# SECTION C

# PERFORMANCE WORK STATEMENT

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## C.1 OBJECTIVE

The objective of this Contract is to establish a U.S. Department of Energy (DOE) capability for the long-term management and storage of domestic elemental mercury waste to meet the requirements of the Mercury Export Ban Act of 2008 (Public Law 110-414), as amended by the Frank R. Lautenberg Chemical Safety for the 21st Century Act, (Pub. L. 114-182), (MEBA). MEBA requires a DOE ownership or lease-hold interest in a storage facility, and the technical, management, and administrative services of a Contractor to perform all tasks necessary to ensure the safe and compliant long-term management and storage of elemental mercury waste as contemplated by MEBA.

MEBA requires DOE to designate a site (or sites) for the long-term management and storage of elemental mercury originating from domestic sources. The Contractor is expected to provide a lease-hold interest for the storage of elemental mercury waste from multiple domestic sources. Storage will be necessary until an acceptable treatment and disposal standard for elemental mercury is established by the Environmental Protection Agency (EPA). The current DOE inventory projections follow.

- During the first year of the contract up to 500 Metric tons of elemental mercury would be eligible for storage under this program.
- In each subsequent year, up to approximately an additional 140 Metric tons of elemental mercury would be eligible for storage under this program.
- Not all elemental mercury that is eligible in a given year will be placed into storage in that year. Most of the residual will be placed into storage later, although a small portion might find a different pathway.

The activities within the scope of this PWS include:

- Provide a lease-hold interest in a facility capable of receiving, inspecting, handling, and storing elemental mercury in accordance with applicable requirements,
- Develop and execute a receipt/verification process for the acceptance of elemental mercury and elemental mercury containers,
- Develop and execute standards and procedures for the operation of the elemental mercury storage facility, and
- Maintain a RCRA permit for the long term storage of elemental mercury for the duration of the Contract.

Any storage facility to be used in performance of this contract to store elemental mercury shall comply with applicable procedures, standards and criteria and requirements of the Solid Waste Disposal Act [42 U.S.C. 6901 et seq.], including the requirements of subtitle C of that Act [42 U.S.C. 6921 et seq.], except that elemental mercury that DOE is storing on a long-term basis shall not be subject to the storage prohibition of section 3004(j) of the Solid Waste Disposal Act (42 U.S.C. 6924(j)).

Furthermore, this work is to be performed in compliance with all applicable Federal, State, and local laws and regulations, Executive Orders, DOE Orders (and other types of Directives), Regulatory Permits, and Agreements and Orders while achieving the aforementioned objectives.

## C.2 BACKGROUND

Long-term management and storage of elemental mercury is an element of the U.S. strategy to reduce mercury pollution domestically and world-wide. Banning the export of mercury from the U.S. is expected to result in additional surplus inventories of elemental mercury. The MEBA prohibits the sale, distribution, and transfer of elemental mercury by Federal agencies (with certain exceptions); prohibits the export of elemental mercury (subject to potential essential use exemptions) effective January 1, 2013; requires the U.S. Department of Energy (DOE) to designate and manage a facility for long-term storage of elemental mercury; and requires that various reports be submitted to Congress.

## C.3 CONTRACTOR PERFORMANCE

C.3.1 The Contractor shall furnish personnel, facilities, office furniture, equipment, material, services, and supplies for Contractor personnel (except as set forth in this contract to be furnished by DOE or others), and otherwise perform work in a safe, integrated, effective, and efficient manner in accordance with the terms and conditions of the contract.

C.3.2 The Contractor shall be responsible for planning, integrating, managing, and executing the programs, projects, operations, and other activities as described in this Performance Work Statement (PWS).

C.3.3 Contractor personnel shall perform the activities described in this PWS with minimum oversight and guidance by DOE, while in compliance with all applicable procedures. The Contractor shall ensure that duties are performed in a competent, professional manner that meet established milestones and adhere to established schedules. Work products are expected to be thorough, timely, accurate, appropriately documented, and comply with established criteria. Some work products shall include highly sensitive information and recommendations. The Contractor shall maintain the confidentially of information as dictated by the requesting party and overall DOE standards of ethics and professional behavior.

## C.4 LONG-TERM ELEMENTAL MERCURY WASTE STORAGE FACILITY

### C.4.1 Leasehold Interest for an Elemental Mercury Waste Storage Facility

The Contractor shall provide a lease-hold interest in real property to be used for the long-term storage of elemental mercury waste. The designated real property (herein "DOE Facility") shall be available for DOE use for the period of performance as detailed in this contract under Section F, including all term option periods as provided under Section H. The DOE Facility shall comply with all requirements as detailed under this Section C.4.

