records*) and including, but not limited to, records from a predecessor contractor (if applicable) and records described by the Contract as being maintained in Privacy Act SORs shall be the property of the Government.

C.9.1 Electronic Records Management System

- (a) The only certified Electronic Records Management System on the Savannah River Site is the Electronic Document Workflow System (EDWS) based on the OpenText content server product, administered and maintained by the M&O contractor.
- (b) EDMS shall be used as the repository for electronic records unless a replacement system is implemented.
- (c) The Contractor shall develop and implement a plan, subject to approval by DOE, to manage the Contractor's records in EDMS.

C.9.2 Other Information Management J-3 Services

The Contractor shall—

- (a) Acquire services necessary for mission performance in accordance with the *Savannah River Site Services and Interface Requirements Matrix* (Attachment J-3).
- (b) Regarding software engineering and development, bring software development needs to the attention of the Contractor Officer as found in the *Interface Requirements Matrix* (Attachment J-3).

C.10 Contractor Assurance System

- (a) The CAS covers the full scope of contractor operations and is applied to all operating and business functions, including systems for the protection of the worker, public, environment, property, business, and financial matters.
- (b) The Contractor shall—
 - (1) Develop and implement an effective CAS that complies with DOE O 226.1, *Implementation of Department of Energy Oversight Policy*.
 - (2) Participate in the CAS Forum for the purposes of: development, approval and maintenance of the Site Wide Assurance Systems Approach Document for the purpose of identifying and describing approaches; benchmarking best practices; consolidating contractor feedback, and managing workflow configuration alignment among DOE, M&O contractor, and other participating prime contractors.
 - (3) Develop and implement appropriate workflow applications using the M&O contractor-provided software.

- (4) Develop and submit an implementation plan to DOE that aligns CAS elements and implementing procedures with the Site Wide Assurance Systems Approach Document and, M&O contractor-provided software. Full implementation shall occur within 180 days of NTP.

C.10.1 Requirements Management Program

The Contractor shall—

- (a) Develop, document, and implement an effective requirements management system that establishes and maintains an adequate requirements dataset and provides bi-directional traceability; and
- (b) Participate in the requirements management forum.

C.11 Safeguards, Security and Emergency Services

C.11.1 Safeguards and Security (S&S) Program

- (a) The Contractor shall obtain all S&S Services (with the exception of Protective Force) from the M&O contractor utilizing a Functional Service Agreement. The Contractor shall utilize M&O contractor policies, procedures and manuals to ensure compliant execution of the S&S program in order to promote consistency across the site and help to ensure safety, security, and cost effectiveness.
- (b) Baseline services include but are not limited to, the following:
 - (1) Program Planning and Management
 - (2) Physical Protection Systems
 - (3) Material Control and Accountability
 - (4) Information Security
 - (5) Personnel Security
 - (6) Cyber Security
- (c) Protective Force services shall be obtained from the Savannah River Site Protective Force Contractor through the DOE Savannah River Operations Office.

C.11.2 Emergency Management Program

- (a) The Contractor shall obtain all Emergency Management Services from the M&O contractor utilizing a Functional Service Agreement. The Contractor shall utilize M&O contractor policies, procedures and manuals to ensure compliant execution of the Emergency Management program in order to promote consistency across the site and help to ensure safety, security, and cost effectiveness.

(b) Baseline services include but are not limited to, the following:

- (1) Savannah River Site Operations Center (SRSOC) operations;
- (2) SRS Fire Department;
- (3) Emergency Response Organization, including facilities and equipment;
- (4) Facility emergency preparedness programs;
- (5) Site and facility-level drills/exercises and assessments;
- (6) Training.

C.11.3 CYBER Security

(a) The Contractor shall obtain all Cyber Security Services from the M&O contractor utilizing a Functional Service Agreement. The Contractor shall utilize M&O contractor policies, procedures and manuals to ensure compliant execution of the Cyber Security program in order to promote consistency across the site and help to ensure safety, security, and cost effectiveness.

