ADVANCED MIXED WASTE TREATEMENT PROJECT
STATEMENT OF WORK

TABLE OF CONTENTS

SECTION C
STATEMENT OF WORK
FOR THE
ADVANCED MIXED WASTE TREATMENT PROJECT (AMWTP)

C.1 CONTRACT PURPOSE AND END STATE VISION

The purpose of this contract is to process and dispose of the Transuranic (TRU) waste and Mixed Low-Level Waste (MLLW) at the Idaho National Laboratory (INL) Site's Transuranic Storage Area (TSA) while maintaining an operational facility through September 30, 2015. The volume of waste that remains to be processed under this contract is what remains of the original 65,000m^3 of "stored" waste (defined in Section B.4(c)). This is primarily to ensure compliance with the 1995 Idaho Settlement Agreement and the INL Site Treatment Plan regarding treating the waste and removing it from the state of Idaho. Therefore, the contract end state vision is that all stored waste and offsite waste received will have been processed and shipped out of the state of Idaho for proper disposal as required under the 1995 Idaho Settlement Agreement and as facilities are no longer needed they are placed in a stable standby condition in accordance with Section C.10. The Advanced Mixed Waste Treatment Project (AMWTP) Contractor is referred to as "the Contractor" or the "AMWTP Contractor." The Contractor has the responsibility for total performance under the contract, including determining the specific methods for accomplishing the work to assure its safe and compliant completion. Although the AMWTP facility was constructed for AMWTP waste, the Department of Energy (DOE) is utilizing the AMWTP facility for processing other waste. Therefore, the Contractor may also be required to perform additional work within the scope of this contract as described in Section C.11, and as directed by the Contracting Officer.

Apart from the AMWTP, there are two major contractors at the INL site. The Idaho Cleanup Project (ICP) contractor is responsible for the majority of Environmental Management (EM)-funded cleanup work at the INL site, including demolition and closure of out-of-service facilities. The INL contractor is responsible for managing the efforts of the national laboratory, including landlord functions. Successful completion of this AMWTP contract statement of work will require close coordination with these two contractors.

C.2 CONTRACTOR PERFORMANCE

The Contractor shall furnish all personnel (trained and qualified), facilities, equipment, material, services and supplies except as set forth in this contract to be furnished by DOE (Exhibit C.2 and Section J, Attachment H), and otherwise do all things necessary to accomplish work in a safe and efficient manner.

The Contractor shall be responsible for providing oversight and project management functions to enable the safe and compliant completion of this Statement of Work (SOW). The Contractor shall be responsible for planning and executing the programs, projects, operations and other activities as described in this SOW. Additionally, the Contractor shall develop, implement, and maintain a resource-loaded integrated baseline as described in Section H.1, Project Control Systems and Reporting Requirements.

The completion of the project will require the Contractor to successfully identify, analyze, resolve, mitigate, eliminate, or avoid many types of risk. Risks to the worker, the public, and the environment are managed through the Integrated Safety Management System (ISMS), the Environmental Safety and Health Program (ES&H), and the Worker Safety and Health Plan required by 10 CFR Part 851. Risk to the project schedule and cost is classified as programmatic or project risk and shall be managed through the Programmatic Risk Management process specified in DOE Order 413.3B. The Contractor shall address programmatic risks and uncertainties in accordance with Section H.2, Programmatic Risks and Uncertainties.

C.3 DESCRIPTION OF WASTE

The Contractor shall process, including retrieval, characterization, treatment (as necessary), packaging, transportation, and disposal, all AMWTP stored waste, and up to $100m^3$ of TRU waste from other DOE sites and INL tenants for a total of up to $28,700m^3$, described throughout Section C.3. Regardless of the actual amount, the end objective remains to disposition all of the waste at an appropriate disposal facility. The wastes include DOE laboratory and processing wastes from Rocky Flats and various DOE facilities. These wastes, with the exception of TRU waste from other DOE sites and INL tenants, are stored in drums, boxes, and bins at the INL Site's TSA. Exhibit C.1 is a diagram of the AMWTP facilities at the INL Site's Radioactive Waste Management Complex (RWMC). Exhibit C.2 briefly describes each building and structure. The wastes may consist of, but may not be limited to, mixtures of various solid materials, including paper, cloth, plastic, rubber, glass, graphite, bricks, concrete, metals, nitrate salts, process sludge, miscellaneous components, and some absorbed liquids.

The majority of the AMWTP waste contains both Resource Conservation and Recovery Act (RCRA) constituents and radioactive constituents, and is therefore mixed TRU and MLLW. Some waste may also contain Toxic Substances Control Act (TSCA) regulated materials such as polychlorinated biphenyls (PCBs) and asbestos.

The Contractor shall process and package the remaining waste into an acceptable waste form for disposal, either at the Waste Isolation Pilot Project (WIPP) or an offsite MLLW treatment/disposal facility. The historical representation of the waste is not a declaration of a particular category of waste (i.e., TRU or MLLW) for disposal purposes. Declaration of a container's waste category (i.e., TRU or MLLW) is based on certification for transportation of the final disposal container.

C.3.1 REMOTE-HANDLED WASTE

A portion of the AMWTP stored waste may contain sufficient radioactivity to be classified as remote-handled waste (i.e., greater than 200 millirem per hour (mR/hr) on contact). These waste types include, but may not be limited to:

- Remote-Handled (RH) TRU waste;
- "Suspect" RH-TRU (waste currently managed as contact-handled (CH) TRU, but containing lead shielding inside its storage container to limit the surface dose rate to less than 200 mR/hr); and
- RH waste historically managed as RH-TRU waste.

For TRU waste that cannot be classified as CH waste, the Contractor shall transfer RH-TRU waste to the ICP contractor

The Contractor shall reach an agreement with the ICP contractor concerning the characterization, and the method and timing for transferring/processing (this includes transporting the waste to or from ICP) RH-TRU waste. If the ICP contractor determines that some of the waste received from the AMWTP can be reclassified as CH-TRU, it will be returned to the AMWTP Contractor, and the AMWTP Contractor shall complete the required actions for shipment and disposal. Waste container transfers shall be documented and tracked by individual container identification numbers.

C.3.1.1 REMOTE-HANDLED TRU WASTE

The estimated volume of RH-TRU waste remaining at the AMWTP facility is 45m^3. This waste is stored in 13 bins, each with a volume of 3.45m^3.

C.3.1.2 "SUSPECT" REMOTE-HANDLED TRU WASTE

This waste contains RCRA constituents and is considered "suspect" because lead shielding inside the containers has prevented a reliable determination as to whether the waste is actually RH waste.

C.3.1.3 REMOTE-HANDLED WASTE HISTORICALLY MANAGED AS REMOTE-HANDLED TRU WASTE

The estimated volume of RH waste historically managed as RH- TRU waste remaining at the AMWTP facility is 22.5m^3. This waste is stored in 55-gallon and 110-gallon drums. This waste contains uranium 233 (U-233). The other radionuclides in the waste (contaminants) are primarily U-232 and decay products.

C.3.2 SPECIAL REQUIREMENTS WASTES

A portion of the waste has special requirements. The Contractor shall process these wastes expected to be encountered during the contract period, including disposal at an appropriate disposal facility as identified by the Contractor. These wastes include, but may not be limited to:

- non-defense TRU waste
- high fissile gram equivalent (FGE) TRU waste
- oversized boxes and items
- overweight drums and boxes

C.3.2.1 NON-DEFENSE CH TRU WASTE

This waste currently has no path for disposal at the WIPP, because WIPP can only accept defense-generated TRU waste. Its volume is estimated at $43m^3$.

C.3.2.2 HIGH FGE WASTE

This waste contains more than 800 FGE in a single container and cannot be brought into the treatment facility for processing under facility criticality working requirements.

C.3.2.3 OVERSIZED BOXES AND ITEMS

This waste is contained in boxes with dimensions greater than the 5 ft x 6.5 ft x 8 ft box size. The treatment facility cannot currently process oversize boxes and items. The Contractor shall be prepared to manage and disposition this waste when encountered. Facility improvements must be made in a priority fashion early in the contract period to establish the ability to manage this waste when it is encountered.

C.3.2.4 OVERWEIGHT DRUMS OR BOXES

This waste includes drums with a gross weight in excess of 1,000 lbs and boxes with a gross weight in excess of 10,000 lbs, which is greater than what the treatment facility can currently accept. The Contractor shall be prepared to manage and disposition this waste. Facility improvements must be made in a priority fashion early in the contract period to establish the ability to manage this waste.

C.3.3 PROCESS-GENERATED AND OTHER WASTES

In addition to the waste identified in the sections above, the Contractor shall treat, as necessary, and dispose of process-generated waste and other wastes encountered during AMWTP operations in accordance with time-frames specified in the Site Treatment Plan or any other relevant regulations or regulatory requirements. Process-generated waste is newly generated as a result of waste processing, maintenance operations, or equipment change out. Examples of process-generated wastes include, but are not limited to, shredder boxes, empty cargo containers, cleaning solvents used during maintenance, rags, contaminated clothing, and failed equipment parts. Other wastes encountered during AMWTP operations include, but are not limited to, contaminated soil, contaminated plywood, and plastic.

C.3.4 TRU WASTE FROM OTHER DOE SITES AND INL TENANTS

The Contractor shall process up to 100m^3 of TRU waste from other DOE sites and INL Tenants (excluding the Accelerated Retrieval Project (ARP)/buried Subsurface Disposal Area (SDA) waste) within the estimated volume of waste. The Contractor shall treat this waste in accordance with the Site Treatment Plan within six (6) months of receipt and ensure it is disposed offsite within six (6) months of treatment. TRU waste from other DOE sites will be shipped in either TRUPACT-II, HALFPACT, or other NRC-certified packaging as applicable (e.g., TRUPACT-III container, when certified). The Contractor shall separately account for all treated and disposed waste volumes such that DOE can provide objective evidence of compliance with provisions of the 1995 Idaho Settlement Agreement and the Site Treatment Plan. The Contractor shall reduce the volume of this material whenever possible through supercompaction prior to shipment for disposal offsite. The Contractor shall manage this additional work such that, in the exclusive opinion of DOE-Idaho Operations Office (ID), no INL Site regulatory milestones will be missed. In doing so, the Contractor shall exceed the regulatory schedules set forth in the Site Treatment Plan and the 1995 Idaho Settlement Agreement by a minimum of 1,000m^3.

C.4 WASTE PROCESSING ACTIVITIES

The Contractor shall process waste by retrieving it from the Radioactive Waste Management Complex (RWMC) Transuranic Storage Area-Retrieval Enclosure (TSA-RE) and storage modules; transporting the waste between various AMWTP facilities; performing characterization of the waste necessary for storage and/or treatment; storing the waste at the various stages of processing; performing treatment (as necessary); certifying the final waste form; preparing the waste for shipment; loading TRUPACT-II containers or other approved containers depending on ultimate waste type; loading containers on approved transport carriers; coordinating the shipment of waste to WIPP or other appropriate disposal facility; and, as necessary, supporting audits/surveillances performed by the Carlsbad Field Office (CBFO) or

other disposal facilities. Transportation of TRU waste to WIPP is the responsibility of CBFO. The Contractor shall treat TRU waste, as necessary, to meet the requirements of the most current version of the WIPP WAC, and other most current versions of WIPP-related documents (see http://www.wipp.energy.gov).

Transportation of MLLW to treatment and disposal facilities is the responsibility of the Contractor. The Contractor shall comply with the applicable waste acceptance criteria for MLLW dispositioned via offsite treatment and disposal facilities.

The Contractor shall maintain controls to confirm traceability of waste packages transferred either onsite or offsite. The Contractor shall implement a waste minimization and pollution prevention program consistent with applicable Executive Orders and DOE Directives. The Contractor shall use all means practicable to minimize or eliminate any newly generated wastes. These wastes, including process-generated wastes, shall not be generated unless it is necessary for the performance of the SOW.

Specific activities supporting waste processing are included in the following sections.

C.4.1 RETRIEVAL

The Contractor shall retrieve stored waste (boxes, bins, and drums) from the earthen covered berms located within the TSA-RE, and the RCRA storage modules. A portion of these containers are breached, damaged, degraded, or of questionable structural integrity. The Contractor shall take appropriate measures to manage these containers safely and effectively to minimize the spread of radioactive contamination and hazardous materials, and exposure to workers. Efforts are underway to construct a contamination control structure to minimize airborne contamination and contamination spread during retrieval. If construction has not been completed, the contractor shall complete construction. The contractor shall conduct and complete start-up activities within 30 days of contract takeover or completion of construction. The Contractor shall disposition the soil cover removed from the bermed waste in accordance with the *Idaho National Engineering and Environmental Laboratory Advanced Mixed Waste Treatment Project Soil Sampling and Disposition Plan for the Transuranic Storage Area - Retrieval Enclosure*, BNFL-5232-SSDP-01, Rev. 0, or as amended.

