



**Statement of Work
For
Nondestructive Assay Characterization Support
Services
For Transuranic Waste**

Rev. 0

October 2023

**Salado Isolation Mining Contractors,
Central Characterization Programs
WASTE ISOLATION PILOT PLANT**

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1.0 Introduction and Background

Salado Isolation Mining Contractors (SIMCO) requires technical support services to perform safe and compliant waste characterization and certification activities at multiple waste generation sites throughout the Department of Energy (DOE) complex. SIMCO is acquiring these services in support of its Central Characterization Program (CCP). The purpose of waste characterization is to certify compliance with the requirements contained in the Waste Isolation Pilot Plant (WIPP) Waste Acceptance Criteria (WAC) for all defense-generated Contact-Handled (CH) and Remote-Handled (RH) Transuranic (TRU) waste to be disposed at WIPP.

The characterization data is used to certify the waste for transportation to the Waste Isolation Pilot Project (WIPP) for permanent disposal. The WIPP is a Department of Energy (DOE) facility located 33 miles southeast of the city of Carlsbad in the state of New Mexico.

2.0 Description of Services

The Subcontractor shall provide qualified personnel to perform nondestructive assay (NDA) using either, as appropriate, SIMCO-supplied, Subcontractor owned, government furnished, or leased equipment. A list and description of NDA equipment currently being operated by CCP is contained in Attachment A. Subcontractor operations personnel shall be qualified as Operators and Independent Technical Reviewers by the CCP Training Program prior to using any NDA equipment. Subcontractor operations personnel shall operate the NDA equipment, perform preventive maintenance, and prepare Batch Data Reports (BDRs).

In addition, sufficient subcontractor qualified technical personnel shall be identified to perform as Expert Analysts to complete data review and evaluation, Radioassay Data Sheet preparation, calibration support, and system troubleshooting for all CCP NDA equipment. Troubleshooting, system repair, and system modification shall be performed under the CCP Configuration Management Program. Software management and control shall be performed under the CCP Software Quality Assurance Program. A primary qualified lead for Technical Support, responsible for troubleshooting, system repair, system modification, calibration support, and software management and control, shall also be identified. NDA may be applied to either CH TRU or RH TRU waste characterization.

In addition, CH TRU and RH TRU waste may be characterized by the use of a dose-to-curie (DTC) technique where the activities of major gamma-emitting (or neutron-emitting) radionuclides in a drum are determined through measurement of external dose rates. By modeling the packaged waste and expected radionuclide distribution, the external dose rates can be correlated to the primary gamma or neutron-emitting radionuclide in the package. Other radionuclides are subsequently determined by the use of scaling factors where the ratio of the other radionuclides to the major gamma-emitting or neutron-emitting radionuclide is applied to the estimated activity. The scaling factors are developed by analysis of in-depth information and data available from the Acceptable Knowledge record on a given waste stream.

As applicable, the Subcontractor shall be required to provide DTC operations personnel qualified as Operators and Independent Technical Reviewers by the CCP Training Program prior to use of any DTC equipment. These individuals shall be required to perform dose rate measurements using the DTC equipment, perform preventive maintenance, manage records, and prepare BDRs.

Operations personnel will be assigned to a primary Host site facility, including, but not limited to:

- Los Alamos National Laboratory,
- Oak Ridge National Laboratory,
- Savannah River Site,
- Idaho National Laboratory,

- Lawrence Livermore National Laboratory,
- Hanford,
- Waste Control Specialists (WCS), and
- Small Quantity Sites, to be determined.

Some limited travel to support operations at a location other than the primary Host site may be required.

The Subcontractor shall perform all work under the SIMCO Quality Assurance Program. Proposed improvements to standardize, streamline, and enhance waste characterization and certification processes shall be provided to SIMCO for evaluation and approval prior to implementation. The Subcontractor shall support all efforts to ensure processes and systems comprising the services delivered during the characterization of TRU waste are certified by DOE Carlsbad Field Office (CBFO). These efforts include successful completion of CBFO certification audits and US Environmental Protection Agency inspections, and successful participation in required NDA Performance Demonstration Programs.