### C.4.2 System Description of the Elemental Mercury Waste Storage Facility

Major characteristics of the DOE Facility shall include, but shall not be limited to, the following:

C.4.2.1 Adequate space for the long-term management and storage of containerized elemental mercury for the minimum anticipated quantity equivalent to the first five (5) years of the expected inventory — as noted in Section C.1;

C.4.2.2 Receive elemental mercury in various DOT-compliant bottles, flasks, drums, vessels, possibly with over-packs;

C.4.2.3 Safely and effectively receive shipments of elemental mercury containers, including elemental mercury repackaging from damaged and leaking containers, and the safe disposition of the mercury contaminated containers, and other mercury contaminated items;

C.4.2.4 RCRA-regulated/permitted compliance that include RCRA-required features such as spill containment features and emergency response procedures;

C.4.2.5 Security and access control;

C.4.2.6 Fire suppression systems;

C.4.2.7 Environmentally-controlled receiving, storage, and handling area(s);

C.4.2.8 Fully-enclosed, weather-protected, building code compliant building;

C.4.2.9 Facility floors able to withstand structural loads of elemental mercury storage;

C.4.2.10 Complies with federal, state, and local regulations;

C.4.2.11 Facilities for the management (e.g. record-keeping, inspection, security, emergency response, worker training, infrastructure systems, human resource spaces, etc.) of the elemental mercury storage program; and

C.4.2.12 Can accomplish the mission for a minimum duration of five (5) years.

### C.4.3 Performance Requirements

The *U.S. Department of Energy Interim Guidance on Packaging, Transportation, Receipt, Management, and Long-Term Storage of Elemental Mercury* provides the guidance for the design, construction and operation of a DOE Facility and includes the following major assumptions about the program's functional performance parameters:

C.4.3.1 Elemental mercury waste acceptance criteria purity is defined as 99.5% (by volume) or better. The composition data for elemental mercury and impurities are reported by weight and are supplied to Contractor prior to shipment.

C.4.3.2 The DOE Facility shall not accept elemental mercury contained in environmental media or consumer products (e.g. fluorescent lamps, batteries, etc.) or elemental mercury in manufactured items (manometers, thermometers, switches, etc.).

C.4.3.3 The elemental mercury to be shipped to the DOE Facility is waste (since it is being discarded), and generally shall be characterized as a hazardous waste under the Resource Conservation and Recovery Act (RCRA).

C.4.3.4 The elemental mercury storage program policy shall specify the acceptable elemental mercury storage containers, i.e. 3-liter (L) and one metric ton (MT) containers. The containers used for elemental mercury transportation shall be agreed upon between the Generator of the elemental mercury waste and the DOE Facility, in accordance with the elemental mercury waste acceptance criteria.

C.4.3.5 The DOE Facility may be an existing or new facility, adaptable to a modular design (allowing to future expansion). DOE may also utilize more than one DOE Facility location for the storage of elemental mercury waste.

C.4.3.6 The DOE Facility shall be a RCRA-regulated and permitted facility, storing elemental mercury waste originating from U.S. government inventories, private sector inventories, or other elemental mercury generated in the U.S. that meets the elemental mercury waste acceptance criteria.

### C.4.4 Functional Requirements

The DOE Facility shall include the following five major physical areas that shall provide the necessary functions for receipt, inspection, and long-term management and storage of elemental mercury:

C.4.4.1 Receiving and Shipping Area. This area shall include dedicated space(s) for the receipt, inspection, and handling of elemental mercury containers. It shall allow for truck docking, offloading, inspection and transfer of received elemental mercury to the DOE Facility. It shall also allow for inspection, packaging, marking, manifesting, and truck docking and loading for shipments of secondary waste out of the DOE Facility. It shall be adjacent to the Handling and Storage Areas.

The functions performed in this area include:

C.4.4.1.1 Visual and air sample analysis inspection of the received shipment for container conditions and signs of elemental mercury leakage, as required or needed.

C.4.4.1.2 Segregation of hazardous and non-hazardous other materials arriving along with elemental mercury containers that is not intended to be included in long-term storage. This material may include truck bracing, cushioning, and packaging materials.

C.4.4.1.3 Disposition and disposal of materials received that are not to be placed into long-term storage.

C.4.4.2 Handling Area. This area shall include dedicated space(s) for acceptance and verification of incoming containers and for work involving potential contamination, including (1) safely handling and cleaning palletized or individual containers that have external mercury contamination, (2) repackaging elemental mercury from containers that have failed inspection, and (3) inspection, sorting (hazardous and non-hazardous) and segregation, and disposition of in-coming materials that are not intended for long-term storage (such as cargo bracing, padding, cushioning, etc.) This area shall also serve for non-routine and emergency response activities for leaking flasks and/or containers. The area shall be enclosed and have a dedicated HVAC system. The HVAC system shall maintain interior temperatures at or below 21ºC (70º F) to minimize its volatility. All exhausted air shall pass through a control device to capture mercury vapors.

The functions performed in this area include:

C.4.4.2.1 Verification of received shipments' compliance with the elemental mercury waste acceptance criteria. Including possible elemental mercury sampling. (Physical and chemical analysis shall be performed.)