C.4.2 CHARACTERIZATION

The Contractor shall perform characterization as needed for storage, treatment, transportation, and disposal of the waste identified in Section C.3. Characterization may include, but is not limited to, radiological examination, radiographical examination, head-space gas analysis, structural integrity, or any other methodology acceptable to DOE. The Contractor shall ensure that the waste meets all requirements for acceptance at the appropriate treatment and/or disposal facility, including any applicable certification requirements.

The Central Characterization Project (CCP) is located at the INL Site and supplements the AMWTP characterization activities. CCP operates under a separate contract with CBFO. In addition to managing AMWTP characterization and certification activities, facilities, and equipment, the Contractor shall also reach an agreement with CCP at contract takeover and shall maintain management responsibilities for CCP characterization and certification activities (including equipment and labor associated with operation and maintenance) throughout the duration of the contract. The Contractor shall facilitate and establish a new agreement, as appropriate, with CCP for providing characterization services.

C.4.3 TREATMENT

The Contractor shall treat (as necessary) CH TRU and MLLW for disposal. The Contractor shall certify that the waste has been treated to applicable requirements, including the waste acceptance criteria of the treatment/disposal facility. Treated waste greater than or equal to100 nCi/g must meet the requirements of the most current version of the WIPP WAC and other WIPP program documents. Treated waste less than 100 nCi/g must meet the requirements of the disposal facility's waste acceptance criteria.

The Contractor shall maintain management controls for verification of volume input and output to the AMWTP facility and shall track material flows sufficiently to provide the supporting information necessary to establish that performance meets all contract requirements.

C.4.4 STORAGE

The Contractor shall store, in a safe and compliant manner, wastes for which the Contractor is responsible within AMWTP facilities until the wastes are disposed or transferred to the appropriate responsible party.

C.4.5 PACKAGING AND TRANSPORTATION

The Contractor shall transport waste containers within the RWMC as necessary. The Contractor shall assemble payloads that are certified for shipment to WIPP. These payload configurations can include a mixture of TRU waste and waste having TRU constituents provided the final disposal container is determined to be TRU waste. Contractor assembly and certification of payloads and shipments are under the oversight and authority of CCP. Transportation of TRU waste to WIPP is the responsibility of CBFO after the transport leaves the RWMC security gate and receives dispatch approval from the WIPP Central Monitoring Room. Packaging and transportation of non-TRU waste to treatment and/or disposal facilities is the responsibility of the Contractor. Packaging and transportation of RH-TRU

waste to the ICP contractor for processing is the responsibility of the Contractor.

The Contractor shall assemble and package ICP CH-TRU waste and make it available for shipment within 60 days after the waste is certified for disposal in the WWIS. This ICP waste can be shipped either by itself or with AMWTP waste, as allowed by CBFO, but must be tracked separately. The Contractor shall also assemble payloads of ICP waste for which the Contractor shall reach an agreement with the ICP contractor for cost reimbursement. The Contractor shall load these payloads into shipping containers/transports for transportation and disposal at the appropriate facility.

The Contractor shall package waste to meet applicable regulatory and treatment/disposal requirements. The Contractor shall package the TRU final waste form in containers that can be shipped in TRUPACT-II shipping containers (NRC Certificate of Compliance #USA/9218/B(U)F-85), and HalfPACT (NRC Certificate of Compliance #USA/9279/B(U)F-85), or other NRC-certified packaging as applicable (e.g., TRUPACT-III container, once certified). These specifications are identified in the most current version of the WIPP WAC. These TRU shipping containers will be provided by CBFO based on the approved WIPP Shipping Baseline schedule. The Contractor is responsible for providing shipping containers for non-TRU waste and ensuring all applicable shipments meet Department of Transportation (DOT) requirements.

Waste may be transported within the RWMC without further characterization or treatment to meet DOT requirements.

Packaging and transportation of candidate RH-TRU waste shall be in accordance with the requirements of the agreement described in Section C.3.1.

The Contractor shall assume responsibility for the certification authority granted to AMWTP by CBFO in order to characterize transuranic waste for disposal at the WIPP effective on the contract takeover date. The Contractor shall maintain this authority throughout the contract period.

The Contractor shall utilize payload configurations that maximize the WIPP disposal capability, as determined by CBFO. The Contractor shall assemble shipments that contain a mixture of payloads that can be disposed in an efficient arrangement in WIPP (i.e., a mixture of 7-packs of 55-gallon drums, 3-packs of 100-gallon product drums, ten drum overpacks, and standard waste boxes). The Contractor shall follow DOE policy for efficient use of TRU waste transportation resources (EM-3 policy memorandum dated June 21, 2005, or current replacement). This policy requires shipping sites to ship the maximum number of loaded packages (i.e., three TRUPACT-IIs or two TRUPACT-IIs and one HalfPACT) per shipment with minimal dunnage

containers and the maximum amount of waste. All over-packed shipping configurations require specific approval from CBFO. Exceptions may be requested from the CBFO and require approval before implementation.

The Contractor shall establish a WIPP Shipping Baseline schedule subject to CBFO approval with the week starting on Sunday and ending on Saturday. The schedule shall account for all of the holiday restrictions identified in the most current version of the Western Governor's Association's *WIPP Transportation Safety Program Implementation Guide*; the following native Indian tribal holidays [Treaty Days (July 3), Independence Day (July 4), Shoshone – Bannock Indian Festival (second weekend in August, Thursday through Sunday) and Indian Days (last Friday of September)]; and six weeks for annual WIPP maintenance shutdowns typically beginning the week of Thanksgiving and continuing through the end of December. CBFO will establish what constitutes the last shipment prior to a holiday or shutdown and when shipments can resume. For planning purposes, the Contractor shall assume approximately 15 shipments per week of AMWTP, ICP, and offsite waste unless the holidays and other shipping restrictions listed above reduce this weekly allotment. These 15 shipments per week include approximately four (4) shipments per week of ICP waste. If ICP cannot support all four (4) shipments, then the Contractor can use those shipments for AMWTP waste.

The Contractor shall implement the WIPP Eight (8)-week Rolling Schedule approved by CBFO. The WIPP Eight (8)-week Rolling Schedule is subject to changes based upon CBFO funding and DOE priorities. Shipment departure times are subject to CBFO approval in order to minimize transit times between the INL site and WIPP and to comply with CBFO agreements with participating states en route (such as the number of shipments at a Port of Entry at any one time or when shipments can arrive at a Port of Entry).

The Contractor shall provide transportation coordination related to the scheduling, inspection, notification, tracking, and reporting of waste shipments.

C.4.6 DISPOSAL

Disposal of TRU waste destined for disposal at WIPP is the responsibility of DOE. Disposal of any waste not destined for disposal at WIPP is the responsibility of the Contractor. The Contractor shall comply with the applicable waste acceptance criteria for offsite treatment and disposal facilities.

Note that there is no onsite disposal facility for MLLW or contact handled low-level waste (CH-LLW). The Contractor shall assume responsibility for the shipping certification granted by the DOE Nevada Test Site Office in order to dispose of non-TRU waste at NTS effective on the contract takeover

date. This certification must be maintained as long as the Contractor ships waste to NTS.

C.5 PROJECT SUPPORT

The Contractor shall develop and maintain a project management system, including submittal of a Project Execution Plan, in accordance with Section H.1, Project Control Systems and Reporting Requirements.

The Contractor shall submit monthly status reports on or before the 10th of each month. The monthly status reports shall include cost and schedule variance analysis at a suitable Work Breakdown Structure (WBS) level, and a discussion of critical technical or programmatic risk issues. The Contractor shall use the WBS and WBS Dictionary included as Exhibits C.3 and C.4 or another WBS approved by the Contracting Officer.

C.6 INTEGRATED SAFETY MANAGEMENT SYSTEM (ISMS) AND ENVIRONMENTAL SAFETY AND HEALTH PROGRAM (ES&H)

The Contractor shall establish and maintain a single ISMS as required by DEAR 970.5223-1, *Integration of Environment, Safety and Health into Work Planning and Execution.* The ISMS program shall ensure that safety and environmental protection considerations are integrated throughout the entire work planning and execution process (including subcontracts as appropriate) and shall extend through the execution of individual work packages where job-site safety is ensured for each worker. The Contractor shall ensure that the principles of ISMS serve as the foundation of the implementing mechanisms for work at the site. The Contractor shall ensure that the structure of requirements to achieve nuclear safety is based on sound principles such as defense in depth, redundancy of protective measures, robust technical competence in operations and management oversight, and compliance with DOE Directives embodying nuclear safety requirements.

The Contractor shall maintain an ES&H program to ensure the protection of workers (compliant with 10 CFR Part 851), the public, and the environment. The Contractor shall operate the ES&H program as an integral, but visible, part of how the Contractor conducts business. This includes prioritizing work planning and execution, establishing clear ES&H priorities, allocating resources to address programmatic and operational considerations, collecting and analyzing samples, correcting non-compliances and addressing hazards for AMWTP facilities, operations, and work.

The Contractor shall submit a compliant ISMS program description document and be prepared for Phase I verification within four months after contract takeover. The Contractor shall be prepared for Phase II verification within eight months after contract takeover or as approved by the Contracting Officer.

The Contractor shall conduct activities in compliance with environmental protection requirements including, but not limited to, those listed on the List of Applicable DOE Directives (Section J, Attachment B). The Contractor shall take actions necessary to preclude accidents and injuries, keep worker exposures as low as reasonably achievable, and prevent environmental releases. The Contractor shall promptly respond to operational events and environmental releases.

The Contractor shall maintain authorization basis documents. The Contractor shall submit for approval authorization agreements for applicable nuclear facilities per DOE G 450.4-1B, Integrated Safety Management System Guide.

The Contractor shall, at contract award, adopt existing regulatory required implementation plans and processes, e.g., 10 CFR Part 835 Radiation Protection Plan (RPP), 10 CFR Part 830 Quality Assurance Implementation Plan, 10 CFR Part 851 Worker Protection Plans, and Unreviewed Safety Question Process. The Contractor may elect to update the adopted plans and resubmit them for DOE approval.

C.7 QUALITY

The Contractor shall maintain a compliant quality assurance program that meets all applicable requirements, including 10 CFR Part 830, DOE O 414.1C, the WIPP Hazardous Waste Facility Permit, and the current version of the CBFO Quality Assurance Program Document. The Contractor's quality assurance program shall also be compliant with the most current version of ANSI/ASME NQA-1, allowing for consistency with the WIPP Hazardous Waste Facility Permit, and the current version of the CBFO Quality Assurance Program Document.

The Contractor shall maintain conduct of operations and software quality assurance programs necessary to improve productivity, safety, predictability, and reliability.

C.8 ENVIRONMENTAL COMPLIANCE

The Contractor shall comply with all applicable environmental requirements, permits and compliance documents including, but not limited to: RCRA permits; air permits; the Site Treatment Plan under the Federal Facility Compliance Act; and the 1995 Idaho Settlement Agreement. The Contractor shall pursue RCRA closure as necessary to maintain compliance with permit and/or RCRA requirements. Permit compliance includes maintenance of all personnel, training, equipment, facilities, and procedures. The Contractor shall submit, within 60 days of contract takeover, an environmental communications protocol for DOE approval explaining interactions with regulatory agencies.

The Contractor shall submit to DOE and/or the regulator, as required, certified permit modification requests (AMWTP-specific RCRA permits, air permits, etc.) to assume ownership, i.e., change the "operator" name and identify a "responsible corporate officer" responsible for the permits upon contract takeover.

The ICP contractor is responsible for site-wide coordination for RCRA and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulatory programs. The INL contractor is responsible for site-wide coordination for regulatory programs other than RCRA and CERCLA. The AMWTP Contractor shall provide to the INL or ICP contractors, as applicable, the appropriate AMWTP-related information, data (certified if necessary), and support necessary to complete their site-wide functions including, but not limited to, the following areas:

- RCRA and Idaho Hazardous Waste Management Act;
- Site-wide level regulatory reports, consent order and agreement tracking and closure;
- Site-wide permit application, including permitting for the Site Treatment Plan under the Federal Facility Compliance Act;
- Site-wide air emission applications, permits and reporting per the Clean Air Act and the Idaho implementing regulations;
- Site-wide monitoring, surveillance and reporting for liquid effluents, drinking water, storm water and groundwater to demonstrate compliance with the Clean Water Act and other water quality requirements;
- Soils, air, and biota surveillances and monitoring to determine the impact of operations on the environment and natural resources;
- Site-wide compliance reports, data, and records, required by the Toxic Substances Control Act, Federal Insecticide, Fungicide and Rodenticide Act, Emergency Planning and Community Right to Know Act, and cultural resource management laws and regulations; and
- National Environmental Policy Act (NEPA) actions.