The Subcontractor shall have a favorable Foreign Ownership, Control or Influence (FOCI) determination with an approved facility security clearance (FCL) and capable of providing personnel that possess either “L” or “Q” Department of Energy clearances as needed depending on Host site requirements. The need for such clearances shall be identified as early in the planning and scheduling process as feasible to allow the Subcontractor to identify and hire eligible personnel.

A summary of the services to be provided through the CCP program structure include:

- Equipment mobilization and demobilization
- Develop, validate, and maintain operating, calibration, and data review procedures
- NDA equipment operation
- DTC equipment operation
- Evaluation of collected assay or DTC data
- Generation of Batch Data Reports
- Conducting maintenance activities and repair
- Configuration management and software quality assurance support
- Providing personnel qualification and training
- Procurement of subsequent services/parts and electrical support
- Technical/troubleshooting support.

Subcontractor shall ensure SIMCO access to all CCP waste characterization data collection and storage equipment, including associated software and that all such equipment is maintained in accordance with applicable SIMCO and CBFO computer security policies and requirements.

3.0 Assumptions

The Host facility, shall provide general oversight of work performed by CCP and its participants. SIMCO has general management oversight responsibility for the scope defined in this SOW. At each Host site, SIMCO reserves the right to conduct self-assessments, safety walk-downs, drills, work reviews/inspections, or other such oversight activities as are deemed appropriate to ensure that project functions are managed safely and effectively and that deliverable schedules are being properly managed. CCP will have lead planning authority for all characterization work, including:

- Weekly throughput goals established for each host site

- Waste stream processing priorities
- Scope, Budget, and Schedule authority for all projects.

The CCP Vendor Project Manager (VPM), or designee, will conduct a daily pre shift meeting to be attended by the Subcontractor's on-site staff as directed per the CCP VPM. All initial notifications of injury or noncompliance shall be made to the CCP VPM. The Subcontractor shall comply with current CCP procedures.

The Subcontractor shall also support all audits, inspections, reviews, and assessments. The Subcontractor shall comply with host site requirements to perform work at the respective location. The Subcontractor shall maintain a clean and safe work environment at all times.

4.0 Applicable Documents

The Subcontractor shall complete the services required by this SOW in accordance with CCP Procedures shown in Attachment A. The applicable documents include the 10 CFR 851, *Worker Safety and Health Program*, required documents which are 15-GM.02, 15-GM.03, and 15-HS.02. The applicable documents shall be flowed down to any lower tier Subcontractors if applicable. CCP technical procedures specific to each piece of equipment, or to a specific site, and host Site requirements shall be defined in individual task order releases.

If CCP programmatic discrepancies are found within this Statement of Work, the requirements found in the programmatic document listed in Attachment B will take precedence.

5.0 Personnel

All Subcontractor personnel shall meet CCP training and qualification requirements for their position within a reasonable time period of deployment. A Field Supervisor shall be identified as the administrative interface point between Subcontractor personnel at a Host site and the CCP Vendor Project Manager (VPM) at the Host Site. This person shall be the point of contact for on-site Subcontractor employees for administrative and personnel issues. The Subcontractor shall nominate a Lead Operator (LO), who upon CCP concurrence, will be appointed by the CCP VPM. The LO is the operations contact for day-to-day activities reporting to the CCP VPM. The Lead Operator may be the same person as the aforementioned Field Supervisor with concurrence of the CCP VPM.

The Subcontractor's personnel shall be matrixed from the Subcontractor's LO to the CCP VPM or designee. The CCP VPM shall be the main point of contact for the Subcontractor LO concerning subcontractor personnel and work planning. Through coordinated work planning and expectations for work throughput, the Subcontractor's LO shall ensure resources or staffing are adequately proposed and provided to complete work schedules as defined by the VPM or designee. This shall include personnel security clearances. The LO shall be nominated by the Subcontractor and approved by the CCP VPM and the CCP NDA Cognizant Engineer.

