APPENDIX 12

REV. 4

G-FSP-G-00012

Functional Services Agreement Between Savannah River Nuclear Solutions, LLC and Savannah River Remediation, LLC

Savannah River National Laboratory Services

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1.0 INTRODUCTION

This Functional Services Agreement, Appendix 12 of Memorandum of Agreement (G-MOA-G-00002) describes the service exchange between the Savannah River Site (SRS) Site Management and Operating (M&O) contractor, Savannah River Nuclear Solutions, LLC (SRNS) and Savannah River Remediation, LLC (SRR).

This appendix describes the Savannah River National Laboratory (SRNL) services baseline work to be provided. Included may be, programmatic responsibilities for the Site as well as certain tasks related to monitoring program effectiveness and activities considered to be part of Site Landlord Services. Task-related activities that are requested will be documented in this Functional Services Agreement (FSA) as defined in Contracting Officer (CO) direction to SRNS. Activities not included in the FSA will be requested by the tenant utilizing the Service Level Agreement (SLAs) process. The parties agree to review this FSA periodically (not to exceed a period of two years) and revise it if changes are needed as determined by both parties.

Generally, SRNL provides support to the Liquid Waste organization for the following activities when requested by SRR:

- Nondestructive Examination
- Emergency Response to Unplanned and Natural Events
- Regulatory Technical Support
- Welding Consultation
- Research Operations
- Corrosion Evaluation
- Technical Support – Site Radiological Protection issues

Unless otherwise noted in this document, the services described do not apply to SWPF/Parsons.

2.0 POLICIES, PROCEDURES, AND MANUALS

The following policies, procedures, and manuals will be maintained for the Site by SRNS and will apply when services are provided:

1Q Manual, procedure 9-2, Control of Nondestructive Examination.

1Q Manual, procedure 9-3, Control of Welding and Other Joining Processes.

Procedure Manuals Y16.1, *SRS Procedures Manual for Welding and Other Joining Processes*, Y16.2, *Welding Control Procedures Manual*, and Y16.3, *Welding Guides.*

Procedure Manual Y23, *SRS Procedure Manual for Nondestructive Examination Processes.*

The following SRNS procedures and policies apply when services are provided:

For tasks requested through the Service Level Agreements, the procedures and policies required are delineated by SRR in each Technical Task Request for each service provided.

3.0 CODES AND STANDARDS

SRNL maintains SRNL Procedure, R-MTS-4145 Corrosion Evaluation Testing and appropriate safety documentation to perform materials testing.

Corrosion Evaluation testing and criteria are in accordance with SRS Engineering Standard (ES) 05951.

For tasks requested through the Service Level Agreements, additional Codes and Standards applicable to the service are stipulated by SRR in the Technical Task Request per the E7 Manual for each scope of work.

4.0 SRNL SERVICES

SRNL typically operates normal business from 7:00 a.m. to 5:00 p.m. U.S. Eastern Time, Monday through Friday on AA schedule, except site holidays. Exceptions for overnight and weekend coverage are made on a case-by-case basis. These exceptions are typically identified in the SLAs, cost estimates, or may be communicated by other means (e.g. electronic mail) for urgent cases. Radioactive samples are only accepted into the SRNL E-wing sample receiving area between 7:00 a.m. and 3:30 p.m., Monday through Friday on AA schedule, except site holidays, unless other arrangements have been made. SRNL must be notified of radioactive material shipments prior to arrival (SRNL Procedure Manual L1, Procedure 2.33). SRNL must be notified at least 24 hours in advance prior to receipt of materials that contain accountable quantities of radioactive constituents (SRNL Procedure Manual L7.7, Procedure 1.07). Scheduled outages of the E-wing sample receiving facility will be communicated to SRR. Receipt of non-radioactive samples are to be coordinated with the receiving organization or sample receiving in Analytical Development.

4.1 Nondestructive Examination Site-Wide

SRNL is the Cognizant Technical Function and Design Authority (CTF/DA) for the Control of Nondestructive Examination (NDE) processes performed on SRS per the 1Q Manual, Procedure QAP 9-2, and performs all duties delineated within the procedure.