C.9 LABORATORY SAMPLING AND ANALYSIS

The Contractor shall operate the Analytical Chemistry Laboratory (ACL), including landlord functions, at no additional cost to the government. The Contractor shall secure and is responsible for the cost of all onsite and offsite laboratory analyses of samples necessary for and associated with completing this contract. The Contractor shall take back possession of and disposition any waste that remains after sample analysis has occurred.

The Contractor shall maintain the capability to perform TRU waste coring and sample preparation. The Contractor shall provide these services for the DOE complex, in accordance with CBFO-approved procedures. These services shall be on a full cost-recovery basis that the Contractor shall negotiate with the site that provided the waste and/or the Central Characterization Project (CCP), in accordance with the planning approved by DOE.

C.10 FACILITY OPERATION, MAINTENANCE, AND IMPROVEMENTS

The Contractor shall maintain and improve, as necessary, all AMWTP equipment, facilities (Exhibit C.2 and Section J, Attachment H), and utilities to maximize

performance and ensure that they are operational throughout the contract period. This means that by the end of the contract period, or as equipment, facilities, and utilities are no longer needed to process waste, they are placed in a standby condition that would allow for complete resumption of operation in a stable state within a reasonably short period of time (i.e., able to process waste within one month). Even in a standby condition the Contractor shall perform and keep current all required maintenance, including preventive maintenance, and calibrations, etc. All systems required to keep the facility in a safe condition shall be maintained operational. The Contractor shall not employ a run-to-failure approach on any systems or equipment at the AMWTP during the term of the contract without Contracting Officer (CO) approval. The Contractor shall, to the extent possible, time any planned facility maintenance outages with planned WIPP maintenance outages and other planned shipping curtailments to avoid any complex-wide impacts to the TRU shipping program.

Within 90 days of the contract takeover date, the Contractor shall submit to DOE for approval a maintenance and improvements plan to ensure the AMWTP facilities are fully operational throughout the contract period.

C.11 PROCESSING TRU WASTE FROM OTHER INL TENANTS OR OTHER DOE SITES

At the written direction of the Contracting Officer, the Contractor may be required to perform safe and compliant waste processing and dispositioning services for TRU waste received from other INL tenants or other DOE sites. The estimated quantity of this waste is 5,164m^3. This work is in addition to any waste identified in Section C.3. The Contractor shall treat this waste in accordance with the Site Treatment Plan within six (6) months of receipt and ensure it is disposed offsite within six (6) months of treatment. The Contractor shall separately account for all treated and disposed waste volumes performed under this section such that DOE can provide objective evidence of compliance with provisions of the 1995 Idaho Settlement Agreement and the Site Treatment Plan. The Contractor shall reduce the volume of this material whenever possible prior to shipment for disposal offsite. The Contractor shall manage this additional work such that no INL Site regulatory milestones will be missed. In doing so, the Contractor shall exceed the regulatory schedules set forth in the Site Treatment Plan and the 1995 Idaho Settlement Agreement by a minimum of 1,000m^3.

This waste is within the scope of work of this contract; however, the incremental cost to process this waste is not included in the Estimated Cost in Section B.3. The Contractor shall negotiate with the site providing the waste to recover the incremental cost of processing the waste. Such work shall be authorized by the Contracting Officer in accordance with the Changes clause in Section I.84. Additional funding, based on negotiations with the Contractor, will be provided, if such work is authorized.

C.12 DOE SUPPORT

The Contractor shall provide onsite office space for up to three (3) DOE personnel. The Contractor shall provide services to include, but not limited to, custodial services, daily mail, computer support (including access to the Contractor's local area network), telecommunications, printing, audiovisual support, and moving of furniture and equipment.

The Contractor shall support DOE in its interactions with stakeholder and oversight organizations by providing information and technical data, supporting tours, and other reasonable items. Examples of support to be provided by the Contractor include, but are not limited to, interactions with the State of Idaho, Environmental Protection Agency (EPA), Shoshone-Bannock Tribes, Citizens Advisory Board, Defense Nuclear Facilities Safety Board, Nuclear Regulatory Commission, and DOE Headquarters.

C.13 INTERFACES WITH SITE CONTRACTORS FOR SERVICES

The Contractor shall ensure that required life safety, occupational medicine, fire protection, operational and emergency response, and other customary or necessary institutional programs are provided throughout the life of the contract. The following mandatory services shall be obtained from the INL contractor:

- Fire Department
- Emergency Operations
- Wireless Design and Support
- Power Management

The Contractor shall have a formal interface agreement in place with the INL contractor prior to the contract takeover date describing in detail the services it will purchase, the negotiated price, and how the services will be managed. The Contractor shall provide executed copies of these interface agreements to the Contracting Officer. A more detailed description of these services is in Section J, Attachment G.

C.14 RECORDS MANAGEMENT

The Contractor shall provide a records management program compliant with all Federal regulatory requirements, including records management requirements in 36 CFR 1220-1236. This includes, but is not limited to, maintenance, storage, protection and disposition of active and inactive records, retrieval from onsite storage facilities, and support for ongoing discovery efforts associated with litigation. The Contractor shall provide a complete records inventory list in a suitable format to the post-closure records custodian identified by the Contracting Officer. The Contractor shall incorporate records management and records management archival functions into the design, development, and implementation of information systems.

The Contractor shall maintain compliance with the CBFO-approved records management requirements for the TRU waste certification program.

Upon request by DOE, the Contractor shall verify employment histories and provide medical records, radiation dose records, and any other records related to or pertinent to the condition or case for any individual who applies for compensation under the Energy Employees Occupational Illness Compensation Program Act of 2000 (EEOICPA), Public Law 106-398, 42 U.S.C. 7384, *et seq*. When directed by DOE, the contractor shall not contest a worker's compensation claim or award determined to be valid pursuant to Subtitle D of EEOICPA. The contractor shall track EEOICPA costs and provide a monthly activity report of funds spent on EEOICPA claims processing. The contractor shall provide records search and any resulting workers' compensation determinations. Only the administrative activity is included in the estimated cost.

C.15 SAFEGUARDS, SECURITY, AND COUNTERINTELLIGENCE

The Contractor shall establish and maintain a security plan, as required by DOE directives, and coordinate regularly with the INL contractor to ensure appropriate levels of protection against: unauthorized access; theft, diversion, or loss of custody of nuclear materials; espionage; loss or theft of classified information or Government property; and hostile acts that may cause unacceptable adverse impacts on national security or the health and safety of DOE and Contractor employees, the public, and the environment. The initial security plan shall be submitted to the Contracting Officer for review and approval within 90 days of contract takeover.

The Contractor shall provide input, as needed, to the INL contractor for applicable elements of the Site Safeguards and Security Plan and participate in safeguards and security drills and exercises as required by DOE directives. The INL contractor is responsible for site-wide security. The AMWTP Contractor shall be responsible for security within the AMWTP facility.

The Contractor shall promptly prepare and submit applications for security clearances, for adjudication by DOE-ID, as required for work under this contract. The Contractor shall maintain the security-facilities infrastructure at AMWTP. The Contractor shall promptly adjust to the Security Condition determined by DOE. The Contractor shall provide a Cyber Security Program to maintain automated information systems, test systems and network interface; provide training; identify threats and vulnerabilities; assess risks to the systems; and oversee subcontractor computer security programs.

The Contractor shall develop and maintain a Nuclear Materials Control and Accountability Program, an Operations Security Program, a Classification Program, an Information Security Program, and a General Security Awareness Training Program as required by DOE directives.

C.16 TRANSITION FROM INCUMBENT (BBWI) CONTRACTOR

(a) During the period of the transition, specified in clause F.3 entitled "Term of the Contract," the Contractor shall perform those activities necessary to be prepared to assume responsibility for the contract work on the contract takeover date. The Contractor shall coordinate its activities with DOE and the incumbent contractor in order to accomplish these activities in a manner that will provide an effective transition of personnel and work activities while minimizing the cost and impact of this effort.

Contract transition shall include, but not be limited to:

- Accomplish workforce transition in accordance with clause H.19;
- Establish an employee benefits program;
- Acceptance of assigned agreements as required by clause H.11;
- Acceptance of the current approved program (equipment, procedures, and personnel, i.e., positions identified by CBFO as being necessary for a successful program) necessary to maintain a certified program to characterize, certify, and ship TRU waste to WIPP. The program cannot be changed until the Contractor has satisfactorily passed a CBFO surveillance, after which the program can be changed in accordance with program change control requirements;
- Negotiation of existing and new subcontracts necessary for full AMWTP operations at the end of the transition period;
- Negotiation of service agreements with the INL contractor (see Section C.13 and Section J, Attachment G);
- Transfer environmental permits in accordance with Section C.8; and
- Other activities necessary for full operations at the end of the transition period.

(b) The Contractor shall submit an acceptable Transition Plan (limit of 20 pages) to the CO within 14 days after contract award detailing its approach to accomplishing contract transition and any other activities the Contractor proposes to accomplish during the transition period. The plan shall include a schedule for transition period activities. Transition activities shall be conducted consistent with the Transition Plan as approved by the CO.

(c) The Transition Plan shall describe how the Contractor will interface with the INL and/or ICP contractor(s) and other organizations and entities conducting business at the INL. At a minimum, the Contractor shall include an approach for:

(1) Communicating with DOE, the incumbent contractor, and other Idaho contractors, organizations or entities;
(2) Assuming responsibility and accountability for existing contracts in accordance with Section H.11;
(3) Identifying key transition issues and milestones;
(4) Identifying and resolving disputes and barriers to a smooth transition;

(5) Minimizing impacts on continuity of operations;
(6) Identifying and prioritizing issues that will require immediate attention after transition is complete;
(7) Assessing resource needs, interviewing incumbent contractor workers and other candidates for job openings, and hiring;
(8) Negotiating arrangements for office space and equipment in existing Idaho Falls leased facilities with the INL contractor, if necessary; and
(9) Developing a formal interface agreement with the INL and/or ICP contractor(s) describing how mandatory and other site services will be managed.

AMWTP-ITG
Work Breakdown Structure

WBS Level 1	WBS Level 2	WBS Level 3	WBS Level 4	Description
Project	Summary	Control Account	Work Package	
1000			AMWTP	
	1000.03			**Remote Handled Waste**
		1000.03.01		**Remote Handled Waste**
			1000.03.01.00	Remote Handled Waste close
			1000.03.01.01	RH TRU
			1000.03.01.02	Suspect RH TRU
			1000.03.01.03	RH Historical TRU
	1000.04			**Waste Processing Activity**
		1000.04.00		**Production Planning**
			1000.04.00.00	Production Planning
		1000.04.01		**Retrieval**
			1000.04.01.00	Retrieval Management close
			1000.04.01.01	Retrieval General close
			1000.04.01.02	Boxes close
			1000.04.01.03	Startup New Retrieval Encl close
			1000.04.01.04	Box Retrieval Operations
			1000.04.01.05	Drum Retrieval Operations
			1000.04.01.06	Soil Removal Operations
			1000.04.01.07	Retrieval Maintenance
		1000.04.02		**Characterization**
			1000.04.02.00	Characterization Management
			1000.04.02.01	Characterization TRU Close
			1000.04.02.02	Characterization MLLW close
			1000.04.02.03	Characterization Other TRU
			1000.04.02.04	Operations RTR
			1000.04.02.05	Operations NDA
			1000.04.02.06	Drum Venting & HSG
			1000.04.02.07	Solids Coring
			1000.04.02.08	TRU Validation - Level I
			1000.04.02.09	TRU Validation - Level II
			1000.04.02.10	Recon/TRU Certification
			1000.04.02.11	Source Term Development
			1000.04.02.12	LLW/MLLW - TVS I and II
			1000.04.02.13	Characterization Maintenance
			1000.04.02.14	RTR Upgrades close
			1000.04.02.15	Acceptable Knowledge
		1000.04.03		**Treatment Facility**
			1000.04.03.00	Treatment Facility General
			1000.04.03.01	TF TRU close
			1000.04.03.02	TF MLLW close
			1000.04.03.03	TF Other TRU close
			1000.04.03.04	Boxline Operations
			1000.04.03.05	Supercompactor Operations
			1000.04.03.06	Treatment Facility Maintenance
		1000.04.04		**Payload Assembly**
			1000.04.04.00	Payload Assembly
			1000.04.04.01	TRU Payload Assem/Ship close
			1000.04.04.02	MLLW Payload Assem/Ship close
			1000.04.04.03	Payload Assem/Ship Other TRU close
			1000.04.04.04	TRUPACT Operations
			1000.04.04.05	TRU Payload Assembly
			1000.04.04.06	MLLW/LLW Operations
		1000.04.05		**Packaging/Transportation**
			1000.04.05.00	Packaging/Transportation Labor closed
			1000.04.05.01	TRU Transportation/Shipping
			1000.04.05.02	MLLW Transportation/Shipping
			1000.04.05.03	Other Transportation/Shipping
			1000.04.05.04	Maintenance Transportation/Shipping
		1000.04.06		**Disposal**
			1000.04.06.00	Management Disposal
			1000.04.06.01	Offsite MLLW Disposal
			1000.04.06.02	Treatment/Disposal MLLW close
			1000.04.06.03	Offsite LLW Disposal
		1000.04.07		**Nuclear Assurance**
			1000.04.07.00	Nuclear Assurance
		1000.04.09		**Treatment Tents**
			1000.04.09.01	628 Tent Operations
			1000.04.09.02	635 Tent Operations
		1000.04.10		**Onsite MLLW Treatment**
			1000.04.10.01	Onsite MLLW Treatment (Macroencapsulation)
		1000.04.11		**Offsite MLLW Treatment**
			1000.04.11.01	Offsite MLLW Treatment