The Subcontractor shall be responsible for providing all human resource management to its personnel, including, but not limited to, hiring and retention, initial personnel qualification, assigning personnel to the job, validating and signing time records, informal coaching, formal performance evaluations and providing counseling when necessary, setting personnel pay rates and benefits including pay increases, and maintaining disciplinary duties and taking actions as necessary including recommending time off or

termination. The Subcontractor shall monitor and ensure security cleared personnel are maintaining their clearances and remain qualified for their assigned positions.

Resumes of all Subcontractor personnel shall be submitted for technical approval to the SIMCO Subcontractor Technical Representative (STR) prior to personnel placement at each Host site. These personnel shall be United States citizens in order to work at host sites. The Subcontractor shall provide personnel that are trained and qualified to perform all identified waste characterization operations. All Subcontractor personnel involved with waste characterization operations shall meet and remain current with CCP training, and host site training requirements. All NDA and DTC personnel performing characterization operations shall qualify as Independent Technical Reviewer/Operator. For NDA, Expert Analysts shall be approved by the CCP Site Project Manager (SPM) with the concurrence of the CCP NDA Cognizant Engineer.

Subcontractor's personnel shall be qualified to the host site's Lock out/Tag out procedures as determined by the VPM and be able to perform Lock out/Tag out when required.

The Subcontractor shall be responsible for maintaining required numbers of personnel to perform NDA and DTC operations with personnel meeting the training and experience requirements specified by SIMCO, and the security requirements of the Host site. Cognizant CCP personnel will be responsible for signing the qualification card confirming that the training requirements are completed. The Subcontractor shall maintain adequate staffing to minimize impact to CCP operations due to attrition. The Subcontractor shall notify the SIMCO STR of any resignations in a timely manner to prevent loss of continuity in CCP operations.

All Subcontractor employees shall meet the programmatic qualifications outlined in CCP-QP-002, CCP Training and Qualification Plan unless an exception is expressly authorized by SIMCO. The Subcontractor shall not move existing subcontract employees between subcontract labor categories, without first seeking and receiving approval from SIMCO that such employee meets the qualifications of the proposed position. The Subcontractor shall seek approval of SIMCO by submitting the formal request for change to the Buyer for review and approval by SIMCO (example; Subcontract Technical Representative/Technical Representative). Such request shall provide sufficient information as to why the change in category is warranted. The Subcontractor shall not bill SIMCO for any category change until the change is formally modified or concurred on by SIMCO in writing.

6.0 Technical Requirements

6.1 General

The Subcontractor shall provide NDA and DTC characterization operational and technical personnel and expertise on waste container characterization in accordance with approved CCP procedures.

The Subcontractor shall perform Data Generation Level (DGL) reviews for the processes and shall prepare BDRs through complete independent technical review, prior to submitting BDRs for Project Level (PL) review by the CCP Site Project Manager (SPM) in accordance with approved CCP procedures. Acceptable BDRs shall be submitted to CCP for PL SPM review within seven working days from the NDA assay date or DTC measurement date.

The Subcontractor personnel shall support PL validation and verification, as requested, on BDRs that have been rejected or require re-work. CCP comments on the Subcontractor's BDRs shall be resolved within 5 working days from the date CCP provides the comments to the Subcontractor. Excessive re-work shall be at the Subcontractors expense.

The Subcontractor shall comply with the Host facility Health and Safety Plan and perform work in accordance with their radiological postings, radiological work permits, work clearance permits, including the Lock out and Tag out procedures during all phases of this subcontract. In addition, work performed shall be in accordance with CCP-PO-005, *CCP Conduct of Operations*.

The Subcontractor shall use CCP procedures and program plans. The Subcontractor shall participate and provide support in audits, assessments, inspections, and surveillances of the CCP TRU Waste Characterization Program. The Subcontractor shall assist CCP in the resolution of all findings, concerns, and other items identified as deficiencies pertaining to NDA operations.

The Subcontractor shall provide mobilization services to support characterization needs at various sites. The Subcontractor mobilization support includes equipment deployments, setup, maintenance, startup testing, readiness activities, and demobilization as required.