(b) Baseline services include but are not limited to, the following:

- (1) Information Security
- (2) Classification Program
- (3) Classified Matter Protection and Control (CMPC)
- (4) Controlled Unclassified Information (CUI)
- (5) Unclassified Controlled Nuclear Information (UCNI)

C.12 External Affairs

(a) The Contractor shall establish and maintain an External Affairs/Public Affairs program that provides: timely responses to requests for information and assistance; proactive outreach to keep the media and other external constituencies informed about work under the Contract; effective social media; and integrated and effective Site tour planning.

(b) External Affairs includes information and involvement programs to reach and respond to diverse external parties interested in the Savannah River Site (e.g., stakeholders, news media, elected officials and their staffs, local community officials, and the public) with the status, challenges, and objectives of the cleanup work.

(c) For external constituencies, the Contractor shall anticipate specific areas of concern, interest, or controversy and employ communication strategies that inform and ensure close coordination

with DOE communications personnel throughout. DOE retains the primary role in directing the timing, substance and form of public information and must approve products and outreach.

(d) The Contractor shall—

- (1) Submit an External Affairs/Internal Communications Program Description for DOE approval that provides a comprehensive description of the External Affairs Program, staffing, products, and services with an emphasis on innovative approaches to communications.
 - (2) Submit responses to information requested by DOE in compliance with FOIA and Privacy Act requirements.
 - (3) Develop, plan, and coordinate proactive approaches to dissemination of timely information regarding DOE activities, with an emphasis on innovative approaches to communications. The Contractor shall implement this responsibility through coordination with DOE in such a manner that the public, whether it is the media, citizens' groups, private citizens or local, state or federal government officials, has a clear understanding of DOE activities at the Site.
 - (4) Participate in and attend citizen advisory board activities in support of DOE and specific to scope of overall Contract work.
 - (5) Provide strategy and resources for required public comment and outreach processes related to upcoming decision making (e.g., NEPA and CERCLA).
 - (6) Participate in tour planning and preparation, and make facilities and personnel available as requested by DOE. Visits to the project sites shall be part of ongoing communication and outreach activities.
 - (7) Provide DOE External Affairs with current information related to the Contract scope to maintain the external SRS Website.
 - (8) Provide ongoing support to DOE in the preparation of communication materials such as presentations, fact sheets, specialized graphics and charts, large posters, up-to-date photography, video and audio clips, and stories for internal and/or external publication.
 - (9) Coordinate internal employee communication products through DOE for review and approval if they are related to issues/incidents that have the potential to garner external media and stakeholder interest.
 - (10) Receive DOE approval prior to externally releasing information related to the Site.
- (e) These interfaces shall be in coordination with DOE: media, members of the U.S. Congress and their staff, stakeholders and local government.

C.12.1 External Review and Support

- (a) The Contractor shall provide support to DOE in hosting the Defense Nuclear Facilities Safety Board, GAO, Office of Inspector General, and other Government and DOE oversight staff from auditing and assessing organizations, providing required presentations, preparing DOE responses, responding to information requests, and by providing required Subject Matter Experts to respond to questions and information requests.
- (b) The Contractor shall—
 - (1) Provide access to work areas, personnel, and information, as necessary; and
 - (2) In coordination with DOE audit liaisons, provide 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.

C.13 Savannah River Site Interface Management

- (a) The Contractor shall establish and maintain an interface management function in coordination with other Site contractors to collaborate and work cooperatively to improve mutual understanding and seek resolutions in the best interest of the Government and the Site’s mission.
- (b) Interface Management is a key function for effective and efficient delivery of services between contractors on the Site. The role of Interface Management is to solve issues in the best interest of the Government at the lowest level possible in the respective organizations.
- (c) The Contractor shall initially adopt existing interface agreements and then appropriately document, execute, and manage interfaces and agreements made with other Contractors, DOE, and other site users in accordance with the *Site Services and Interface Requirements Matrix* (Attachment J-3), the Section H Clause entitled, *Contractor Interface with Other Contractors and/or Government Employees*, and other documented interfaces. Changes to those agreements, processes, and work schedules, as related to interface management, shall be executed per this PWS and Section H Clause entitled, *Contractor Interface with Other Contractors and/or Government Employees*.
- (d) The Contractor shall—
 - (1) Participate in developing a Savannah River Site Interface Governance Policy to be signed by all other Site contractors. The policy shall—
 - (A) Outline the interface management documents and business structure, including change control processes and hours supported by Section J, Attachment J-3 direct funded services; and
 - (B) Illustrate the different interface types and processes for managing the inter-contractor transactions, including Service Delivery Documents, Memorandums of Agreement, Administrative Interface Agreements.