WBS Level 1	WBS Level 2	WBS Level 3	WBS Level 4	Description
Project	Summary	Control Account	Work Package	
	1000.05			**Project Support**
		1000.05.01		Project Management
			1000.05.01.00	Project Management
		1000.05.02		**Legal**
			1000.05.02.00	Legal
		1000.05.03		**Human Resources**
			1000.05.03.00	Human Resources
		1000.05.04		**Project Controls**
			1000.05.04.00	Project Controls
		1000.05.05		**Procurement**
			1000.05.05.00	Procurement
		1000.05.06		**Financial / Accounting**
			1000.05.06.00	Financial / Accounting
		1000.05.07		**Internal Audit/PA**
			1000.05.07.00	Internal Audit/PA
		1000.05.08		**Central Engineering**
			1000.05.08.00	Central Engineering Management
			1000.05.08.01	System Engineering
			1000.05.08.02	Nuc Safety
			1000.05.08.03	Work Control
		1000.05.09		**Information Technology**
			1000.05.09.00	Information Technology
	1000.06			**ISIH and ES/H**
		1000.06.01		**ISIH**
			1000.06.01.00	ISIH
		1000.06.02		**ES/H**
			1000.06.02.00	ES/H
	1000.07			**Quality**
		1000.07.01		**Quality Assurance**
			1000.07.01.00	Quality Assurance
		1000.07.02		**Training**
			1000.07.02.00	Training
	1000.08			**Env Compliance**
		1000.08.01		**Env Comp Program**
			1000.08.01.00	Env Comp Program
		1000.08.03		**AMWTP Facility Permits**
			1000.08.03.00	AMWTP Facility Permits
	1000.09			**Lab Sampling/Analysis**
		1000.09.01		**Core Sampling**
			1000.09.01.00	Core Sampling
		1000.09.02		**Analytical Laboratory**
			1000.09.02.00	Analytical Laboratory
	1000.10			**Facility/Maint/Improvements**
		1000.10.01		**Facility/Maint**
			1000.10.01.00	Facility/Maint
		1000.10.02		**Facility Improv/Upgrades**
			1000.10.02.00	Facility Improv/Upgrades
			1000.10.02.01	BOGR Replacement - Close
			1000.10.02.02	Install Box OS Saw - Close
			1000.10.02.03	BROKK Upgrade Mon - Close
			1000.10.02.04	TF Shredder
			1000.10.02.05	Single Auger Shredder - Close
			1000.10.02.06	CRE DPS Units / Inorganic Sludges - Close
			1000.10.02.07	Mobile Loading Platform - Close
			1000.10.02.08	Security Upgrade - Close
			1000.10.02.09	TF Ventilation - Close
			1000.10.02.10	Completion Planning PP
	1000.14			**Records Management**
		1000.14.01		**Records Management**
			1000.14.01.00	Records Management
		1000.14.02		**Document Control**
			1000.14.02.00	Document Services
	1000.15			**Safeguards/Security/CI**
		1000.15.01		**Safeguards/Security/CI**
			1000.15.01.00	Safeguards/Security/CI
	1000.16			**BBWI to ITG Transition**
		1000.16.01		**Transition Management**
			1000.16.01.00	Transition Management

Exhibit C.4, Work Breakdown Structure Dictionary

1000.03 Remote Handled Waste

1000.03.01 Remote Handled Waste

The scope of work for this control account is divided into three work packages: Remote Handled (RH) Transuranic (TRU), Suspect RH TRU, and RH Historical TRU.

1000.03.01.00 Remote Handled Waste – Closed

1000.03.01.01 RH TRU

For RH TRU, the approach is to segregate the RH containers from the Contact Handled (CH) TRU waste to minimize the amount of RH waste sent to the Idaho Nuclear Technology and Engineering Center (INTEC) and eliminate the potential return shipments of CH TRU. The box lines will be used to segregate the majority of the waste, and the segregated components will be placed into shielded 55-gal drums and transported to INTEC for certification and disposal as RH TRU. Other components will proceed through the box line to assay and compaction.

1000.03.01.02 Suspect RH TRU

This work scope is to budget and collect actual costs for the 18 drums of waste currently in storage at INTEC. The scope for this account includes costs to conduct Resource Conservation and Recovery Act (RCRA)-regulated surveillance inspections on the drums. This task will be required until the waste is processed and disposed. This waste contains RCRA constituents and is considered “suspect” because lead shielding inside the containers has prevented a reliable determination as to whether the waste is actually RH waste. A contract with the Idaho Cleanup Project (ICP) contractor will be approved for this work to take place in FY-13.

1000.03.01.03 RH Historical TRU

The third portion of this control account is to manage waste that has historically been managed as TRU. The main component of this waste is uranium-233. The other radionuclides in the waste are primarily uranium-232 and decay products. This waste met the original definition of TRU waste; however, this waste does not meet the current definition of TRU waste. Therefore, the waste is termed “historically” TRU. This waste is stored in 55-gal and 110-gal drums.

1000.04 Waste Processing Activities

1000.04.00 Production Planning

The Integrated Production Planning team and the Administrative Support addressed in this work package establishes and communicates the vision and strategies for the Idaho Treatment Group, LLC (ITG) work execution priorities for strategic planning; the development and oversight of work scope, schedule, and budget; the technical oversight of activities and personnel; and the resolution of complex technical issues.

1000.04.00.00 Production Planning

Additional scope of work for the Container Moves team is maintaining a thorough understanding of policies and procedures governing Operations and Data Validation activities to plan and schedule within those policies and procedures; perform research, gather data, analyze, prepare reports and recommend changes for new and existing processes and tasks; support Operations crews in the execution of production plans with regard to storage, feedstock and process throughput; make decisions and

recommendations within policy guidelines; exercise initiative in adapting and applying procedures to address unusual situations; and monitor the storage and staging of waste containers to ensure compliance with procedures and plans.

1000.04.01 Retrieval

This work breakdown structure (WBS) element addresses retrieval activities of the remaining legacy waste that will take place within the Retrieval Containment Enclosure (RCE), and using the Internal Containment Enclosure (ICE) as required. The RCE provides containment within the footprint of WMF-636 and encompasses all of the remaining unretrieved waste containers on Pad 1, Cell 1, and Cell 2. The ICE is a containment tent with localized ventilation that can be moved into position via the light bridge to provide additional control for containers that require repackaging operations.

1000.04.01.00 Retrieval Management – Closed

1000.04.01.01 Retrieval General – Closed

This work package includes budget related to startup of the RCE and ICE.

The activities associated with this work package include:

- Preparation of procedures for retrieval
- Develop and implement tools for drum and box retrieval
- Training and qualification of personnel
- Complete ITG Management Self Assessment
- Successfully complete the Department of Energy (DOE) Readiness Assessment
- Initiate unrestricted operations
- Drum retrieval
- Box retrieval
- Package drums in six-drum overpacks (SDOPs).

1000.04.01.02 Boxes – Closed

1000.04.01.03 Startup New Retrieval Enclosure – Closed

1000.04.01.04 Box Retrieval Operations

The scope of box retrieval operations for ITG is to retrieve stored waste (boxes and bins) from the earthen covered berms located in the RCE of the Traunsuranic Storage Area-Retrieval Enclosure (TSA-RE). A portion of these containers are breached, damaged, degraded, or of questionable structural integrity. ITG will take appropriate measures to manage these containers safely and effectively to minimize the spread of radioactive contamination and hazardous materials, and exposure to workers. The scope includes labor and nonlabor elements (including personal protective equipment [PPE]) for completing this scope.

1000.04.01.05 Drum Retrieval Operations

The scope of drum retrieval operations for ITG will be to retrieve stored waste drums from the earthen covered berms located in the RCE of the TSA-RE. A portion of these containers are breached, damaged, degraded, or of questionable structural integrity. ITG will take appropriate measures to manage these containers safely and effectively to minimize the spread of radioactive contamination and hazardous

materials, and exposure to workers. The process of cargo container unloading will also be captured in this work scope for retrieved waste drums stored in the cargo containers. The scope includes labor and nonlabor elements (including PPE) for completing this scope.

1000.04.01.06 Soil Removal Operations

ITG will disposition the soil cover and firebreak soil removed from the bermed waste in accordance with SSDP-01, AMWTP Soil Sampling and Disposition Plan for the Transuranic Storage Area Retrieval Enclosure. The scope includes labor and nonlabor elements (including PPE) for completing this scope. The remaining soil between Cells 1 and 2 and the berms around the waste will be packaged as Low Level Waste (LLW) or Mixed Low Level Waste (MLLW) as applicable and all clean soil will be removed and taken to the T12 disposal site. It is assumed that all waste between Cells 1 and 2 will be packaged as MLLW.

1000.04.01.07 Retrieval Maintenance

The scope of Retrieval Maintenance is to provide resources and support to the TSA-RE retrieval process for all process equipment electrical, mechanical, or instrumentation involved in the retrieval scope of work. The scope includes labor and nonlabor elements (including PPE) for completing this scope.

1000.04.02 Characterization

Characterization of waste is scoped in the following active work packages: Characterization Management, Characterization of Other TRU, Operations Real Time Radiography (RTR), Operations Nondestructive Assay (NDA), Drum Venting and headspace gas (HSG) Sampling, Solids Coring, TRU Validation – Level I, TRU Validation – Level II, Recon/TRU Certification, Source Term Development, LLW/MLLW-Technical Verification Specialist (TVS)I and II, Characterization Maintenance, RTR Upgrades, and acceptable knowledge (AK). The scope for each of these work packages is provided below.

1000.04.02.00 Characterization Management

The title of characterization encompasses many activities, and for each of those activities management is required to organize, plan, direct, and oversee that the work is done safely and compliantly. Work is performed on different shifts by various groups of personnel, starting with Bargaining Unit personnel, non-exempt, and exempt staff; along with subcontractor personnel. The initial mission of this group is to provide containers to the various characterization processes; to operate the processes: RTR, NDA, treatment tents, flammable gas sampling and analysis (FGA), headspace gas analysis (HGAS), and solids coring; to prepare the required paperwork for the various activities to meet regulating documents; and preparation through shipment of the TRU waste to the Waste Isolation Pilot Plant (WIPP).

1000.04.02.01 Characterization TRU – Closed

This work package was originally set up for Characterization and Certification of TRU Waste in FY-12, and it has been reforecast into the accounts that follow.

1000.04.02.02 Characterization MLLW – Closed

This work package was originally set up for Characterization support for MLLW in FY-12, and it has been reforecast into the accounts that follow.

1000.04.02.03 Characterization Other TRU

This work package has been established for preparation and approval of required documentation to bring non-Idaho National Laboratory (INL) generated waste onsite, complete finger printing of the waste and preparation of containers for solids coring. Required documentation includes Waste Tracking System (WTS) and item description code (IDC) changes to allow shipment of containers to the generator site or to WIPP. The waste in this category is also subject to the 1995 Settlement Agreement for receipt, characterization, certification, and shipment offsite. The scope includes labor and nonlabor elements (including PPE) for completing this scope.