C.4.4.2.2 Preparedness and response to any plausible mercury vapor or liquid release. This shall include the physical and material resources to perform the response.

C.4.4.2.3 Disposition and disposal of materials and items used during mercury handling or spill response that are not to be placed into long-term storage.

C.4.4.3 Storage Area. This area shall include dedicated space for the storage of elemental mercury containers. Composing the bulk of the DOE Facility, this enclosed area shall have ample storage and aisle space for careful, tracked placement and retrieval of all containers (e.g., 3-L and 1-MT capacity). The

area shall be adequately lit, with appropriate ventilation, spill containment, and fire protection.

The functions performed in this area include:

C.4.4.3.1 The elemental mercury storage configuration shall provide tertiary elemental mercury spill containment. The use of only acceptable elemental mercury containers shall provide the primary containment. The elemental mercury containers shall be placed in spill containment trays, which provide secondary containment. The tertiary containment shall be provided by the Storage Area floor.

C.4.4.3.2 The configuration of the elemental mercury containers, spill trays and floor shall be designed to enhance the efficacy of inspections for elemental mercury leakage. All spill trays shall be supported above the storage area floor to permit inspection of the bottom, exterior surfaces of the spill containment trays. The spill trays shall be positioned in a manner that provides a 3-degree slope toward the position of optimum visual inspection vantage points to maximize the likelihood of liquid elemental mercury leakage into the spill trays.

C.4.4.4 Office Administration and Employee Support Area. This area shall support the management, operations, training, and all other administration functions supporting the overall elemental mercury program. Examples include the storage and maintenance of records, waste verification documents, shipping papers, and databases. It shall also include toilet rooms, locker rooms, and a break room. These spaces shall be located separately from the areas where elemental mercury containers are handled and stored.

C.4.4.5 Infrastructure Spaces. These areas shall contain the space to accommodate infrastructure systems such as electrical power distribution, electronic security equipment, information and communications systems, fire suppression riser(s), HVAC, environmental and maintenance supplies, and maintenance shop.

## C.4.5 RCRA Compliance Requirements

The long-term management and storage DOE Facility for elemental mercury shall maintain a Resource Conservation Recovery Act (RCRA) permit for the duration of the Contract. The key features of a RCRA–permitted facility used for the storage of elemental mercury include the following:

C.4.5.1 Location and Siting. The selection of siting for construction of a new facility or evaluation of an existing facility shall consider environmentally sensitive locations or conditions such as the existence of floodplains, wetlands,

groundwater, seismic zones, karst soils or other unstable terrain, local weather phenomena, and incompatible land use.

C.4.5.2 Security. RCRA-permitted facilities shall comply with CFR Title 40: Protection of Environment Part 267—Standards For Owners And Operators Of Hazardous Waste Facilities Operating Under A Standardized Permit; Subpart B—General Facility Standards. At a minimum, the DOE Facility shall also meet the requirements for a DOE Property Protected Area, as outlined in DOE Manual 470.4-2A, Physical Protection. Additional safeguard and security items are discussed below.

C.4.5.3 Containment. The Storage Areas of the DOE Facility shall be designed to properly contain any release of elemental mercury. This includes the use of spill trays, sloped floors, curbs, and surfaces impervious to liquid elemental mercury. The DOE Facility walls and ceiling shall be sufficient to shield the stored elemental mercury from weather elements and ensure that mercury release is not entrained in storm water runoff.

C.4.5.4 Ventilation. The Handling Area shall be ventilated through the use of a high-negative draw system for removing high-concentration vapors from mercury "sources" (e.g., container residues, open containers, small spills). The exhaust air shall pass through a control device to remove mercury vapor and be discharged to the outside. HVAC shall maintain interior temperatures at or below 21ºC (70º F), when elemental mercury is being handled, to minimize its volatility.

The Storage Area shall be ventilated to provide adequate air exchanges to evacuate mercury vapors that may accumulate in the storage spaces over time. This equipment shall operate prior to and during occupancy to provide interior environmental conditions required for worker safety.

C.4.5.5 Fire Protection. The DOE Facility shall be fitted with fire detection systems such as smoke and heat detectors, as well as a permanent fire suppression system. The fire suppression system shall be a conventional wet- or dry-charge water sprinkler system augmented with readily accessible fire extinguishers. The DOE Facility shall be designed to prevent release of mercury into the environment as a result of a suppression system discharge. The system shall meet the requirements of the MEBA and relevant documents included in Section J.

C.4.5.6 Emergency Response. The Handling Area shall be designed to contain elemental mercury that might occur from either transferring elemental mercury from corroding or leaking containers or from containers that have failed inspection upon arrival at the DOE Facility to new containers prior to placing them in storage. Emergency response procedures shall be developed for larger releases of mercury.