6.2 Nondestructive Assay and Dose-to-Curie

The Subcontractor personnel shall provide both an electronic and paper copy of the NDA and DTC BDRs. The format of the electronic file, either text or Excel, shall be approved by SIMCO. In addition, an electronic file for each container of waste characterized shall be submitted to the secure file transfer protocol (sftp) site or another approved location. The file format and type will be specified and defined by SIMCO. All reported radionuclide values and their uncertainties shall be reported on the electronic copy.

NDA and DTC BDRs shall meet the reporting requirements of the current revision DOE/WIPP-02-3122, to include the ten WIPP-tracked radionuclides and their activities, as well as any other radionuclides contributing to 95% of the transportation radiological hazard or the fissile gram limit. Other radionuclides, such as Ra-226, may be reported based on additional interest. Summary values including total Pu 239 Fissile Gram Equivalent, total TRU Alpha activity, total TRU alpha activity concentration, and decay heat for each drum in the Batch Data Report (BDR). The required Total Measurement Uncertainty (TMU) for CH TRU measurements shall be incorporated for each measured value. For CH TRU measurements, all required items to be reported are included in Section A.5.2 of DOE/WIPP-02-3122. For RH TRU measurements, a Total Uncertainty Analysis shall be performed to evaluate the sources and magnitude of uncertainties. All required items to be reported for RH TRU are included in the current revision of DOE/WIPP-02-3214, *Remote Handled TRU Waste Characterization Program Implementation Plan*.

The Subcontractor shall perform "info scan", as well as Low Level Waste assay operations in accordance with approved procedures as requested.

The Subcontractor shall prepare and implement an initial Calibration Plan for all deployed NDA equipment, including initial calibration measurements or calibration development calculations, and the number of measurements and source types for verification and confirmation for all systems requiring calibrations. Full-function, stand-alone *in situ* Object Counting Systems (ISOCS) shall be operated on the detector's ISOCS characterization and geometrical modeling approach, and described in the Calibration Plan. Based on this Plan the Subcontractor shall prepare a formal Calibration Report for all calibrated systems. The Calibration Report shall include a complete description and documentation of the calibration development, the documentation and evaluation of the confirmation and verification measurements including percent recovery (%R) and percent relative standard deviation (%RSD), an evaluation of the nominal lower limit(s) of detection regarding the ability of the instrument to perform a TRU/LLW sort at 100 nCi/g, and a summary of quality control parameters. In addition, a Total Measurement Uncertainty (TMU) Report shall be prepared to evaluate each contributing factor to the overall measurement uncertainty. Copies of the draft Calibration and TMU reports shall be supplied to CCP NDA personnel for review and comment resolution prior to submitting the final reports to the Project Manager and CCP Records.

The Subcontractor shall conduct required quality control checks at the specified frequency in DOE/WIPP-02-3122, and DOE/WIPP-02-3124. The results of these checks shall be included in the applicable BDR.

6.3 Equipment

The Subcontractor, SIMCO, the Government, or the Host Site shall provide characterization equipment, as needed. A list and description of NDA equipment currently being operated by SIMCO, and available for the Subcontractor's use is contained in Attachment A. As SIMCO supports other Host sites, additional equipment needs shall be identified. The Subcontractor is responsible for operation and maintenance of the characterization equipment and shall provide personnel to support the maintenance, troubleshooting, repair, and operation of the equipment.

6.4 Configuration Management

Configuration management of new or newly leased equipment shall follow the requirements of CCP-PO-026, *CCP Configuration Management Plan*. Equipment being used in the program will be under the control of the CCP Configuration Management program. The Subcontractor shall provide technical baseline documentation for new characterization equipment including:

- General Layout (including, at a minimum, dimensions, weight, plan and elevation views)
- Electrical Single Line Diagrams
- Information on Safety Systems (including, at a minimum, interlocks, alarm functions, and fire suppression systems)
- Capacity/Lifting pedigree related to lifting components
- Operating and Maintenance Manuals

Changes to the physical configuration of the equipment shall be controlled by the Subcontractor through CCP-CM-001, *CCP Equipment Change Authorization and Documentation*. CCP Configuration Management along with the Subcontractor shall develop a technical baseline for equipment currently deployed at host sites at time of award, the technical baseline shall be provided within one year of contract award. Updates while developing the technical baseline will be provided on a quarterly basis.