1000.04.02.04 Operations RTR

All containers are moved by waste handlers per move sheets generated by the Integrated Production Planning group under control account 1000.04.00.00, which also establishes priorities for the crews. However, the waste handlers in this account only handle movements until the containers are delivered to the staging area for shipments (TRU/MLLW/LLW). In the standard characterization process (cycle), all containers are processed through RTR. There are several different RTR machines that can process different size containers, and the machines are operated by either Advanced Mixed Waste Treatment Project (AMWTP) operators or Central Characterization Project (CCP) operators. There are two levels of RTR scans that can be completed, including fast scans or certified scans. These scans are used (but are not limited) to identify prohibited items for the t reatment tents, for containers to meet the various disposal waste acceptance criteria (WAC), to identify/confirm the AK for the container, or verify treatment. Part of the operational requirements completed by the operators is the preparation of paperwork that documents the information. In most cases, this paperwork is then turned over to the next level of review depending on the process flow. WIPP certified scans are performed for debris containers and proceed to the Advanced Mixed Waste Treatment Facility (AMWTF) or direct shipping if no prohibited items are found during NDA prior to supercompaction. WIPP certified scans are performed on solids/soils drums as part of characterization. RTR may also be performed on LLW/MLLW containers as required to meet the specific treatment, storage, and disposal facility (TSDF) WAC requirements.

1000.04.02.05 Operations NDA

Determination of the isotopic concentrations, TRU content, Fissile Gram Equivalent (FGE), and Plutonium-239 Equivalent Curies (PE-Ci) required for management of the containers at AMWTP is obtained through the NDA process. The results of the NDA process are used to determine the acceptability for processing in the AMWTF, whether the containers meet the LLW/MLLW requirements or the TRU requirements for certification, shipping, and disposal of the waste. All containers are moved by waste handlers in the standard characterization process (cycle), and all containers are processed through NDA. There are several different NDA machines that can process different size containers, and the machines are operated by either AMWTP or CCP operators. There are two levels of NDA scans that can be completed, and include fast scans or certified scans. These scans are used (but are not limited) to ensure the assay requirements for the AMWTF are met, for containers to meet the various disposal WAC, to identify/confirm the AK for the container, or to verify treatment. Part of the operational requirements completed by the operators is the preparation of paperwork that documents the information. In most cases, this paperwork is then turned over to the next level of review, depending on the process flow. WIPP certified scans are performed for debris containers and proceed to AMWTF if no prohibited items are found during NDA prior to supercompaction. WIPP certified scans are performed on solids/soils drums as part of characterization. NDA may also be performed on LLW/MLLW containers as required to meet the specific TSDF WAC. The time required for this activity was calculated using an estimated number of planned events and the machine capabilities and the amount of time required for each event. In

addition, an analysis was completed to determine the minimum number of staff needed to effectively operate the machines.

1000.04.02.06 Drum Venting & HSG

There is a requirement for containers (primarily drums) to be vented prior to intrusive characterization activities, such as entering the AMWTF. HGAS is required for debris waste streams for disposal at WIPP. Venting is required for shipping of wastes in Transuranic Transporter Model-II (TRUPACT-II) Type B transport packages. TRUPACT-II Content (TRUCON) codes for shipping of TRU waste may also require venting and installation of a filter.

The AMWTF documented safety analysis (DSA) requires venting to eliminate an entire class of accidents or safety issues whether TRU or LLW/MLLW. Boxes do not require venting as boxes were not designed as Department of Transportation (DOT) Type A containers. Most MLLW wastes do not require venting. For these various reasons, containers must be vented.

HGAS is a requirement of WIPP Hazardous Waste Facility Permit (HWFP) as a check for hazardous constituents and is only required for TRU waste disposal. Debris waste streams require a minimum of 10 samples per lot which is performed at WMF-634. Samples are collected through a filter; the gases collected are directed to a Gas Chromatography/Mass Spectrometry (GC/MS) system for real time analysis. This activity is intermittent due to the expected sampling of 500 drums in the next 3.5 years, or at a rate of 5 containers per month (or 1 sampling event). Each sampling event is limited to 20 samples and will generate 1 Batch Data Report (BDR) per sampling event that will require HGAS data validation and verification.

The scope includes labor and nonlabor elements (including PPE) for completing these activities.

1000.04.02.07 Solids Coring

The WIPP WAC requires a minimum of five core samples per waste stream or lot. MLLW does not require statistical coring and solids analysis; however, it may require representative sampling. Waste coring/solid sampling operations for TRU solidified or soils waste occurs in the coring glove box. This activity is intermittent due to the expected sampling of approximately 92 AMWTP legacy drums and 540 offsite waste drums. Each sampling event is limited to 20 samples and will generate 1 BDR per sampling event that will require data validation and verification.

1000.04.02.08 TRU Validation – Level I

Data validation and verification consists of several levels of reviews. Once the BDR is generated by the operators, as discussed previously, the Independent Technical Reviews (ITR) are conducted (also known as Level I reviews). If issues are found at the operator level, then nonconformance reports (NCRs) are generated and included in the BDR. For RTR activities, this includes a complete review of the audio/visual recordings along with reviews of the submitted paperwork in the BDR. Any discrepancies or issues are resolved or sent for rework prior to promotion to the next level of validation. For NDA activities, the reviews are completed by the Expert Technical Reviewer (ETR) by review of the spectrum data and paperwork submitted in the BDR. Similar reviews are conducted for HGAS and Coring BDRs. The supercompaction of waste in the AMWTF generates Visual Examination (VE) BDRs which also require ITR of approximately 15 per week. If any NCRs are generated at the operator level or if issues are found during the ITR/ETR review, then NCRs are generated.

1000.04.02.09 TRU Validation – Level II

Level II validation includes reviews by the Site Project Managers (SPMs) for all BDRs that complete Level I review. To allow for certification of the containers, the SPMs also perform reconciliation evaluations. At this point the data evaluations go from a BDR with 20 containers, to individual container evaluations. For containers to be completed through a reconciliation lot, any NCRs that were previously generated are required to be closed. Similar activities and requirements are implemented for the LLW/MLLW process in preparation for disposal.

The SPMs also perform other activities for AMWTP based on data evaluation and reviews; this includes identification of waste that can be direct-feed to the AMWTF and developing virtual Six-drum Overpacks (SDOP) for waste handling to build. SDOPs are needed to allow for the AMWTF to continue generating waste for certification and disposal.

1000.04.02.10 Recon/TRU Certification

Reconciliation of the data is completed after the BDRs are completed. The previous work was based on the machine output; for reconciliation, the data review is based on containers. These containers must have VE or RTR and NDA, in some cases HGAS and/or coring also. Information for the various containers is organized based on the container to evaluate its completeness and closure of NCRs to be included in a reconciliation lot. This information is provided to the Waste Certification Officials (WCO) for the next step of processing.

Waste certification is used to generate the input for the Waste Data System (WDS) in Carlsbad, which will allow certification of containers and payloads to be identified for shipments. Additional information is required to complete the certification activities, such as FGA and Gas Generation Testing (GGT), which are performed by CCP, and data is provided to complete certification of containers for preparation of shipments.

1000.04.02.11 Source Term Development

Radiological characterization is part of the waste characterization process and entails determination and quantifying the radionuclide distribution for each container of waste, which may be completed for individual items, waste containers, or populations of waste. There are several methods to develop/prepare this information, generically called source term development. This information becomes part of the record for establishing that the waste meets the WAC for the disposal facility and DOT requirements for shipments. The source term data package in conjunction with the Container Data Files comprises the final container data package which will be certified by Nevada National Security Site (NNSS) WCOs (covered in a different WBS element).

1000.04.02.12 LLW/MLLW – TVS I and II

The LLW/MLLW generated at AMWTP will use waste characterization data generated from the existing WIPP waste certification program to meet waste stream characterization and WAC for the disposal facility. The MLLW/LLW Program uses certain information by personnel qualified as a TVS I and/or II. The TVS I can be completed at the time of RTR or VE or as a tape review of previous RTR events. There are other forms that can be generated for completion of the TVS I; completion of the form also requires that a source term has been completed for those containers. The personnel completing these forms can include the Level I and II TRU validators, along with CCP (as a subcontractor).

1000.04.02.13 Characterization Maintenance

The various characterization machines require maintenance including preventive maintenance (PMs), corrective maintenance (CMs), and general repairs. These machines are not new and have a multitude of moving parts and electrical circuits that require close monitoring and upkeep.

1000.04.02.14 RTR Upgrades – Closed

Budget and costs were captured in control account 1000.04.02.00 in FY-12.

1000.04.02.15 Acceptable Knowledge

For TRU waste, the WIPP HWFP is extremely prescriptive concerning what information constitutes AK, and how it is to be compiled, reported, evaluated, and maintained for TRU waste. Essentially, it requires an exhaustive search of all available data, including such things as when, why, how, and by whom the waste was generated. The physical form of the waste, all of its hazardous constituents, delineation of waste stream, waste matrix codes, the presence of prohibited items or conditions, and methods of treatment are all required. In addition, the determination as to defense determination is necessary for disposal at WIPP. As part of the waste stream required information, United States (US) Environmental Protection Agency (EPA) requires an understanding of specific radionuclide content and quantification as identified in the WAC. The ITG strategy concerning AK is to use the existing program as-is, with two significant modifications. The first modification is specific to the AK for waste yet to be retrieved from the TSA-RE. The AK summary report for the BN510 waste stream will be modified to combine the various Rocky Flats debris IDCs into a single IDC, suitable for introduction into the AMWTF. The single IDC will simplify, and therefore expedite, the retrieval process, without changing the output of the waste stream. Further, since AK indicates that the only non-Rocky Flats waste remaining to be retrieved comes from other INL generators, ITG will complete the AK regarding these generators in FY-15. By doing this, any containers with inadequate markings or labels can be opened, and the summary category can be identified. Debris will be routed to the AMWTF, and solids will be routed to the appropriate drum packaging system (DPS). The second modification applies to waste initially disposed within the Subsurface Disposal Area (SDA) pits, and subsequently excavated and sent for storage at AMWTP. Where adequate information exists for an individual container, ITG will use the existing waste assignments. Where inadequate information exists, ITG will apply the same method as is used by CCP for the SDA waste. Specifically, the inputs to the pits will be evaluated, EPA Hazardous Waste Numbers (HWNs) will be assigned accordingly, and the waste generated from these sources will be segregated into streams at the summary category level. AK personnel will also support Retrieval activities (control account 1000.04.01) to establish generator data and data needs for WTS to allow for efficient processing.

1000.04.03 Treatment Facility

This activity addresses the processing of TRU and MLLW Boxes in the AMWTF. Additionally, ITG will not employ a run-to-failure approach on any systems or equipment at the AMWTP during the term of the contract without Contracting Officer approval. To the extent possible, any planned facility maintenance outages will be concurrent with planned WIPP maintenance outages and other planned shipping curtailments to avoid any complex-wide impacts to the TRU shipping program.

Specific initiatives have been identified to upgrade or improve the reliability, and individual work packages have been created for each item. This control account plans, executes, and closes projects to implement the initiatives.

1000.04.03.00 Treatment Facility General

This WBS element includes all project management resources directly utilized in supporting the AMWTF operations. Work includes management support, baseline preparation, monthly reporting, variance analysis, waste tracking, timekeeping, personnel assessments and the overall expertise to the plant. In addition to management resources, this account also captures the required training, travel, and office equipment not captured in the other work packages.

1000.04.03.01 TF TRU – Closed

1000.04.03.02 TF MLLW – Closed

1000.04.03.03 TF Other TRU – Closed

1000.04.03.04 Boxline Operations

This work package addresses the processing of TRU boxes in the AMWTF, including all PPE needed to perform the scope. After characterization activities, boxes are selected for feeding to the AMWTF. Boxes are fed into the Box Opening Gantry Robot (BOGR) airlock where the box top is remotely cut off. Opened boxes are then conveyed into one of the three box processing troughs – two are situated in the North Box Line and one is in the South Box Line. Operators situated outside of the Box Lines, using remotely operated equipment in the Box Lines remove the contents from the boxes, size reduce it as necessary, sort and segregate it as necessary, and place it into compaction drums (silvers) which are situated below the waste troughs. The waste contents of each box are carefully documented by the operators, using the WIPP VE characterization process. Remote equipment used by the operators includes Brokk manipulators, guillotine, a PaR Systems manipulator, and a master-slave manipulator (MSM). Loaded silvers are then sent to supercompaction. The emptied boxes and the cut off lids are sent to a shredder, and are shredded into large metal disposal boxes known as BR-90 shredder boxes.