C.4.5.7 Monitoring. The DOE Facility shall conduct mercury vapor monitoring to detect any releases of mercury from containers. Routine inspections of containers in long-term storage shall incorporate air sampling.

C.4.5.8 Record-Keeping. Training records, waste receipts, inspection reports, laboratory analyses, response plans, monitoring data, etc., shall be maintained in the Office Administration Area.

### C.4.6 Other DOE Facility Technical Requirements

C.4.6.1 The DOE Facility shall have a floor with adequate strength to withstand the loads of elemental mercury storage. A floor coating system shall be applied to make the floors in the mercury areas impervious to elemental mercury spills and water released from fire suppression systems.

C.4.6.2 Elemental mercury containers shall be stored in/on spill containment trays and racks designed to contain at least 10 percent of the volume of elemental mercury stored in each spill tray. Elemental mercury storage configurations may include a storage rack system with no more than two pallets or spill trays high.

C.4.6.3 The DOE Facility shall be constructed to form a weather-protected structure.

C.4.6.4 The Receiving and Shipping Area shall have a loading dock with loading dock safety systems, rollup doors, and containment.

C.4.6.5 Lighting, HVAC, fire suppression, and security monitoring systems shall be incorporated into the DOE Facility design.

C.4.6.6 The boundary of a new or existing DOE Facility shall include a paved area for delivery truck access and vehicle parking. Facilities with rail access may utilize intermodal transportation of elemental mercury containers (e.g., rail transport to the facility, transfer from rail to truck and local truck transport at the site). Spill prevention plans and procedures are to address this elemental mercury handling operation. Spill containment during handling must be provided.

### C.4.7 Interfaces

C.4.7.1 Site Security

C.4.7.1.1 If the DOE Facility is situated in a “stand-alone” location, the facility’s security shall comply with 40 CFR 267—Standards For Owners And Operators Of Hazardous Waste Facilities Operating Under A Standardized Permit; Subpart B—General Facility

Standards. The DOE Facility shall also meet the requirements for a DOE Property Protected Area, as outlined in DOE Manual 470.4-2A, Physical Protection.

C.4.7.1.2 If the DOE Facility is co-located within an existing facility, the DOE Facility shall interface with the host site's contractors/tenants for management of security at the DOE Facility. Access and exclusion security for the DOE Facility shall be integrated into the overall security of the host site. Further DOE Facility security features shall be implemented, as needed, to meet the RCRA and DOE requirements.

C.4.7.2 Emergency Planning

C.4.7.2.1 The DOE Facility shall interface with the host site contractors/tenants for inclusion into the general site emergency plan. Alarms and responses for emergency events shall be integrated into the existing host site emergency plan.

C.4.7.3 Site Roads

C.4.7.3.1 Roads shall be provided at the DOE Facility so that areas requiring vehicle access is provided. These roadways shall connect to either public highways in the case of a stand-alone facility, or, if located within an existing facility, host site's internal roadways. The arrangement of new site roads shall optimize traffic patterns for a safe interface with the existing roads, internal or external.

C.4.7.3.2 Site roads shall be capable of handling expected traffic volume and vehicle loads associated with the transport of elemental mercury.

C.4.7.4 Railways (If existing on site)

C.4.7.4.1 Railway service may be provided to deliver elemental mercury containers to the site (or host site) with intermediate trucking of the elemental mercury containers from the railcars to the DOE Facility.

C.4.7.4.2 The terminus of the rail facility shall provide for the safe, compliant, and efficient handling of the elemental mercury shipment into the DOE Facility.

C.4.7.4.3 Any new railway (i.e. rail spur) shall interface with existing rail service either outside the host site complex or with existing rail lines on the host site.

C.4.7.5 Communication

C.4.7.5.1 The DOE Facility communication system shall consist of the following subsystems: a) telephone-public address – for facility-wide, communication, page and alarms, and b) wireless telephone, using cellular technology.

C.4.7.5.2 The telephone-public address subsystem shall have an external interface with the site emergency paging and public address system for the host site, if the DOE Facility is co-located within a host site.

C.4.7.5.3 The wireless telephone subsystem shall have an external interface with the commercial cellular system provider.

C.4.7.5.4 Each communication subsystem shall be accessible by the other subsystems to provide effective internal interfacing between communication systems.

C.4.7.6 Waste Disposal

C.4.7.6.1 Ordinary waste (common garbage, office wastes) shall be disposed at local waste disposal sites utilizing contracts and agreements with local carriers.

C.4.7.6.2 Any mercury-contaminated waste shall be disposed according to applicable regulations and according to established waste management plans and procedures.

C.4.7.7 Natural Gas

C.4.7.7.1 The DOE Facility shall have external interfaces with existing natural gas sources, if available, at the host facility. Otherwise facility heating may be supplied with propane, delivered to the DOE Facility by routine delivery, or building heat shall be provided by electric power.