- Maintain and update the SRS Y23 Manual: SRS Procedure Manual for Nondestructive Examination Processes,
- Evaluate new and emerging NDE technology for potential application at SRS,

- Evaluate and test NDE equipment for Site applications.

4.2 Emergency Response to Unplanned Releases and Natural Events

This service provides for the Emergency Response to Unplanned Releases and Natural Events. The specific services provided by SRNL to SRR include the following, as requested:

Atmospheric Technologies Center - Emergency Response

- Provide quality real-time site-specific meteorological observations and forecast data, as well as atmospheric and surface hydrologic consequence assessments for timely response to Site emergencies
- Operate, maintain, and keep current the Weather Information and Display (WIND) System
- Conduct consequence assessments for timely response to Site emergencies
- Perform air quality calculations, and assessments for Compliance utilizing the WIND system
- Conduct regulatory and permitting non-radiation air quality calculations
- Create and manage meteorological databases for use in Environmental (U.S. Environmental Protection Agency [EPA]) models

Atmospheric Effluent Transport

- Provide meteorological data required for compliance and safe Site operations: Environmental Impact Statements (EISs), Safety Analysis Reports (SARs)
- Maintain and calibrate Site meteorological towers and instrumentation

Site Atmospheric Operational Support

- Support U.S. Forest Service for prescribed fires, etc.
- Provide Site-specific weather forecast (e.g., severe weather, heat stress)
- Deploy Tracking Radioactive Atmospheric Contaminants (TRAC) vehicle
- Provide Emergency Operations Control (EOC) Operations Support High Sensitivity Radiation Measurement via TRAC vehicle.
- Provide for high sensitivity measurement, including plutonium analysis in support of Site bioassay program, hazardous materials (e.g., beryllium in support of Industrial Hygiene [IH]), trace hazardous materials disposition (e.g., uranium in support of Site closure) and operate ultra low-level counting facility and clean rooms.

4.3 Regulatory Technical Support

This service provides for the regulatory technical support in the arena of biological/ecological sciences, geosciences, and biosafety. The specific services SRNL will provide to SRR include the following, as requested:

- Provide scientific basis for ongoing management decisions in areas of biological/ecological sciences, geosciences, and biosafety

- Provide technical expertise to respond to regulatory issues
- Maintain core competencies/capabilities in ecology, geohydrology, and microbiology

Specific tasks/functions are as follows:

- Biological regulatory support
  - Certified Fisheries Lab
  - Mercury network
  - Wetlands assessments
  - Water quality: aquatic and sediment toxicity
  - Stormwater
  - Environmental Sciences Research and Development (R&D) Laboratory
- Geosciences regulatory support
  - Geological Core Facility
  - Background production wells network
- Biosafety/Microbiology
  - Biohazards assessments and standards
  - Unique culture collection
- Database management
  - Ecological databases, Geographic Information System (GIS) layers
  - Aerial photography

4.4 Welding Consultation

SRNL is the CTF/DA for the Control of Welding and Joining processes performed on SRS per the 1Q Manual, Procedure QAP 9-3, and performs all duties delineated within the procedure. SRNL serves as the Program Owner and Custodian for Welding Programs as defined in 1Q, 9-3: Procedure Manuals Y16.1, *SRS Procedures Manual for Welding and Other Joining Processes*, Y16.2, *Welding Control Procedures Manual*, and Y16.3, *Welding Guides.*

4.5 Research Operations

SRNL operates and maintains a complex facility that provides multiple technical services to SRR. SRNL may utilize the following to support SRR requests:

- Operate SRNL facilities including: operations, maintenance, engineering, environmental, regulatory, waste certification/disposition, safety, IH, radiological control, project management, nuclear material management, training, procedure, and security support services.
- Provide operational support to the entire SRNL technical area. Maintain Category 2 and 3 nuclear facilities within the approved authorization basis on a 24/7 schedule.
- Provide shielded cells facility, along with capabilities for shipping and receipt of high rad samples, remote handling, and in-cell analytical support.