Included in this work package is manual processing of large and bulky items. Size reduction equipment such as plasma cutting torches, grinders, and guillotines, is utilized as necessary by operators in protective suits to size reduce large items so they can be loaded out into silvers for compaction or into BR-90 shredder boxes. The BR-90 will then be exported from AMWTF and taken to WMF-634 for assay characterization to ensure the contents are less than 100nCi/gram.

Within this WBS is a Recovery Action and entails revising operations to enable empty drum carcasses to remain with the empty waste box and delivered to the box shredder to be processed as LLW. This activity reduces the demand on the box lines and allows approximately 2 additional boxes to be processed per week through AMWTF. This process is currently under a Value Engineering study to identify the most effective way to perform the activity.

1000.04.03.05 Supercompactor Operations

This work package includes the size reduction scope of Supercompactor operations. The Supercompactor is housed within a glove box containment, and is capable of processing both direct feed 55-gal drums and silvers from Box Line operations. The 55-gal drums are remotely fed into the containment by means of a venturi opening, and are fed to the Supercompactor by a drum handling robot. The Supercompactor applies up to approximately 4.5 million pounds force to each drum, and compacts the drum to what is referred to as a puck. Pucks are then moved into the puck handling glove box, and are available for selection to be placed into 100-gal product drums. Selection is by the Process Optimization System (POS), and is based on factors such as weight, height of puck and radionuclide content. The objective of

POS is to maximize the filling of the 100-gal product drums. All PPE needed to perform the scope is included in this work package.

The Supercompactor has excess capacity when compared to the box lines. A Recovery Action has been initiated for concurrence to allow the Supercompaction of certain prohibited items (aerosol cans, liquids, and small sealed containers). This modification would significantly reduce the amount of drums entering the AMWTF in an SDOP and allow them to be supercompacted as direct feed.

1000.04.03.06 Treatment Facility Maintenance

This work package includes the PM and CM that directly supports operation of the AMWTF. All PPE needed to perform the scope is included in this work package.

1000.04.04 Payload Assembly

This control account has the following work packages that break down the scope of work: Payload Assembly, TRUPACT Operations, TRU Payload Assembly, and MLLW/LLW Operations. These activities are discussed in detail in the following sections.

1000.04.04.00 Payload Assembly

This WBS element includes all project management resources directly utilized in supporting Payload Assembly/Shipping of TRU waste, MLLW and/or LLW either stored at the AMWTP or newly generated by AMWTP operations. Work includes management support, baseline preparation, monthly reporting, variance analysis, waste tracking, timekeeping, personnel assessments, and general expertise. In addition to management resources, this account also captures the required training, outside vendor support, travel, and office equipment not captured in the other work packages. Labor resources in this element are also utilized to support site compliance and safety initiatives. Specifically, High Reliability Organizations (HRO), Keeping Everyone and Yourself Safe (KEYS), Integrated Safety Management System (ISMS), and Employee Safety Improvement Team (ESIT).

1000.04.04.01 TRU Payload Assem/Ship – Closed

1000.04.04.02 MLLW Payload Assem/Ship – Closed

1000.04.04.03 Payload Assem/Ship Other TRU – Closed

1000.04.04.04 TRUPACT Operations

This WBS element includes activities associated with TRUPACT operations performed inside Waste Management Facility (WMF)-618. Work scope includes the removal of offsite waste payloads from Type B packaging (TRUPACT/HalfPACT) from other offsite facilities, cleaning and inspections of the Type B packaging, minor maintenance on Type B packaging, loading of certified payloads into the Type B packages, helium leak testing of containment o-rings, onsite movement of TRUPACT trailers, and documentation associated with TRUPACT loading operations.

1000.04.04.05 TRU Payload Assembly

This WBS element includes activities associated with TRU payload assembly. This scope of work is performed inside WMF-635 and includes the movement of certified waste containers for payload assembly staging, disassembling waste payloads received from offsite facilities, assembling direct load

standard waste boxes (SWBs), performing equipment and overpack inspections, rolling stock operations, and assembling WIPP certified/intersite waste drums into one of the following groups:

- Three-pack or six-pack of 100-gal product drums
- Seven-pack or fourteen-pack of 55-gal drums
- Ten drum overpacks (TDOPs) consisting of ten 55-gal drums or six 85-gal drums
- SWBs consisting of four 55-gal drums or two 100-gal product drums.

1000.04.04.06 MLLW/LLW Operations

This WBS element includes all project resources directly utilized in supporting disposal of MLLW and LLW either stored at AMWTP or newly generated by AMWTP operations. This WBS element includes the activities associated with MLLW/LLW operations. Work scope includes the movement of certified waste containers within operations area, container integrity inspections, rolling stock operations, LLW/MLLW payload assembly activities, and final trailer loading to meet offsite shipping requirements to the appropriate TSDF. Nonlabor resources include pallets, lumber, containment pools, and other consumables associated with the assembly and shipment of MLLW/LLW.

1000.04.05 Packaging/Transportation

This WBS element includes the following work packages: TRU Transportation/Shipping, MLLW Transportation / Shipping, Other Transportation / Shipping, and Maintenance Transportation/Shipping.

1000.04.05.00 Packaging/Transportation Labor – Closed

This WBS element includes project resources directly utilized in the transportation/certification and shipping of stored AMWTP waste and ICP waste, which is to be disposed as TRU waste at the WIPP. Transportation/certification includes the selection of containers for payloads, along with inspecting the waste. The waste will be packaged, marked, labeled and manifested to meet all applicable regulations and requirements, including DOT regulations and WIPP WAC. This WBS element also includes data entry and certification of the assemblies, payloads, and shipments in the WIPP Waste Information System (WWIS) and WDS. The scope includes labor and nonlabor elements (including consumables, training, and travel) for completing this scope in FY-12 only.

1000.04.05.01 TRU Transportation/Shipping

This WBS element includes project resources directly utilized in the transportation/certification and shipping of stored AMWTP waste and ICP waste, which is to be disposed as TRU waste at WIPP. Transportation/certification includes the selection of containers for payloads, including inspecting the waste, marking, labeling, and manifesting to meet all applicable regulations and requirements, including DOT and WIPP WAC. This WBS element also includes data entry and certification of the assemblies, payloads, and shipments in the WWIS and WDS. The scope includes labor and nonlabor elements (including consumables, training, and travel) for completing this scope.

1000.04.05.02 MLLW Transportation/Shipping

This WBS element includes the packaging and transportation of all MLLW and LLW for disposal at offsite locations, such as NNSS and commercial disposal facilities such as Energy Solutions' (ES) Clive, Utah, TSDF.

Following certification of such wastes for disposal (not included in this WBS element), the waste will be packaged, marked, labeled and manifested to meet all applicable regulations and requirements, including DOT regulations and WIPP WAC. The scope includes labor and nonlabor elements (including consumables, training, and travel) for completing this scope.

1000.04.05.03 Other Transportation/Shipping

This WBS element includes resources directly utilized in the transportation/certification and shipping of stored AMWTP waste ICP waste as well as TRU waste from other DOE sites and INL tenants, which is proposed to be disposed as TRU waste at WIPP or returned to generator sites for completion of disposition. Other transportation/certification and shipping includes the selection of containers, along with inspection of the shipping containers, placarding, and hazardous waste manifesting. This activity also includes data entry and certification of the assemblies, payloads, and shipments in the WWIS and WDS for disposal at WIPP or as an intersite shipment. The scope includes labor and nonlabor elements (including consumables, training, and travel) for completing this scope.

1000.04.05.04 Maintenance Transportation/Shipping

This work package includes the PM and CM that directly supports operation of the transportation/shipping scope. Maintenance costs were developed using FY-11 and -12 actual costs. The maintenance requirements are based on historical data and projected need based on the shipping volumes discussed above for the various shipping or disposal containers.

1000.04.06 Disposal

This control account includes Management Treatment/Disposal, Offsite MLLW Disposal, and Offsite LLW Disposal.

1000.04.06.00 Management Disposal

This WBS element includes all project management resources directly utilized in supporting the treatment and disposal of MLLW and LLW either stored at AMWTP or newly generated by AMWTP operations. Work includes management support, baseline preparation, monthly reporting, variance analysis, waste tracking, timekeeping, and personnel assessments. In addition to management resources, this account also captures the required training, travel, and office equipment not captured in the other work packages.

1000.04.06.01 Offsite MLLW Disposal

This WBS element captures the disposal cost associated with the disposal of MLLW at ES and/or the NNSS. All work pertaining to disposal is performed at the receiving facility. This WBS does not include treatment costs.

1000.04.06.02 Treatment/Disposal MLLW – Closed

Offsite MLLW treatment is captured in WBS 1000.04.11.01.

1000.04.06.03 Offsite LLW Disposal

This WBS element captures the resources necessary to certify, review, and approve LLW containers in the INL Integrated Waste Tracking System (IWTS) for offsite disposal at the applicable TSDF. An LLW waste profile has been developed for ES. No treatment is required for LLW. This WBS also includes the equipment and supplies to support the disposal of LLW. These supplies include Industrial Packaging Type 2 (IP-2) shredder over pack bags, IP-1 cargo bags, pallets, and other miscellaneous supplies and

services related to this work package. This WBS element captures the disposal cost associated with the disposal of LLW at ES and/or NNSS. The disposition costs of empty cargo containers currently reside in this work package for FY-14 and -15.

1000.04.07 Nuclear Assurance

This WBS provides resources for ensuring safe and compliant operation of all equipment, structures, components, activities, and processes associated with the AMWTP. The Nuclear Assurance team ensures ISMS principles and functions are integrated into all processes. The WBS reports functionally to the Performance Assurance Manager for consistency in Contract Assurance execution.

1000.04.07.00 Nuclear Assurance

The Nuclear Assurance team and the administrative support addressed in this work package establishes and communicates the vision and strategies for the ITG work execution priorities for strategic planning; the development and oversight of work scope, schedule, and budget; the technical oversight of activities and personnel; and the resolution of complex technical issues. The Nuclear Assurance team includes Nuclear Facility Manager (NFM) qualified personnel.

1000.04.09 Treatment Tents

This WBS covers the treatment tents, which are areas where treatment and reoverpacking can be performed. There are containers in the inventory that require treatment of prohibited items. In the WMF-628 Tent Operations, prohibited items such as prohibited amounts of liquid can be treated. The waste must meet WAC prior to disposal; however, a number of containers have been found through RTR that must be treated before they can be shipped and disposed. The current population of containers is from inorganic solidified material waste streams. Containers that have been overpacked cannot be shipped in their current configuration. In the WMF-635 Tent Operations these containers can be unoverpacked and then placed in approved shipping overpacks (e.g., SWBs and TDOPs). In most cases these containers are available for shipment if the overpack was appropriate. Recovery Action Item (RAI) 8, Enhance Treatment Tent Process, is on schedule. The next generation process (i.e., Drill and Drain) is proceeding per the implementation schedule. The description for each work package is provided below.

1000.04.09.01 628 Tent Operations

There are containers in the inventory that require treatment of prohibited items. In the WMF-628 Tent Operations, prohibited items such as prohibited amounts of liquid can be treated. The waste disposal must meet the WAC prior to disposal; however, a number of containers have been found through RTR that must be treated before they can be shipped and disposed. There are various types of treatment that can be conducted in the tent including: relidding of containers, reduction in layers of confinement, and liquid absorption (LA). There are several types of LA that will be required to be performed including: LA at the top of the waste, LA between the drum and the liner, LA at the bottom of the waste, and LA throughout the waste.

Operations at the treatment tent will be set up in campaigns so that the most effective processing can be completed. In most cases, the containers require additional characterization activities prior to shipment for disposal.

The number of containers that need to be treated through this activity is about 2,624 containers. These containers are currently in permitted storage. In addition, it is expected that containers of solidified waste being retrieved will require treatment for LA. To operate the tent most effectively, one shift will work this activity, which includes preparation of the tent and glovebox, and preparation for the scheduled activity.

Preparation requires equipment and supplies as outlined in the procedure to conduct the scheduled activity. This activity is scheduled by shifts and depends on the inventory provided to the activity.

1000.04.09.02 635 Tent Operations

Containers that have been overpacked cannot be shipped in their current configuration, unless prior approval is received from the Carlsbad Field Office (CBFO). In the WMF-635 Tent Operations the 55-gal containers can be unoverpacked from the 83/85 containers. The 55-gal containers will then be placed in approved shipping overpacks (e.g., SWBs). In most cases, once the SWBs are completed, only FGA is required and these containers are available for shipment. To operate the tent most effectively, one shift will work this activity which includes preparation of the tent and glovebox, preparation of the SWB for acceptance of waste and removal of the container from the overpack. The next generation process for enhanced treatment tent process will be implemented in the WMF-635 Tent.