C.4.7.8 Electrical Power

C.4.7.8.1 The DOE Facility shall have interfaces with the existing utility power sources available at the host facility or from a public electricity service provider.

C.4.7.9 Fire Protection Water

C.4.7.9.1 The DOE Facility shall interface with the existing host site's fire protection water supply system.

C.4.7.10 Potable Water

C.4.7.10.1 Potable water shall be provided to the DOE Facility from the potable water system at the existing host site.

C.4.7.11 Sanitary Waste

C.4.7.11.1 Sanitary waste from the DOE Facility shall tie into the existing host facility sanitary waste system.

C.4.7.12 Host Plant Shift Superintendent

C.4.7.12.1 The DOE Facility shall interface with the host plant's shift superintendent's office for all alarms systems originating from the DOE Facility.

## C.4.8 Design Standards

Design criteria are applied to structures, systems, and components that are determined to be essential to comply with regulatory and technical requirements.

C.4.8.1 Natural Phenomena Hazards

C.4.8.1.1 The resistance of the DOE Facility to natural phenomenon shall be determined by applicable building codes, RCRA requirements, and the results of the hazards analysis and the risk management plan

C.4.8.2 Storm Water System

C.4.8.2.1 All storm water runoff shall meet state and local permit requirements.

C.4.8.3 Buildings and Structures

C.4.8.3.1 All buildings and structures shall meet applicable state and local building codes.

C.4.8.4 HVAC System

C.4.8.4.1 HVAC Systems and components shall be designed in accordance with the applicable procedures and standards of the following:

C.4.8.4.1.1 American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE)

C.4.8.4.1.2 Air Moving and Conditioning Association (AMCA)

C.4.8.4.1.3 Air Conditioning and Refrigeration Institute (ARI)

C.4.8.4.1.4 Sheet Metal and Contractor's National Association (SMACNA)

C.4.8.4.1.5 Underwriters Laboratories, Inc. (UL)

C.4.8.4.1.6 National Fire Protection Association (NFPA)

C.4.8.4.1.7 Systems and components shall be designed and built to industry standards commensurate with the system component safety function, if any.

C.4.8.5 Fire Protection System

C.4.8.5.1 DOE Facility safety requirements for fire protection shall be in accordance with DOE O 420.1A, Facility Safety, and the guidance of DOE G-1420.1/B-O Implementation Guide for use with DOE Orders 420.1 and 440.1 Fire Safety Program.

C.4.8.5.2 The Fire Protection System shall meet the applicable building codes and applicable codes and standards of the National Fire Protection Association (NFPA).

C.4.8.6 Plumbing System

C.4.8.6.1 The plumbing system and all of its components shall be designed, specified, and constructed in accordance with the applicable state and local codes.

C.4.8.6.2 Approved back-flow preventers shall be provided on all connections from the potable water supply system to any and all process or non-potable services in the plant.

C.4.8.6.3 Emergency shower/eye wash stations shall be provided in accordance with OSHA requirements and American National Standards Institute (ANSI) standards. The number and locations of the Emergency shower/eye wash stations shall be determined by an analysis of worker safety requirements.

C.4.8.7 Natural Gas Piping

C.4.8.7.1 If natural gas is to be used for building heating, the natural gas piping shall be in accordance with the requirements of NFPA 54/ANSI Z223.1 National Fuel Gas Code.

C.4.8.8 Electrical Power Supply Distribution

C.4.8.8.1 The DOE Facility electrical power system shall comply with the following codes and standards:

C.4.8.8.1.1 DOE O 420 and DOE G-420.1-1

C.4.8.8.1.2 ANSI/IEEE C37, C57, C62.11

C.4.8.8.1.3 IEEE Std. # -141, -242, -399, -493, -739

C.4.8.8.1.4 NFPA 70, ANSI C2

C.4.8.9 Grounding and Lightning Protection

C.4.8.9.1 Grounding and lightning protection systems shall comply with ANSI/IEEE 80-142 and NFPA 780.

C.4.8.10 Lighting

C.4.8.10.1 The plant lighting shall comply with the IES Lighting Handbook and as determined to be necessary for worker safety for the particular activities to be performed (e.g. forklift driving, visual inspections, safeguard and security).

C.4.8.11 Plant Communication

C.4.8.11.1 Plant communication shall be designed in accordance with NFPA 70 Article 800 and EIA Standards.

## C.4.9 Plant Security

C.4.9.1 Regulatory requirements for DOE Facility security shall, at a minimum, include requirements from RCRA, applicable state and local regulations, and DOE directives. In addition, certain site-specific security provisions may be applicable. Certain security measures from the Environmental Council of the States (*Mercury Stewardship Best Management Practices;* October 2003) are considered BMPs. These BMP practices may be considered if they provide additional security capability if it is determined to be suitable enhancements for the DOE Facility.