- (2) Provide input to DOE to support the development and maintenance of interface management processes and storage of the interface agreements.
- (3) Participate in the Sitewide Contractor Leadership Council to improve overall delivery of effective accomplishment of the Site mission. The council is comprised of Site contractor presidents, with participation from DOE Field Offices' Representatives. Site contractors shall attempt to resolve interface issues prior to escalating an issue to DOE.

C.14 Business Performance Requirements

The scope of this section includes activities such as Business Administration, Internal Audit, ECP, and other general performance requirements. The Contractor shall develop, implement, and maintain the required plans and actions in accordance with the laws, regulations, and DOE directives applicable to each of the scope areas described in this section and have optimized these services through an integrated planning approach.

C.14.1 Business Administration

- (a) The Contractor shall establish and maintain cost-effective internal business administration that enables good business decisions, sufficient resources to manage the Contract activities, and a cooperative and (as appropriate) collaborative working relationship with the SRS stakeholders, and DOE.
- (b) The Contractor shall provide the management expertise, leadership, and business administration processes (e.g., administration of market-based employee benefits, independent oversight, legal) and systems (e.g., Finance/Accounting, Contracts/Procurement, and Human Resources) to perform Contract PWS requirements safely, securely, efficiently, and in a cost-effective manner.

C.14.2 Internal Audit

- (a) The Contractor shall establish and maintain an internal audit function that is fully compliant with applicable requirements.
- (b) The Contractor shall—
 - (1) Provide internal audit activities in accordance with the Section I Clause DEAR 970.5232-3 Alternate 19 II, *Accounts, Records, and Inspection*.
 - (2) Conduct internal audits and examination of the records, operations, management systems and controls employed in programs and administrative areas, expenses, subcontractor costs and the transactions with respect to costs claimed to be allowable under Federal Acquisition Regulation (FAR) 30, Cost Accounting Standards Administration, and FAR 31, Contract Cost Principles and Procedures. Ensure the systems of controls employed are audited, documented, and satisfactory to the CO. Up to eight additional audit engagements shall be conducted based on risk analysis, including input from DOE or direction from the DOE CO. The results of such audits, including the working papers, shall be submitted or made available to the DOE CO, or

a Contracting Officer's Representative or other designee. The Contractor shall include this requirement in cost-reimbursement subcontracts (time and materials, labor hour, cost plus for non-fixed price contracts) with an estimated cost exceeding \$5 million and expected to run for more than two years, and other cost-reimbursement subcontracts as determined by DOE.

- (3) Provide annual Subcontract Audit plans for CO approval which lists planned audits to be performed. The Contractor shall perform internal audits consistent with unmodified Institute of Internal Audit (IIA) Standards and external audits consistent with unmodified Generally Accepted Government Auditing Standards (GAGAS).
- (4) Provide annual Internal Audit plans for CO approval which lists planned audits to be performed. The Contractor shall perform internal audits consistent with IIA audit standards.
- (5) Provide to the CO annually, or at other intervals as directed by the CO, copies of the reports reflecting the status of recommendations resulting from management audits performed by its internal audit activity and any other audit organization.
This requirement may be satisfied in part by the reports required under paragraph (i) of DEAR 970.5232-3, *Accounts, Records, and Inspection*.

C.14.3 Employee Concerns Program

- (a) The Contractor shall establish and maintain an ECP that effectively addresses, resolves, and prevents recurrence of employees' concerns.
- (b) In addition, the Contractor shall establish and maintain an ECP that complies with CRD DOE O 442.1B entitled, *Department of Energy Employee Concerns Program*.
- (c) The Contractor shall—
 - (1) Accept, for resolution, existing employee concerns unresolved at the close of the initial Contract transition period.
 - (2) Participate in the chartered Sitewide ECP committee.
 - (3) Assist DOE in the resolution of employee concerns in a manner that protects the health and safety of both employees and the public and ensures effective operation of DOE-related activities under their jurisdiction.
 - (4) Conduct an annual self-assessment to measure the effectiveness of the ECP and implement corrective actions, as necessary.
 - (5) Provide timely notification to DOE of significant staff concerns or allegations of retaliation or harassment.