1000.04.10 Onsite MLLW Treatment

This WBS element captures the resources necessary to certify, review and approve MLLW containers in the IWTS for onsite treatment followed by offsite disposal at the NNSS. The WBS also includes the labor, equipment and supplies to perform onsite macroencapsulation at the AMWTP. These supplies include HDPE Macro Packs, macro pallets, and other miscellaneous supplies and services related to this work package.

1000.04.10.01 Onsite MLLW Treatment (Macroencapsulation)

This WBS element captures the resources necessary to certify, review and approve MLLW containers in the IWTS for onsite treatment followed by offsite disposal at the NNSS. The WBS also includes the labor, equipment and supplies to perform onsite macroencapsulation at the AMWTP. These supplies include HDPE Macro Packs, macro pallets, and other miscellaneous supplies and services related to this work package.

1000.04.11 Offsite MLLW Treatment

This WBS element captures the resources necessary to certify, review, and approve mixed low level waste (MLLW) containers in the IWTS for offsite MLLW treatment. Offsite MLLW treatment contracts with ES and Permafix are included within this WBS for MLLW that is not treated onsite at the AMWTP.

1000.04.11.01 Offsite MLLW Treatment

This WBS element captures the resources necessary to certify, review, and approve MLLW containers in the IWTS for offsite MLLW treatment. Offsite MLLW treatment contracts with ES and Permafix are included within this WBS for MLLW that is not treated onsite at the AMWTP.

1000.05 Project Support

1000.05.01 Project Management

This WBS element includes senior management and leadership (key personnel) over the AMWTP work scope. As such, this element encompasses all scope and resource requirements to deploy the ITG key personnel, (e.g., the Project Manager, Waste Programs Lead, Environment Safety and Health (ES&H) Lead, Plant Manager, Lead Legal Counsel, and Business Manager). This WBS element does not include the direct line management of day-to-day operations. This WBS element will also be used to capture project management costs not included elsewhere.

1000.05.01.00 Project Management

ITG will develop and maintain a project management system, including submittal of a project execution plan (PEP) in accordance with the Project Control Systems and Reporting Requirements. This activity includes submittal of monthly status reports as required. The monthly status reports will include cost and schedule variance analysis at the control account level of the WBS and a discussion of critical technical or programmatic risk issues.

1000.05.02 Legal

This WBS element includes legal support for the AMWTP contract scope of work.

1000.05.02.00 Legal

The General Counsel provides counsel to ITG management on legal and regulatory issues, including, but not limited to: ES&H, employment, procurement, contracts, and disputes. The General Counsel advises ITG management of potential legal risks and liabilities to ITG and identifies options to avoid or minimize those risks. The General Counsel assists in the development of strategies for ITG to achieve and maintain compliance with all applicable federal, state, and local laws; DOE directives and orders; contractual provisions; and other applicable requirements. A single attorney familiar with environmental, employment, labor, and contract law, supports the AMWTP.

Inasmuch as ITG intends to employ only one attorney, ITG will retain outside counsel for any court proceeding in which it is involved. For other matters, ITG will retain outside counsel when in-house counsel does not have the necessary expertise, when in-house counsel's workload prevents counsel from providing timely support, or when an ethical conflict of interest exists.

1000.05.03 Human Resources

This WBS element includes Human Resources (HR) support for the AMWTP contract scope of work including a human capital management program, diversity program, human resources liaison to line management, benefits, labor relations, and compensation.

1000.05.03.00 Human Resources

This WBS element includes HR support for the AMWTP contract scope of work including a human capital management (HCM) program, diversity program, HR liaison to line management, benefits, labor relations, and compensation.

Fifty percent of HR activities will be conducted at the INL site, and 50% will be conducted from the town of Idaho Falls. Administrative functions are performed under normal office conditions.

1000.05.04 Project Controls

This WBS element includes Project Control support, including project control systems management, change control process, and project reporting.

1000.05.04.00 Project Controls

The scope of this WBS element includes developing and implementing a Project Controls System (PCS), documented within a System Description (SD), to support the AMWTP. The PCS will be developed in compliance with DOE Order (O) 413.3A and American National Standards Institute (ANSI)/Energy

Information Administration (EIA) 748. A tailored approach will be developed for the EVMS based on earned value management (EVM) protocol that states operations projects can employ a tailored approach.

1000.05.05 Procurement

This WBS element includes procurement support for the AMWTP.

1000.05.05.00 Procurement

This WBS element includes procurement support for the AMWTP contract scope of work including prime contract administration, subcontract administration, commodities procurement, materials distribution, inventory control, warehouse operations, fleet management and mandatory services procured from other INL site contractors.

1000.05.06 Financial/Accounting

This WBS element includes Finance and Accounting support for the AMWTP contract scope of work including cost and contract accounting, cash management/treasury functions, corporate accounting, and project financial control and budgeting.

1000.05.06.00 Financial/Accounting

This WBS element provides resources required to support cost collection and financial reporting to the DOE and company management as well as the maintenance of the company financial systems. Financial systems and processes include: Accounts Payable, General Ledger, Banking, Payroll, Benefits Accounting, Cash Management/Treasury functions, Corporate Accounting, Cost Reporting, and other financial services.

1000.05.07 Internal Audit/PA

This WBS covers Performance Assurance (PA) processes that are implemented through an aggressive assessment program, along with evaluations and analysis of performance data and events.

1000.05.07.00 Internal Audit/PA

The PA process objective is to apply a systematic and disciplined approach to evaluate and improve the effectiveness of our controls and corporate governing processes. These programs and processes are described in PD-Q&SI-01, Contractor Assurance Program Description; PD-Q&SI-02, Corporate Operating Experience Program Description; ADMN-PLN-02, Risk Management Plan; RPT-094, Audit Implementation Design Document; RPT-095, ITG Annual Audit Plan; MP-PASS-26.1, AMWTP Performance Reporting; and RPT-PEP-01, Project Execution Plan.

1000.05.08 Central Engineering

This WBS element includes the following work packages: Central Engineering Management, System Engineering, Nuclear Safety, and Work Control.

1000.05.08.00 Central Engineering Management

This WBS element includes management and administrative staff to support all activities in the WBS elements below. This cost account provides engineering support and services for the AMWTP.

1000.05.08.01 System Engineering

This WBS element includes central engineering support and services for the AMWTP contract scope of work including engineering standards and expectations, configuration management, engineering design, systems engineering, fire protection engineering, drafting and modeling, approval of all facility modifications, and support to maintenance for the continued reliable operations of plant facilities and equipment to safely and compliantly achieve AMWTP mission and goals.

1000.05.08.02 Nuclear Safety

The scope of this WBS element is to provide criticality engineering and nuclear safety support and services to AMWTP, including revising and maintaining the DSA and TSRs, and performing unreviewed safety question (USQ) reviews.

1000.05.08.03 Work Control

The scope of this WBS element is to develop and implement an improved work planning and control process consistent with the Energy Facility Contractors Group (EFCOG) and URS Corporate Work Planning and Control Standards while continuing to ensure safe and efficient work control under the existing work planning and control process.

1000.05.09 Information Technology

This WBS element includes information technology (IT) support for the AMWTP contract scope of work including plant instrumentation and controls, distributed control systems, IT infrastructure, cyber-security, and WTS.

1000.05.09.00 Information Technology

The following primary activities are required to ensure that effective IT services (including plant automation) will be available to the project mission. Specific tasks and responsibilities under the IT function include but are not limited to:

- Maintain AMWTP facility instrumentation and control systems
- Ensure compliant operation of business systems applications on all IT platforms
- Provide computer software application and internet support services to users
- Perform all cyber-security functions including coordinating joint efforts with Safeguards and Security personnel to implement an effective cyber-security program
- Participate in business system upgrade activities as required
- Maintain and administer software configuration management including offline testing of all approved changes.

1000.06 Industrial Safety / Industrial Hygiene and Environmental Safety and Health Program

1000.06.01 ISIH

ITG will conduct activities in compliance with safety and environmental protection requirements including, but not limited to, those listed on the List of Applicable DOE Directives (Section J, Attachment B). ITG will take actions necessary to preclude accidents and injuries and keep worker exposures as low as reasonably achievable. ITG will promptly respond to operational events.

ITG will provide technical support to line management, workers, and junior Industrial Safety/Industrial Hygiene (IS/IH) staff regarding the implementation of IS/IH requirements and company procedures. The main emphasis will be daily support of operation activities in response to emergent requests and scheduled work on the plan of the day (POD). Direct IS/IH resources on shift to see that work is conducted without interruptions.

1000.06.01.00 ISIH

IS/IH performs IH exposure assessment/hazard assessment and necessary sampling activities to characterize employee exposure to hazardous agents and completes walk-downs for work control development utilizing experience and knowledge to develop implementable control sets. IS/IH personnel work independently to identify noncompliant conditions and provide solutions to management with minimal direction. IS/IH assist management and employee safety team members on accident investigation and in determining the root cause in accordance with company procedures. IS/IH performs assigned Management Assessments as required.

1000.06.02 ES/H

ITG will maintain an ES&H program to ensure the protection of workers, the public, and the environment. ITG will operate the ES&H program as an integral, but visible, part of how business is conducted. This includes prioritizing work planning and execution; establishing clear ES&H priorities; allocating resources to address programmatic and operational considerations; collecting and analyzing samples; correcting noncompliance; and addressing hazards for AMWTP facilities, operations, and work.

1000.06.02.00 ES/H

ITG will adopt existing regulatory required implementation plans and processes, such as Title 10 of the Code of Federal Regulations (CFR) 835, Occupational Radiation Protection; 10 CFR 830, Quality Assurance Plan; 10 CFR 851, Worker Safety and Health Program; 10 CFR 850, Chronic Beryllium Disease Prevention Program; the USQ process; and a compliant ISMS and Environmental Management System (EMS). ITG may elect to update the adopted plans and resubmit them for DOE approval.
The scope of work for this WBS element also includes application of specific Radiological Safety Programs which maintain robust dosimetry and bioassay programs.

ITG will establish and maintain a single ISMS as required by Department of Energy Acquisition Regulations (DEAR) 970.5223-1, Integration of Environment, Safety, and Health into Work Planning and Execution. The ISMS program will ensure that safety and environmental protection considerations are integrated throughout the entire work planning and execution process (including subcontracts as appropriate). ISMS will extend through the execution of individual work packages where jobsite safety is ensured for each worker. ITG will ensure that the principles of ISMS serve as the foundation of the implementing mechanisms for work at the site. ITG will also ensure that the structure of requirements to achieve nuclear safety is based on sound principles such as defense in depth, redundancy of protective measures, robust technical competence in operations and management oversight, and compliance with DOE directives embodying nuclear safety requirements.

1000.07 Quality

1000.07.01 Quality Assurance

This WBS element covers the ITG quality assurance (QA) program. ITG will maintain a QA program that complies with 10 CFR 830, DOE O 414, and is based on the current ANSI/ASME Nuclear Quality Assurance-1 (NQA-1) standard. In addition, the QA program ensures compliance with the WIPP HWFP and current version of the CBFO Quality Assurance Program Document.

1000.07.01.00 Quality Assurance

The ITG QA Program is based on the principle that work shall be planned, documented, performed under controlled conditions, and periodically assessed to establish work item quality and process effectiveness and to promote improvement. Management, line personnel, and organizations are responsible for planning and achieving quality and for promoting continuous improvement. QA organizations and personnel are responsible for the facilitation, support of, and verification of the achievement of quality. ITG will maintain QA and software QA programs necessary to improve compliance, safety, and productivity.

1000.07.02 Training

This WBS element provides resources to maintain operational, facility/process activity, and nonoperational training programs for the AMWTP. Training programs include but are not limited to, those for waste handling (WH)/payload assembly (PA)/shipping, retrieval, AMWTF, characterization, and maintenance operations. Facility/process activity training programs include such topics as hazardous waste operator and emergency response (HAZWOPER), radiological safety and fall protection. The nonoperations training programs include any general training not included in the operational training programs or facility/process activity training programs.