C.4.9.2 RCRA Security Requirements

The DOE Facility shall meet the standards for a hazardous waste TSDF under the requirements of RCRA, 40 CFR Part 264 (facilities) and 40 CFR Part 265 (interim status facilities). Sections 264.14 and 265.14 list these security requirements.

C.4.9.2.1 The Contractor shall develop and implement a Site Security Plan (SSP). The program shall be tailored to the site-specific requirements of the DOE MEBA Project.

C.4.9.2.2 The Contractor shall regularly verify the adequacy of the existing Site Security Plan (SSP) and shall be responsible for maintaining the SSP and performing any upgrades to ensure it contains all of the security requirements specified in this contract

C.4.9.2.3 The Contractor must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of the DOE Facility, unless he/she can demonstrate to the EPA regional administrator that (1) physical contact with the waste, structures, or equipment within the active portion of the facility shall not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility and (2) disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, shall not cause a violation of the requirements of this part. [This demonstration must be included in the part b of the permit application required under 40 CFR part 270 (“EPA administered permit programs: the hazardous waste permit program”).]

C.4.9.2.4 Unless the Contractor has made a successful demonstration as described above, a DOE Facility must have (1) a 24-h surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility or (2) (i) an artificial or natural barrier (e.g., a fence in good repair), which completely surrounds the active portion of the facility; and (ii) means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

C.4.9.2.5 Unless the Contractor has made a successful demonstration under the section C.4.8.2.1, a sign with the legend, “DANGER— UNAUTHORIZED PERSONNEL KEEP OUT,” must be posted at

each entrance to the active portion of a DOE Facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. the legend must be written in English and in any other language predominant in the area surrounding the DOE Facility and must be legible from a distance of at least 25 ft. existing signs with a legend other than "DANGER—UNAUTHORIZED PERSONNEL KEEP OUT" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

C.4.9.2.6 Under RCRA (40 CFR 264.15 and 40 CFR 265.15), the physical protection systems (barriers, signs, etc.) must be checked/inspected according to the schedule set in the facility's inspection plan.

C.4.9.3 DOE Security Requirements

C.4.9.3.1 If DOE is cosigner of the RCRA Permit, security at the DOE Facility shall be subject to DOE Order (O) 470.4A, *Safeguards and Security Program*, DOE Policy (P) 470.1, *Integrated Safeguards and Security Management (ISSM) Policy*, DOE Order (o) 414.1C, *Quality Assurance*, and DOE Manual (M) 470.4-2A, *Physical Protection*. If DOE is not a cosigner of the RCRA Permit, this section is not applicable.

C.4.9.3.2 Physical security requirements shall at least meet those for a DOE Property Protection Area (PPA). Some of the DOE requirements are parallel to the RCRA requirements outlined above; while other DOE requirements are more restrictive. The DOE guidelines are listed in DOE Manual 470.4-2A, *Physical Protection* (approved 7/23/09).

C.4.9.3.3 Physical security shall also comply with DOE Order 414.1C, in particular for performance, work processes and design.

## C.5 RECEIPT/VERIFICATION PROCESS FOR THE ACCEPTANCE OF ELEMENTAL MERCURY AND ELEMENTAL MERCURY CONTAINERS

### C.5.1 General

The Contractor shall prepare a Waste Acceptance Plan (WAP). The WAP defines the responsibilities of the Generator and the verification procedures, including specific sampling methods, as necessary, to ensure proper handling, storage, or disposal (§264/265.13). The WAP is a component of the Waste Acceptance Criteria (WAC) compliance assurance. The WAP provides the processes the Contractor will use to verify

that a shipment has the appropriate documents that are required by the WAC. The WAP shall be written and kept on site.

### C.5.2 Waste Acceptance Plan

The WAP shall include but not be limited to the following basic elements:

C.5.2.1 The parameters to be analyzed by the Generator,

C.5.2.2 Testing and analytical methods,

C.5.2.3 Sampling methods used to obtain representative samples, and

C.5.2.4 Procedures to ensure that the waste received matches the identity of the waste designated on the accompanying manifest.

### C.5.3 Waste Manifest

C.5.3.1 The Contractor shall review the manifest provided with the material and verify the material received matches the manifest inventory. Discrepancies shall be addressed per Section C.6.3.2.1.

### C.5.4 Waste Analysis

C.5.4.1 The Generator shall provide a detailed chemical and physical analysis of a representative sample of the elemental mercury to be stored, and the Contractor shall assess the Certificate of Analysis (i.e., hazardous constituents and characteristics.) This information may be supplied either through sampling and laboratory analysis or through acceptable knowledge. Acceptable knowledge is defined broadly to include process knowledge (obtaining data from existing published or documented waste analysis or studies), waste analysis data (obtained from the Generator), or through the DOE Facility's records of analyses performed before the effective date of the RCRA regulations.

C.5.4.2 Elemental mercury meeting the requirements of the WAP shall be accepted into the DOE Facility.