- Provide engineering activities associated with SRNL facilities along with site and off-site initiatives and missions. Include Authorization / Safety Basis Management, System Engineering, Technical Oversight, Project Planning, Site Item Reportability and Issue Management (SIRIM) / Price-Anderson Act Amendments (PAAA) Support, Budget Analysis, Strategic Planning support.
- Provide environmental and waste activities associated with SRNL facilities. Include environmental compliance / permitting, waste certification/ disposition, rad material / waste shipping, and transportation compliance support.
- Provide Radiological Control, Safety, and IH activities associated with SRNL facilities. Include Rad /Safety/ IH Program Management, Worker Training, Administrative and Physical Rad /IH Controls, Radiological / IH Monitoring / Surveys, Habitability Studies, Shift Radiological Control Operations (RCO) Support, Rad Planning, As Low As Reasonably Achievable (ALARA) Coordinator support.
- Provide program support services to SRNL. These services include project controls, asset/space management, and commitment tracking. Provide procedures and training to support Operations, Maintenance, and Engineering necessary for SRNL facilities operations and Document Safety Analysis (DSA) /Technical Safety Requirements (TSR) management. Manage all activities associated with the SRNL Safeguards and Security Program per applicable Site procedures and DOE Order requirements. Develop and implement Security Plans associated with the on-site and off-site foreign national visits and associated security plans. Manage material control and accountability (MC&A) procedures program. Manage SRNL activities for special international treaties [e.g., International Atomic Energy Agency (IAEA) United States Additional Protocol Declaration Complementary Access]. Perform MC&A transactions and ensure movement of radioactive materials remains with in technical basis requirements. Support the SRNL criticality committee. Function as primary contact for external assessments.
- Provide lease and facility support costs for the Aiken County Technology Laboratory (ACTL). SRNL activities at ACTL support several SRR programs in waste processing, immobilization, and environmental sciences. These programs include LWO, Environmental Management Complex-wide initiatives, and environmental biotechnology. Engineered Safety Systems (ESS) funds the ACTL telecommunications costs for Site networking, environmental and regulatory compliance, and general support equipment.

The function of these facilities requires contract and in-house labor, materials, and equipment required for the maintenance and repair of the SRNL facilities/structures. Provide primary maintenance support for equipment and facilities including the following:

- Process Ventilation (773-A, 776-A, 735-A, 735-11A, 723-A, 779-A, and 794-A)

- Shielded Cells Operations (Cell Structure, Windows, Cranes, Hoists, and Manipulators)
- Regulatory Monitoring (CAMS, Stack Monitors, Duct Monitors)
- Radioactive & Non-Radioactive Waste Systems
- Electrical Distribution (480V and Down: 63 MCCs/347 Panels)
- Steam Distribution (>8,000 components)
- Water (chilled, deionized, domestic and distilled)
- Air (Instrument, Plant & Breathing)
- Heating, ventilation, and air conditioning (HVAC) (freon, chilled water and steam)
- Pressure Equipment Protection Committee (PEPC)-Relief valves (RVs) (~600 records, ~400 Research and Development (R&D)) and Vessels
- Wind towers (10 across Site)
- ACTL Lab Equipment and Operations

4.6 Corrosion Evaluation

SRNL will provide the functions outlined in the Corrosion Evaluation (CE) Program for the SRS projects, procurement and construction; when requested by SRR. The testing and criteria are in accordance with SRS Engineering Standard (ES) 05951, Corrosion Evaluation: Stainless Steels and Other Corrosion Resistant Alloys. Site Engineering Standards take precedence over national codes and standards at SRS. The specific workscope may include:

- Corrosion Evaluation testing is used to screen materials before they can be sent on site or used in fabrications in corrosive environments. Testing examines corrosion susceptibility under anticipated exposure conditions to prevent in-process failures as specified in ES 05951. SRNL administers this program in support of all of SRS.
- SRNL maintains SRNL Procedure, R-MTS-4154 Corrosion Evaluation Testing and appropriate safety documentation to perform materials testing.
- SRNL maintains four Practical Factors documents related to CE and administers the training and qualification of technicians to perform the tasks. SRNL also performs training of vendors in submittal of samples when ES 05951 is specified by the Design Authority. SRNL then performs testing and provides documentation of items to Procurement to ensure ES 05951 is met.