1000.07.02.00 Training

Activities for training programs include preparing course material and presenting training to appropriate personnel including maintenance, radiological safety, and any other required support personnel. Activities also include providing resources to maintain all training records and the training records and information network (TRAIN) and providing management and administrative support to the training organization. Other activities include preparation and maintenance of qualification packages, examinations and test banks, proctoring examinations and testing for qualification and other required training (i.e., Access), preparation of training needs analysis, job positions analysis, and training requirements for all program descriptions (PD), management procedures (MP), instructions (INST), and TRU programs changes, evaluation of course material, on-the-job training, and affiliated instructional staff. Specific, identified training for qualifications may be contracted and performed offsite.

1000.08 Environmental Compliance

1000.08.01 Environmental Compliance Program

ITG will comply with all applicable environmental requirements, permits, and compliance documents including, but not limited to, the Hazardous Waste Management Act (HWMA), RCRA permits, Idaho Toxic Air Pollutant and Clean Air Act air permits, the Site Treatment Plan under the Federal Facility

Compliance Act, 1989 Article of Noncompliance Consent Order, and the 1995 Idaho Settlement Agreement.

1000.08.01.00 Environmental Compliance Program

ITG will support waste generators and ship conditional, hazardous, and universal waste offsite by performing the following activities:

- Provide management expertise in the area of environmental compliance (EC) to implement and oversee ITG's EC program
- Manage overall EC activities for program execution
- Provide management support in reviewing work packages, subcontracts, hazard assessments, emergency drills, and operations drills
- Perform work place inspections
- Support DSA and other project documents
- Ship hazardous and universal waste
- Waste generators services
- Prepare and submit "Deliverables" identified below.

1000.08.02 Environmental Communications – Not Used

1000.08.03 AMWTP Facility Permits

ITG will comply with all applicable environmental requirements, permits, and compliance documents including, but not limited to, the HWMA, RCRA permits, Idaho Toxic Air Pollutant and Clean Air Act air permits, the Site Treatment Plan under the Federal Facility Compliance Act, 1989 Article of Noncompliance Consent Order, and the 1995 Idaho Settlement Agreement. Permit compliance includes maintenance of all personnel, training, equipment, facilities, and procedures.

1000.08.03.00 AMWTP Facility Permits

This WBS element scope includes submitting to the DOE or the regulator, as required, certified permit modification requests (e.g., AMWTP-specific HWMA/RCRA permits, air permits) to assume ownership, namely change the operator name and identify a responsible corporate officer for the permits.
The ICP contractor is responsible for sitewide coordination for RCRA and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) regulatory programs. The INL contractor is responsible for sitewide coordination for regulatory programs other than RCRA and CERCLA. ITG will provide to the INL or ICP contractors, as applicable, the appropriate AMWTP-related information, data (certified if necessary), and support necessary to complete the sitewide functions.

1000.08.04 INL Site EC Coordination – Not Used

1000.09 Laboratory Sampling and Analysis

1000.09.01 Core Sampling

This WBS element covers the nonlabor resources for the coring of an estimated 632 drums.

1000.09.01.00 Core Sampling

The coring facility at the AMWTP is the only approved facility in the complex; therefore, AMWTP provides this support to all generator facilities. ITG will maintain the capability to perform TRU waste

coring and sample preparation unless and until the WIPP permit no longer requires it. ITG will provide these services for other DOE sites and contractors in accordance with CBFO-approved procedures. The method of performance is based on completion of waste streams of a coring event. The requirement is a minimum of 5 samples per waste stream, plus one co-located sample, whether or not there are 5 drums in a waste stream.

1000.09.02 Analytical Laboratory

This WBS element covers the costs associated with the laboratory analysis support work needed for operation of the AMWTP Analytical Chemistry Laboratory (ACL). AMWTP requires three separate types of analytical laboratory support: solids analysis; water, soils, and National Emission Standards for Hazardous Air Pollutants (NESHAPs); and analyses to ensure worker safety and protection.

1000.09.02.00 Analytical Laboratory

The first type of laboratory analysis is the solids analysis required by the WIPP HWFP as a check for hazardous constituents in the waste. This analysis is only a requirement for TRU waste disposal. Further, it is only a requirement for waste categorized as soils or solids, and only on a statistical basis. The requirement is an analysis and documentation of coring samples. AMWTP has the only certified coring system within the DOE, and as a consequence, performs this service for all sites (i.e., Accelerated Retrieval Project [ARP], INTEC, offsite waste).

The second type of laboratory analysis is for the water, soils, and NESHAP to demonstrate environmental compliance.

The third type of laboratory analysis is needed to ensure worker safety and protection. These include metals, including beryllium, and Polychlorinated biphenyl (PCB) analyses.

1000.10 Facility Operation, Maintenance, and Improvements

1000.10.01 Facility Operation and Maintenance

The scope of work for this control account is to maintain and improve, as necessary, all AMWTP equipment, facilities, and utilities to maximize performance and ensure that they are fully operational throughout the contract period.

1000.10.01.00 Facility Operation and Maintenance

Specifically, by the end of the contract period, or as equipment, facilities, and utilities are no longer needed to process waste, they will be placed in a standby condition that would allow for complete resumption of operation in a stable state within a reasonably short period of time (i.e., able to process waste within one month). Even in a standby condition ITG shall perform and keep current all required maintenance, including preventive maintenance and calibrations. All systems required to keep the facility in a safe condition shall be maintained operational.

ITG will not employ a run-to-failure approach on any systems or equipment at the AMWTP during the term of the contract without Contracting Officer approval. To the extent possible, ITG will time any planned facility maintenance outages with planned WIPP maintenance outages and other planned shipping curtailments to avoid any DOE-wide impacts to the TRU shipping program.

1000.10.02 Facility Improvements and Upgrades

Specific initiatives have been identified to upgrade or improve the reliability, and individual work packages have been created for each item. This control account plans, executes, and closes projects to implement the initiatives. The description for each work package is in the following sections.

1000.10.02.00 Facility Improvements/Upgrades Planning & Management

The work scope for the duration of the contract includes the following:

- Project Managers time for planning and execution
- Planning packages for future upgrade projects
- EFCOG Decommissioning and Deconstruction (D&D) Working Group Mtg support
- HRO support
- Project Management Office (PMO) procedure development/revision
- Startup Management Oversight support
- Develop new approach for emptying and large boxes using RCE technology
- Develop new approach to replace concept of the Container Repackaging Enclosure (CRE) for drums using drum packaging system (DPS).

1000.10.02.01 BOGR Replacement - Closed

No costs incurred. Project cancelled.

1000.10.02.02 Install Box OS Saw – Closed

No costs incurred. Project cancelled.

1000.10.02.03 Brokk Upgrade/Monitoring - Closed

The FY-12 scope includes the following:

- Procurement and storage of one super clamshell and one sweeper attachment
- Develop performance parameters and procure necessary monitoring equipment.

1000.10.02.04 Treatment Facility Shredder

The FY-12 scope of work includes the following:

- Prepare a specification and obtain bids for a new drum shredder for carcasses, liners, and full drums of waste
- Mitigate existing shredder bridging
- Reduce box shredder dust emissions by repairing/replacing skirting and sealing the door
- Install BOGR Combination blade
- Install dunnage stand
- Design and construct a modified SDOP.

The FY-13 scope of work is closeout of the project.

1000.10.02.05 Single Auger Shredder - Closed

No costs incurred. Project cancelled.

1000.10.02.06 Container Repack Enclosure - Closed

The FY-12 scope of work includes the following:

- Procurement of six DPS Units
- Preconceptual planning and estimating for CRE.

There is no FY-13 scope for this work package.

1000.10.02.07 Mobile Loading Platform - Closed

No costs incurred. Project cancelled.

1000.10.02.08 Security Upgrade - Closed

The scope of the security upgrade includes adding a secure trailer that allows employees to badge in and enter/leave AMWTP through a turnstile. The trailer has security cameras, a telephone, and emergency lighting.
The FY-12 scope of work includes the following:

- Procure, install, and place system into operation
- Project closeout.

1000.10.02.09 Treatment Facility Ventilation - Closed

The FY-12 scope of work includes the following:

- Harden the ventilation system against minor power fluctuations
- Engineering study to identify obsolete ventilation equipment
- Project closeout.

1000.10.02.10 Completion Planning Package

The FY-15 scope of work is to prepare a planning package that provides conceptual scope, schedule, and estimate range for processing, packaging, and shipping any waste that remains at AMWTP after September 30, 2015.

1000.11 Processing of Other TRU – Not Used

1000.12 DOE Support – Not Used

1000.13 Interface with Site Contractors for Services – Not Used

1000.14 Records Management

1000.14.01 Records Management

This WBS element includes all Records Management (RM) labor resources required to establish the responsibilities, requirements, and processes for managing and storing documents and records generated at the AMWTP.

1000.14.01.00 Records Management

Records Management labor coordinates the methodology and responsibilities for ensuring requirements are evaluated, and if applicable, integrated into implementing documents and work processes. The Records Management process provides direction for demonstrating requirements implementation through requirements roll down implementation matrices controlled through the Document Control and Records Management systems.

Documents are required to safely and effectively manage, perform, and assess work. Using the graded approach, management identifies those documents needed to accomplish these objectives and determine the level of control required. Controls include activities such as preparation, review, approval, distribution, usage, availability, revision, and disposal of documents. RM's focus in the control process for documents is to ensure external review where appropriate such as DOE and CBFO notices/correspondence for review, posting documents for use and RM program including the final QA checks and approvals.

The RM function also includes identification and processing requirements for the review and approval of specific documents requiring DOE-ID, CBFO, and/or NNSS acceptance. AMWTP electronic databases are used in conjunction with the required instructions in order to support real time online delivery of controlled documents.

1000.14.02 Document Services

This WBS element covers an ITG records management system compliant with all federal regulatory requirements, including records management requirements in 36 CFR 1220–1236.

1000.14.02.00 Document Services

This WBS includes, but is not limited to, maintenance, storage, protection, and disposition of active and inactive records, retrieval from onsite storage facilities, and support for ongoing discovery efforts associated with litigation. ITG will provide a complete records inventory list in a suitable format to the post-closure records custodian identified by the Contracting Officer. ITG will incorporate records management and records management archival functions into the design, development, and implementation of information systems. This activity is transferred to 14.01, Records Management, beginning in FY-13.

In addition to the records management program, ITG will provide document control and document preparation programs that are compliant all relevant QA and conduct of operations requirements.

1000.15 Safeguards, Security, and Counterintelligence

1000.15.01 Safeguards, Security, and Counterintelligence

This WBS element covers establishing and maintaining security plans, as required by DOE directives, and coordinate regularly with the INL contractor, as needed, to ensure appropriate levels of protection against: unauthorized access; theft, diversion, or loss of custody of nuclear materials; espionage; loss or theft of classified information or Government property; and hostile acts that may cause unacceptable adverse impacts on national security or the health and safety of DOE and contractor employees, the public, and the environment.

1000.15.01.00 Safeguards, Security, and Counterintelligence

ITG will provide input, as needed, to the INL contractor for applicable elements of the Site Safeguards and Security Plan and participate in safeguards and security drills and exercises as required by DOE directives. The INL contractor is responsible for site-wide security. ITG will be responsible for security within the AMWTP.

ITG will prepare and submit applications for security clearances, for adjudication by DOE-ID, as required for work under this contract. ITG will maintain the security/facilities infrastructure at AMWTP and will promptly adjust to the Security Condition determined by DOE.

ITG will also develop and maintain a Nuclear Materials Control and Accountability Program, Operations Security Program, Personnel Security Program, Information Security Program, Physical Security Program, Foreign Visits and Assignments, and a General Security Awareness Training Program as required by DOE directives.

ITG Emergency Management resides within the Safeguards and Security organization. ITG will develop and maintain all AMWTP Emergency Management Plans and Procedures. ITG will conduct training and exercise programs to protect personnel, environment, and property in the event of an emergency. ITG will coordinate with the INL contractor for support and to ensure the appropriate levels of protection are met.

1000.16 BBWI to ITG Transition

1000.16.01 Transition Management

ITG will perform transition activities necessary to be prepared to assume responsibility for the contract work on the contract takeover date. ITG will coordinate activities with DOE and the incumbent contractor to accomplish these activities in a manner that will provide an effective transition of personnel and work activities while minimizing the cost and impact of this effort.

Contract transition will include the following:

- Accomplishing workforce transition
- Establishing an employee benefits program
- Acceptance of assigned agreements
- Acceptance of the current approved program (equipment, procedures, and personnel positions identified by the CBFO as being necessary for a successful program) necessary to maintain a certified program to characterize, certify, and ship TRU waste to WIPP.
- Negotiation of existing and new subcontracts necessary for full AMWTP operations at the end of the transition period
- Negotiation of service agreements with the INL contractor
- Transferring environmental permits
- Other activities necessary for full operations at the end of the transition period.