The Subcontractor shall provide technical baseline (or updates) upon deployment of new or newly leased equipment into the CCP program. The technical baseline documentation shall be provided to SIMCO prior to certification of the equipment.

Occasionally, the Host sites will request additional information to support maintenance/troubleshooting activities. The Subcontractor shall support SIMCO by developing and providing that information. The Subcontractor shall support SIMCO in the development of Equipment Descriptions and System Design Descriptions, as appropriate. The Subcontractor shall review and approve the CM documents developed by SIMCO as appropriate.

The Subcontractor shall collect data for trending purposes and perform trend analysis as it pertains to the performance of all data affecting systems and subsystems on all deployed NDA characterization equipment. Trend analysis shall be required to be submitted to CCP Configuration Management Department and to CCP Cognizant Engineering the last working week of December, March, June, and September. SIMCO representatives may require one off trend analysis or increased frequency at their discretion. Any and all trend analysis shall be required to be presented to SIMCO in a comprehensive report. The trend analysis report shall require at a minimum the equipment analyzed, visual representation of the data, an easily understandable break down of the data, and recommendations to resolve any potential

issues (if any are discovered). If a SIMCO representative requires a trend analysis other than what was listed, the Subcontractor is required to deliver the trend report within one work week. The raw data shall be provided when requested.

6.5 Maintenance

The Subcontractor shall be responsible for maintenance operations of the deployed (certified and uncertified) NDA characterization equipment and the DTC equipment within CCP's program and shall implement CCP-TP-140, *CCP Equipment Maintenance*, to conduct maintenance and establish spare parts. The Subcontractor shall ensure that Corrective Maintenance (CM), Preventive Maintenance (PM), and Predictive Maintenance (PdM) activities are conducted properly and documented to provide a high degree of confidence that Subcontractor owned, SIMCO supplied, Host site provided, or Government Furnished Equipment (GFE) equipment degradation is identified and corrected, that equipment downtime is minimized due to equipment failure, and that the maintenance performed is cost effective.

The Subcontractor shall start troubleshooting deployed equipment within 24 hours of initial notification. The Subcontractor shall also deploy the necessary resources for troubleshooting, maintenance, and/or repair to the respective host site within four working days after initial notification when deemed necessary by SIMCO. If maintenance and/or repair activities require design drawings and/or documentation changes by the Subcontractor, the revised design drawings and/or documentation shall be submitted to SIMCO for approval within four working days. Extensions may be requested by the Subcontractor to SIMCO, and will be evaluated on a case-by-case basis. The Subcontractor shall provide work instructions in accordance with the Host site work document development procedures.

The Subcontractor shall establish and implement a preventive maintenance program that shall support minimizing the downtime of equipment due to equipment failures. The Subcontractor shall identify PM actions for all characterization equipment and document it in accordance with CCP-TP-140. For deployed equipment, the Subcontractor shall review the existing PMs and update as required. For equipment undergoing deployment, the PMs must be established prior to the equipment being declared operational.

The Subcontractor shall be required to assist SIMCO in the creation of, trending for, and execution of PdM. Any PdM performed on equipment being used in the CCP characterization program shall be documented in accordance with CCP-TP-140.

Upon completion of the performance of a PM, PdM, or CM activity, the Subcontractor shall provide the necessary documentation identified in CCP-TP-140 to SIMCO within 2 days.

The Subcontractor shall confirm the operational capability of data affecting spare parts through the means of physical testing, at a minimum twice a year (approximately every six months) in accordance with CCP-TP-140. Spare parts that fall into this category of testing include but are not limited to detectors and Lynx units. Testing of the data effecting spare parts shall be documented in a comprehensive bi-annual report. The report shall be required to have at a minimum the following; part identification visual representation of the data, an easily understandable break down of the data, and an indication if the spare part is degrading. The report shall be required to be submitted to CCP Configuration Management Engineering and to CCP Cognizant Engineering. SIMCO representatives may require increased frequency of testing and the reporting of the data effecting spare parts at their discretion. The performance of the spare parts shall be required to be included in the quarterly report as outlined in section 6.4. CCP Configuration Management Engineering and CCP Cognizant Engineering shall be notified before testing is conducted. The raw data shall be provided when requested.