4.7 Scientific & Technical Information Management (STI)

Scientific & Technical Information Management (STI) provides capture and management of SRS scientific and technical information.

Scientific and Technical Information Management (STI)	SRNS	SRR
Capture/Submission of Scientific and Technical Information (STI)	Perform	Assist

5.0 INTERFACE CONTROL INFORMATION

Samples of material for analysis or testing are to be provided by SRR in accordance with appropriate SLA for specific tasks, and activities associated with shipping will also be included in the SLA (e.g., decontaminating shipping casks). Return of routine residues is performed under site General and Administrative (G&A). Return of non-routine residues (e.g. HLW glass samples) is covered by applicable Service Level Agreements. Samples and residue returns will be transported by SRNS and are performed under Appendix 5 of the Memorandum of Agreement (MOA), Infrastructure Services. It is the responsibility of the shipper to ensure proper documentation, dose rate measurements, and packaging of samples and materials prior to transport.

5.1 Service Maintenance

SRNL facility outages will usually be tracked in facility schedules. These outages typically do not impact overall program schedules, but may impact individual activities. Examples of scheduled outages that can impact schedules are maintenance of windows in shielded cells, steam supply and electrical or ventilation systems. Accountable or Reportable quantities of special nuclear material cannot be accepted during Material Control and Accountability (MC&A) inventories. Unscheduled outages can significantly impact schedules. These outages can include analytical instruments, shielded cells, and cranes. Changes to regulatory guidelines for material handling or impacts to the drain system can similarly impact schedules. These items will be tracked in integrated schedules and communicated to SRR.

The handling, procedural control, and permitting of the transportation casks (e.g., 8-ton cask, encapsulated lead shipping package [ELSP]) will be the responsibility of SRNL. General maintenance of the casks and documentation is part of the SRNL Operations task described above. Job-specific maintenance such as decontamination or wrapping will be included in the services covered in the SLA for the task.

Procurement of instruments or specific equipment for SRR support will continue to be provided by SRR via SLAs. Infrastructure and capital equipment will be purchased under site infrastructure funding. Installed, contaminated, or modified equipment remains the property of SRNL, regardless of funding source, unless arrangements for transfer to SRR have been made prior to purchase. Portable, unmodified equipment remains with SRNL

unless specifically requested for transfer by SRR and transfer is approved by SRNL management, and ownership transfer is per the Asset Management Manual (3B), if applicable.

5.2 SRR Support to SRNL

SRR will generally provide guidance for experiment design, analysis needs, modeling input, and supplies necessary documents or drawings utilizing such processes as the E7 procedure for Technical Task Requests, or equivalent. The SRR customer will supply waste or process samples for experiments, and receives sample residue returns. SRR will be responsible for acceptance of residues and materials generated from SRNL activities in support of SRR programs, including those from the Liquid Waste predecessor contractor. Typically, this material is indirectly returned through the High Activity Drain or Low Activity Waste systems, and governed by SRNL Procedures Manual L1, Procedure 6.01, which ensures compliance with the Waste Acceptance Criteria. However, returns also include samples that do not meet L1 Procedure 6.01 requirements (e.g., sludge, samples in a Satellite Accumulation Area), glass and grout samples, and any samples originating from SRR (or the Liquid Waste predecessor contractor) that do not have a currently approved disposition path. This includes those materials already stored in SRNL. SRR will make resources and information available within an agreed upon schedule to support disposition of these materials within a reasonable time frame. Normally, the absence of a disposition path will be identified before work begins. Typically, the costs associated with obtaining samples, and handling, preparing, transporting, receiving, and disposing residues will be borne by the SRR customer as part of the project or program costs, but may be funded by SRNL (via SLA to SRR) if in support of an off-site customer. Equipment needed to accommodate waste handling (e.g. waste boxes, B-25s) will be included in the SLA cost estimate for a specific task. If SRNL desires to send a residue stream to SRR that has not previously been reviewed and approved by SRR, SRNL will comply with Section 5 of the Tank Farm Waste Acceptance Criteria (WAC) (X-SD-G-00001) for new waste streams sent to the Tank Farm. Typically, this material is indirectly returned through the Low Activity Waste systems, and governed by SRNL Procedures Manual L1, Procedure 6.01, which ensures compliance with the Waste Acceptance Criteria. Baseload services for disposition of Low Activity Waste to the Effluent Treatment Plant (ETP) or High Activity liquid residues is described in Appendix 19 of the MOA, Liquid Waste Receipt Services.