C.5.4.3 Elemental mercury that does not meet the WAP requirements shall be prohibited from being shipped to the DOE Facility.

### C.5.5 Inspection Upon Receipt

C.5.5.1 All packages and containers received at the DOE Facility shall be visually inspected promptly upon receipt for damage or other evidence of possible

leakage to ensure that any release of hazardous materials is identified and appropriate actions are taken to contain and remediate the release.

### C.5.6 Elemental Mercury Storage Containers

C.5.6.1 The DOE Facility shall accept two types of elemental mercury containers: 3-L (34.6-kilogram [76-pound]) flasks and 1 MT (1.1-ton) containers. Other types of containers shall be considered on a case-by-case basis.

C.5.6.2 Where containers are damaged or not compliant with the acceptable size, the accepted elemental mercury shall be transferred into an acceptable storage/shipping container or over-pack, and returned to the Generator.

## C.6 STANDARDS AND PROCEDURES FOR THE OPERATION OF THE ELEMENTAL MERCURY WASTE STORAGE FACILITY

### C.6.1 Management Personnel

C.6.1.1 This task includes overall management of the tasks, resources, and activities described in this contract. The Contractor point of contact (POC) shall be responsible for the overall effective performance of all program areas described in this contract, associated task orders, and its subcontracts supporting the DOE Project. The Contractor shall provide experienced personnel to support DOE programs as described in the PWS. The Program Manager shall be responsible for coordinating Contractor time approvals, addressing personnel issues, and ensuring Contractor staff is appropriately qualified and meet labor category requirements. The Program Manager shall develop work and staffing plans for all assigned tasks and provide monthly status reports on activities to the contracting officer's representative (COR). Additional strategic planning functions may be required.

C.6.1.2 The Contractor shall designate a corporate manager as Program Manager and as the point of contact (POC) for the duration of this contract. The POC shall be responsible for the overall performance of this contract. This POC shall be cognizant of DOE directives, NEPA and RCRA regulations that are applicable to the Long-Term Management and Storage of Elemental Mercury. Communication to DOE shall be authorized and signed by the POC

### C.6.2 Inventory Control

C.6.2.1 Contractor shall establish operate and maintain an inventory control and recordkeeping system that utilizes a unique bar code for each container. The system shall record the pertinent information regarding each container to include: volume, name of Generator, date of receipt, WAC attainment documentation, physical location, physical inspection dates, and inspection notations, along with container movements and any material matter involving

the container and its contents, including but not limited to container maintenance, relabeling, etc.

### C.6.3 Records Management

C.6.3.1 The Contractor shall be responsible for management of all records in compliance with applicable RCRA requirements, cradle to grave. The manifest system tracks each shipment of hazardous waste while the operating record and Biennial Report summarize facility activity over time.

C.6.3.2 Manifests

Manifests shall be handled in accordance with all RCRA regulations, Part 40 Code of Federal Regulations (CFR).

### C.6.4 Reporting

C.6.4.1 Operating Record

Until closure, the Contractor is required to keep a written operating record on site describing all waste received, methods and dates of treatment, storage, and disposal, and the wastes' location within the DOE Facility as detailed in Appendix I of Part 264/265 (§264/265.73). All information shall be cross-referenced with the manifest number. The operating record also shall include waste analysis results, details of emergencies requiring contingency plan implementation, inspection results (for three years), groundwater monitoring data, land treatment and incineration monitoring data, and closure and post-closure cost estimates.

C.6.4.2 Semiannual Report

Semiannual Reports shall be filed with the Regional Administrator, in accordance with Part 40 CFR.

C.6.4.3 Additional Reports

Other reports that shall be made to the Regional Administrator include, but are not limited to, reports of releases, fires and explosions, groundwater contamination and monitoring data, and facility closure (§264/265.77). Releases may also trigger Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Emergency Planning and Community Right-to-Know Act (EPCRA) reporting.

C.6.4.4 Record Availability

Section 264/265.74 specifies that all records and plans shall be available for inspection. Required record retention periods are automatically extended during enforcement actions or as requested by the EPA Administrator.

### C.6.5 Training

C.6.5.1 The Contractor shall provide all applicable OSHA, RCRA, and any other training required to site personnel including subcontractors, and visitors.

C.6.5.2 The Contractor shall maintain accurate training records and data pertaining to training activities, maintain current training records for all Contractor, DOE, subcontractor personnel and visitors, and provide reports, as required, to support specific site access qualifications, employee qualification records, and other appropriate report requests.

C.6.5.3 The Contractor shall establish and maintain an electronic training system database, accessible to Contractor, and DOE personnel to provide documentation on training requirements and availability, course information, and electronic registration. The Contractor shall coordinate any revisions and upgrades to the system with DOE.

C.6.5.4 The Contractor shall develop and/or provide specialized training as requested by DOE.