C.14.4 Outgoing Contract Transition

- (a) The Contractor shall ensure a smooth transition of work scope to avoid disruptions that could impact accomplishing the Savannah River Site mission.
- (b) At the completion of the Contract, or portion(s) of the Contract, the Contractor shall cooperate with DOE and assist the incoming contractor(s) to facilitate an overall effective and seamless Contract transition.

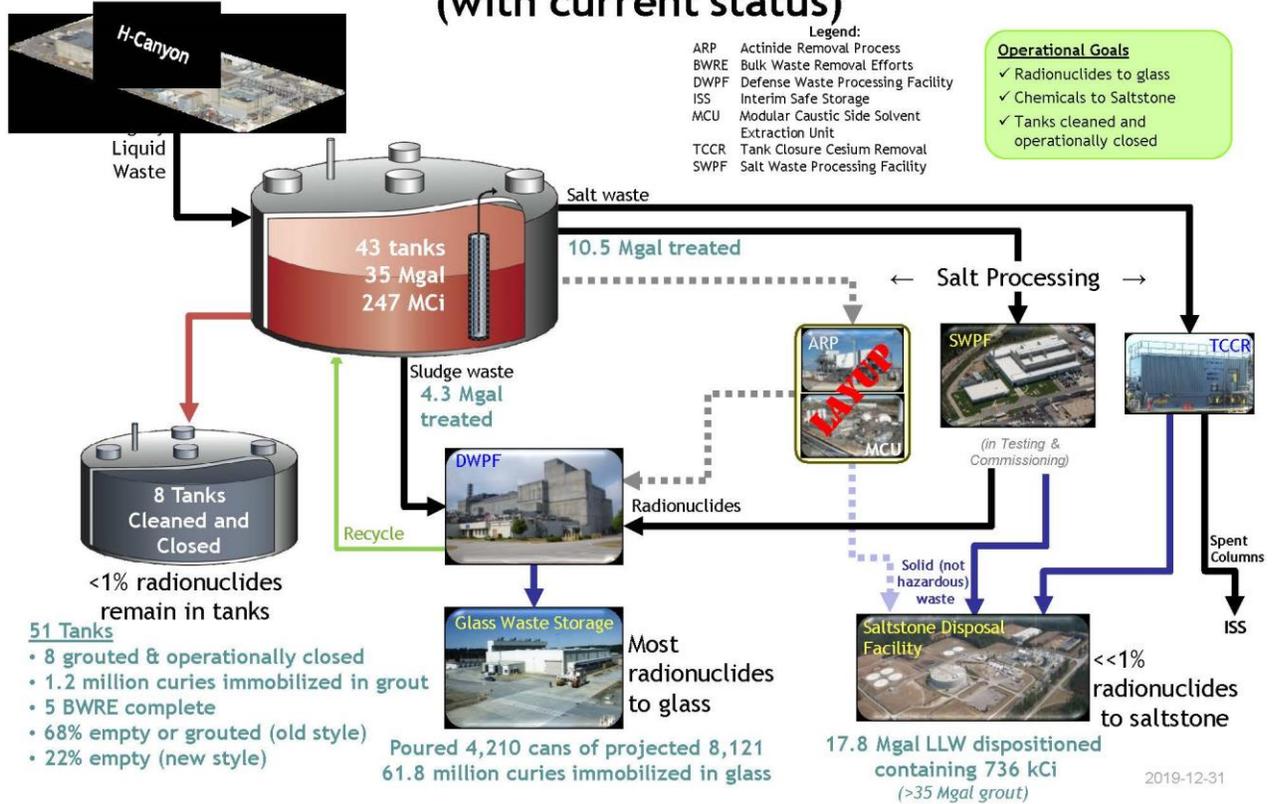
C.15 Usage-Based Services to Be Provided to Other Site Contractors

The Contractor shall provide the services identified in the *Site Services and Interface Requirements Matrix* (Attachment J-3), Changes to the matrix shall be signed showing concurrence by the Contractor and other Site contractors.