SRR will make information available to SRNL as needed to support SRNL work for SRR or DOE. This information will include access to the Waste Characterization System, SRR document library database, Defense Waste Processing Facility (DWPF) Performance Indicator, morning reports, Design Drawings for facilities and equipment, Document Control Registry (DCR), Asset Information Management (AIM), information required to conduct the site-wide composite analysis (e.g., tank and ancillary equipment inventories and source term data) and other information as subsequently identified and as new information platforms are developed.

SRR will provide review and comment on draft documents that are authored by SRNL and are deliverables to SRR under an SLA. SRNL will resolve SRR comments prior to

finalization. If comments are un-resolvable, they will be addressed by SRNL and SRR management.

5.3 SRNL Facility Use by SRR

The high bay and tank wall mock-up in 723-A has historically been used for testing equipment or training operations personnel on use of equipment. This facility can be used by SRR, provided that SRNL maintains authority to 1) review work planning and procedures prior to commencement of training or testing activities and 2) periodically monitor work activities for compliance with agreed requirements. Oversight of SRR workers performing hands on work activities in the SRNL facility will be the primary responsibility of SRR The SRR personnel are to sign and comply with safety-related documents if applicable (e.g., Hazards Assessment Package) requested by the SRNL 723-A High Bay Lab Custodian's Management (currently the SRNL R&D Engineering Manager). Scheduling of work is to be coordinated with the SRNL High Bay Lab Manager. SRR Occurrence reporting is to be performed as stipulated in the SRR-SRNS Memorandum Of Agreement. Funding for SRNL involvement in reviewing documentation, monitoring work, and other support is to be provided via an SLA.

5.4 Additional Requirements and Responsibilities

At the completion of work described in an SLA, unused samples occasionally will remain. Unless retention is specifically requested by SRR, these unused samples may be returned to SRR within the approved disposal paths, or archived, or used for other programs, at the discretion of SRNL.

5.5 Coordination of Research and Development

SRNL is directly funded by DOE for certain research and development activities that have applicability to Liquid Waste activities. SRR will perform certain research and development activities, using resources other than SRNL, that SRNL will have an interest in its role as the EM corporate laboratory. Both parties recognize the need for appropriate communication of related plans and status with each other and for coordination with each other to further overall DOE site and complex objectives. The SRR and SRNL POCs will facilitate needed communication and coordination.

6.0 SERVICE UNIT INFORMATION

For SRR, see Section 4.0, 5.5 and Attachment 1 of MOA (G-MOA-G-00002).

7.0 POINTS OF CONTACT

Both parties shall assign single Points of Contact (POCs) who will be responsible for coordinating and administering all matters related to this agreement. All requests for services shall flow through these POCs (or their functional designees). The POCs for this agreement are:

SRNS: **David Dooley, Director, SRNL**

SRR: **Vijay Jain, Chief Technology Officer, SRR**

8.0 APPROVALS

SRNS: Sharon Marra 3/22/18

Sharon Marra, SRNL Deputy Director **Date**

SRR: PBreidenbach for 3/27/18

Phil Breidenbach, SRR Chief Engineer **Date**