The Subcontractor shall ensure the availability of spare parts, especially spares identified as critical spares

that could result in extended down times. The Subcontractor is responsible to identify, document, and provide a list of recommended and critical spares to SIMCO for equipment within CCP's program. Other spares may be stocked at the discretion of the Subcontractor so that operations are minimally impacted.

Spare parts shall be procured in accordance with the Subcontractor Procurements section below.

The Subcontractor shall be responsible for all maintenance activities for both equipment provided by the Subcontractor and GFE provided by SIMCO.

For maintenance activities requiring special skills or qualifications, the Subcontractor shall provide specialists (e.g. system engineers, electricians).

6.6 Records

Records shall be controlled in accordance with CCP procedures. Controlled numbers for logbooks are required and are assigned by SIMCO. The use of the logbooks shall be in accordance with CCP-PO-005, *CCP Conduct of Operations*. NDA and DTC records shall be maintained in accordance with CCP-QP-008, CCP Records Management and submitted to SIMCO for formal records control as specified by CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*.

Records shall be protected and maintained through controlled access by authorized personnel with locked access controls and access lists posted at each storage location. Storage locations shall be appropriate to minimize the risk of damage or loss from humidity, natural disasters, adverse weather conditions, mold or infestations of insects or rodents. Records shall be stored in 1-hour fire-rated cabinets. This includes in-process records maintained by operations personnel.

SIMCO will provide all records personnel.

6.7 Training

The Subcontractor shall provide initial and subsequent training and qualification of NDA Operators capable of meeting the requirements of ASTM C1490, *Guide for Selection, Training and Qualification of Nondestructive Assay (NDA) Personnel*, for on the job training, examination, certification and re-certification. The Subcontractor shall provide NDA training to SIMCO personnel as requested.

7.0 QA Requirements

The Subcontractor shall perform characterization and data generation level review of waste in accordance with CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*.

Control of nonconforming items shall be performed in accordance with CCP-QP-005, *CCP TRU Nonconforming Item Reporting and Control*.

Corrective action reporting and corrective action management shall be performed in accordance with WP 15-GM1002, *Integrated Issues Management*.

The Subcontractor shall ensure that all appropriate software is controlled per CCP-QP-022, *CCP Software Quality Assurance Plan*. These requirements apply to all computer software that manipulates or produces data used to process, gather or generate information used to design, analyze, operate, or make compliance-related decisions related to characterization, packaging, or certification of waste.

Handling, storage, and shipment of items shall be performed in accordance with CCP-QP-023, *CCP*

Handling, Storage and Shipping.

Internal Management Assessments, if requested by SIMCO, shall be performed using CCP-QP-018, *CCP Management Assessment*.

8.0 Deliverables

BDRs shall be submitted in accordance with the stipulations above and CCP procedures.

The Subcontractor shall provide technical baseline documentation, such as calibration documents as described in Appendix A of the WIPP WAC and related CCP documents, equipment descriptions for Configuration Management, and software documentation in accordance with the requirements of the *CCP Software Quality Assurance Program*, CCP-QP-022.

A Preventive Maintenance Plan shall be submitted within 60 days of subcontract award and updated annually.

A list of critical spare parts shall be submitted within 60 days of subcontract award, and shall be updated annually, or as additional equipment is put in service.

A Trend Analysis Report shall be submitted quarterly.

9.0 Subcontractor Procurements

If the Subcontractor is qualified by SIMCO and placed on SIMCO's Qualified Subcontractor List (QSL) for procurement actions, the Subcontractor may procure items such as spare parts.