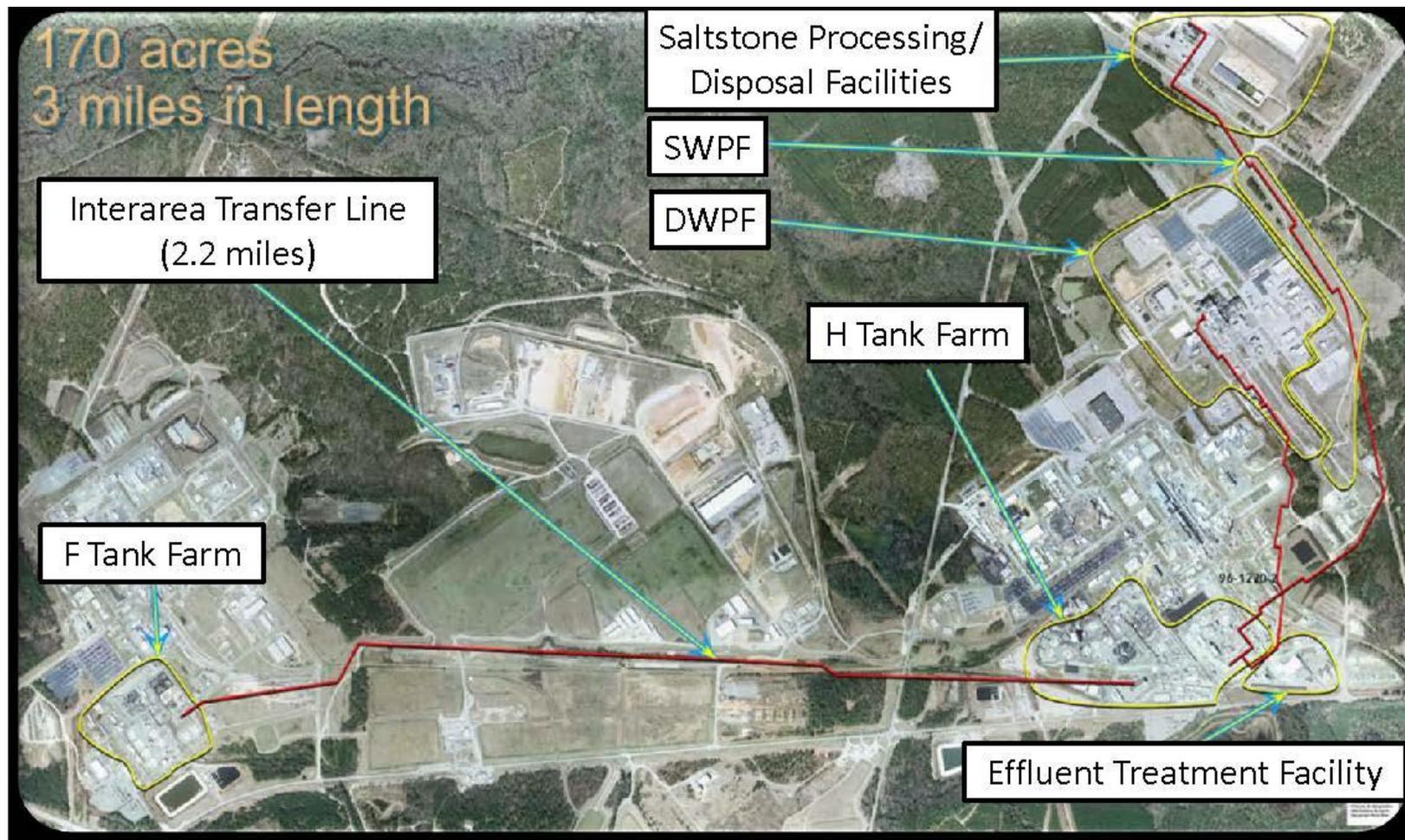
Attachments

Attachment 1 – Liquid Waste Process Diagram

SRR Liquid Waste Program (with current status)



Attachment 2 – Liquid Waste Facilities



Attachment 3 – SRS Tank Closure Regulatory Roadmap