### C.6.6 Property Management (Real and Personal)

C.6.6.1 General

C.6.6.1.1 Existing elemental mercury storage facilities shall not be subject to the floodplains and seismic hazard.

C.6.6.1.2 The Contractor shall ensure elemental mercury storage facilities are maintained in good working condition and remains serviceable for its intended purpose.

C.6.6.2 Property Inspection

The Contractor shall visually inspect the DOE Facility for malfunction, deterioration, operator errors, and discharges (§264/265.15). The inspection provisions are carried out according to a written inspection schedule that is developed and followed by the Contractor and kept at the DOE Facility. The schedule shall identify the areas of inspection, and set the frequency of inspections. Areas subject to spills, such as loading and unloading areas, other mercury handling areas, and storage areas, shall be inspected daily when in use. The Contractor shall record inspections in a log or summary and shall remedy any problems identified during inspections. The records shall include

the date and time of inspection, the name of the inspector, notation of observations, and the date and nature of any necessary repairs or other remedial actions and shall be kept at the DOE Facility for the duration of this contract.

### C.6.7 Loss Prevention and Emergency Response

C.6.7.1 The preparedness and prevention standards are intended to minimize and prevent emergency situations at TSDFs. Facilities shall be operated and maintained in a manner that minimizes the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water. The regulations require maintenance of equipment, alarms, minimum aisle space, and provisions for contacting local authorities. Specifically, Section 264/265.32 mandates that a facility shall have an internal communication or alarm system, a phone or radio capable of summoning emergency assistance, fire-fighting equipment, and adequate water supply. Sections 264/265.33 and 264/265.34 require that this equipment be maintained and tested regularly, and that all personnel have access to an alarm system or emergency communication device. In addition, the facility shall have aisle space that is sufficient to ensure easy movement of personnel and equipment unless the Contractor demonstrates that it is unnecessary (§264/265.35). Facilities shall also have provisions for contacting local authorities that might be involved in emergency responses at the facility. The local authorities shall be familiar with the facility and properties of the hazardous waste(s) handled at the facility (§264/265.37). Local authorities include police, fire department, hospitals, and emergency response teams. Where more than one local authority is involved, a lead authority shall be designated. Where state or local authorities decline to enter into such arrangements, the owner and operator shall document the refusal in the operating record (§264/265.37(b)).

C.6.7.2 Contingency Plan and Emergency Procedures

The Contractor shall maintain contingency plans on site at all times and carry out these plans in the event of an actual emergency. The plan describes arrangements with local authorities and lists names, addresses, and telephone numbers of all people qualified to act as emergency coordinators. If more than one emergency coordinator is listed, a primary contact shall be designated. The plan shall include a list of all emergency equipment and evacuation plans, where applicable. A copy of the contingency plan (and any revisions) shall be maintained at the DOE Facility and provided to all local authorities that may have to respond to emergencies (§264/265.53). The contingency plan shall be reviewed and amended when the applicable regulations or facility permits are revised, the plan fails in an emergency, or there are changes to the facility, the list of emergency coordinators, or the list of emergency equipment (§264/265.54).

C.6.7.3 Emergency Coordinator

The Contractor shall designate an emergency coordinator. The emergency coordinator (§264/265.55) is responsible for assessing emergency situations and making decisions to respond. There shall be at least one employee either on the DOE Facility premises or on call to fill this role. This person shall have the authority to commit the resources needed to carry out the contingency plan.

C.6.7.4 Emergency Procedures

In the event of an imminent or actual emergency, the emergency coordinator shall immediately activate internal facility alarms or communication systems and notify appropriate state and local authorities. In cases where there is a release, fire, or explosion, the emergency coordinator shall immediately identify the character, exact source, amount, and extent of any released materials. At the same time, the coordinator shall assess possible hazards to human health or the environment. If the coordinator determines that the emergency threatens human health or the environment outside of the DOE Facility and finds that evacuation of local areas may be advisable, the coordinator shall notify appropriate authorities and either the designated government official for the area or the National Response Center. During an emergency, measures shall be taken to ensure that fires, explosions, and releases do not occur, recur, or spread.

C.6.7.5 Post-Emergency Procedures

After an emergency, any residue from the release, fire, or other event shall be treated, stored, or disposed of according to all applicable RCRA regulations. The DOE Facility may end up assuming Generator status for management of these residues. The emergency coordinator shall ensure that all emergency equipment is cleaned and fit for use before operation is resumed. The Contractor shall document in the facility operating record events that required the implementation of the contingency plan. Within 15 days of the accident, the Contractor shall submit a written report describing the incident to the DOE COR and the EPA's Regional Administrator (§264/265.56(g)-(j)).

## C.6.8 Project Integration

The Contractor shall coordinate with DOE, as necessary, to ensure safe and successful project execution. The Contractor shall prepare an Integrated Contract Execution Plan that shall provide a summary of the activities that shall require interaction and integration with DOE.