If the Subcontractor is unable to be placed on the SIMCO QSL, then procurements shall be conducted where Quality Level 1 and 2 items, as well as Quality Level 0 items and services that require quality assurance receipt inspection will be graded and procured by SIMCO on behalf of the Subcontractor in accordance with CCP-QP-001, *CCP Graded Approach*, and CCP-QP-015, *CCP Procurement Program*.

The Subcontractor shall be authorized to purchase items without utilizing the SIMCO procurement process if the items being procured have been graded and determined not to be quality affecting according to the CCP Graded Approach Process. The Subcontractor shall be held responsible for verification and compliance of this step.

Authorized procurements cover the following categories; a) replacement parts for repair of an NDA system, b) replacement parts identified as critical spares for an NDA system, and c) refurbishment or repair of damaged components of an NDA system. The process for these type of procurements by the Subcontractor is that once a need is identified, the need (including specific NDA unit, equipment component, concern, and desired action) will be identified to the Project Subcontract Technical Representative (PSTR) and NDA Cognizant Engineer. After review by the PSTR and NDA Cognizant Engineer, the PSTR will notify the Subcontractor of permission to proceed or request additional information and clarification. When additional information or clarification is received the process will repeat.

All software design, modification, and products will be obtained through a vendor by SIMCO that is approved on the SIMCO QSL for software.

Attachment A – Current Nondestructive Assay Equipment

Current Nondestructive Assay Equipment						
Site	System	ID	Owner	Geometry	Software	Description
ANLE	Mobile In Situ Object Counting System Large Container Counter (MILCC)	MILCC5	CCP GFE	55-gallon Drum, Standard Waste Box	NDA-2000	Two detector cart mounted system with collimation and variable detector geometry options
LANL-TA-54	Mobile In Situ Object Counting System Large Container Counter (MILCC)	MILCC1	CCP GFE	55-gallon Drum, Standard Waste Box	NDA-2000	Two detector cart mounted system with collimation and variable detector geometry options
LANL-TA-54	High Efficiency Neutron Counter (HENC) with Gamma Spectromete	HENC2	LANL	55-gallon Drum	NDA-2000	Four Pi high efficiency neutron counter using He ³ detectors encased in moderating HDPE with integrated HpGe gamma detector
LANL-TA-54	Super High Efficiency Neutron Counter (SHENC) with Gamma Spectrometer	SHENC2	CCP GFE	Standard Waste Box	NDA-2000	Four Pi high efficiency neutron counter using He ³ detectors encased in moderating HDPE with separate HpGe gamma detector
LANL-TWF	High Efficiency Neutron Counter with Gamma Spectrometer	HENC1	Mirion-Lease	55-gallon Drum	NDA-2000	Four Pi high efficiency neutron counter using He ³ detectors encased in moderating HDPE with integrated HpGe gamma detector
LANL-TA-55	Mobile In Situ Object Counting System Large Container Counter	MILCC3	LANL	55-gallon Drum, Standard Waste Box	NDA-2000	Two detector cart mounted system with collimation and variable detector geometry options
LANL-TA-55	High Efficiency Neutron Counter with Gamma Spectrometer	HENC3	CCP GFE	55-gallon Drum	NDA-2000	Four Pi high efficiency neutron counter using He ³ detectors encased in moderating HDPE with integrated HpGe gamma detector
LLNL	Mobile In Situ Object Counting System Large Container Counter	MILCC4	LLNL	55-gallon Drum, Standard Waste Box	NDA-2000	Two detector cart mounted system with collimation and variable detector geometry options
LLNL-B332	Segmented Gamma Scanner (SGS)	SGS	LLNL	55-gallon Drum	NDA-2000	Single detector counting sixteen segments of rotating drum
ORNL-TWPC	Mobile In Situ Object Counting System Large Container Counter	MILCC2	CCP GFE	55-gallon Drum	NDA-2000	Two detector cart mounted system with collimation and variable detector geometry options
SRS-E Area	Mobile In Situ Object Counting System Large Container Counter	MILCC6	CCP GFE	55-gallon Drum, Standard Waste Box	NDA-2000	Two detector cart mounted system with collimation and variable detector geometry options
SRS-K Area	High Efficiency Neutron Counter with Gamma Spectrometer	HENC4	SRS	55-gallon Drum	NDA-2000	Four Pi high efficiency neutron counter using He ³ detectors encased in moderating HDPE with integrated HpGe gamma detector
SRS-K Area	High Efficiency Neutron Counter with Gamma Spectrometer	HENC5	SRS	55-gallon Drum	NDA-2000	Four Pi high efficiency neutron counter using He ³ detectors encased in moderating HDPE with integrated HpGe gamma detector
ANL	Mobile In Situ Object Counting System Large Container Counter	MILCC5	CCP GFE	55-gallon Drum, Standard Waste Box	NDA-2000	Two detector cart mounted system with collimation and variable detector geometry options
Refurbishment at Mirion Technologies in Meriden, CT	Large Box Counter [Nondestructive Assay Box Counter (NABC) consisting of the Box Segmented Gamma Scanner (BSGS) and the Box Neutron Assay System (BNAS)]	NABC	CCP GFE	55-gallon Drum, Standard Waste Box, Standard Large Box-2, Ten Drum Overpack	NDA-2000	Two modules: Neutron module is a four Pi high efficiency neutron counter using He3 detectors encased in moderating HDPE and Gamma module is multiple mounted collimated HpGe detectors with distance adjustments for scanning table mounted geometries as listed.
MLU Storage Carlsbad	Super High Efficiency Neutron Counter with Gamma Spectrometer	SHENC3	CCP GFE	Standard Waste Box	NDA-2000	Four Pi high efficiency neutron counter using He ³ detectors encased in moderating HDPE with separate HpGe gamma detector

Attachment B – CCP Documents

Number	Title
CCP-AK-XXX-XXX	CCP –AK Summary Report for each waste stream at each host site
CCP-CM-001	CCP Equipment Change Authorization and Documentation.
CCP-CM-XXX	Equipment Description Documents related to NDA and DTC
CCP-PO-001	CCP Transuranic Waste Characterization Quality Assurance Project Plan
CCP-PO-002	CCP Transuranic Waste Certification Plan
CCP-PO-005	CCP Conduct of Operations
CCP-PO-006	Central Characterization Project Conduct of Operations Matrix
CCP-PO-026	CCP Configuration Management Plan.
CCP-QP-001	CCP Graded Approach
CCP-QP-002	CCP Training and Qualification Plan
CCP-QP-005	CCP TRU Nonconforming Item Reporting and Control
CCP-QP-008	CCP Records Management
CCP-QP-009	CCP Work Control Process
CCP-QP-010	CCP Document Preparation, Approval and Control
CCP-QP-015	CCP Procurement Program
CCP-QP-016	CCP Control of Measuring, Testing, and Data Collection Equipment
CCP-QP-017	CCP Identification and Control of Items
CCP-QP-018	CCP Management Assessment
CCP-QP-019	CCP Quality Assurance Reporting to Management
CCP-QP-021	CCP Surveillance Program
CCP-QP-022	CCP TRU Software Quality Assurance
CCP-QP-023	CCP Handling, Storage and Shipping
CCP-QP-026	CCP Inspection Control
CCP-QP-027	CCP Test Control
CCP-QP-028	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
CCP-QP-043	CCP Operations Lever Training and Qualifications
CCP-RC-XXX-XXX	Radiological Characterization Technical Reports for DTC of RH TRU Waste

Number	Title
CCP-TP-001	CCP Project Level Data Validation and Verification
CCP-TP-002	CCP Reconciliation of DQOs and Reporting Characterization Data
CCP-TP-003	CCP Sampling Design and Data Analysis for RCRA Characterization
CCP-TP-005	CCP Acceptable Knowledge Documentation
CCP-TP-140	CCP Equipment Maintenance
CCP-TP-XXX	CCP Operating, Calibration, and Data Review Procedures related to NDA and DTC
WP 15-GM1002	Integrated Issues Management
WP 15-GM.02	Worker Safety and Health Program Description
WP 15-GM.03	Integrated Safety Management Description
WP 15-HS.02	Occupational Health Program
